THE SALVATION ARMY
USA Western Territory
Adult Rehabilitation Centers Command
180 East Ocean Boulevard, 3rd Floor
Long Beach, CA 90802-4709

FOUNDED IN 1865

August 1, 2017

Re: Quarterly Groundwater and Vapor Monitoring and Site Status Report
Second Quarter 2017
The Salvation Army Oakland ARC Building
601 Webster Street,
Oakland, California,
Fuel Leak Case No. R00003084,
Geotracker Global ID T10000003428

"I have read and acknowledge the content, recommendations and/or conclusions contained in the attached document or report submitted on my behalf to ACDEH's FTP server and the SWRCB's GeoTracker website."

Submitted by:

Henry Graciani, Major
ARC Command General Secretary

ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

1117 Lone Palm Avenue, Suite 201B
Modesto, CA 95351
Telephone 209-579-2221
Fax 209-579-2225
www.atcgroupservices.com

July 31, 2017

Mr. Keith Nowell, PG, CHG
Hazardous Materials Specialist
Alameda County Health Care Services Agency
Environmental Health Services, Environmental Protection
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

Subject: **Quarterly Groundwater and Vapor Monitoring and Site Status Report**
Second Quarter 2017
The Salvation Army Oakland ARC
601 Webster Street,
Oakland, California,
Fuel Leak Case No. RO3084,
Geotracker Global ID T10000003428

Dear Mr. Nowell,

ATC Group Services LLC (ATC) has prepared this Quarterly Water and Vapor Monitoring and Site Status Report for the second quarter of 2017 on behalf of The Salvation Army for their Oakland Adult Rehabilitation Center (ARC) facility located at 601 Webster Street in Oakland, California.

If you have questions or comments regarding this report, please contact us at your convenience.

Sincerely,

ATC Group Services LLC

Michael D. Sonke
Project Manager
Phone (209) 579-2221
email: mike.sonke@atcassociates.com

Gabe Stivala, P.G.
Senior Geologist
Phone (916) 579-2221
email: gabe.stivala@atcassociates.com

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Email distribution list

Name	Title	email
Major Mark Nelson	General Secretary	mark.nelson@usw.salvationarmy.org
Ms. Molly Fagan	Property Project Manager	molly.fagan@usw.salvationarmy.org
Ms. Jeanie Brown	Property Project Facilitator	jeanie.brown@usw.salvationarmy.org
Captain Tim Rockey	Administrator – Oakland ARC	timothy.rockey@usw.salvationarmy.org

Quarterly Groundwater and Vapor Monitoring Report

Second Quarter 2017

The Salvation Army Oakland ARC Building
601 Webster Street,
Oakland, California,
ACEH Fuel Leak Case No. R00003084
Geotracker Global ID T10000003428

Submitted to:

Mr. Keith Nowell, PG, CHG
Hazardous Materials Specialist
Alameda County
Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

On behalf of:

Salvation Army ARC Command
180 E. Ocean Blvd, 3rd Floor
Long Beach CA 90802

Submitted by:

ATC Group Services, LLC
1117 Lone Palm Avenue
Suite 201B
Modesto, California 95351
ATC Project No. Z054000006-0008

July 31, 2017

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1.0 INTRODUCTION

ATC Group Services LLC (ATC) has prepared this Quarterly Water and Vapor Monitoring and Site Status Report for the second quarter of 2017 on behalf of The Salvation Army for their Oakland Adult Rehabilitation Center (ARC) facility located at 601 Webster Street in Oakland, California.

1.1. SITE DESCRIPTION

The site is The Salvation Army's (TSA) Adult Rehabilitation Center (ARC) (site) located at 601 Webster Street in Oakland, California, as shown on **Figure 1**. The site occupies the entire city block between Webster and Franklin Streets; and between Sixth and Seventh Streets. The northeast portion of the site includes the truck enclosure area. This area is where the former underground storage tank (UST) system was located. Fencing or walls enclose the truck enclosure area, which is used for loading/unloading trucks and for overnight truck parking/security. **Figure 2**, Site Plan illustrates the pertinent site features and the surrounding area.

1.2. SITE HISTORY / CHRONOLOGY

According to TSA, the site was purchased by TSA in April of 1920.

In early 2010, TSA made the decision to discontinue onsite fueling of their fleet of commercial trucks and remove the USTs and dispenser equipment from the site. Between November 22, and 23, 2010, a 10,000-gallon UST containing diesel, an 8,000-gallon UST containing gasoline, and the associated fuel dispensers and piping were removed. The USTs appeared to be in good condition, with no visible holes or signs of leakage. Laboratory analysis of soil samples collected from the base of the UST pit indicated that petroleum hydrocarbons (PHCs) related to gasoline were present. PHCs in the diesel range were not detected in any of the soil samples. This work was described in the report produced by the contractor, Terry Hamilton (Hamilton, 10/4/2010).[1]

In early 2011, TSA retained ATC Associates to investigate and assist in fulfilling obligations that may have resulted from the PHC release. After a discussion with the Oakland City Fire Department (OFD), ATC developed limited-scope workplan to assess the release to assist OFD in determining if the case could be closed or should be forwarded to the Local Oversight Program (LOP) Agency of Alameda County, which is Agency in Alameda County is Alameda County Environmental Health (ACEH). The workplan included advancing five direct-push borings to first encountered groundwater, estimated to be at approximately 16 to 25 feet below ground surface (bgs). The proposed investigation consisted of drilling five borings to collect and analyses soil and groundwater samples (ATC, 8/8/2011). However, prior to implementing the workplan, the environmental case oversight authority was transferred from OFD to the ACEH which is part of the Alameda County, Health Care Services Agency.

In correspondence dated May 2012 and November 2012, ACEH requested changes to the March 18, 2011 workplan originally submitted to the OFD. Cardno ATC responded by producing a

[1] Bibliography (including Historical Work ATC work products) is included as **Appendix A**.

workplan that proposed two additional borings and the development a site conceptual model (Cardno ATC, 2/28/2013). The workplan was approved by ACEH in a letter dated May 31, 2013.

On July 29 and July 30, 2013, Cardno ATC executed the workplan advancing seven direct-push soil borings at the site. Borings SB1 through SB7 were proposed to be advanced to groundwater. Sixteen soil samples and six groundwater samples were collected and analyzed at an environmental laboratory. The results of laboratory analyses revealed PHCs contamination within the truck enclosure area surrounding the former UST Pit. (Cardno, 1/13//2014) (Cardno, 1/13//2014)

On July 2, 2014, a meeting was held between ACEH, TSA, and ATC. Based on the meeting, a follow up email on July 2, 2014 from the ACEH directed the development of a workplan to address laboratory analysis continuity, lateral and vertical delineation of soil and groundwater contamination, gas intrusion to indoor air, and a sensitive receptor survey. Additionally, ACEH requested a Feasibility Study/ Corrective Action Plan (FS/CAP) submitted by the end of the year, if warranted by the field investigation. In response, Cardno ATC produced and submitted a workplan that proposed 1.) advancing twelve to sixteen membrane interface probe (MIP) borings to screen the soil and water for the presence of contamination, followed by 2.) the advancement of eight to ten Hollow Stem Auger (HSA) borings to retrieve quantitative samples, and finally 3.) the installation of four monitoring wells to further assess PHCs dissolved in groundwater. (Cardno ATC, 8/14/2014)

ACEH responded in correspondence dated December 24, 2014. ACEH evaluated the existing data and the results projected to be derived from implantation of the workplan and determined that the site did not meet several of the criteria for the State of California Water Resources Control Board's (Water Board) Low Threat Closure Policy (LTCP) including the Conceptual Site Model (CSM) portion of the General Criteria section. ACEH indicated that LTCP data gaps could not be filled with MIP data. ACEH directed the advancement of additional HSA borings to fill the LTCP data gaps particularly targeting the 0- to 5-foot and 5- to 10-foot zones. ACEH's opinion was that it was premature to collect sub-slab soil vapor samples as described in the workplan unless depth to water data indicates the piezometric surface is less than 2 feet below the base of the foundations. ACEH requested the preliminary data collected from the soil and groundwater portion of the investigation be submitted for consideration prior to conducting the soil vapor portion of the investigation. ACEH stated that if a diesel release had occurred, it was not likely to be significant and therefore total petroleum hydrocarbons as diesel (TPHd) could be eliminated from the analytical scope. ACEH directed the placement of three onsite monitoring wells, but believed it was premature to identify locations of offsite well. In February 2015, Cardno ATC responded by reissuing a new workplan (Cardno ATC, 2/27/2015).

ACEH responded to ATC's February 2015 work plan in a letter dated June 1, 2015. ACEH directed the inclusion of additional assessment activities including two additional HSA borings within the footprint of the former UST pit, sampling at additional depths within HSA borings J2, J5, M2, and M5, as well as collection of and additional soil sample collected from the interval between ten feet bgs and first encountered groundwater in all borings showing evidence of contamination. ACEH agreed with the installation of three monitoring wells within the truck enclosure area but wanted Cardno ATC to provide the MIP and HSA data, and to confer with ACEH prior to installing additional wells. ACEH also believed it was premature to collect soil

vapor samples until the depth to groundwater (DTW) had been established through the installation and gauging of monitoring wells.

Between September 28, and October 2, 2015, ATC advanced 14 MIP borings, first with a conventional direct-push rig, but later with a CPT rig when refusal was encountered prior to the target depth. To confirm and supplement MIP data, 15 hollow stem auger (HSA) borings advanced for the collection of discrete soil samples which were field screened and analyzed by a laboratory. Results if the investigation indicated PHC was encountered both in the truck enclosure and across Franklin Street in the Salvation Army Used Car lot. Using the data obtained from the MIP and HSA borings, locations for the monitoring wells were selected. ATC communicated this information to ACEH in an email. ATC installed three groundwater monitoring wells in the truck enclosure area and one additional well in the used car lot across Franklin Street. Groundwater samples collected from all the monitoring wells contained dissolved phase hydrocarbons, with the highest concentrations seen in monitoring wells MW1 and MW3. (ATC, (4/26/2016)

During quarterly groundwater sampling activities on August 16, 2016, ATC detected 2.04 inches/0.17 feet of light non-aqueous phase liquid (LNAPL) in MW3. On September 8, 2016, ATC installed a passive skimmer in MW-3.

Since the end of 2015, ATC has collected, analyzed, and reported on groundwater samples from the monitoring well network at the site. Dissolved phase PHC is present onsite and offsite to the west. Highest concentrations have been reported in MW-3 and MW-1 with benzene concentrations currently exceeding the Environmental Screening Levels (ESL). Groundwater elevation averaged around 11.68 feet above mean sea level (amsl) with the groundwater flow direction varying between the west-southwest to the southwest at an average slope of 0.012 feet/foot (ft/ft). See Appendix A for a complete listing of the completed quarterly reports.

In the fall of 2015, ATC searched for Sensitive Receptors starting with requests extended to California Department Water Resources (DWR) and Alameda County Public Works Agency, Water Resources (ACPWAWR) for a list of prospective candidate wells shown to be located within the search area encompassing a 2,000-foot radius around the site. These requests resulted in a subset of 742 candidate wells that ATC further screened by location and well type. This screening eventually identified four qualified production and two cathodic protection wells within the 2,000-foot radius search area. During field reconnaissance, ATC determined that all six wells were located upgradient or cross gradient of the TSA site and thereby unlikely sensitive receptors. In addition during field reconnaissance, ATC identified the nearby 8 Orchids Condos multi-story Building as possibly having sumps to dewater their subsurface structures, but these sumps were not included in the list of permitted wells obtained from traditional sources. In addition, ATC observed the proximity of Bay Area Rapid Transit's (BART's) subsurface infrastructure might include dewatering components that could potentially be a receptor and could be influencing the hydrology local to the TSA Site. (ATC, 1/25/2017)

In December of 2016, performed a ATC oversaw the installation of three Cox-Colvin vapor pins through the concrete subslab in the basement of the TSA ARC Building to sample soil vapor adjacent to the release but beneath the ARC Building. Subslab soil vapor samples were collected, analyzed and the laboratory results compared to the results were compared to Environmental Screening Levels (ESLs) established by the San Francisco Bay Regional Water Quality Control, specifically, the Table 1 ESLs for Subslab/Soil Gas. None of the analytical results from the

collected subslab vapor samples were in excess of the RWQCB Tier I ESLs, therefore there is no indication of a vapor intrusion risk related to the petroleum hydrocarbon release at this site. ACEH directed continued quarterly sampling for the purpose of confirmation and assessment of potential seasonal variation in subslab vapor concentrations. (ATC, 1/10/2017)

ACEH reviewed the case file including Sensitive Receptor Survey Update Report (SRS), dated January 25, 2017 and the Quarterly Groundwater Monitoring and Vapor Monitoring and Site Status Report-First Quarter, 2017 (GWM), dated March 24, 2017, and associated electronic submittals to the State Water Resources Control Board's (SWRCBs) GeoTracker website. ACEH responded in correspondence dated June 15,2017 in which it concurred with ATC's request to eliminate organic lead as well as diisopropyl ether (DIPE), ethyl tertiary butyl ether (ETBE), tertiary amyl methyl ether (TAME), and tertiary butyl alcohol (TBA) from the scope of analysis. ACEH requested both 1,2-dichloroethane (1,2-DCA) and 1,2-dibromoethane (EDB) be included to the list of constituents of concern (COCs). In addition, ACEH requested that TPHg be added to the scope of analysis for the soil vapor samples. ACEH was also in general agreement with ATC's recommendation for work plan preparation for continued delineation for the dissolved phase by August 15, 2017. ATC has started exploring the best strategy for continued dissolved phase plume delineation.

2.0 GEOLOGY AND HYDROGEOLOGY

The City of Oakland is located within the San Francisco Bay Area Physiographic Province and is bounded by the San Francisco Bay to the northwest, west, and southwest and by the Oakland Hills to the east. The landmass on which Oakland is located was formed as a result of an uplift of the Oakland Hills along the Hayward Fault out of the San Francisco Bay basin, which lies to the north and west. The area where Oakland is located is covered with alluvium from the Sierra Nevada mountain range deposited by the San Joaquin and Sacramento River systems, and by local creeks and streams flowing from the Oakland Hills. Sedimentary deposits consisting of non-marine sandstone, conglomerate, and mudstone underlie the alluvium.

Specific to the geology of the site, soil from borings SB1, SB2, and SB7 advanced at the site in July 2013 consisted of fill material placed in the former tank pit to a depth of approximately 13 to 15 feet bgs. Silty sand and fine sand were encountered from 15 feet to 25 feet in SB1, and from 13 feet to 20 feet in SB2 and SB7, the maximum depths to which these borings were characterized. Soil from the borings SB3, SB4, and SB5 consisted of sandy clay or clayey sand to a depth of approximately 5 to 7 feet bgs. Silty sand and fine sand were encountered from depths between 5 to 7 feet and 20 feet, the maximum depths to which the borings were characterized, with the exception of SB3 that had sandy clay from 16 to 18 feet bgs. Soil from the boring SB6 consisted of silty sand to a depth of approximately 5 feet bgs. Fine sand was encountered from 5 feet to 15 feet bgs, and silty sand was encountered between 15 feet and 20 feet, the maximum depth to which the boring was characterized. (Cardno ATC, 1/13/2014)

The site lies within the East Bay Plain Sub-basin 2-9.04. In general, groundwater in this basin has been designated beneficial for municipal and domestic water supply, industrial process and service water supply, and agricultural water supply. Despite this designation, the East Bay Municipal Utility District (EBMUD) indicates that all potable drinking water for the City of Oakland is imported from the Mokelumne River watershed. Lake Merritt lies approximately 3,250 feet to the east-northeast upgradient of the site. The nearest surface water body to the site is Oakland

Inner Harbor/Oakland Estuary, located approximately 2,000 feet downgradient to the south. (ATC, 12/23/2016)

The surface topography in the vicinity surrounding the site slopes moderately from the northeast to the southwest, which is consistent with the path of Franklin Street. However, available data obtained from other nearby leaking underground storage tank (LUST) sites reveals the direction of regional groundwater flow to be variable, with variability sometimes attributed to dewatering activities related to subterranean BART infrastructure. (ATC, 12/23/2016)

The groundwater flow direction on site generally follows the surface grade from the northwest to the southeast. ATC observes that during the previous groundwater monitoring events the observed gradient was variable ranging from southeast to southwest. A significant groundwater elevation decrease is noted in the one offsite monitoring well (MW-4), implying a groundwater flow to the southwest in the area surrounding this monitoring well. (ATC, 1/25/2017)

3.0 CHARACTERIZATION STATUS

ATC has conducted three investigative mobilizations advancing fourteen (14) MIP borings, fifteen (15) conventional hollow stem auger soil borings, and installed four (4) monitoring wells.

The HSA Boring P2 in the northwest corner of the truck enclosure area laterally defines both the adsorbed and dissolved phase PHCs in both vadose and saturated zones. ATC advanced HSA borings and collected soil samples in the areas of highest detected concentrations, including MW1 to 35 feet bgs and MW3 to 30 feet bgs and no adsorbed phase PHC has been detected in collected soil samples below 20 feet bgs across the site. Additionally, ATC has installed, developed, and sampled four groundwater monitoring wells at the site with dissolved phase PHC detected in all the monitoring wells with NAPL being detected sporadically in MW3. Therefore, the extent of dissolved phase plume remains largely undefined. (ATC, 4/26/2016)

Vapor Phase PHC was detected in subslab vapor samples collected during the fourth quarter 2016, but none of the collected samples were found to be in excess of the RWQCB Tier I ESLs. (ATC, 1/10/2017)

4.0 ACTIVITIES COMPLETED DURING 2017Q02

4.1. GROUNDWATER MONITORING, SAMPLING AND ANALYSIS

The Second Quarter 2017 monitoring and sampling was performed on May 16, 2017. Field personnel utilized ATC's Standard Field Procedures for Groundwater Monitoring, Sampling, and Laboratory Analysis, a copy of which is included in **Appendix B**. The well construction details for the monitoring wells in the site's monitoring well network are contained in **Table 1**. On May 16, 2017, ATC mobilized to the site and collected depth to groundwater measurements from MW-1 through MW-4 that make up the site's monitoring well network. ATC also detected 3.24 inches (0.27 feet) of LNAPL in MW-1 so it was not sampled. On July 19, 2017, 2016, ATC installed a passive skimmer in MW-1. At installation, there was 2.4 inches (0.20 feet) of NAPL in the well.

4.1.1. Groundwater Elevations and Hydrogeologic Conditions

Depth to water measurements in the monitoring well network ranged from 16.39 to 18.19. feet below top of casing and the calculated groundwater elevations ranged from 12.85 to 14.03 feet amsl. On May 16, 2017, the average of the calculated groundwater elevations in the four wells was 13.66 feet amsl. This elevation was 0.03 feet higher than the average last quarter and 1.47 feet higher than the second quarter of 2016. A summary of groundwater elevation data is presented in **Table 2**.

Based on the groundwater elevations observed on May 16, 2017, the groundwater gradient and flow direction was towards the south-southwest at a gradient of offsite 0.123. **Table 3** presents a summary of the calculated groundwater gradient calculations. A depiction of the groundwater contour is included as **Figure 3**. The calculated groundwater flow direction continues towards the southwest.

4.1.2. Results of Groundwater Laboratory Analysis

The groundwater samples collected on May 16 were analyzed utilizing USEPA Method 8260B for TPHg, BTEX, fuel oxygenates (MTBE, , and lead scavengers (1,2-DCA, EDB) and USEPA Method 8015B for total petroleum hydrocarbons in the diesel range (TPHd) by ELAP Certified Test America.

Additionally, due to the detection of chlorinated VOCs in soil vapor samples, ATC requested chlorinated VOCs be reported for groundwater samples. Analysis of the organic lead compounds tetramethyl lead (TML) and tetraethyl lead (TEL) were only performed for MW-1 and MW-3, as TPHg in MW-2 and MW-4 have never demonstrated sufficiently high concentrations to warrant analysis for the lead compounds.

To derive a sense of relative water quality impairment, ATC compared the analytical results with the 2016 Tier 1 environmental screening levels (ESLs) developed by the Regional Water Quality Control Board, San Francisco Bay Region (RWQCB, December 2016), although there is legal binding basis for this comparison for sites under LTCP.

As was noted above, on May 16, 2017, 3.24 inches (0.27 feet) of NAPL was detected in MW-1 and a passive skimmer installed on July 19, 2017. NAPL was not detected in any of the remaining monitoring wells, including MW-3 that also contains a passive skimmer. However, it is important to note that unlike previous quarters, the presence of LNAPL in MW-1 prevented its sampling. Therefore, results from MW-1 were not available to compare in the analysis this quarter.

Due to a technical error, the groundwater samples were not analyzed for TPHd without the use of silica gel or the lead scavengers 1,2-DCA or EDB. ATC these analyses will be performed next quarter and additionally has put measures in place to ensure this type of error is not repeated.

The following is a summary reporting of the COCs at the site:

- The ESL for TPHg in groundwater is 100 µg/L. TPHg was detected in excess of the ESL in the groundwater samples collected from all the monitoring wells that were sampled, with a maximum reported concentration of 67,000 µg/L from MW-4. The detection of TPHg in MW-4 this quarter is the highest detected during the investigation at the site.

- The ESL for TPHd in groundwater is 100 µg/L. TPHd w/SGC analysis detected TPHd in the groundwater samples from all the monitoring wells that were sampled with a maximum reported concentration of 1,300 µg/L from MW-3 and MW-4. Although, TPHd was reported in the groundwater samples, the laboratory reported chromatograms of these samples were not consistent with established chromatograms of diesel. TPHd was analyzed exclusively utilizing Silica Gel Cleanup (SGC) this quarter due to a technical error. TPHd analysis without SGC will be reinstituted during the next monitoring event and continued thereafter.

- The ESL for benzene in groundwater is 1 µg/L. Benzene was detected in excess of the ESL in the groundwater samples collected from all the monitoring wells that were sampled, , with a maximum reported concentration of 28,000 µg/L from MW-4.

- The ESL for toluene in groundwater is 40 µg/L. Toluene was detected in excess of the ESL in the groundwater samples collected from all the monitoring wells that were sampled, , with a maximum reported concentration of 16,000 µg/L from MW-3.

- The ESL for ethyl benzene in groundwater is 5 µg/L. Ethyl benzene was detected in excess of the ESL in the groundwater samples collected from all the monitoring wells that were sampled, with a maximum reported concentration of 1,900 µg/L from MW-3.

- The ESL for total xylenes in groundwater is 20 µg/L. Total xylenes was detected in excess of the ESL in the groundwater samples collected from all the monitoring wells that were sampled, with a maximum reported concentration of 7,300 µg/L from MW-4.

- The ESL for MTBE in groundwater is 5 µg/L. The fuel oxygenate MTBE was only detected in the groundwater sample collected from MW-3, at a reported concentration of 140 µg/L.

- The ESL for naphthalene in groundwater is 17 µg/L. Naphthalene was detected in the groundwater samples collected from all the monitoring wells that were sampled except MW-4, with a maximum reported concentration of 450 µg/L from MW-4.

- The ESL for TBA has not been established. TBA was detected for the first time in the site investigation in MW-4 at 380 µg/L. TBA was not detected in any of the other groundwater samples collected from the monitoring well network this quarter.

- The ESL for organic lead compounds TML or TEL have not been established. TEL was detected in the groundwater sample collected from MW-3 at a concentration of 0.31 µg/L.

- The ESLs for lead scavengers 1,2-DCA, and EDB are 0.5 and 0.05 µg/L, respectively. 1,2-DCA was detected in the groundwater sample collected from MW-4 at a concentration

of 82 µg/L. EDB was not detected in any of the groundwater samples collected from the monitoring well network this quarter.

- ESLs for the oxygenate compounds ETBE, DIPE, TAME, have not been established. ETBE, DIPE, and TAME, were not detected in any of the groundwater samples collected from the monitoring well network this quarter.

Laboratory analytical results data the second quarter of 2017 is summarized in **Table 4. Figures 4** through **7** present the isoconcentrations for TPHg, benzene, MTBE, and naphthalene; respectively. All laboratory analytical results reports are included in **Appendix B**.

4.2. Soil Vapor Sampling And Analysis

On May 16, 2017, ATC field personnel sampled the three (3) soil vapor sampling points BSS-1, BSS-2, and BSS-3 that are located in the basement of the ARC Building. The soil vapor sampling points are depicted on **Figure 9**. Sampling was completed consistent with ATC's *Standard Field Procedures for Soil Vapor Sampling and Laboratory Analysis,* a copy of which is included in **Appendix E**. The vapor-sampling log is included in **Appendix F**.

Collected vapor samples were transported under chain-of-custody documentation to a state-certified laboratory for analyses. Copies of the chain of custody document and analytical laboratory results are included in **Appendix G**.

Tables 5 and **6** are summaries of the historic analytical results of soil vapor samples collected at the site. **Table 5** includes petroleum related compounds while Table 6 includes chlorinated volatile organic compounds (CVOC). ATC includes the respective Environmental Screening Levels (ESLs) for each compound in the two tables. The ESLS are established by the San Francisco Bay Regional Water Quality Control Board (RWQCB), dated February 2016, Revision 3 for Subslab/Soil Gas in their respective table. ATC chose the residential setting to be the most conservative. ATC then performed then performed a Tier I evaluation by comparing the analytical result to its respective ESLs, when available.

ATC highlights the following observations in regards to soil vapor sampling and analysis:

- Petroleum related compounds:
  - Toluene was reported in the samples collected from subslab vapor point BSS-1, BSS-2, and BSS-3, at concentrations of 5.1 µg/m^3, 14 µg/m^3, and 10 µg/m^3; respectively. These concentrations were below the Tier I ESL.
  - None of the other petroleum-related COCs were detected above their respective reporting limits.
- Biogenic indicator gases:
  - Carbon dioxide was detected in subslab vapor sampling points BSS-1, BSS-2, and BSS-3, at concentrations of 2.5%, 3.6%, and 4.2%; respectively. These concentrations

are higher than typically measured in the atmosphere. Carbon dioxide is produced when carbon-containing compounds are degraded aerobically.

- Oxygen concentrations was detected in subslab vapor sampling points BSS-1, BSS-2, and BSS-3, at concentrations of 21%, 19%, and 19%; respectively. These oxygen concentrations were higher than during the previous quarter sampling and approaching atmospheric concentrations. Lowered oxygen concentrations generally indicate the presence of aerobic degradation. The higher concentrations of oxygen present suggest less aerobic degradation has been occurring this quarter.

- Methane, a possible indicator of anaerobic degradation, was not detected in any of the samples collected from subslab vapor sampling points this quarter.

- Chlorinated volatile related compounds (CVOCs)

  - There were no detections of CVOCs from any of the soil gas samples collected from the three subslab vapor points in the basement of the ARC Building this quarter.

5.0 CONCLUSIONS

ATC concludes the following from results of the second quarter 2017 groundwater and soil vapor sampling event:

Groundwater Sampling and Analysis

- Groundwater elevations measured during the second quarter of 2017 sampling event were historically the highest measured at the site.

- In the current quarter, groundwater elevations in the four wells was 0.03 feet higher than the average last quarter and 1.47 feet higher than the second quarter of 2016. The groundwater flow was calculated to be flowing at a gradient of offsite south-southwest at a slope of 0.123 feet/per foot. The south-southwest flow direction is the closest to the inferred groundwater flow direction (as inferred by surface topography) than at any of the previous quarterly sampling events.

- The majority of the dissolved phase PHC concentrations detected this quarter exceeded the Tier 1 ESLs[2] used to assess relative water quality impairment and in some instances were greater than any of the previous quarters during the investigation at the site. The detection of TBA in MW-4 this quarter is the first since ATC began investigation the site. Detections of TPHg, benzene, naphthalene, and TBA in MW-4, were the highest since investigation began at the site.

[2] Tier 1 ESLs Groundwater, San Francisco Bay Regional Water Quality Control Board (RWQCB), dated February 2016, Revision 3

- Although, TPHd was reported in the groundwater samples, the laboratory reported chromatograms of these samples were not consistent with established chromatograms of diesel.

- No chlorinated volatile organic compounds (CVOCs) were detected in any of the groundwater samples.

- Approximately 3.24 inches (0.27 feet) of PHC LNAPL was detected in MW-1 for the first time this quarter. A passive skimmer was installed in this well on July 19, 2017 to collect the accumulated LNAPL.

- Organic lead was detected in the groundwater sample collected from MW-3 this quarter.

Soil Vapor Sampling

- Toluene was the only constituent of concern reported in soil vapor samples this quarter. No other petroleum=-related compound or CVOCs were detected in any of the soil gas samples collected this quarter.

6.0 RECOMMENDATIONS

ATC recommends the following:

- Continue to sample and analyze groundwater samples from the monitoring well network on the existing quarterly groundwater sampling schedule.
- Continue to attempt LNAPL recovery in MW-3, and now MW-1 using the installed passive skimmers.
- Since TBA, a fuel oxygenate, was detected for the first time this quarter, continue to analyze and report on all fuel oxygenates until the TBA detection proves to have been an anomaly.
- Add TPHg to the scope of analysis for the soil vapor samples as was directed in the June 15, 2017 ACEH letter.

7.0 PLANNED FUTURE ACTIVITIES

7.1. ROUTINE GROUNDWATER & VAPOR MONITORING, SAMPLING, AND REPORTING

The next quarterly collection of groundwater and subslab soil vapor samples has been tentatively scheduled for August 15, 2017. After laboratory analytical results have been completed and received, ATC will prepare and submit a quarterly monitoring report (QMR).

7.2. DEVELOPMENT OF A WORKPLAN FOR EXPANDED SITE INVESTIGATION

As directed by ACEH, ATC will develop a workplan includes the continuation of the site investigation that focuses on the following aspects:

- Delineation of the dissolved phase PHC downgradient of the site, focusing primarily on dissolved benzene.
- Continued evaluation of the risks represented by the PHC mass in the source area and the dissolved phase PHC downgradient of the site. Part of this risk evaluation will include updates to the Conceptual Site Model and the Low Threat Closure Policy tables.

8.0 LIMITATIONS

All work at the site and documents submitted are completed under the advisement and review of a California-licensed Professional Geologist (PG) or Professional Engineer (PE).

This document and the work performed have been undertaken in accordance with the scope of work outlined in ATC's contract and with generally accepted professional engineering and environmental consulting practices existing at the time of completion.

This document and the work performed have been undertaken in good faith, with due diligence and with the expertise, experience, capability, and specialized knowledge necessary to perform the work in a good and workperson like manner and within all accepted standards pertaining to providers of environmental services in California at the time of investigation.

This report was prepared and applicable to the location of the site.

The evaluation of the geologic conditions at the site for this investigation is made from a limited number of data points. Subsurface conditions may vary away from these data points. No soil engineering or geotechnical references are implied or should be inferred.

If documents are cited that were not generated by ATC, the data taken from those documents is used “as is” and is assumed to be accurate. ATC does not guarantee the accuracy of this data and makes no warranties for the referenced work performed nor the inferences or conclusions stated in these documents.

ATC makes no other warranties, expressed or implied.

TABLES

TABLE 1
Groundwater Monitoring Well
Construction Details
The Salvation Army
Adult Rehabilitation Center
601 Webster Street
Oakland, California
1 of 1

Well ID	Installation Date	Casing Diameter	Total Well Depth	Screen Interval		Screen Length	TOC Elevation
				Upper	Lower		
		(inches)	(feet bgs)	(feet bgs)	(feet bgs)	(feet)	(amsl)
MW-1	10/12/2015 -1015/2015	2	30	15	30	15	32.08
MW-2	10/14/2015	2	30	15	30	15	30.12
MW-3	10/15/2015	2	30	15	30	15	30.45
MW-4	10/15/2015	2	30	15	30	15	30.65

TOC = Top of Casing
amsl = above mean sea level
bgs = below ground surface

Table 2
Summary of
Groundwater Elevation Data
The Salvation Army
Adult Rehabilitation Center (ARC)
601 Webster Street
Oakland, California

Well ID	Screen Interval	Date Gauged	TOC	DTW	Groundwater Elevation
MW-1	(15-30)	10/23/15	32.08	20.50	11.58
		02/24/16	32.08	19.74	12.34
		05/11/16	32.08	19.45	12.63
		08/16/16	32.08	19.96	12.12
		11/16/16	32.08	20.09	11.99
		02/13/17	32.08	18.05	14.03
		05/16/17	32.08	18.19	14.11 Ɛ
MW-2	(15-30)	10/23/15	30.12	18.91	11.21
		02/24/16	30.12	18.11	12.01
		05/11/16	30.12	17.87	12.25
		08/16/16	30.12	18.34	11.78
		11/16/16	30.12	18.50	11.62
		02/13/17	30.12	16.35	13.77
		05/16/17	30.12	16.39	13.73
MW-3	(15-30)	10/23/15	30.45	19.08	11.37
		02/24/16	30.45	18.48	11.97
		05/11/16	30.45	18.02	12.43
		08/16/16	30.45	18.65	11.80
		11/16/16	30.45	18.64	11.81
		02/13/17	30.45	16.60	13.85
		05/16/17	30.45	16.61	13.84
MW-4	(15-30)	10/23/15	30.65	20.23	10.42
		02/24/16	30.65	19.53	11.12
		05/11/16	30.65	19.22	11.43
		08/16/16	30.65	19.77	10.88
		11/16/16	30.65	19.87	10.78
		02/13/17	30.65	17.80	12.85
		05/16/17	30.65	17.71	12.94

DTW = Depth to Water measured in feet from TOC
TOC = Top of Casing
Ɛ = Corrected groundwater elevation due to the presence of floating product

Table 3
Summary of Calculated
Groundwater Gradient Information
The Salvation Army
Adult Rehabilitation Center (ARC)
601 Webster Street
Oakland, California

Yr	Qtr	Date	Direction	Gradient (ft./ft.)
2015	4	10/23/15	w-sw	0.0104
2016	1	02/24/16	sw	0.0124
2016	2	05/11/16	w-sw	0.0125
2016	3	08/16/16	sw	0.0124
2016	4	11/16/16	sw	0.0124
2017	1	02/13/17	sw	0.0112
2017	2	05/16/17	s-sw	0.0123

Average hydraulic gradient is measured in feet/foot
NA = Not Available
NC = Not calculated due to insufficient data
--- = flat

Table 4
Summary of Groundwater Sample Analytical Results
The Salvation Army
Adult Rehabilitation Center (ARC)
601 Webster Street, Oakland, California

					TPHd													Organic Lead	
				TPH_g	wo/SG	w/SG	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE	ETBE	DIPE	TBA	TAME	1,2-DCA	EDB	NPHTH	TML	TEL
			Tier I ESLs	100	100	100	1	40	13	20	5	NE	NE	NE	NE	0.5	0.05	17	NE	NE
Date	Sample ID	Note	Depth to Sample [1]	micrograms per liter (µg/L)															
Water Samples Derived from Monitoring Wells																			
10/23/15	MW-1		20.50	18,000	NA	NA	2,000	2,100	230	1,300	150	<5.0	<5.0	<50	<5.0	7.7	<5.0	NA	NA	NA
02/24/16	MW-1	[3]	19.74	6,500	1,500	NA	1,600	1,200	110	700	90	<10	<10	<100	<10	<10	<10	NA	NA	NA
05/11/16	MW-1		19.45	28,000	1,200	NA	7,600	5,400	750	2,800	770	<5.0	<5.0	<200	<5.0	NA	NA	NA	**0.023**	<0.053
08/16/16	MW-1		19.96	6,300	410	NA	2,100	1,200	99	540	130	<50	<50	<2000	<50	NA	NA	NA	<1.2	<1.2
11/16/16	MW-1		20.09	3,600	210	**67**	1,300	750	70	330	72	<25	<25	<1000	<25	<25	<25	<50	**0.022**	**0.074**
02/13/17	MW-1		18.05	29,000	1,900	500	6,700	6,100	760	4,100	700	<25	<25	<1000	<25	28	<25	190	<0.62	<0.62
05/16/17	MW-1	[4]		NS/NAPL	NS/NAPL	NS/NAPL	NS/NAPL	NS/NAPL	NS/NAPL	NS/NAPL	NS/NAPL	NS/NAPL	NS/NAPL	NS/NAPL	NS/NAPL	NS/NAPL	NS/NAPL	NS/NAPL	NS/NAPL	NS/NAPL
10/23/15	MW-2		18.91	5,200	NA	NA	520	870	120	560	<5.0	<5.0	<5.0	<50	<5.0	<5.0	<5.0	NA	NA	NA
02/24/16	MW-2	[3]	18.11	2,300	**80**	NA	320	310	31	230	<5.0	<5.0	<5.0	<50	<5.0	<5.0	<5.0	NA	NA	NA
05/11/16	MW-2		17.87	1,000	<51	NA	170	200	25	150	<0.5	<0.5	<0.5	<20	<0.5	NA	NA	NA	NA	NA
08/16/16	MW-2		18.34	2,400	NA	NA	340	580	71	380	<.50	<0.5	<0.5	<20	<0.5	NA	NA	NA	<1.2	<1.2
11/16/16	MW-2		18.50	5,300	<55	NA	800	1,400	110	780	<5.0	<5.0	<5.0	<200	<5.0	<5.0	<5.0	<10	<0.021	<0.053
02/13/17	MW-2		16.35	2,700	540	**220**	440	490	46	410	<5.0	<5.0	<5.0	<200	<5.0	<5.0	<5.0	20	NA	NA
05/16/17	MW-2		16.39	3,900	NA	170	570	750	64	590	<5.0	<5.0	<5.0	<100	<0.5	<10	<10	18	<0.12	<0.12
10/23/15	MW-3		19.08	7,300	NA	NA	540	610	68	460	<5.0	<5.0	<5.0	<50	<5.0	<5.0	<5.0	NA	NA	NA
02/24/16	MW-3	[3]	18.48	190,000	270,000	NA	1,000	25,000	4,400	23,000	<100	<100	<100	<1,000	<100	<100	<100	NA	NA	NA
05/11/16	MW-3		18.02	67,000	NA	14,000	11,000	14,000	5,600	11,000	77	<50	<50	<2,000	<50	NA	NA	NA	<0.021	**0.23**
08/16/16	MW-3		18.65	110,000	NA	9,200	9,100	20,000	14,000	23,000	<.50	<250	<250	<10,000	<250	NA	NA	NA	<6.2	<6.2
11/16/16	MW-3		18.64	16,000	14,000	9,800	2,500	2,900	360	3,000	<25	<25	<25	<1,000	<25	<25	<25	140	<0.021	**0.24**
02/13/17	MW-3		16.60	16,000	1,900	690	3,400	2,600	320	2,700	38	<25	<25	<1,000	<25	<25	<25	160	<0.62	<0.62
05/16/17	MW-3		16.61	39,000	NA	1,300	8,100	4,900	840	5,200	140	<25	<25	<500	<25	<10	<10	370	<0.25	**0.31**
10/23/15	MW-4		20.23	3,700	NA	NA	440	210	72	160	<0.5	<0.5	<0.5	<5.0	<0.5	15	<0.5	NA	NA	NA
02/24/16	MW-4	[3]	19.53	<50	820	NA	300	53	31	160	<5.0	<5.0	<5.0	<50	<5.0	7.4	<5.0	NA	NA	NA
05/11/16	MW-4		19.22	45,000	NA	650	17,000	7,900	870	4,000	<250	<250	<250	<10,000	<250	NA	NA	NA	NA	NA
08/16/16	MW-4		19.77	5,900	NA	160	1,200	500	87	350	<10	<10	<10	<400	<10	NA	NA	NA	NA	NA
11/16/16	MW-4		19.87	4,400	480	NA	820	160	25	88	<10	<10	<10	<400	<10	<10	<10	<20	<0.021	<0.053
02/13/17	MW-4		17.80	4,700	670	240	1,000	280	37	150	<10	<10	<10	<400	<10	<10	<10	<20	NA	NA
05/16/17	MW-4		17.71	67,000	NA	1,300	28,000	16,000	1,900	7,300	<10	<10	<10	380	<10	82	<10	450	<0.25	<0.25

Table 4
Summary of Groundwater Sample Analytical Results
The Salvation Army
Adult Rehabilitation Center (ARC)
601 Webster Street, Oakland, California

					TPHd													Organic Lead	
				TPH_g	wo/SG	w/SG	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE	ETBE	DIPE	TBA	TAME	1,2-DCA	EDB	NPHTH	TML	TEL
			Tier I ESLs	100	100	100	1	40	13	20	5	NE	NE	NE	NE	0.5	0.05	17	NE	NE
Water Samples Derived from Investigative Borings																			
07/29/13	SB1-W [2]		NC	210,000	NA	NA	35,000	47,000	3,000	16,000	240	<50	<50	<500	<50	<50	<50	NA	NA	NA
07/29/13	SB2-W [2]		NC	350	NA	NA	70	26	7.9	15	12	<0.5	<0.5	<5.0	<0.5	<0.5	<0.5	NA	NA	NA
07/30/13	SB4-W [2]		NC	280,000	NA	NA	35,000	30,000	3,900	20,000	5,300	<50	<50	<500	<50	<50	<50	NA	NA	NA
07/30/13	SB5-W [2]		NC	3,200	<50	NA	370	470	42	200	<2.0	<2.0	<2.0	<20	<2.0	<2.0	<2.0	NA	NA	NA
07/30/13	SB6-W [2]		NC	64,000	45,000	NA	6,000	10,000	1,700	8,600	<20	<20	<20	<200	<20	<20	<20	NA	NA	NA
07/30/13	SB7-W [2]		NC	1,100	<50	NA	100	170	22	120	37	<1.0	<1.0	<10	<1.0	<1.0	<1.0	NA	NA	NA
10/12/15	L2-W [2]		NC	9,400	NA	NA	1,300	2,100	240	1,200	<10	<10	<10	<100	<10	<10	<10	NA	NA	NA
10/12/15	L3-W [2]		NC	19,000	NA	NA	2,200	2,200	470	2,300	<10	<10	<10	<100	<10	<10	<10	NA	NA	NA
10/14/15	L4-W [2]		NC	37,000	NA	NA	4,000	6,200	800	4,300	<10	<10	<10	<100	<10	<10	<10	NA	NA	NA
10/14/15	P2-W [2]		NC	120	NA	NA	1.9	5.1	0.9	4.7	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5	<0.5	NA	NA	NA

Notes:

[1] = Depth to Sample = Depth to Water

[2] = Sample collected from temporary boring

[3] = Sample analyzed for TPHd = Total Petroleum Hydrocarbons as Diesel by EPA Method 8015 (interference)

ESLs = Tier 1 Environmental Screening Levels (ESLs) - Default Conservative Site Scenario - February 2016

Bold = > Detected at or Above Stated Method Detection Limit

Bold = > ESL

NA = Not Analyzed/Not Applicable

NE = None Established

NR = Not Reported

NC = Not Collected

NS/NAPL = Not sampled due to the presence of light non-aqueous phase liquid (NAPL)

< = Not Detected at or Above Stated Method Detection Limit

TPHd = Total Petroleum Hydrocarbons as Diesel by EPA Method 8015/3630 (Silica Gel Cleanup)

TPHg = Total Petroleum Hydrocarbons as Gasoline by EPA Method 8015

Benzene = Benzene by EPA Method 8260B

Toluene = Toluene by EPA Method 8260B

Ethyl Benzene = Ethylbenzene by EPA Method 8260B

Xylenes = Total Xylenes by EPA Method 8260B

TMBs = Trimethylbenzenes by EPA Method 8260B (includes 1,2,4-TMB, 1,3,5-TMB, and 1,2,3-TMB)

MTBE = Methyl Tertiary Butyl Ether by EPA Method 8260B

ETBE = Ethyl tert=Butyl Ether by EPA Method 8260B

DIPE = Diisopropyl Ether by EPA Method 8260B

TBA = tert=Butyl Alcohol by EPA Method 8260B

TAME = Tertiary Amyl Methyl Ether by EPA Method 8260B

1,2-DCA = 1,2=Dichloroethane (aka EDC) by EPA Method 8260B

EDB =1,2=Dibromoethane by EPA Method 8260B

NPHTH = Naphthalene by EPA Method 8260B

TEL = Tetra ethyl lead by EPA Method 8270 Modified

TML = Tetra methyl lead by EPA Method 8270 Modified

TABLE 5
Subslab Soil Gas Sample Analytical Results
LUFT Related Compounds
Salvation Army ARC Building
601 Webster Street
Oakland, California
1 of 1

			Benzene	Toluene	Ethylbenzene	m,p-xylene	o-xylene	MTBE	TBA	DIPE	TAME	ETBE	EDC	EDB	Napthalene	Napthalene	Carbon Dioxide	Oxygen	Methane	1,1 Difluoroethane
Analtyical Method			TO15	TO15	TO15	TO15	TO15	TO15	TO15	TO15	TO15	TO15	TO15	TO15	TO15	TO17	ASTM D1945	ASTM D1945	ASTM D1945	TO15
Tier I ESL			**48**	**160,000**	**560**	**52,000**		**5,400**	--	--	--	--	**54**	**2.3**	**41**	**41**		-		-
Sampling Date		***Sample ID / units***	***µg/m³***														***%***	***%***	***ppmv***	***µg/m³***
2016Q04	11/16/2016	**BSS-1** / -	< 3.2	**4.7**	**72**	**350**	**150**	< 3.6	< 6.1	< 4.2	< 4.2	< 4.2	< 4.1	< 7.8	< 5.3	NS	2.6	11	< 10	< 5.5
		BSS-2 / -	< 3.2	**4.7**	< 4.4	< 8.8	< 4.4	< 3.6	< 6.1	< 4.2	< 4.2	< 4.2	< 4.1	< 7.8	< 5.3	NS	1.6	14	< 10	< 5.5
		BSS-3 / -	< 3.2	**5.3**	< 4.4	< 8.8	< 4.4	< 3.6	< 6.1	< 4.2	< 4.2	< 4.2	< 4.1	< 7.8	< 5.3	NS	2.7	12	< 10	< 5.5
2017Q01	02/13/17	**BSS-1** / -	< 3.2	**22**	< 4.4	< 8.8	< 4.4	< 3.6	< 6.1	< 4.2	< 4.2	< 4.2	< 4.1	< 7.8	< 5.3	<10	3.3	16	< 10	< 5.5
		BSS-2 / -	**37**	**260**	**34**	**75**	**21**	< 3.6	< 6.1	**5.5**	< 4.2	< 4.2	< 4.1	< 7.8	< 5.3	<10	3.2	16	14	< 5.5
		BSS-3 / -	< 3.2	**38**	< 4.4	< 8.8	< 4.4	< 3.6	< 6.1	< 4.2	< 4.2	< 4.2	< 4.1	< 7.8	< 5.3	<10	4.2	16	< 10	< 5.5
2017Q02	05/16/17	**BSS-1** / -	>3.2	**5.1**	< 4.4	< 8.8	< 4.4	< 3.6	< 6.1	< 4.2	< 4.2	< 4.2	< 4.1	< 7.8	< 5.3	<10	2.5	21	>10	5.3
		BSS-2 / -	>3.2	**14**	< 4.4	< 8.8	< 4.4	< 3.6	< 6.1	< 4.2	< 4.2	< 4.2	< 4.1	< 7.8	< 5.3	<10	3.6	19	>10	>5
		BSS-3 / -	>3.2	**10**	< 4.4	< 8.8	< 4.4	< 3.6	< 6.1	< 4.2	< 4.2	< 4.2	< 4.1	< 7.8	< 5.3	<10	4.2	19	>10	>5

Notes:

µg/m3 = Micrograms per cubic meter. All results and ESLs are expressed in µg/m3
ESL = California Environmental Protection Agency, San Francisco Bay Regional Water Quality Control Board's ESL Worksheet, Revision 3, dated February 2016. ATC used the Tier I ESLs for Subslab/Soil.
ppmv = parts per million by volume or moles per million, by volume

na = not applicable

-- = No ESL provided

<x.x = Not detected above laboratory reporting limits

x.x = Bold = Concentrentions above laboratory detection limits

x.x = Bold = Concentrentions aboveTier I ESL

MTBE = Methyl-Tert-Butyl-Ether

TBA = Tertiary Butyl Alcohol

DIPE = Di-Isopropyl Ether

TAME = Tertiary Amyl Methyl Ether

ETBE = Ethyl Tertiary Butyl Ether

EDC = 1,2-Dichloroethane

EDB = Ethyl Dibromide

Methlyene Chloride, originally detected in the 2016Q4 has been removed from this table and included with the other analytes that have been detected but not assoicated with the UST release from the site. These results are now included in in Table 6

TABLE 6
Subslab Soil Gas Sample Analytical Results
Chlorinated Compounds
Salvation Army ARC Building
601 Webster Street
Oakland, California

			Chloromethane	Methylene Chloride	Tetrachloroethene	1,1,2-Trichloroethene
		Analtyical Method	TO15			
		Tier I ESL	47,000	510	240	240
Sampling Date		*Sample ID* *units*	*µg/m3*			
2016Q04	11/16/2016	**BSS-1**	< 2.1	< 3.5	< 6.9	< 5.5
		BSS-2	< 2.1	< 3.5	< 6.9	< 5.5
		BSS-3	< 2.1	**14**	< 6.9	< 5.5
2017Q01	02/13/17	**BSS-1**	**5.4**	< 3.5	< 6.9	< 5.5
		BSS-2	< 2.1	< 3.5	**40**	**5.6**
		BSS-3	< 2.1	< 3.5	< 6.9	< 5.5
2017Q02	05/16/17	**BSS-1**	< 2.1	< 3.5	< 6.9	< 5.5
		BSS-2	< 2.1	< 3.5	< 6.9	< 5.5
		BSS-3	< 2.1	< 3.5	< 6.9	< 5.5

Notes:

µg/m3 = Micrograms per cubic meter. All results and ESLs are expressed in µg/m3

ESL = California Environmental Protection Agency, San Francisco Bay Regional Water Quality Control Board's ESL Worksheet, Revision 3, dated February 2016. ATC used the Tier I ESLs for Subslab/Soil.

na = not applicable

ppmv = parts per million by volume or moles per million, by volume

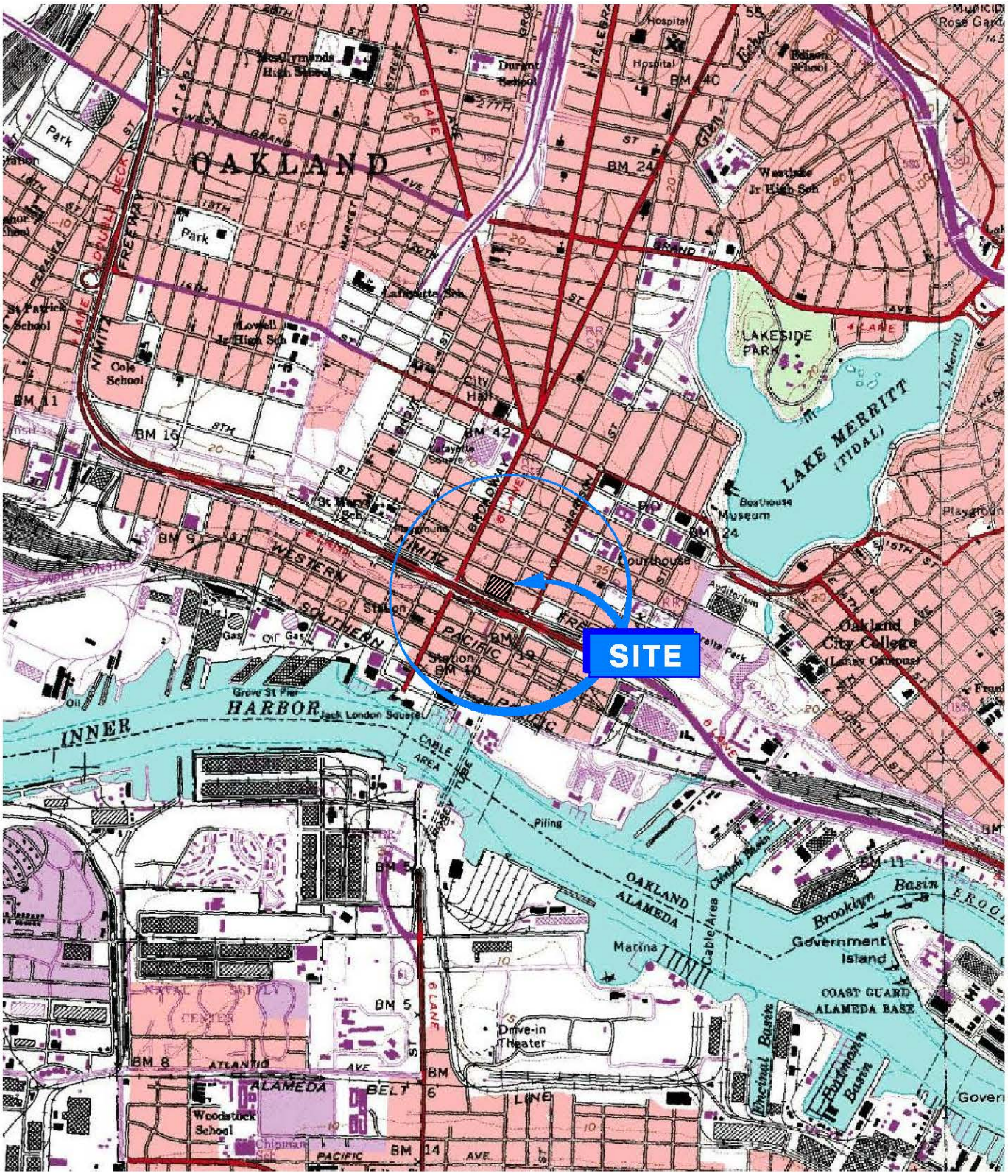
-- = No ESL provided

<x.x = Not detected above laboratory reporting limits

x.x = Bold = Concentrentions above laboratory detection limits.

x.x = Bold = Concentrentions aboveTier I ESL

FIGURES



SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP
OAKLAND WEST QUADRANGLE, CALIFORNIA, DATE 1959, PHOTO-UPDATED 1980

FIGURE 1
SITE LOCATION MAP
THE SALVATION ARMY
601 WEBSTER STREET
OAKLAND, CALIFORNIA

ATC
ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING
1117 LONE PALM AVE., SUITE 201
MODESTO, CA 95351
Ph: (209) 579-2221

PROJECT NUMBER: Z054000006		
DESIGNED BY: MDS	APPROVED BY: JH	DATE: 1-22-15
REVIEWED BY: MDS	DRAWN BY: DAW	SCALE: 1:24,000

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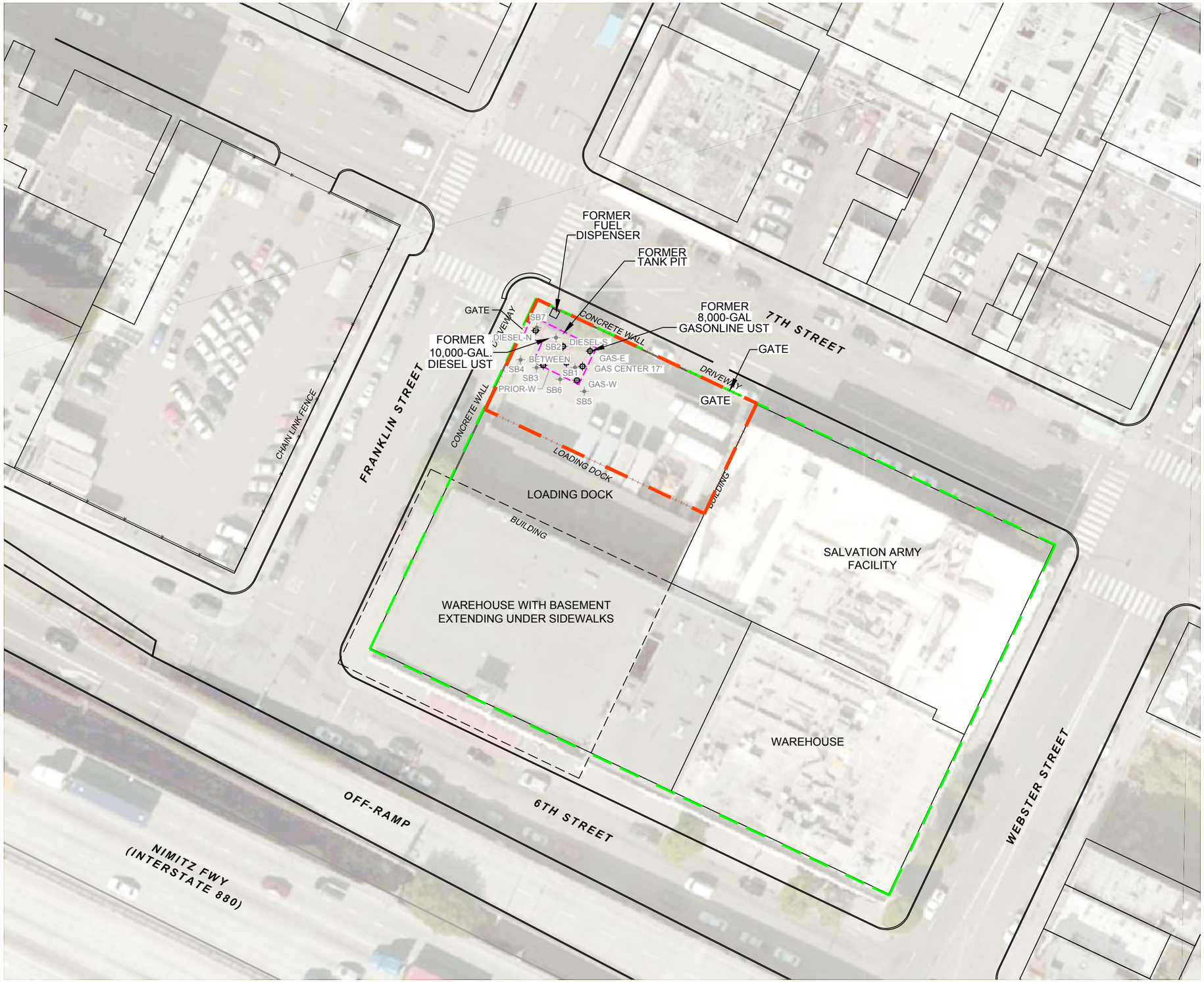


LEGEND

- APPROXIMATE FACILITY BOUNDARY
- FORMER UST
- FORMER EXCAVATION
- TRUCK ENCLOSURE AREA
- FORMER DIRECT PUSH BORING
- SOIL BORING

0 50' 100'

SCALE, FT

NOTE: SCALE AND LOCATIONS ARE APPROXIMATE

N

SITE PLAN

THE SALVATION ARMY
601 WEBSTER STREET
OAKLAND, CA

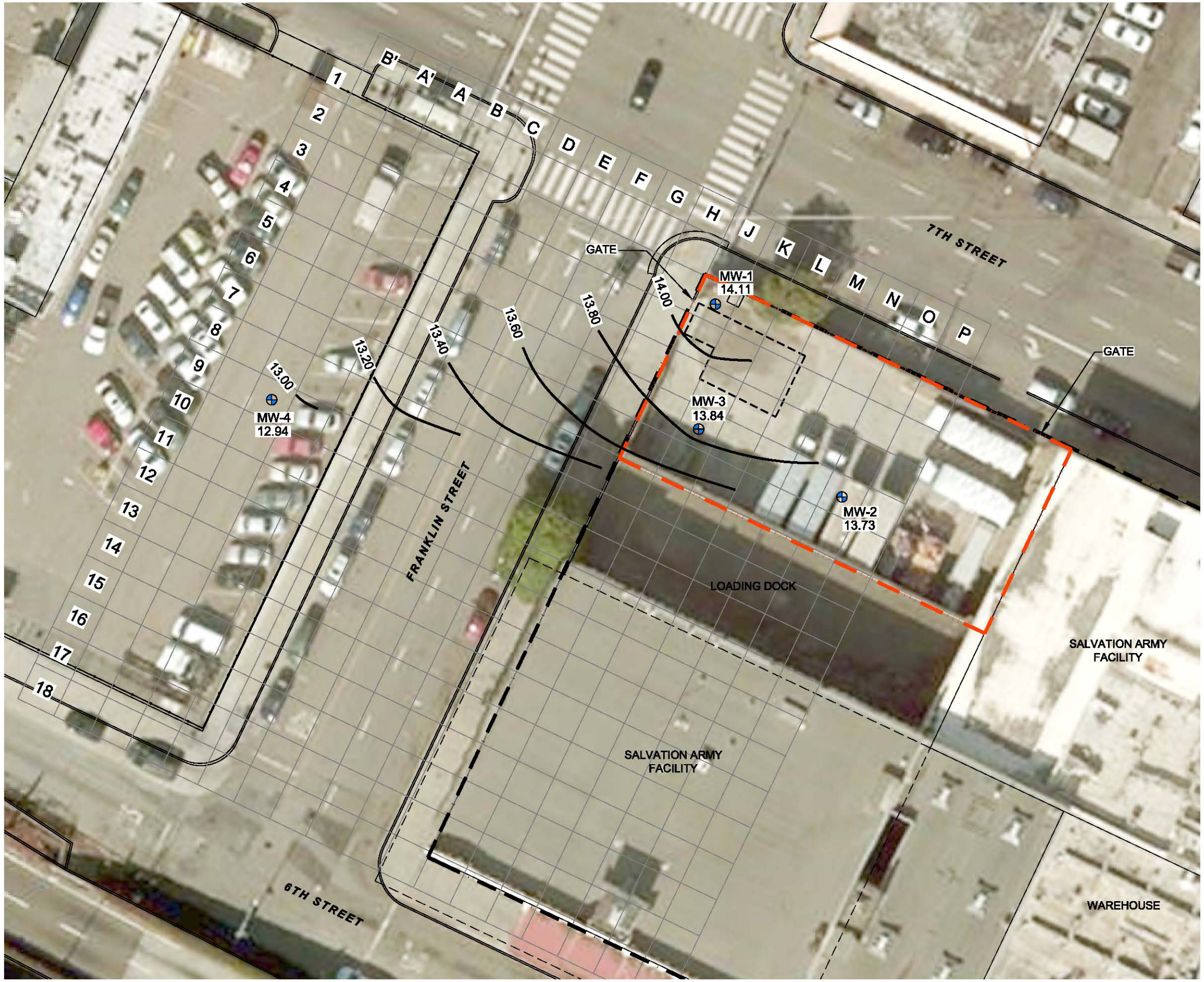
FIGURE 2

DATE: 12-8-15
DRAWN BY: DAW

PROJECT NUMBER: Z0540000066
APPROVED BY: M. SONKE

ATC ENVIRONMENTAL • GEOTECHNICAL BUILDING SCIENCES • MATERIALS TESTING
1117 Lone Palm Avenue, Ste. 201
Modesto, California 95351
Ph: (209) 579-2221 *** Fax: (209) 579-2225

FILE: M:\Enviromental\25026 – The Salvation Army\TSA-O-UST 601 Webster Oakland\Drawing & Figures\DWGs\04 Denise's CAD Folder\2015 4Q GW Contour 2.dwg Apr 26, 2016 – 2:43pm Denise.Walp



LEGEND

- APPROXIMATE FACILITY BOUNDARY
- FORMER UST
- FORMER EXCAVATION
- TRUCK ENCLOSURE AREA
- MONITORING WELL LOCATION
- 14.11 WATER LEVEL ELEVATION IN FEET
- 13.80 WATER LEVEL CONTOUR

0 30' 60'

SCALE, FT

NOTE: SCALE AND LOCATIONS ARE APPROXIMATE

N

GROUNDATER CONTOUR MAP - MAY 16, 2016

THE SALVATION ARMY
601 WEBSTER STREET
OAKLAND, CA

PROJECT NUMBER:	Z054000006	DATE:	6-23-17
APPROVED BY:	M. SONKE	DRAWN BY:	TH

FIGURE 3

ATC
ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING
1117 Lone Palm Avenue, Ste. 201
Modesto, California 95351
Ph: (209) 579-2221 *** Fax: (209) 579-2225

FILE:

LEGEND

- APPROXIMATE FACILITY BOUNDARY
- FORMER UST
- FORMER EXCAVATION
- TRUCK ENCLOSURE AREA
- MONITORING WELL LOCATION
- 3,900 TPHg ISOCONCENTRATION (ug/L)
- FP FLOATING PRODUCT
- TPHg ISOCONCENTRATION LINE

0 30' 60'

SCALE, FT

NOTE: SCALE AND LOCATIONS ARE APPROXIMATE

N

TPHg in GROUNDWATER - MAY 16, 2017

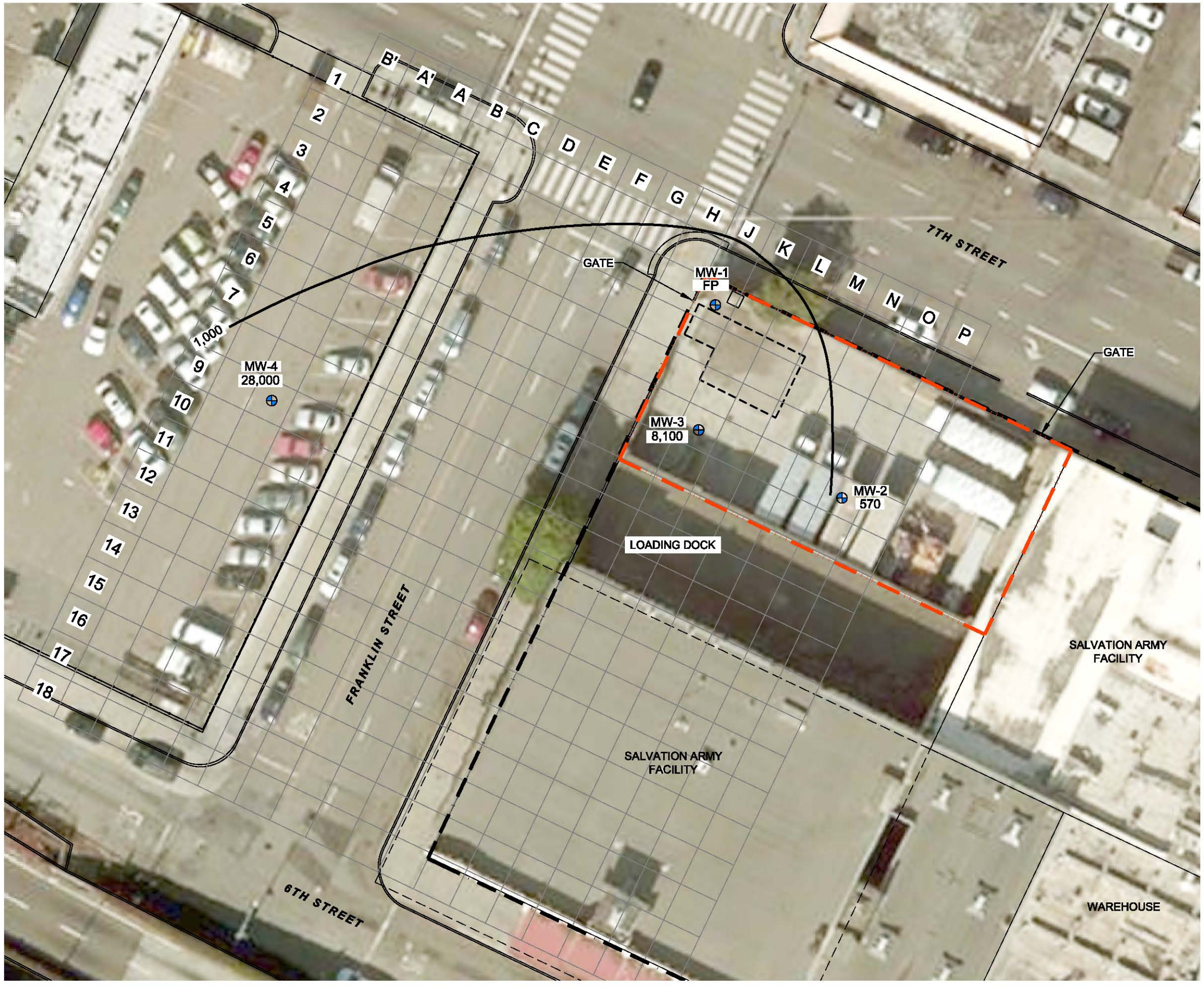
THE SALVATION ARMY
601 WEBSTER STREET
OAKLAND, CA

PROJECT NUMBER:	20540000008	DATE:	6-23-17
APPROVED BY:	M. SONKE	DRAWN BY:	TH

FIGURE 4

ATC
ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING
1117 Lone Palm Avenue, Ste. 201
Modesto, California 95351
Ph: (209) 579-2221 *** Fax: (209) 579-2225

FILE:



LEGEND

- APPROXIMATE FACILITY BOUNDARY
- FORMER UST
- FORMER EXCAVATION
- TRUCK ENCLOSURE AREA
- MONITORING WELL LOCATION
- 8,100 BENZENE ISOCONCENTRATION (ug/L)
- FP FLOATING PRODUCT
- BENZENE ISOCONCENTRATION LINE

0 30' 60'

SCALE, FT

NOTE: SCALE AND LOCATIONS ARE APPROXIMATE

N

BENZENE in GROUNDWATER - MAY 16, 2017

THE SALVATION ARMY
601 WEBSTER STREET
OAKLAND, CA

PROJECT NUMBER: Z054000006 | DATE: 6-23-17 | FIGURE 6

APPROVED BY: M. SONKE | DRAWN BY: TH

ATC
ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING
1117 Lone Palm Avenue, Ste. 201
Modesto, California 95351
Ph: (209) 579-2221 *** Fax: (209) 579-2225

FILE:

FILE:

LEGEND

- APPROXIMATE FACILITY BOUNDARY
- FORMER UST
- FORMER EXCAVATION
- TRUCK ENCLOSURE AREA
- MONITORING WELL LOCATION
- 140 MTBE ISOCONCENTRATION (ug/L)
- FP FLOATING PRODUCT
- BENZENE ISOCONCENTRATION LINE

0 30' 60'

SCALE, FT

NOTE: SCALE AND LOCATIONS ARE APPROXIMATE

N

MTBE in GROUNDWATER - MAY 16, 2017

THE SALVATION ARMY
601 WEBSTER STREET
OAKLAND, CA

PROJECT NUMBER: Z054000006		DATE: 6-23-17	FIGURE 8
APPROVED BY: M. SONKE		DRAWN BY: TH	

ATC ENVIRONMENTAL • GEOTECHNICAL BUILDING SCIENCES • MATERIALS TESTING
1117 Lone Palm Avenue, Ste. 201
Modesto, California 95351
Ph: (209) 579-2221 *** Fax: (209) 579-2225

LEGEND

- APPROXIMATE FACILITY BOUNDARY
- FORMER UST
- FORMER EXCAVATION
- TRUCK ENCLOSURE AREA
- MONITORING WELL LOCATION
- 450 NAPHTHALENE ISOCONCENTRATION (ug/L)
- FP FLOATING PRODUCT
- NAPHTHALENE ISOCONCENTRATION LINE

0 30' 60'

SCALE, FT

NOTE: SCALE AND LOCATIONS ARE APPROXIMATE

N

NAPHTHALENE in GROUNDWATER - MAY 16, 2017

THE SALVATION ARMY
601 WEBSTER STREET
OAKLAND, CA

PROJECT NUMBER: Z054000006
APPROVED BY: M. SONKE
DATE: 6-23-17
DRAWN BY: TH

FIGURE 5

ATC
ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING
1117 Lone Palm Avenue, Ste. 201
Modesto, California 95351
Ph: (209) 579-2221 *** Fax: (209) 579-2225

FILE:

NOTE: SCALE AND LOCATIONS ARE APPROXIMATE

FIGURE 8

Subslab Soil Gas Sampling Point Locations

THE SALVATION ARMY
601 WEBSTER STREET
OAKLAND, CALIFORNIA

PROJECT NUMBER: 054.25026.0001		
DESIGNED BY: MDS	APPROVED BY: JH	DATE: 8-14-14
REVIEWED BY: MDS	DRAWN BY: DAW	SCALE: 1" = 30'

FILE: W:\25026 Modesto\Cad Files\1-25026.0001-Salvation Army Oakland.dwg

APPENDICES

Appendix **A**

Bibliography including Historical Work ATC Work products

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Appendix **B**

ATC's Standard Field Procedures for Groundwater Monitoring, Sampling, and Laboratory Analysis

ATC Group Services

STANDARD FIELD PROCEDURES FOR GROUNDWATER MONITORING AND SAMPLING

ATC will notify ACEH a minimum of 72 hours in advance of commencing fieldwork.

The historical monitoring and analytical data of each monitoring well shall be reviewed prior to performing monitoring activities to determine the order in which the wells will be monitored (i.e. lowest concentrations to highest concentrations). Groundwater monitoring should not be performed when the potential exists for surface water to enter the well (i.e. flooding during a rainstorm).

Prior to groundwater sample collection, the locking well caps will be removed to let the pressure inside the well equilibrate with atmospheric pressure for approximately 20 to 30 minutes. If any of the wells are likely to contain phase separated hydrocarbons aka non-aqueous phase liquid (NAPL), an electronic interface probe will be used to detect the presence, and measure the thickness if the layer, if present. If NAPL is present, a bailer cut will be retrieved, the bailer cut photographed for confirmation, and the well will not be sampled. To prevent cross-contamination, monitoring equipment that comes in contact with groundwater will be scrubbed with a solution of Alconox® detergent and rinsed with rinsate water prior to use in each well.

Both the static groundwater level and total depth of the well will be measured from a reference point on the top of the well casing and recorded. Fluid measurements will be recorded to the nearest 0.01-foot. The static groundwater level and total depth of the well will then be used to calculate the total volume of water in the well.

Prior to the collection of groundwater samples, a minimum of three well volumes (casing and sand pack) will be purged from each well using a 2-inch Grundfos® submersible pump or a disposable polyethylene bailer. During purging, periodic measurements of temperature, pH, and specific electrical conductivity will be measured at casing volume multiples. When three successive stabilized readings are obtained, the well will be sampled. If the well is low yielding and is pumped or bailed dry, the well will be allowed to recover at least 80% of the static groundwater level. If the well does not recover 80% within a 24-hour period, a sample will be collected and recovery noted on the Groundwater Sampling Log.

Groundwater samples will be collected from the well using a disposable polyethylene bailer. Each sample will be collected in laboratory certified clean 40-milliliter volatile organic analysis (VOA) vials and 1-liter glass bottles. Preservatives will be pre-added by the laboratory as appropriate for the analyses selected. Each VOA vial will be filled completely with sample to eliminate headspace and create a positive meniscus. Each VOA vial will be capped with a convex Teflon® septa. Each vial will be observed to ensure that no air bubbles are present within the vial.

Samples will be marked for identification, placed in a cooler chilled with ice, and transported to a State-certified laboratory for analyses. Chain-of-custody records will be maintained and accompany samples to the analytical laboratory. Groundwater purged from the well will be stored on-site in 55-gallon drums pending proper disposal.

LABORATORY ANALYSES OF COLLECTED GROUND WATER SAMPLES

All soil and groundwater samples will be analyzed as follows:

EPA Method 8015M	**EPA Method 200.8.**
Total Petroleum Hydrocarbons as Gasoline	Total organic lead
Total Petroleum Hydrocarbons as Diesel (TPHd) without Silica Gel Cleanup	
Total Petroleum Hydrocarbons as Diesel (TPHd) with Silica Gel Cleanup	
EPA Method 8260B	
Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)	Tertiary Amyl Methyl Ether (TAME)
Methyl Tertiary-Butyl Ether (MTBE)	1,2-Dichloroethane (1,2-DCA)
Tertiary Butyl Alcohol (TBA)	Ethyl Dibromide (EDB)
Di-Isopropyl Ether (DIPE)	Naphthalene[1]
Ethyl Tertiary Butyl Ether (ETBE)	

[1] Soil samples collected from the upper 10 feet of the vadose zone are to be analyzed for naphthalene to supply data used in the Direct Contact to Outdoor Air Exposure evaluation of the LTCP.

MANAGEMENT OF INVESTIGATION DERIVED WASTE

All investigative derived wastes (IDW) including soil cuttings, wash water, decontamination rinsate water, and purge water will be contained in Department of Transportation (DOT) approved 55-gallon drums. The drums will be labeled as non-hazardous waste and will be temporarily staged onsite pending laboratory results. Disposition of the IDW will be conducted by an appropriate waste disposal subcontractor and will be managed in accordance with State and local guidelines.

Appendix C

Groundwater Sampling Logs

Montoring Well Gauging Log

FLD-102
Revision 0.0
Oct-15

ATC Branch: **Modesto, CA**	Date: 051617	Page 1 of 1
ATC Representative(s): GM	Project: The Salvation Army ARC	
	Location: 601 Webster Street, Oakland, CA	
Contact Information: Mike Sonke	Project No: Z054000006	Task No: 01
	Weather:	Temperature:
Water Level Meter Model/ID: Solinist 101	Interface Probe Model/ID: KECK 98	

Well ID	Casing Diameter (inches) / Type	Time of Well Cap Removal*	Time of Gauging*	Depth To LNAPL (feet)	Depth To Water (feet)	LNAPL Thickness (feet)	Total Well Depth (feet)	Comment
MW-1	2	0725	0740	17.92	18.19	0.27	29.72	
MW-2	2	0800	0835	NA	16.39	NA	29.82	
MW-3	2	0815	0837	NA	16.61	NA	29.75	
MW-4	2	0643	0702	NA	17.71	NA	29.73	

Comments:

~~MW-2, 4, 1, & 3~~

Notes:

* If top of screen is submerged, allow at least 15 minutes for well equilibration following well cap removal.
All measurements to be reported to nearest 0.01 ft.

ID = Identification.
LNAPL = Light Non-Aqueous Phase Liquid.
Sheen = Discontinuous, non-measurable thickness of LNAPL (less than 0.01 ft).
Trace = Continuous, non-measurable thickness of LNAPL.

Monitoring Well Purging and Sampling Log

FLD-103
Revision 1.0
Oct-16

ATC Branch: Modesto, Ca	Date: 051617	Page 1 of 1
ATC Representative(s): GM	Project: The Salvation Army ARC	
	Location: 601 Webster Street, Oakland CA	
Contact Information: **Mike Sonke**	Project No:Z054000006	Task No: 01
Well ID: MW- 1	Contractor:	
	Weather: Sun	Temperature:

Purging & Sampling Instrumentation & Method

Water Level Meter (Model/ID): Solinist 101	Interface Probe (Model/ID): N/A
Water Quality Meter (Model/ID): YSI PRO	Decontamination Method: Alconox and risate water

Purging Method: _____ PVC Bailer _____ Disp. Bailer _____ Submersible Pump _____ Centrifugal Pump Other: _____

3 Well Volumes _____ Low Flow _____ Micro Purge _____ Intake Depth (feet below TOC) _____

Sampling Method: _____ Teflon Bailer _____ Disposable Bailer _____ Dedicated Tubing Other: _____

Casing Volume Information	Purging Calculations
Casing Diameter (Circle): (2") 4" 6" Other	Casing Volumes (CV):
Casing Multiplier (CM)(gallons/foot): 0.16 0.65 1.47	WC 11.53 x CM 0.16 = 1.84 (CV)(gal) x 3.0 CV (gal) = 5.53 PV

Monitoring Measurements

Depth to LNAPL (feet): 17.92	Total Well Depth (feet): 29.72
Depth to Water (DTW)(feet): 18.19	Water Column (WC)(feet): 11.53
LNAPL Thickness (ft): 0.27	Purging Start Time:

Purging Data

Time (24 Hours)	DTW (Feet)	Cum. Vol. Purged (Gallons)	pH (± 0.1)	Specific Cond. (mS/cm) (± 5%)	Temp (°C) (± 1°)	Dissolved Oxygen (mg/L) (± 10%)	ORP (mV) (± 10 mV)	Comment
	18.19	~~0.5~~						
	=	~~2~~						
	=	~~4~~						
		~~6~~						

Sample Data

Sample ID: MW- 1	Time of Sample: 1120	Filtered (yes/no)	Preservatives	Analytical Parameters
Container Types, Volumes, & Quantities:				
Glass, 40mL, 3		No	HCl	TPHg / VOCs EPA 8260B
Amber, 1 Liter, 2		No	None	TPHd by EPA 8015/3630C
Amber, 1 Liter, 1		No	None	Organic Lead by EPA 8270

Well Recovery Data

Maximum Drawdown (DTW*m*)(feet):	Approximate Flow Rate (GPM):
Recovery Type: _____ Fast _____ Slow	% Recovery =

Purge Water Disposition (Attach Drum Inventory Log - FLD 108):

Record depth to water at sample time=

Comments: Directed by GS not to sample due to LNAPL in well. MS directed to take sample of LNAPL for fingerprinting purposes.

Monitoring Well Purging and Sampling Log

FLD-103 | Revision 1.0 | Oct-16

ATC Branch: Modesto, Ca	Date: 051617	Page 1 of 1
ATC Representative(s): GM	Project: The Salvation Army ARC	
	Location: 601 Webster Street, Oakland CA	
Contact Information: **Mike Sonke**	Project No:Z054000006	Task No: 01
Well ID: MW-2	Contractor:	
	Weather: Sun	Temperature:

Purging & Sampling Instrumentation & Method

Water Level Meter (Model/ID): Solinist 101	Interface Probe (Model/ID): N/A
Water Quality Meter (Model/ID): YSI PRO	Decontamination Method: Alconox and risate water

Purging Method: ____ PVC Bailer X Disp. Bailer ____ Submersible Pump ____ Centrifugal Pump Other: ____

3 Well Volumes X Low Flow ____ Micro Purge ____ Intake Depth (feet below TOC) ____

Sampling Method: ____ Teflon Bailer X Disposable Bailer ____ Dedicated Tubing Other: ____

Casing Volume Information

Casing Diameter **(Circle):** (2") 4" 6" Other

Casing Multiplier (CM)(gallons/foot): **0.16 0.65 1.47**

Purging Calculations

Casing Volumes (CV):

WC 13.43 x CM 0.16 = 2.15 (CV)(gal) x 3.0 CV (gal) = 6.45 PV

Monitoring Measurements

Depth to LNAPL (feet):	Total Well Depth (feet): 29.82
Depth to Water (DTW)(feet): 16.39	Water Column (WC)(feet): 13.43
LNAPL Thickness (ft):	Purging Start Time: 0859

Purging Data

Time (24 Hours)	DTW (Feet)	Cum. Vol. Purged (Gallons)	pH (± 0.1)	Specific Cond. (mS/cm) (± 5%)	Temp (°C) (± 1°)	~~Dissolved Oxygen~~ (mg/L) (± 10%)	~~ORP~~ (mV) (± 10 mV)	Comment
0900	16.39	0.5	6.73	1.46	17.8	NA	NA	spotty sheen / odor
0902	–	2.25	6.74	1.47	18.4			brown/cloudy
0905	–	4.5	6.70	1.46	18.6	↓	↓	↓
0908	16.98	6.75	6.71	1.43	18.6			

Sample Data

Sample ID: MW-2	Time of Sample: 0945	Filtered (yes/no)	Preservatives	Analytical Parameters
Container Types, Volumes, & Quantities:				
Glass, 40mL, 3		No	HCl	TPHg / VOCs EPA 8260B
Amber, 1 Liter, 2		No	None	TPHd by EPA 8015/3630C
Amber, 1 Liter, 1		No	None	Organic Lead by EPA 8270

Well Recovery Data

Maximum Drawdown (DTW*m*)(feet): 16.98	Approximate Flow Rate (GPM): 0.8
Recovery Type: X Fast ____ Slow	% Recovery = 95

Purge Water Disposition (Attach Drum Inventory Log - FLD 108):

Record depth to water at sample time=

Comments:

Monitoring Well Purging and Sampling Log

FLD-103 | Revision 1.0 | Oct-16

ATC Branch: Modesto, Ca	Date: 051617	Page 1 of 1
ATC Representative(s): GM	Project: The Salvation Army ARC	
	Location: 601 Webster Street, Oakland CA	
Contact Information: **Mike Sonke**	Project No:Z054000006	Task No: 01
Well ID: MW- 3	Contractor:	
	Weather: Sun	Temperature:

Purging & Sampling Instrumentation & Method

Water Level Meter (Model/ID): Solinist 101	Interface Probe (Model/ID): N/A
Water Quality Meter (Model/ID): YSI PRO	Decontamination Method: Alconox and risate water

Purging Method: ____ PVC Bailer X Disp. Bailer ____ Submersible Pump ____ Centrifugal Pump Other: ____

3 Well Volumes X Low Flow ____ Micro Purge ____ Intake Depth (feet below TOC) ____

Sampling Method: ____ Teflon Bailer X Disposable Bailer ____ Dedicated Tubing Other: ____

Casing Volume Information

Casing Diameter (Circle): (2") 4" 6" Other

Casing Multiplier (CM)(gallons/foot): 0.16 0.65 1.47

Purging Calculations

Casing Volumes (CV):

WC 13.14 x CM 0.16 = 2.10 (CV)(gal) x 3.0 CV (gal) = 6.31 PV

Monitoring Measurements

Depth to LNAPL (feet):	Total Well Depth (feet): 29.75
Depth to Water (DTW)(feet): 16.61	Water Column (WC)(feet): 13.14
LNAPL Thickness (ft):	Purging Start Time: 0918

Purging Data

Time (24 Hours)	DTW (Feet)	Cum. Vol. Purged (Gallons)	pH (± 0.1)	Specific Cond. (mS/cm) (± 5%)	Temp (°C) (± 1°)	~~Dissolved Oxygen~~ (mg/L) (± 10%)	~~ORP~~ (mV) (± 10 mV)	Comment
0919	16.61	0.5	6.98	1.21	19.0	NA	NA	grey/sheen/strong odor
0922	–	2.25	7.03	1.22	19.1	↓	↓	strong odor/slightly foaming
0925	–	4.5	7.04	1.15	19.4	↓	↓	dark grey/silty ↓
0928	17.56	6.75	7.12	1.16	19.4	↓	↓	↓

Sample Data

Sample ID: MW- 3 Time of Sample: 0955

Container Types, Volumes, & Quantities:	Filtered (yes/no)	Preservatives	Analytical Parameters
Glass, 40mL, 3	No	HCl	TPHg / VOCs EPA 8260B
Amber, 1 Liter, 2	No	None	TPHd by EPA 8015/3630C
Amber, 1 Liter, 1	No	None	Organic Lead by EPA 8270

Well Recovery Data

Maximum Drawdown (DTW*m*)(feet): 17.56	Approximate Flow Rate (GPM): 0.75
Recovery Type: X Fast ____ Slow	% Recovery = ~~0.75~~ 92

Purge Water Disposition (Attach Drum Inventory Log - FLD 108):

Record depth to water at sample time=

Comments:

Monitoring Well Purging and Sampling Log

FLD-103
Revision 1.0
Oct-16

ATC Branch: Modesto, Ca	Date: 051617	Page 1 of 1
ATC Representative(s): GM	Project: The Salvation Army ARC	
	Location: 601 Webster Street, Oakland CA	
Contact Information: **Mike Sonke**	Project No:Z054000006	Task No: 01
Well ID: MW- 4	Contractor:	
	Weather: Sun	Temperature:

Purging & Sampling Instrumentation & Method

Water Level Meter (Model/ID): Solinist 101	Interface Probe (Model/ID): N/A
Water Quality Meter (Model/ID): YSI PRO	Decontamination Method: Alconox and risate water

Purging Method: ____ PVC Bailer X Disp. Bailer ____ Submersible Pump ____ Centrifugal Pump Other: ____

3 Well Volumes X Low Flow ____ Micro Purge ____ Intake Depth (feet below TOC) ____

Sampling Method: ____ Teflon Bailer X Disposable Bailer ____ Dedicated Tubing Other: ____

Casing Volume Information

Casing Diameter (Circle): (2") 4" 6" Other

Casing Multiplier (CM)(gallons/foot): **0.16** **0.65** **1.47**

Purging Calculations

Casing Volumes (CV):
WC 12.02 x CM 0.16 = 1.92 (CV)(gal) x 3.0 CV (gal) = 5.77 PV

Monitoring Measurements

Depth to LNAPL (feet):	Total Well Depth (feet): 29.73
Depth to Water (DTW)(feet): 17.71	Water Column (WC)(feet): 12.02
LNAPL Thickness (ft):	Purging Start Time: 1029

Purging Data

Time (24 Hours)	DTW (Feet)	Cum. Vol. Purged (Gallons)	pH (± 0.1)	Specific Cond. (mS/cm) (± 5%)	Temp (°C) (± 1°)	Dissolved Oxygen (mg/L) (± 10%)	ORP (mV) (± 10 mV)	Comment
1030	17.71	0.5	7.02	0.92	18.9	NA	NA	greyish/odor
1032	—	2	6.98	1.00	19.1	↓	↓	silty/spotty sheen
1036	—	4	6.99	0.95	19.5			↓
1039	18.60	6	6.99	0.94	20.1	↓	↓	

Sample Data

Sample ID: MW- 4 Time of Sample: 1055

Container Types, Volumes, & Quantities:	Filtered (yes/no)	Preservatives	Analytical Parameters
Glass, 40mL, 3	No	HCl	TPHg / VOCs EPA 8260B
Amber, 1 Liter, 2	No	None	TPHd by EPA 8015/3630C
Amber, 1 Liter, 1	No	None	Organic Lead by EPA 8270

Well Recovery Data

Maximum Drawdown (DTW*m*)(feet): 18.60	Approximate Flow Rate (GPM): 0.6
Recovery Type: X Fast ____ Slow	% Recovery = 92

Purge Water Disposition (Attach Drum Inventory Log - FLD 108):

Record depth to water at sample time=

Comments:

TestAmerica Pleasanton
1220 Quarry Lane

Pleasanton, CA 94566
phone 925.484.1919 fax 925.600.3002

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Mike Sonke	Site Contact: Alex Flores	Date: 5/16/2017	COC No:
ATC Group Services LLC	Tel/Fax: (209) 579-2221	Lab Contact: Dimple Sharma	Carrier:	1 of 1 COCs
Address: 1117 Lone Palm Avenue, Suite 201B	**Analysis Turnaround Time**			For Lab Use Only:
City/State/Zip: Modesto, CA, 95351	Calendar (C) or Work Days (W) _____			Walk-in Client:
Phone: (209) 579-2221 FAX: (209) 579-2225	TAT if different from Below _____			Lab Sampling:
E-amil: mike.sonke@atcassociates.com	☑ 2 weeks			
Project Name: The Salvation Army Oakland ARC	☐ 1 week			Job / SDG No.:
Site: Facility Number: Project #: Z0540000006	☐ 2 days			
Geotracker EDF Global ID #: T10000003428.	☐ 1 day			Sampler: Genelle Martin

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample (Y / N)	Composite = C / Grab = G	TPH-g by EPA 8260B	BTEX, 5 Oxy's, Napthalene By EPA 8260	TPH-d with silica gel clean up By EPA 8015/3630C	Organic Lead Speciation By Epa 8270 GC/ECD	TPH-g, BTEX, Napthalene By EPA 8260B	TPH-d By EPA 8015M	Hydraulic Oil By EPA 8015M	Oil ad nGrease By EPA 1664A	Sample Specific Notes:
[redacted]				Water	6	N	G	X	X	X	X					
MW-2	5/16/2017	0945	Glass	Water	6	N	G	X	X	X	X					
MW-3	5/16/2017	0955	Glass	Water	6	N	G	X	X	X	X					
MW-4	5/16/2017	1055	Glass	Water	6	N	G	X	X	X	X					

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☐Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐Return to Client ☑Disposal by Lab ☐Archive for_____ Months

Special Instructions/QC Requirements & Comments: Fuel Oxygenates: ETBE, DIPE, MTBE, TBA and TAME, 1,2 DCA and EDB.

10.6°

Relinquished by: [signature]	Company: ATC Group Services	Date/Time: 05/16/17/1350	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [signature]	Company: [signature]	Date/Time: 5-16-17 1250

ATC	Field Report	FLD-100
		Revision 0.0
		Feb-16

ATC Branch: Modesto, CA	Date: 051617	Page 1 of 2
ATC Representative(s): GM	Project: The Salvation Army ARC	
Role: Technician	Location: 601 Webster Street, Oakland, CA	
Contact Information: Mike Sonke	Project No: Z054000006	Task No: 01
Scope of Work:	Weather: Sun	Temperature:
_X_ Monitoring ___ Assessment ___ Remediation ___ Closure	Contractor:	

Time:	Comments:
0600	Onsite. Calibrate pH meter YSI Pro.
0640	Parking lot opened. Open MW-4. Let equalibrate. Set up decon. 2 5gal buckets. Alconox + rinsate.
0702	Gauge MW-4
0715	Onsite gate opened. Open MW-1 @ 0725.
0740	Gauge MW-1. LNAPL measured in well.
0800	Open MW-2.
0805	Contact GS about possible purge + sampling of MW-1 w/product. Directed not to sample well.
0815	Open MW-3. Check skimmer - no LNAPL. Gauge MW-2 + MW-3 w/KECK 98 interface probe for LNAPL - none measured. DTW/DTB taken w/Solinist 101.
0900	Begin purging. Due to limited access MW-2 + MW-3 purged + sampled prior to MW-4. MW-2, 3, + 4 handbailed + sampled w/disposable bailers.
	Contacted by Mike S. Directed to take sample of LNAPL from MW-1 for fingerprint purposes. Sample MW-1 @ 1120.
	Samples to Test America Labs.

Calibration of:	Dissolved Oxygen	pH	pH	Cond.	ORP	Unit Inspection: Pass / Fail	
meter type: YSI 556	(%)	(7.00)	(4.00)	(1.413) (mS/cm)	(220) (mV)	Battery levels:	90%
						Screen / Casing:	
Pre / Post	101.4/100.1	7.05/7.03	3.86/4.00	1.29/1.29	240.6/240.1	Commets:	

Calibration Solution Expiration Date:	Cable Unit Serial No.: YSI PRO
	Handheld Unit Serial No.:
Copies To:	Project Manager:
	Reviewed By:

ATC	Field Report	FLD-100
		Revision 0.0
		Feb-16

ATC Branch: Modesto, CA	Date: 051617	Page 2 of 2
ATC Representative(s): GM	Project: The Salvation Army ARC	
Role: Technician	Location: 601 Webster Street, Oakland, CA	
Contact Information: Mike Sonke	Project No: Z054000006	Task No: 01
Scope of Work:	Weather: Sun	Temperature:
_X_ Monitoring ___ Assessment ___ Remediation ___ Closure	Contractor:	

Time:	Comments:
	Clean up. Lock up. Generate 1 poly drum for event.
1149	Left site.
1250	Drop off samples of MW-2, 3, +4 @ Test America.

Calibration of:	Dissolved Oxygen	pH	pH	Cond.	ORP	Unit Inspection: Pass / Fail	
meter type: YSI 556	(%)	(7.00)	(4.00)	(1.413) (mS/cm)	(220) (mV)	Battery levels:	
						Screen / Casing:	
Pre / Post						Commets:	

Calibration Solution Expiration Date:	Cable Unit Serial No.:
	Handheld Unit Serial No.:
Copies To:	Project Manager:
	Reviewed By:

Monitoring Well Inspection Log

FLD-104
Revision 0.0
Oct-15

ATC Branch: Modesto, CA; 54 | Date: 051617 | Page 1 of 1

ATC Representative(s): GM | Project: The Salvation Army ARC

Location: 601 Webster Street, Okland, CA

Contact Information: | Project No: Z054000006 | Task No:

Well ID: **MW-1** Type: **8"** [flush well box, vault, or monument]

Construction Detail	Condition [secure, good, poor, bad, yes, no, etc.]
Security Vault	
Surface Seal	Secure
Locking Cap	
ATC Lock	

Comments: 2 bolts (15/16)

Well ID: **MW-2** Type: **8"** [flush well box, vault, or monument]

Construction Detail	Condition [secure, good, poor, bad, yes, no, etc.]
Security Vault	
Surface Seal	
Locking Cap	Secure
ATC Lock	

Comments: 2 bolts (15/16)
One flange broken

Well ID: **MW-3** Type: **8"** [flush well box, vault, or monument]

Construction Detail	Condition [secure, good, poor, bad, yes, no, etc.]
Security Vault	
Surface Seal	Secure
Locking Cap	
ATC Lock	

Comments: 2 bolts (15/16)

Well ID: **MW-4** Type: **8"** [flush well box, vault, or monument]

Construction Detail	Condition [secure, good, poor, bad, yes, no, etc.]
Security Vault	
Surface Seal	
Locking Cap	Secure
ATC Lock	

Comments: 2 bolts (15/16)

Well ID: Type: [flush well box, vault, or monument]

Construction Detail	Condition [secure, good, poor, bad, yes, no, etc.]
Security Vault	
Surface Seal	
Locking Cap	
ATC Lock	

Comments:

Well ID: Type: [flush well box, vault, or monument]

Construction Detail	Condition [secure, good, poor, bad, yes, no, etc.]
Security Vault	
Surface Seal	
Locking Cap	
ATC Lock	

Comments:

Drum Inventory Log

FLD-108
Revision 0.0
Jul-08

ATC Branch:	Date: 051617	Page 1 of 1
ATC Representative(s): GM	Project: The Salvation Army ARC	
Contact Information:	Location: 601 Webster Street, Okland, CA	
Scope of Work: _X_ Monitoring ___ Assessment ___ Remediation ___ Closure	Project No.: Z054000006	Task No.:
	Contractor:	

Drum ID	Source ID(s)	Type of Material (Soil / Sludge / Water)	Quantity of Material in Drum	Date Waste Generated
(13) Steel	Non Haz	Soil	55 gal	?
(5) Polys	Non Haz	H_2O	55 gal	?
1 Poly	Non Haz	H_2O	15 gal	051617

Comments:	Drum Location Sketch:
Photographs (Y/N)	
Date Drum Pickup Scheduled:	# of Drums From This Event:
Verified Pick up:	Total # of Drums at Site:

Appendix **D**

Laboratory Analytical Data Report
and Chain of Custody Documents
Monitorining Well Samples

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pleasanton
1220 Quarry Lane
Pleasanton, CA 94566
Tel: (925)484-1919

TestAmerica Job ID: 720-79521-1
Client Project/Site: TSA-Oakland
Revision: 1

For:
ATC Group Services LLC.
1117 Lone Palm Avenue
Suite B
Modesto, California 95351

Attn: Mike Sonke

Authorized for release by:
8/1/2017 3:08:38 PM

Micah Smith, Project Manager II
(916)374-4302
micah.smith@testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Client: ATC Group Services LLC.
Project/Site: TSA-Oakland

TestAmerica Job ID: 720-79521-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 720-79521-1

Laboratory: TestAmerica Pleasanton

Narrative

Job Narrative
720-79521-1

Comments
This report was revised on 8/1/17 to include 1,2-Dichloroethane and 1,2-Dibromomethane as requested.

Receipt
The samples were received on 5/16/2017 12:50 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 10.6º C.

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: ATC Group Services LLC.
Project/Site: TSA-Oakland

TestAmerica Job ID: 720-79521-1

Client Sample ID: MW-2 — Lab Sample ID: 720-79521-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline Range Organics (GRO) -C4-C12	3900		500		ug/L	10		8260B/CA_LUFT MS	Total/NA
Benzene	570		5.0		ug/L	10		8260B	Total/NA
Ethylbenzene	64		5.0		ug/L	10		8260B	Total/NA
Toluene	750		5.0		ug/L	10		8260B	Total/NA
Xylenes, Total	590		10		ug/L	10		8260B	Total/NA
Naphthalene	18		10		ug/L	10		8260B	Total/NA
Diesel Range Organics [C10-C28]	170		52		ug/L	1		8015B	Silica Gel Cleanup
Motor Oil Range Organics [C24-C36]	160		100		ug/L	1		8015B	Silica Gel Cleanup

Client Sample ID: MW-3 — Lab Sample ID: 720-79521-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline Range Organics (GRO) -C4-C12	39000		2500		ug/L	50		8260B/CA_LUFT MS	Total/NA
Benzene	8100		25		ug/L	50		8260B	Total/NA
Ethylbenzene	840		25		ug/L	50		8260B	Total/NA
MTBE	140		25		ug/L	50		8260B	Total/NA
Xylenes, Total	5200		50		ug/L	50		8260B	Total/NA
Naphthalene	370		50		ug/L	50		8260B	Total/NA
Toluene - DL	4900		100		ug/L	200		8260B	Total/NA
Diesel Range Organics [C10-C28]	1300		50		ug/L	1		8015B	Silica Gel Cleanup

Client Sample ID: MW-4 — Lab Sample ID: 720-79521-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline Range Organics (GRO) -C4-C12	67000		1000		ug/L	20		8260B/CA_LUFT MS	Total/NA
Ethylbenzene	1900		10		ug/L	20		8260B	Total/NA
TBA	380		200		ug/L	20		8260B	Total/NA
Xylenes, Total	7300		20		ug/L	20		8260B	Total/NA
Naphthalene	450		20		ug/L	20		8260B	Total/NA
1,2-Dichloroethane	82		10		ug/L	20		8260B	Total/NA
Toluene - DL	16000		100		ug/L	200		8260B	Total/NA
Benzene - DL2	28000		500		ug/L	1000		8260B	Total/NA
Diesel Range Organics [C10-C28]	1300		51		ug/L	1		8015B	Silica Gel Cleanup

This Detection Summary does not include radiochemical test results.

Client: ATC Group Services LLC.
Project/Site: TSA-Oakland

TestAmerica Job ID: 720-79521-1

Client Sample ID: MW-2
Date Collected: 05/16/17 09:45
Date Received: 05/16/17 12:50

Lab Sample ID: 720-79521-1
Matrix: Water

Method: 8260B/CA_LUFTMS - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C4-C12	**3900**		500		ug/L			05/27/17 11:29	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*99*		*76 - 132*		*05/27/17 11:29*	*10*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*05/27/17 11:29*	*10*
Toluene-d8 (Surr)	*108*		*80 - 128*		*05/27/17 11:29*	*10*

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**570**		5.0		ug/L			05/27/17 11:29	10
DIPE	ND		5.0		ug/L			05/27/17 11:29	10
Ethyl-t-butyl ether (ETBE)	ND		5.0		ug/L			05/27/17 11:29	10
Ethylbenzene	**64**		5.0		ug/L			05/27/17 11:29	10
MTBE	ND		5.0		ug/L			05/27/17 11:29	10
TAME	ND		5.0		ug/L			05/27/17 11:29	10
TBA	ND		100		ug/L			05/27/17 11:29	10
Toluene	**750**		5.0		ug/L			05/27/17 11:29	10
Xylenes, Total	**590**		10		ug/L			05/27/17 11:29	10
Naphthalene	**18**		10		ug/L			05/27/17 11:29	10
1,2-Dichloroethane	ND		5.0		ug/L			05/27/17 11:29	10
1,2-Dibromoethane (EDB)	ND		5.0		ug/L			05/27/17 11:29	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*05/27/17 11:29*	*10*
Dibromofluoromethane (Surr)	*99*		*76 - 132*		*05/27/17 11:29*	*10*
Toluene-d8 (Surr)	*108*		*80 - 128*		*05/27/17 11:29*	*10*

Method: 8015B - Diesel Range Organics (DRO) (GC) - Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**170**		52		ug/L		05/17/17 13:39	05/17/17 23:45	1
Motor Oil Range Organics [C24-C36]	**160**		100		ug/L		05/17/17 13:39	05/17/17 23:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Capric Acid (Surr)	*0.02*		*0 - 5*	*05/17/17 13:39*	*05/17/17 23:45*	*1*
p-Terphenyl	*80*		*31 - 150*	*05/17/17 13:39*	*05/17/17 23:45*	*1*

Client Sample ID: MW-3

Date Collected: 05/16/17 09:55
Date Received: 05/16/17 12:50

Lab Sample ID: 720-79521-2

Matrix: Water

Method: 8260B/CA_LUFTMS - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C4-C12	**39000**		2500		ug/L			05/27/17 11:58	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*98*		*76 - 132*		*05/27/17 11:58*	*50*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*05/27/17 11:58*	*50*
Toluene-d8 (Surr)	*107*		*80 - 128*		*05/27/17 11:58*	*50*

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**8100**		25		ug/L			05/27/17 11:58	50
DIPE	ND		25		ug/L			05/27/17 11:58	50
Ethyl-t-butyl ether (ETBE)	ND		25		ug/L			05/27/17 11:58	50
Ethylbenzene	**840**		25		ug/L			05/27/17 11:58	50
MTBE	**140**		25		ug/L			05/27/17 11:58	50
TAME	ND		25		ug/L			05/27/17 11:58	50
TBA	ND		500		ug/L			05/27/17 11:58	50
Xylenes, Total	**5200**		50		ug/L			05/27/17 11:58	50
Naphthalene	**370**		50		ug/L			05/27/17 11:58	50
1,2-Dichloroethane	ND		25		ug/L			05/27/17 11:58	50
1,2-Dibromoethane (EDB)	ND		25		ug/L			05/27/17 11:58	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*05/27/17 11:58*	*50*
Dibromofluoromethane (Surr)	*98*		*76 - 132*		*05/27/17 11:58*	*50*
Toluene-d8 (Surr)	*107*		*80 - 128*		*05/27/17 11:58*	*50*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	**4900**		100		ug/L			05/28/17 11:50	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*80*		*80 - 120*		*05/28/17 11:50*	*200*
Dibromofluoromethane (Surr)	*108*		*76 - 132*		*05/28/17 11:50*	*200*
Toluene-d8 (Surr)	*98*		*80 - 128*		*05/28/17 11:50*	*200*

Method: 8015B - Diesel Range Organics (DRO) (GC) - Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**1300**		50		ug/L		05/17/17 13:39	05/18/17 00:10	1
Motor Oil Range Organics [C24-C36]	ND		100		ug/L		05/17/17 13:39	05/18/17 00:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Capric Acid (Surr)	*0.5*		*0 - 5*	*05/17/17 13:39*	*05/18/17 00:10*	*1*
p-Terphenyl	*84*		*31 - 150*	*05/17/17 13:39*	*05/18/17 00:10*	*1*

Client Sample ID: MW-4
Date Collected: 05/16/17 10:55
Date Received: 05/16/17 12:50

Lab Sample ID: 720-79521-3
Matrix: Water

Method: 8260B/CA_LUFTMS - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C4-C12	**67000**		1000		ug/L			05/27/17 12:25	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*99*		*76 - 132*		*05/27/17 12:25*	*20*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*05/27/17 12:25*	*20*
Toluene-d8 (Surr)	*108*		*80 - 128*		*05/27/17 12:25*	*20*

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIPE	ND		10		ug/L			05/27/17 12:25	20
Ethyl-t-butyl ether (ETBE)	ND		10		ug/L			05/27/17 12:25	20
Ethylbenzene	**1900**		10		ug/L			05/27/17 12:25	20
MTBE	ND		10		ug/L			05/27/17 12:25	20
TAME	ND		10		ug/L			05/27/17 12:25	20
TBA	**380**		200		ug/L			05/27/17 12:25	20
Xylenes, Total	**7300**		20		ug/L			05/27/17 12:25	20
Naphthalene	**450**		20		ug/L			05/27/17 12:25	20
1,2-Dichloroethane	**82**		10		ug/L			05/27/17 12:25	20
1,2-Dibromoethane (EDB)	ND		10		ug/L			05/27/17 12:25	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*05/27/17 12:25*	*20*
Dibromofluoromethane (Surr)	*99*		*76 - 132*		*05/27/17 12:25*	*20*
Toluene-d8 (Surr)	*108*		*80 - 128*		*05/27/17 12:25*	*20*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	**16000**		100		ug/L			05/28/17 12:20	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*83*		*80 - 120*		*05/28/17 12:20*	*200*
Dibromofluoromethane (Surr)	*111*		*76 - 132*		*05/28/17 12:20*	*200*
Toluene-d8 (Surr)	*96*		*80 - 128*		*05/28/17 12:20*	*200*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**28000**		500		ug/L			05/29/17 12:56	1000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*05/29/17 12:56*	*1000*
Dibromofluoromethane (Surr)	*98*		*76 - 132*		*05/29/17 12:56*	*1000*
Toluene-d8 (Surr)	*107*		*80 - 128*		*05/29/17 12:56*	*1000*

Method: 8015B - Diesel Range Organics (DRO) (GC) - Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**1300**		51		ug/L		05/17/17 13:39	05/18/17 00:34	1
Motor Oil Range Organics [C24-C36]	ND		100		ug/L		05/17/17 13:39	05/18/17 00:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Capric Acid (Surr)	*0.08*		*0 - 5*	*05/17/17 13:39*	*05/18/17 00:34*	*1*
p-Terphenyl	*87*		*31 - 150*	*05/17/17 13:39*	*05/18/17 00:34*	*1*

Surrogate Summary

Client: ATC Group Services LLC.
Project/Site: TSA-Oakland

TestAmerica Job ID: 720-79521-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(80-120)	(76-132)	(80-128)
720-79521-1	MW-2	101	99	108
720-79521-2	MW-3	100	98	107
720-79521-2 - DL	MW-3	80	108	98
720-79521-3	MW-4	101	99	108
720-79521-3 - DL	MW-4	83	111	96
720-79521-3 - DL2	MW-4	94	98	107
LCS 440-408720/5	Lab Control Sample	97	97	103
LCS 440-408779/5	Lab Control Sample	84	106	96
LCS 440-408852/5	Lab Control Sample	92	101	102
MB 440-408720/7	Method Blank	98	99	106
MB 440-408779/4	Method Blank	81	118	95
MB 440-408852/4	Method Blank	94	97	107

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260B/CA_LUFTMS - Volatile Organic Compounds by GC/MS

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		DBFM	BFB	TOL
Lab Sample ID	Client Sample ID	(76-132)	(80-120)	(80-128)
720-79521-1	MW-2	99	101	108
720-79521-2	MW-3	98	100	107
720-79521-3	MW-4	99	101	108
LCS 440-408719/8	Lab Control Sample	98	98	108
MB 440-408719/7	Method Blank	99	98	106

Surrogate Legend

DBFM = Dibromofluoromethane (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)

Method: 8015B - Diesel Range Organics (DRO) (GC)

Matrix: Water — **Prep Type: Silica Gel Cleanup**

		Percent Surrogate Recovery (Acceptance Limits)	
		NDA1	PTP1
Lab Sample ID	Client Sample ID	(0-5)	(31-150)
720-79521-1	MW-2	0.02	80
720-79521-2	MW-3	0.5	84
720-79521-3	MW-4	0.08	87
LCS 720-223153/2-A	Lab Control Sample		87
LCSD 720-223153/3-A	Lab Control Sample Dup		86
MB 720-223153/1-A	Method Blank	0.0002	93

Surrogate Legend

NDA = Capric Acid (Surr)

Surrogate Summary

Client: ATC Group Services LLC.
Project/Site: TSA-Oakland

TestAmerica Job ID: 720-79521-1

PTP = p-Terphenyl

Client: ATC Group Services LLC.
Project/Site: TSA-Oakland

TestAmerica Job ID: 720-79521-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-408720/7
Matrix: Water
Analysis Batch: 408720

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			05/27/17 10:18	1
DIPE	ND		0.50		ug/L			05/27/17 10:18	1
Ethyl-t-butyl ether (ETBE)	ND		0.50		ug/L			05/27/17 10:18	1
Ethylbenzene	ND		0.50		ug/L			05/27/17 10:18	1
MTBE	ND		0.50		ug/L			05/27/17 10:18	1
TAME	ND		0.50		ug/L			05/27/17 10:18	1
TBA	ND		10		ug/L			05/27/17 10:18	1
Toluene	ND		0.50		ug/L			05/27/17 10:18	1
Xylenes, Total	ND		1.0		ug/L			05/27/17 10:18	1
Naphthalene	ND		1.0		ug/L			05/27/17 10:18	1
1,2-Dichloroethane	ND		0.50		ug/L			05/27/17 10:18	1
1,2-Dibromoethane (EDB)	ND		0.50		ug/L			05/27/17 10:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*05/27/17 10:18*	*1*
Dibromofluoromethane (Surr)	*99*		*76 - 132*		*05/27/17 10:18*	*1*
Toluene-d8 (Surr)	*106*		*80 - 128*		*05/27/17 10:18*	*1*

Lab Sample ID: LCS 440-408720/5
Matrix: Water
Analysis Batch: 408720

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	25.0	27.1		ug/L		108	68 - 130
DIPE	25.0	26.8		ug/L		107	58 - 139
Ethyl-t-butyl ether (ETBE)	25.0	26.1		ug/L		105	60 - 136
Ethylbenzene	25.0	27.6		ug/L		111	70 - 130
m,p-Xylene	25.0	28.6		ug/L		114	70 - 130
MTBE	25.0	26.2		ug/L		105	63 - 131
o-Xylene	25.0	28.4		ug/L		114	70 - 130
TAME	25.0	24.8		ug/L		99	57 - 139
TBA	250	262		ug/L		105	70 - 130
Toluene	25.0	26.9		ug/L		108	70 - 130
Naphthalene	25.0	31.9		ug/L		128	60 - 140
1,2-Dichloroethane	25.0	26.0		ug/L		104	57 - 138
1,2-Dibromoethane (EDB)	25.0	26.9		ug/L		108	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*97*		*76 - 132*
Toluene-d8 (Surr)	*103*		*80 - 128*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-408779/4
Matrix: Water
Analysis Batch: 408779

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND		0.50		ug/L			05/28/17 10:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*81*		*80 - 120*		*05/28/17 10:27*	*1*
Dibromofluoromethane (Surr)	*118*		*76 - 132*		*05/28/17 10:27*	*1*
Toluene-d8 (Surr)	*95*		*80 - 128*		*05/28/17 10:27*	*1*

Lab Sample ID: LCS 440-408779/5
Matrix: Water
Analysis Batch: 408779

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	25.0	24.1		ug/L		96	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*84*		*80 - 120*
Dibromofluoromethane (Surr)	*106*		*76 - 132*
Toluene-d8 (Surr)	*96*		*80 - 128*

Lab Sample ID: MB 440-408852/4
Matrix: Water
Analysis Batch: 408852

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50		ug/L			05/29/17 08:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*05/29/17 08:58*	*1*
Dibromofluoromethane (Surr)	*97*		*76 - 132*		*05/29/17 08:58*	*1*
Toluene-d8 (Surr)	*107*		*80 - 128*		*05/29/17 08:58*	*1*

Lab Sample ID: LCS 440-408852/5
Matrix: Water
Analysis Batch: 408852

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	25.0	26.0		ug/L		104	68 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*76 - 132*
Toluene-d8 (Surr)	*102*		*80 - 128*

Method: 8260B/CA_LUFTMS - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 440-408719/7
Matrix: Water
Analysis Batch: 408719

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C4-C12	ND		50		ug/L			05/27/17 10:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*99*		*76 - 132*		*05/27/17 10:18*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*05/27/17 10:18*	*1*
Toluene-d8 (Surr)	*106*		*80 - 128*		*05/27/17 10:18*	*1*

Lab Sample ID: LCS 440-408719/8
Matrix: Water
Analysis Batch: 408719

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO) -C4-C12	500	449		ug/L		90	55 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*98*		*76 - 132*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
Toluene-d8 (Surr)	*108*		*80 - 128*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 720-223153/1-A
Matrix: Water
Analysis Batch: 223123

Client Sample ID: Method Blank
Prep Type: Silica Gel Cleanup
Prep Batch: 223153

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		50		ug/L		05/17/17 13:39	05/18/17 02:10	1
Motor Oil Range Organics [C24-C36]	ND		99		ug/L		05/17/17 13:39	05/18/17 02:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Capric Acid (Surr)	*0.0002*		*0 - 5*	*05/17/17 13:39*	*05/18/17 02:10*	*1*
p-Terphenyl	*93*		*31 - 150*	*05/17/17 13:39*	*05/18/17 02:10*	*1*

Lab Sample ID: LCS 720-223153/2-A
Matrix: Water
Analysis Batch: 223123

Client Sample ID: Lab Control Sample
Prep Type: Silica Gel Cleanup
Prep Batch: 223153

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics [C10-C28]	2500	1620		ug/L		65	32 - 119

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
p-Terphenyl	*87*		*31 - 150*

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCSD 720-223153/3-A
Matrix: Water
Analysis Batch: 223123

Client Sample ID: Lab Control Sample Dup
Prep Type: Silica Gel Cleanup
Prep Batch: 223153

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]			2500	1630		ug/L		65	32 - 119	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
p-Terphenyl	*86*		*31 - 150*

GC/MS VOA

Analysis Batch: 408719

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-79521-1	MW-2	Total/NA	Water	8260B/CA_LUFT MS	
720-79521-2	MW-3	Total/NA	Water	8260B/CA_LUFT MS	
720-79521-3	MW-4	Total/NA	Water	8260B/CA_LUFT MS	
MB 440-408719/7	Method Blank	Total/NA	Water	8260B/CA_LUFT MS	
LCS 440-408719/8	Lab Control Sample	Total/NA	Water	8260B/CA_LUFT MS	

Analysis Batch: 408720

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-79521-1	MW-2	Total/NA	Water	8260B	
720-79521-2	MW-3	Total/NA	Water	8260B	
720-79521-3	MW-4	Total/NA	Water	8260B	
MB 440-408720/7	Method Blank	Total/NA	Water	8260B	
LCS 440-408720/5	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 408779

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-79521-2 - DL	MW-3	Total/NA	Water	8260B	
720-79521-3 - DL	MW-4	Total/NA	Water	8260B	
MB 440-408779/4	Method Blank	Total/NA	Water	8260B	
LCS 440-408779/5	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 408852

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-79521-3 - DL2	MW-4	Total/NA	Water	8260B	
MB 440-408852/4	Method Blank	Total/NA	Water	8260B	
LCS 440-408852/5	Lab Control Sample	Total/NA	Water	8260B	

GC Semi VOA

Analysis Batch: 223122

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-79521-1	MW-2	Silica Gel Cleanup	Water	8015B	223153
720-79521-2	MW-3	Silica Gel Cleanup	Water	8015B	223153
720-79521-3	MW-4	Silica Gel Cleanup	Water	8015B	223153

Analysis Batch: 223123

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-223153/1-A	Method Blank	Silica Gel Cleanup	Water	8015B	223153
LCS 720-223153/2-A	Lab Control Sample	Silica Gel Cleanup	Water	8015B	223153
LCSD 720-223153/3-A	Lab Control Sample Dup	Silica Gel Cleanup	Water	8015B	223153

Prep Batch: 223153

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-79521-1	MW-2	Silica Gel Cleanup	Water	3510C SGC	
720-79521-2	MW-3	Silica Gel Cleanup	Water	3510C SGC	
720-79521-3	MW-4	Silica Gel Cleanup	Water	3510C SGC	
MB 720-223153/1-A	Method Blank	Silica Gel Cleanup	Water	3510C SGC	

GC Semi VOA (Continued)

Prep Batch: 223153 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 720-223153/2-A	Lab Control Sample	Silica Gel Cleanup	Water	3510C SGC	
LCSD 720-223153/3-A	Lab Control Sample Dup	Silica Gel Cleanup	Water	3510C SGC	

Lab Chronicle

Client: ATC Group Services LLC.
Project/Site: TSA-Oakland

TestAmerica Job ID: 720-79521-1

Client Sample ID: MW-2

Lab Sample ID: 720-79521-1

Date Collected: 05/16/17 09:45

Matrix: Water

Date Received: 05/16/17 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	408720	05/27/17 11:29	GK	TAL IRV
Total/NA	Analysis	8260B/CA_LUFTMS		10	408719	05/27/17 11:29	WC	TAL IRV
Silica Gel Cleanup	Prep	3510C SGC			223153	05/17/17 13:39	BRR	TAL PLS
Silica Gel Cleanup	Analysis	8015B		1	223122	05/17/17 23:45	JXL	TAL PLS

Client Sample ID: MW-3

Lab Sample ID: 720-79521-2

Date Collected: 05/16/17 09:55

Matrix: Water

Date Received: 05/16/17 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	DL	200	408779	05/28/17 11:50	WC	TAL IRV
Total/NA	Analysis	8260B		50	408720	05/27/17 11:58	GK	TAL IRV
Total/NA	Analysis	8260B/CA_LUFTMS		50	408719	05/27/17 11:58	WC	TAL IRV
Silica Gel Cleanup	Prep	3510C SGC			223153	05/17/17 13:39	BRR	TAL PLS
Silica Gel Cleanup	Analysis	8015B		1	223122	05/18/17 00:10	JXL	TAL PLS

Client Sample ID: MW-4

Lab Sample ID: 720-79521-3

Date Collected: 05/16/17 10:55

Matrix: Water

Date Received: 05/16/17 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	DL	200	408779	05/28/17 12:20	WC	TAL IRV
Total/NA	Analysis	8260B		20	408720	05/27/17 12:25	GK	TAL IRV
Total/NA	Analysis	8260B	DL2	1000	408852	05/29/17 12:56	MF	TAL IRV
Total/NA	Analysis	8260B/CA_LUFTMS		20	408719	05/27/17 12:25	WC	TAL IRV
Silica Gel Cleanup	Prep	3510C SGC			223153	05/17/17 13:39	BRR	TAL PLS
Silica Gel Cleanup	Analysis	8015B		1	223122	05/18/17 00:34	JXL	TAL PLS

Laboratory References:

= McCampbell Analytical, Inc., 1534 Willow Pass Road, Pittsburg, CA 94565

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

Accreditation/Certification Summary

Client: ATC Group Services LLC.
Project/Site: TSA-Oakland

TestAmerica Job ID: 720-79521-1

Laboratory: TestAmerica Pleasanton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2496	01-31-18

Laboratory: TestAmerica Irvine

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska	State Program	10	CA01531	06-30-18 *
Arizona	State Program	9	AZ0671	10-14-17
California	LA Cty Sanitation Districts	9	10256	06-30-18
California	State Program	9	CA ELAP 2706	06-30-18
Guam	State Program	9	Cert. No. 17-003R	01-23-18
Hawaii	State Program	9	N/A	01-29-18
Kansas	NELAP Secondary AB	7	E-10420	07-31-17 *
Nevada	State Program	9	CA015312017-3	07-31-17 *
New Mexico	State Program	6	N/A	01-29-18 *
Northern Mariana Islands	State Program	9	MP0002	01-29-17 *
Oregon	NELAP	10	4028	01-29-18
USDA	Federal		P330-15-00184	07-08-18
Washington	State Program	10	C900	09-03-17

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: ATC Group Services LLC.
Project/Site: TSA-Oakland

TestAmerica Job ID: 720-79521-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8260B/CA_LUFTMS	Volatile Organic Compounds by GC/MS	SW846	TAL IRV
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL PLS
Tetraethyl & Tetramethyl lead by 8270Mod	General Sub Contract Method	NONE	

Protocol References:

NONE = NONE

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

= McCampbell Analytical, Inc., 1534 Willow Pass Road, Pittsburg, CA 94565

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

Sample Summary

Client: ATC Group Services LLC.
Project/Site: TSA-Oakland

TestAmerica Job ID: 720-79521-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
720-79521-1	MW-2	Water	05/16/17 09:45	05/16/17 12:50
720-79521-2	MW-3	Water	05/16/17 09:55	05/16/17 12:50
720-79521-3	MW-4	Water	05/16/17 10:55	05/16/17 12:50

McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1705860

Report Created for: Test America

1220 Quarry Lane
Pleasanton, CA 94566

Project Contact: Dimple Sharma
Project P.O.:
Project Name: Salvation Army; 72011870

Project Received: 05/17/2017

Analytical Report reviewed & approved for release on 05/24/2017 by:

Angela Rydelius,
Laboratory Manager

1534 Willow Pass Rd. Pittsburg, CA 94565 ♦ TEL: (877) 252-9262 ♦ FAX: (925) 252-9269 ♦ www.mccampbell.com
CA ELAP 1644 ♦ NELAP 4033ORELAP

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Glossary of Terms & Qualifier Definitions

Client: Test America
Project: Salvation Army; 72011870
WorkOrder: 1705860

Glossary Abbreviation

%D	Serial Dilution Percent Difference
95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Glossary of Terms & Qualifier Definitions

Client: Test America
Project: Salvation Army; 72011870
WorkOrder: 1705860

Analytical Qualifiers

a3	sample diluted due to high organic content.
b1	aqueous sample that contains greater than ~1 vol. % sediment

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Analytical Report

Client:	Test America	**WorkOrder:**	1705860
Date Received:	5/17/17 17:05	**Extraction Method:**	SW3510C
Date Prepared:	5/19/17	**Analytical Method:**	SW8270C
Project:	Salvation Army; 72011870	**Unit:**	µg/L

Organic Lead (speciated) by GC-MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-2 (720-79521-1)	1705860-001A	Water	05/16/2017 09:45	GC8	139208

Analytes	Result	MDL	RL	DF	Date Analyzed
Tetraethyl Lead	ND	0.053	0.12	1	05/23/2017 22:52
Tetramethyl Lead	ND	0.021	0.12	1	05/23/2017 22:52

Surrogates	REC (%)	Limits	
2-Fluorobiphenyl	114	50-150	05/23/2017 22:52

Analyst(s): TD Analytical Comments: b1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-3 (720-79521-2)	1705860-002A	Water	05/16/2017 09:55	GC8	139208

Analytes	Result	MDL	RL	DF	Date Analyzed
Tetraethyl Lead	**0.31**	0.11	0.25	2	05/23/2017 18:16
Tetramethyl Lead	ND	0.043	0.25	2	05/23/2017 18:16

Surrogates	REC (%)	Limits	
2-Fluorobiphenyl	130	50-150	05/23/2017 18:16

Analyst(s): TD Analytical Comments: a3,b1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-4 (720-79521-3)	1705860-003A	Water	05/16/2017 10:55	GC8	139208

Analytes	Result	MDL	RL	DF	Date Analyzed
Tetraethyl Lead	ND	0.11	0.25	2	05/23/2017 19:07
Tetramethyl Lead	ND	0.043	0.25	2	05/23/2017 19:07

Surrogates	REC (%)	Limits	
2-Fluorobiphenyl	115	50-150	05/23/2017 19:07

Analyst(s): TD Analytical Comments: a3,b1

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Test America	**WorkOrder:**	1705860
Date Prepared:	5/19/17	**BatchID:**	139208
Date Analyzed:	5/23/17	**Extraction Method:**	SW3510C
Instrument:	GC8	**Analytical Method:**	SW8270C
Matrix:	Water	**Unit:**	µg/L
Project:	Salvation Army; 72011870	**Sample ID:**	MB/LCS-139208 1705748-003AMS/MSD

QC Summary Report for Organic Lead by GC-MS

Analyte	MB Result	LCS Result	MDL	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Tetraethyl Lead	ND	2.93	0.053	0.12	2.5	-	117	50-150
Tetramethyl Lead	ND	2.88	0.021	0.12	2.5	-	115	50-150
Surrogate Recovery								
2-Fluorobiphenyl	5.569	5.49			5	111	110	50-150

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Tetraethyl Lead	3.01	3.04	2.5	ND	120	122	50-150	1.01	30
Tetramethyl Lead	3.14	3.04	2.5	ND	126	122	50-150	3.13	30
Surrogate Recovery									
2-Fluorobiphenyl	5.37	5.44	5		107	109	50-150	1.30	30

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1705860 **ClientCode: TAM**

☐ WaterTrax ☐ WriteOn ☐ EDF ☑ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Dimple Sharma
Test America
1220 Quarry Lane
Pleasanton, CA 94566
(925) 484-1919 FAX: (925) 600-3002

Email: dimple.sharma@testamericainc.com
cc/3rd Party:
PO:
ProjectNo: Salvation Army; 72011870

Bill to:
Accounts Payable
TestAmerica
4101 Shuffel Street NW
North Canton, OH 44720
AccountsPayable@testamericainc.com

Requested TAT: 5 days;

Date Received: **05/17/2017**
Date Logged: **05/18/2017**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below) 1	2	3	4	5	6	7	8	9	10	11	12
1705860-001	MW-2 (720-79521-1)	Water	5/16/2017 09:45	☐	A											
1705860-002	MW-3 (720-79521-2)	Water	5/16/2017 09:55	☐	A											
1705860-003	MW-4 (720-79521-3)	Water	5/16/2017 10:55	☐	A											

Test Legend:

1	MAI_OPBMS_W [J]	2		3		4	
5		6		7		8	
9		10		11		12	

Prepared by: Tina Perez

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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WORK ORDER SUMMARY

Client Name: TEST AMERICA
Client Contact: Dimple Sharma
Contact's Email: dimple.sharma@testamericainc.com

Project: Salvation Army; 72011870
Comments:

Work Order: 1705860
QC Level: LEVEL 2
Date Logged: 5/18/2017

☐ WaterTrax ☐ WriteOn ☐ EDF ☑ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1705860-001A	MW-2 (720-79521-1)	Water	SW8270C - Organic Lead (speciated)	1	1LA	☐	5/16/2017 9:45	5 days	1%+	☐	
1705860-002A	MW-3 (720-79521-2)	Water	SW8270C - Organic Lead (speciated)	1	1LA	☐	5/16/2017 9:55	5 days	1%+	☐	
1705860-003A	MW-4 (720-79521-3)	Water	SW8270C - Organic Lead (speciated)	1	1LA	☐	5/16/2017 10:55	5 days	1%+	☐	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

1705860

TestAmerica Pleasanton
1220 Quarry Lane
Pleasanton, CA 94566
Phone (925) 484-1919 Fax (925) 600-3002

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Sharma, Dimple	Carrier Tracking No(s):	COC No: 720-34045.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: dimple.sharma@testamericainc.com	State of Origin: California	Page: Page 1 of 1
Company: McCampbell Analytical, Inc.		Accreditations Required (See note):		Job #: 720-79521-1
Address: 1534 Willow Pass Road, ,	Due Date Requested: 5/31/2017			
City: Pittsburg	TAT Requested (days):			
State, Zip: CA, 94565				
Phone:	PO #:			
Email:	WO #:			
Project Name: Salvation Army	Project #: 72011870			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Tetraethyl & Tetramethyl lead by 8270Mod)/ Tetraethyl & Tetramethyl lead by 8270Mod	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2 (720-79521-1)	5/16/17	09:45 Pacific		Water			X	1	
MW-3 (720-79521-2)	5/16/17	09:55 Pacific		Water			X	1	
MW-4 (720-79521-3)	5/16/17	10:55 Pacific		Water			X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	5-17-17 1500	Pleas	[signature]	5/17/17 1500	MAI
2	[signature]	5/17 1705		[signature]	5/17/17 17:05	
3						

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Sample Receipt Checklist

Client Name: **Test America**
Project Name: **Salvation Army; 72011870**

WorkOrder №: **1705860** Matrix: Water
Carrier: Benjamin Yslas (MAI Courier)

Date and Time Received **5/17/2017 17:05**
Date Logged: **5/18/2017**
Received by: Tina Perez
Logged by: Tina Perez

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Chain of custody agrees with sample labels?	Yes ☑	No ☐
Sample IDs noted by Client on COC?	Yes ☑	No ☐
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐
Sampler's name noted on COC?	Yes ☐	No ☑

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☐	No ☑	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☐	No ☐	NA ☑
Sample/Temp Blank temperature	Temp: 6.6°C		NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes ☑	No ☐	NA ☐
Sample labels checked for correct preservation?	Yes ☑	No ☐	
pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes ☐	No ☐	NA ☑
Samples Received on Ice?	Yes ☑	No ☐	

(Ice Type: WET ICE)

UCMR3 Samples:

Total Chlorine tested and acceptable upon receipt for EPA 522?	Yes ☐	No ☐	NA ☑
Free Chlorine tested and acceptable upon receipt for EPA 218.7, 300.1, 537, 539?	Yes ☐	No ☐	NA ☑

Comments:

175922

TestAmerica Pleasanton
1220 Quarry Lane

Pleasanton, CA 94566
phone 925 484 1919 fax 925 600 3002

720-79521

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

8/1/2017

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Mike Sonke	Site Contact: Alex Flores	Date: 5/16/2017	COC No
ATC Group Services LLC	Tel/Fax: (209) 579-2221	Lab Contact: Dimple Sharma	Carrier:	1 of 1 COCs
Address 1117 Lone Palm Avenue, Suite 201B	**Analysis Turnaround Time**			For Lab Use Only:
City/State/Zip Modesto, CA, 95351	Calendar (C) or Work Days (W)			Walk-in Client
Phone (209) 579-2221 FAX (209) 579-2225	TAT if different from Below			Lab Sampling
E-amil. mike sonke@atcassociates.com	☑ 2 weeks			Job / SDG No
Project Name The Salvation Army Oakland ARC	☐ 1 week			
Site Facility Number Project # Z0540000006	☐ 2 days			Sampler. Genelle Martin
Geotracker EDF Global ID # T10000003428	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample (Y / N)	Composite = C / Grab = G	TPH-g by EPA 8260B	BTEX, 5 Oxy's, Napthalene By EPA 8260	TPH-d with silica gel clean up By EPA 8015/3630C	Organic Lead Speciation By Epa 8270 GC/ECD	TPH-g, BTEX, Napthalene By EPA 8260B	TPH-d By EPA 8015M	Hydraulic Oil By EPA 8015M	Oil ad nGrease By EPA 1664A	Sample Specific Notes
[redacted]				Water	6	N	G	X	X	X	X					
MW-2	5/16/2017	0945	Glass	Water	6	N	G	X	X	X	X					
MW-3	5/16/2017	0955	Glass	Water	6	N	G	X	X	X	X					
MW-4	5/16/2017	1055	Glass	Water	6	N	G	X	X	X	X					

720-79521 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H_2SO_4; 4=HNO_3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☐Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐Return to Client ☑Disposal by Lab ☐Archive for ____ Months

Special Instructions/QC Requirements & Comments: Fuel Oxygenates: ETBE, DIPE, MTBE, TBA and TAME, 1,2 DCA and EDB.

10.6°

Relinquished by	Company ATC Group Services	Date/Time 05/16/17/1250	Received by	Company	Date/Time
Relinquished by	Company	Date/Time	Received by	Company	Date/Time
Relinquished by	Company	Date/Time	Received in Laboratory by	Company	Date/Time 5-16-17 1250

TestAmerica Pleasanton
1220 Quarry Lane
Pleasanton, CA 94566
Phone (925) 484-1919 Fax (925) 600-3002

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Sharma, Dimple	Carrier Tracking No(s):	COC No: 720-34173.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: dimple.sharma@testamericainc.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note):		Job #: 720-79521-1
Address: 17461 Derian Ave, Suite 100,	Due Date Requested: 5/22/2017			
City: Irvine	TAT Requested (days):			
State, Zip: CA, 92614-5817				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: Salvation Army - Oakland ARC	Project #: 72011870			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B_LL/5030B BTEX+Oxys+Napthalene LL 8260B Volatiles	8260B/CA_LUFTMS/5030B C4-C12 Volatile Fuel Hydrocarbons	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
MW-2 (720-79521-1)	5/16/17	09:45 Pacific		Water			X	X	3	
MW-3 (720-79521-2)	5/16/17	09:55 Pacific		Water			X	X	3	
MW-4 (720-79521-3)	5/16/17	10:55 Pacific		Water			X	X	3	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	5-25-17 1600	Hess	[signature]	5/26/17 950	TA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: 7290-7403-9704	Cooler Temperature(s) °C and Other Remarks: 1.8/2.4 IR SC6 SC

8/1/2017

Login Sample Receipt Checklist

Client: ATC Group Services LLC.

Job Number: 720-79521-1

Login Number: 79521
List Number: 1
Creator: Arauz, Dennis

List Source: TestAmerica Pleasanton

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: ATC Group Services LLC.

Job Number: 720-79521-1

Login Number: 79521
List Number: 2
Creator: Salas, Margarita

List Source: TestAmerica Irvine
List Creation: 05/26/17 01:55 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Appendix **E**

ATC's Standard Field Procedures for Soil Vapor Sampling and Laboratory Analysis

ATC Group Services
STANDARD FIELD PROCEDURES FOR
SOIL VAPOR SAMPLING AND ANALYSIS

These procedures were developed in accordance with the Cardno ATC workplan dated August 14, 2014 and applicable LOP regulatory guidance as provided by ACEH their August 3, 2016 letter.

The vapor intrusion assessment will be conducted in accordance with the site-specific safety plan. The scope will also be performed in general accordance with methodologies for soil vapor sampling established in the Advisory Active Soil vapor Investigations, California Environmental Protection Agency, Department of Toxic Substances Control, Los Angeles Regional Water Quality Control Board, San Francisco Regional Water Quality Control Board, July 2015.

In preparation for sampling, a three-way probe sampling assembly will be constructed. One of the three ports will be attached to a Teflon tube connected to the sub-slab soil vapor sampling point. A second port will be connected to a vacuum/pressure gauge to measure the vacuum while purging. The third port will be used to withdraw soil vapor samples. Sample withdrawal rates will be restricted to 100 to 200-ml per minute by a flow constrictor device included within the sampling assembly.

The sampling assembly will be purged by removing three purge volumes of air from the assembly using a 60-ml plastic syringe. Purge volumes will be derived by adding the annular void space created within the substrate below the vapor pin because of boring through the slab, and the internal volume of sampling assembly. Once purging is complete, the syringe will be removed and replaced with a 200-ml/minute flow restrictor connected to a dedicated 400-ml SUMMA® canisters canister provided by an off-site analytical laboratory. This completed the sampling assembly.

The probe sampling assemblies dedicated to each location will be subjected to “shut in” and leak testing prior to use. The “shut in” test will be used to check the integrity of the assembly by establishing a vacuum of approximately 10 to 15 inches of mercury (in Hg) by closing external valves and drawing the purging syringe back to create a vacuum and then holding the vacuum steady for approximately 10 minutes. The assembly maintained vacuum of 10 to 15 in Hg over 10 minutes indicating an absence of leaks.

During purging, testing, and sampling activities, a “leak test” will be conducted. A temporary plastic enclosure will be constructed to envelope the assembly. A leak check compound 1,1-difluoroethane (1,1-DFA) will be introduced into the enclosure. This set up exposes the assembly’s connections, surface seals, and the top of the temporary soil vapor point to the leak check compound.

One soil vapor sample will be collected from each of the three (3) subslab vapor pins using a dedicated SUMMA® canister. The Vapor Intrusion Guidance, states that when more than four samples will be collected, one (1) duplicate sample is to be collected for QA/QC purposes. Since only three samples will be collected, no duplicate sample will be indicated.

Once the soil vapor samples will be collected, the SUMMA® canisters will be shipped under chain-of-custody procedures to H&P Mobile Geochemistry, a California-certified laboratory (ELAP Cert #69070) in Carlsbad, California, for analysis.

1.1. SOIL VAPOR SAMPLE ANALYSES

The contents of each soil vapor sample contained within its SUMMA® canister will be analyzed

SOIL VAPOR SAMPLE ANALYSES	
EPA Method TO-15[1]	
Total Petroleum Hydrocarbons as Gasoline (TPHg)	Ethyl Tertiary Butyl Ether (ETBE)
Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)	1,2-Dichloroethane (EDC))
Methyl Tertiary-Butyl Ether (MTBE)	Ethyl Dibromide (EDB)
Tertiary Butyl Alcohol (TBA)	Naphthalene
Di-Isopropyl Ether (DIPE)	1,1-difluoroethane (1,1-DFA)[2]
Tertiary Amyl Methyl Ether (TAME)	
EPA Method TO-17[3]	
Naphthalene	
ASTM D 1946	
Oxygen	
Carbon dioxide	
EPA Method 8015[1]	
Methane	

[1] - The TO-15 analytical method will be used since this method typically provide the lowest practical detection limits and better accuracy when compared to EPA Methods 8015M and 8260B.

[2] - 1,1-DFA = leak detection compound

[3] - ACDEH had requested that one sample be analyzed for naphthalene by test method T-17,

[1] The analytical lab recommended Method 8015 as reporting limits were lower.

Appendix F

Subslab Soil Vapor Sampling Log

H&P Mobile Geochemistry Inc.
2470 Impala Drive, Carlsbad, CA 92010
& Field Office - Signal Hill, CA
W handpmg.com E info@handpmg.com
P 760.804.9678 F 760.804.9159

VAPOR / AIR Chain of Custody

DATE:_____
Page 1 of 1

Lab Client and Project Information

Lab Client/Consultant: ATC Group Services LLC	Project Name / #: TSAO-Oakland / Z054000006
Lab Client Project Manager: Mike Sonke	Project Location: 601 Webster St., Oakland, CA 94607
Lab Client Address: 1117 Lone Palm Ave., Suite 201B	Report E-Mail(s): mike.sonke@atcassociates.com jim.kundert@atcassociates.com
Lab Client City, State, Zip: Modesto, CA 95351	
Phone Number: (209) 579-2221	

Sample Receipt (Lab Use Only)

Date Rec'd:	Control #:
H&P Project #	
Lab Work Order #	
Sample Intact: ☐ Yes ☐ No ☐ See Notes Below	
Receipt Gauge ID:	Temp:
Outside Lab:	
Receipt Notes/Tracking #:	
Lab PM Initials:	

Reporting Requirements	Turnaround Time	Sampler Information
☑ Standard Report ☐ Level III ☐ Level IV	☑ 5-7 day Stnd ☐ 24-Hr Rush	Sampler(s): Jim Kundert
☐ Excel EDD ☐ Other EDD:_____	☐ 3-day Rush ☐ Mobile Lab	Signature:
☑ CA Geotracker Global ID: T10000003428	☐ 48-Hr Rush ☐ Other:____	Date:

Additional Instructions to Laboratory:

Project Analyte List:
TO-15 / VOCs / Oxys / Naphthalene / 1,1 DFA
ASTM D1945 CO2 / O2 / N2
8015M / METHANE
Sorbent Tube to be submitted to Eurofins for TO-17 on separate chain.

** Preferred VOC units (please choose one):* ☐ µg/L ☑ µg/m³ ☐ ppbv ☐ ppmv

SAMPLE NAME	FIELD POINT NAME (if applicable)	DATE mm/dd/yy	TIME 24hr clock	SAMPLE TYPE Indoor Air (IA), Ambient Air (AA), Subslab (SS), Soil Vapor (SV)	CONTAINER SIZE & TYPE 400mL/1L/6L Summa, Tedlar, Tube, etc.	CONTAINER ID (###)	Lab use only: Receipt Vac	VOCs Standard Full List ☐ 8260SV ☑ TO-15	VOCs Short List / Project List ☐ 8260SV ☐ TO-15	Oxygenates ☐ 8260SV ☑ TO-15	Naphthalene ☐ 8260SV ☑ TO-15	TPHv as Gas ☐ 8260SVm ☑ TO-15m	Aromatic/Aliphatic Fractions ☐ 8260SVm ☐ TO-15m	Leak Check Compound ☑ DFA ☐ IPA ☐ He	Methane by EPA 8015m	Fixed Gases by ASTM D1945 ☑ CO2 ☑ O2 ☑ N2				
BSS-1		5/16/17	0917	SV	400 mL	226		X		X	X	X		X	X	X				
BSS-2		5/16/17	0942	SV	400 mL	135		X		X	X	X		X	X	X				
BSS-3		5/16/17	1011	SV	400 mL	207		X		X	X	X		X	X	X				

Approved/Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:
Approved/Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:
Approved/Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:

**Approval constitutes as authorization to proceed with analysis and acceptance of conditions on back*

eurofins | Calscience

7440 Lincoln Way, Garden Grove, CA 92841-1427 • (714) 895-5494
For courier service / sample drop off information, contact us26_sales@eurofinsus.com or call us.

WO # / LAB USE ONLY

AIR CHAIN OF CUSTODY RECORD

DATE: 5/16/17

PAGE: 1 OF 1

LABORATORY CLIENT: ATC Group Services LLC	CLIENT PROJECT NAME / NUMBER: TSAO / Z054000006		P.O. NO.:
ADDRESS: 1117 Lone Palm Avenue, Suite 201B	PROJECT ADDRESS: 601 Webster St.		LAB CONTACT OR QUOTE NO.:
CITY: Modesto STATE: CA ZIP: 95351	CITY: Oakland STATE: CA ZIP: 94607		SAMPLER(S): (PRINT) Jim Kundert
TEL: (209) 579-221 E-MAIL: mike.sonke@atcassociates.com	PROJECT CONTACT: Mike Sonke		

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☑ STANDARD

☐ EDD ☑ UNITS ug/m3

SPECIAL INSTRUCTIONS:
Sorbent Tube. Sample volume = 200 cc per tube

CA Geotracker Global ID: T10000003428

REQUESTED ANALYSES

LAB USE ONLY	SAMPLE ID	FIELD ID / POINT OF COLLECTION	Air Type (I) Indoor (SV) Soil Vap. (A) Ambient	Sampling Equipment: Media ID #	Sampling Equipment: Canister Size 6L or 1L	Sampling Equipment: Flow Controller ID #	Start Sampling Information: Date	Start Sampling Information: Time (24 hr clock)	Start Sampling Information: Canister Pressure ("Hg)	Stop Sampling Information: Date	Stop Sampling Information: Time (24 hr clock)	Stop Sampling Information: Canister Pressure ("Hg)	Naphthalene by TO-17m
	BSS-1	BSS-1	SV	60150657			5/16/17	0917					X
	BSS-2	BSS-2	SV	60186930			5/16/17	0942					X
	BSS-3	BSS-3	SV	60189103			5/16/17	1011					X

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date: 5-18-2017	Time: 1200
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

06/02/14 Revision

ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

Soil Vapor Purging and Sampling Log

FLD-110
Revision 1.0
Dec-15

ATC Branch: Modesto, CA.	Date: 5-16-17	Page 1 of
ATC Representative(s): JK, GA	Project: TSAO	
	Location:	
Contact Information:	Project No:	Task No:
Well/Boring ID BSS-3	Contractor:	
	Weather:	Temperature:

Purging & Sampling Instrumentation & Method

Purging Method: X Syringe ____ Low Flow Pump Other: ____

Sampling Container: X 400mL Summa ____ 1L Summa ____ 6L Summa ____ Glass Syringe Other: Swivel Tube

Container ID: G0189103 / 207 Manifold ID:

Casing Volume Information

Vapor Point Installation: Sand Depth (inches) ____ DRY Bentonite Depth (in) ____ Tubing Length (ft) 4

Boring Diameter (Circle): 1" 1.5" 2" 2.5" ____	Tubing Diameter: 1/8"OD 1/4" OD Other____
Sand Multiplier (SM) (mL/inch)*: 4.49 10.13 18.01 26.82	Tubing Multiplier (TM)(mL/foot): 0.6 5.0
Bentonite Mult. (BM) (mL/inch)*: 5.13 11.58 20.60 30.66	

Purging Calculations

(Sand Depth ____ x SM ____) + (Bentonite Depth 4 x BM ____) + (Tubing Len. 4 xTM 5.0) = Purge Vol x1 20

Purge Volumes 1 2 3 4 5 6 7 8 9 10 Other:

Total Purge Volume (mL): 60

Leak Detection Compound: 1,1-DFA Helium Other: Shut in Test 10 in Hg 5 min

Purging & Sampling Measurements

Time (24 Hours)	Cum. Vol. Purged (mL)	Leak Detection (ppm or %)	Other	Time (24 Hours)	Vacuum (in Hg)	Leak Detection (ppm or %)	Other
1010	60						
1011	28 in Hg						
1012	25 in Hg	Lcc					
1014	4 in Hg						

Notes

Sample ID: BSS-3	Time of Sample: 1011	Installation Status:

Footnotes:

Sand Multiplier based on cross sectional area (Πr^2) of installed sand, assuming 35% porosity.

Bentonite Multiplier based on cross sectional area of installed dry bentonite used to buffer hydrated bentonite, assuming 40% porosity.

ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

Soil Vapor Purging and Sampling Log

FLD-110
Revision 1.0
Dec-15

ATC Branch: Modesto, CA.	Date: 5-16-19	Page 1 of
ATC Representative(s): JK, GM	Project: ~~TSA~~ TSAO	
	Location:	
Contact Information:	Project No:	Task No:
Well/Boring ID BSS-1	Contractor: —	
	Weather:	Temperature:

Purging & Sampling Instrumentation & Method

Purging Method: X Syringe ____ Low Flow Pump Other: ____

Sampling Container: X 400mL Summa ____ 1L Summa ____ 6L Summa ____ Glass Syringe Other: ____

Container ID: GO150657 / 226 Manifold ID:

Casing Volume Information

Vapor Point Installation: Sand Depth (inches) X DRY Bentonite Depth (in) X Tubing Length (ft) 4

Boring Diameter (Circle): ~~1"~~ 1.5" 2" 2.5" ____

Sand Multiplier (SM) (mL/inch)*: 4.49 10.13 18.01 26.82

Bentonite Mult. (BM) (mL/inch)*: 5.13 11.58 20.60 30.66

Tubing Calculations

Tubing Diameter: 1/8"OD 1/4" OD Other____

Tubing Multiplier (TM)(mL/foot): 0.6 5.0

Purging Calculations

(Sand Depth____ x SM____) + (Bentonite Depth____ x BM____) + (Tubing Len. 4 xTM 5.0) = Purge Vol x1 20

Purge Volumes 1 2 (3) 4 5 6 7 8 9 10 Other:

Total Purge Volume (mL): 60 mL

Leak Detection Compound: (1,1-DFA) Helium Other:____

Purging & Sampling Measurements

Time (24 Hours)	Cum. Vol. Purged (mL)	Leak Detection (ppm or %)	Other	Time (24 Hours)	~~Vacuum~~ purge (~~in Hg~~) mL	Leak Detection (ppm or %)	Other
0915	60	-	sub slab	0922	0		sampling started
	Vacs			0924	180	LCC	stop
0917	28 in Hg						
0918	~~25~~ 25 in Hg	LCC	~~LCC~~				
0920	4 in Hg						

Notes

Sample ID: BSS-1	Time of Sample: 0917	Installation Status:

Footnotes:

Sand Multiplier based on cross sectional area (Πr^2) of installed sand, assuming 35% porosity.

Bentonite Multiplier based on cross sectional area of installed dry bentonite used to buffer hydrated bentonite, assuming 40% porosity.

ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

Soil Vapor Purging and Sampling Log

FLD-110
Revision 1.0
Dec-15

ATC Branch: Modesto, CA.	Date: 5-16-17	Page 1 of
ATC Representative(s): JK, GM	Project: TSAO	
	Location:	
Contact Information:	Project No:	Task No:
Well/Boring ID BSS-2	Contractor: —	
	Weather:	Temperature:

Purging & Sampling Instrumentation & Method

Purging Method: X Syringe ____ Low Flow Pump Other: ____

Sampling Container: X 400mL Summa ____ 1L Summa ____ 6L Summa ____ Glass Syringe Other: Sorbent tube

Container ID: G0186930 / 135 Manifold ID:

Casing Volume Information	Tubing Calculations
Vapor Point Installation: Sand Depth (inches) X DRY Bentonite Depth (in) X Tubing Length (ft) 4	
Boring Diameter (Circle): 1" 1.5" 2" 2.5" ____	Tubing Diameter: 1/8"OD 1/4" OD Other____
Sand Multiplier (SM) (mL/inch)*: 4.49 10.13 18.01 26.82	Tubing Multiplier (TM)(mL/foot): 0.6 5.0
Bentonite Mult. (BM) (mL/inch)*: 5.13 11.58 20.60 30.66	

Purging Calculations

(Sand Depth____ x SM____) + (Bentonite Depth____ x BM____) + (Tubing Len. 4 xTM 5.0) = Purge Vol x1 20

Purge Volumes 1 2 (3) 4 5 6 7 8 9 10 Other:

Total Purge Volume (mL): 60 mL

Leak Detection Compound: 1,1-DFA Helium Other: Shut in test @ 11 in Hg 5 min

Purging & Sampling Measurements

Time (24 Hours)	Cum. Vol. Purged (mL)	Leak Detection (ppm or %)	Other	Time (24 Hours)	~~Vacuum~~ purge (~~in Hg~~)	Leak Detection (ppm or %)	Other
	60 mL			0937	0	Loc	Sorbent tube
				0939	180		
0942	28 mL						
0943	25 mL	Loc					
0945	7 in Hg						

Notes

Sample ID: BSS-2	Time of Sample: 0942	Installation Status:

Footnotes:

Sand Multiplier based on cross sectional area (Πr^2) of installed sand, assuming 35% porosity.

Bentonite Multiplier based on cross sectional area of installed dry bentonite used to buffer hydrated bentonite, assuming 40% porosity.

H&P Mobile Geochemistry Inc.

Vapor Supplies Check List

Call H&P for support: 800-834-9888

Please return a copy of this sheet with your items to:

H&P Mobile Geochemistry
2470 Impala Drive
Carlsbad, CA 92010
www.handpmg.com

H&P IN HOUSE #: _____

PREPARED FOR

Company: ATC Group Services
Contact: Alex Flores
Project Name: TSAO Oakland
H&P #: ATC050817-MC
H&P Status #: 170416.00 PM: Kim

PREPARED BY

Name: Tori
Date Prepared: 5/8/17
Est. Delivery Date: 5/12/17
Date Returned: _____
☐ Other _____ ☐ UPS TRACK#: _____

RETURNED COMPLETE? ☐Yes ☐No INITIAL ____

☒ Vapor Sampling Instructions: FSG 011 ☒ Chain of Custody ☒ UPS Return Label

PLEASE NOTE: ALL SUMMAS AND SAMPLING EQUIPMENT RENTED OUT BY H&P MUST BE RETURNED WITHIN 14 DAYS *

SUMMA CANISTERS

QTY SENT	ITEM	DESCRIPTION	QTY RET
3	A - Summa Canister	☒ 400 mL _____ ☐ 1 Liter _____ ☐ 6 Liter _____	
1	* Back-Up Summa	☐ Used ☐ Unused (☒400mL ☐1 Liter ☐6 Liter)	
4	TOTAL SUMMAS	☒ Batch Certified ____ ☐ Individually Certified ____	

* No charge for back-up if returning unused OR if used to replace faulty equipment

VAPOR SAMPLING EQUIPMENT

QTY SENT	ITEM	DESCRIPTION	QTY RET
3	B - Sampling Kit	☐ 50 ml/min _____ ☒ 150 ml/min _____ ☐ Other _____	
	* Back-Up	☐ USED ☐ UNUSED	
1	J - Inline Gauge	Set with male & female luer connections connected with Tygon tubing	
	M - Sampling Adapter	1/8" Male NPT Thread fitting w/ 1/8" Barb	
	Flow Regulators	☐ 8-HR ☐ 24-HR	
	Summa Stands	Individual stands for 1 Liter Summa Canisters	
3	Sorbent Tubes		
4	Swagelok fitting	w/ luers	

SAMPLING CONSUMABLES

QTY SENT	ITEM	DESCRIPTION
3	C - M. Luer w/ 3/8" tubing	Male Luer w/ 3/8" Tygon tubing connector attached (1 per sample)
3	D - 3-way Valve	(1 per sample)
1	E - Consumables	Includes 3-way valves, syringes, zip ties, 1/4" & 1/8" Tygon tubing
	L - 1/8" Nylaflow tubing	Used as connector tubing for subslab probes
	N - Teflon Tape	For subslab probes
	Tedlar Bags	☐ 0.5 Liter ☐ 1 Liter ☐ w/ kit (syringe, valve, male luer fitting)
3	one-way valves	w/ connector tubing

SPECIFICATION	VAPOR PROBE(S)
_____ # of Vapor Probes	#_____ @ _____', #_____ @ _____', #_____ @ _____', #_____ @ _____'
Filter Type	☐ Airstone ☐ SS Impant ☐ Other
Tubing Type & Size	☐ 1/8" Nylaflow ☐ 1/4" Teflon ☐ 1/4" Nylaflow ☐ Other _____
Terminiation Type	☐ 1-way valve ☐ SS Swagelok

H&P Mobile Geochemistry Inc.

Equipment Loan / Rental Documentation

CLIENT: ATC Group Services - Modesto
CLIENT PROJECT: ISAO - Oakland
CLIENT CONTACT: Alex Flores

DATE SENT: 5/8/17
H&P PROJECT #:
CHECKED IN BY:

SUMMA CANISTER INFORMATION

CAN ID #	TYPE	VAC out	DATE RET	VAC in	USED	UNUSED	NOTES
226	400mL	-29.37					
207	"	-29.40					
135	"	-29.35					
034	"	-29.19					

SAMPLING KIT & FLOW CHOKE INFORMATION

Includes gauge, #2 or #3 flow restrictor, female QC

ID#	#2 OR #3	FLOW RATE (cc/min)*	DATE RET
289	2	134	
301	"	197	
194	"	134	

OTHER EQUIPMENT

DESCRIPTION	# OUT	# IN	DATE RET	NOTES
OTHER: Inline Gauge T49	1			
OTHER: Sorbent Tubes	3			
OTHER: Swagelok fittings	4			

NOTES

*Note: Flow rate is to be measured for flow chokes and sampling kits.

PLEASE NOTE: ALL SUMMAS AND SAMPLING EQUIPMENT RENTED OUT BY H&P MUST BE RETURNED WITHIN 30 DAYS

Appendix **G**

Laboratory Analytical Data Report
and Chain of Custody Documents
Subslab Soil Vapor
Samples

H&P Mobile Geochemistry Inc.

30 May 2017

Mr. Mike Sonke
ATC Group Services - Modesto
1117 Lone Palm Ave., Suite B
Modesto, CA 95351

H&P Project: ATC051917-16
Client Project: TSAO-Oakland / Z054000006

Dear Mr. Mike Sonke:

Enclosed is the analytical report for the above referenced project. The data herein applies to samples as received by H&P Mobile Geochemistry, Inc. on 19-May-17 which were analyzed in accordance with the attached Chain of Custody record(s).

The results for all sample analyses and required QA/QC analyses are presented in the following sections and summarized in the documents:

- Sample Summary
- Case Narrative (if applicable)
- Sample Results
- Quality Control Summary
- Notes and Definitions / Appendix
- Chain of Custody
- Sampling Logs (if applicable)

Unless otherwise noted, I certify that all analyses were performed and reviewed in compliance with our Quality Systems Manual and Standard Operating Procedures. This report shall not be reproduced, except in full, without the written approval of H&P Mobile Geochemistry, Inc.

We at H&P Mobile Geochemistry, Inc. sincerely appreciate the opportunity to provide analytical services to you on this project. If you have any questions or concerns regarding this analytical report, please contact me at your convenience at 760-804-9678.

Sincerely,

Janis La Roux
Laboratory Director

H&P Mobile Geochemistry, Inc. is certified under the California ELAP and the National Environmental Laboratory Accreditation Conference (NELAC). H&P is approved as an Environmental Testing Laboratory and Mobile Laboratory in accordance with the DoD-ELAP Program and ISO/IEC 17025:2005 programs, accreditation number 69070 for EPA Method TO-15, H&P Method TO-15, EPA Method 8260B and H&P 8260SV.

H&P Mobile
Geochemistry Inc.

2470 Impala Drive
Carlsbad, CA 92010
760-804-9678 Phone
760-804-9159 Fax

ATC Group Services - Modesto	Project: ATC051917-16	
1117 Lone Palm Ave., Suite B	Project Number: TSAO-Oakland / Z054000006	Reported:
Modesto, CA 95351	Project Manager: Mr. Mike Sonke	30-May-17 09:23

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BSS-1	E705090-01	Vapor	16-May-17	19-May-17
BSS-2	E705090-02	Vapor	16-May-17	19-May-17
BSS-3	E705090-03	Vapor	16-May-17	19-May-17

H&P Mobile
Geochemistry Inc.

2470 Impala Drive
Carlsbad, CA 92010
760-804-9678 Phone
760-804-9159 Fax

ATC Group Services - Modesto	Project: ATC051917-16	
1117 Lone Palm Ave., Suite B	Project Number: TSAO-Oakland / Z054000006	Reported:
Modesto, CA 95351	Project Manager: Mr. Mike Sonke	30-May-17 09:23

DETECTIONS SUMMARY

Sample ID: **BSS-1** Laboratory ID: **E705090-01**

Analyte	Result	Reporting Limit	Units	Method	Notes
Carbon dioxide	**2.5**	0.20	%	ASTM D1945	
Oxygen	**21**	0.20	%	ASTM D1945	
Dichlorodifluoromethane (F12)	**5.3**	5.0	ug/m3	EPA TO-15	
Toluene	**5.1**	3.8	ug/m3	EPA TO-15	

Sample ID: **BSS-2** Laboratory ID: **E705090-02**

Analyte	Result	Reporting Limit	Units	Method	Notes
Carbon dioxide	**3.6**	0.20	%	ASTM D1945	
Oxygen	**19**	0.20	%	ASTM D1945	
Toluene	**14**	3.8	ug/m3	EPA TO-15	

Sample ID: **BSS-3** Laboratory ID: **E705090-03**

Analyte	Result	Reporting Limit	Units	Method	Notes
Carbon dioxide	**4.2**	0.20	%	ASTM D1945	
Oxygen	**19**	0.20	%	ASTM D1945	
Toluene	**10**	3.8	ug/m3	EPA TO-15	

H&P Mobile
Geochemistry Inc.

2470 Impala Drive
Carlsbad, CA 92010
760-804-9678 Phone
760-804-9159 Fax

ATC Group Services - Modesto	Project: ATC051917-16	
1117 Lone Palm Ave., Suite B	Project Number: TSAO-Oakland / Z054000006	Reported:
Modesto, CA 95351	Project Manager: Mr. Mike Sonke	30-May-17 09:23

Soil Gas and Vapor Analysis

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
BSS-1 (E705090-01) Vapor Sampled: 16-May-17 Received: 19-May-17									
Carbon dioxide	**2.5**	0.20	%	1	EE72410	24-May-17	24-May-17	ASTM D1945	
Oxygen	**21**	0.20	"	"	"	"	"	"	
Methane	ND	10	ppmv	"	EE72312	24-May-17	24-May-17	EPA 8015M	
BSS-2 (E705090-02) Vapor Sampled: 16-May-17 Received: 19-May-17									
Carbon dioxide	**3.6**	0.20	%	1	EE72410	24-May-17	24-May-17	ASTM D1945	
Oxygen	**19**	0.20	"	"	"	"	"	"	
Methane	ND	10	ppmv	"	EE72312	24-May-17	24-May-17	EPA 8015M	
BSS-3 (E705090-03) Vapor Sampled: 16-May-17 Received: 19-May-17									
Carbon dioxide	**4.2**	0.20	%	1	EE72410	24-May-17	24-May-17	ASTM D1945	
Oxygen	**19**	0.20	"	"	"	"	"	"	
Methane	ND	10	ppmv	"	EE72312	24-May-17	24-May-17	EPA 8015M	

H&P Mobile
Geochemistry Inc.

2470 Impala Drive
Carlsbad, CA 92010
760-804-9678 Phone
760-804-9159 Fax

ATC Group Services - Modesto	Project: ATC051917-16	
1117 Lone Palm Ave., Suite B	Project Number: TSAO-Oakland / Z054000006	Reported:
Modesto, CA 95351	Project Manager: Mr. Mike Sonke	30-May-17 09:23

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
BSS-1 (E705090-01) Vapor Sampled: 16-May-17 Received: 19-May-17									
Dichlorodifluoromethane (F12)	**5.3**	5.0	ug/m3	1	EE72210	22-May-17	22-May-17	EPA TO-15	
Chloromethane	ND	2.1	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	7.1	"	"	"	"	"	"	
Vinyl chloride	ND	2.6	"	"	"	"	"	"	
Bromomethane	ND	16	"	"	"	"	"	"	
Chloroethane	ND	8.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.6	"	"	"	"	"	"	
1,1-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	6.1	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	3.5	"	"	"	"	"	"	
Carbon disulfide	ND	6.3	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	8.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	4.1	"	"	"	"	"	"	
2-Butanone (MEK)	ND	30	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	4.2	"	"	"	"	"	"	
Chloroform	ND	4.9	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	4.1	"	"	"	"	"	"	
Benzene	ND	3.2	"	"	"	"	"	"	
Carbon tetrachloride	ND	6.4	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	4.2	"	"	"	"	"	"	
Trichloroethene	ND	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	9.4	"	"	"	"	"	"	
Bromodichloromethane	ND	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	4.6	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	ND	8.3	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	4.6	"	"	"	"	"	"	
Toluene	**5.1**	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.5	"	"	"	"	"	"	
2-Hexanone (MBK)	ND	8.3	"	"	"	"	"	"	
Dibromochloromethane	ND	8.6	"	"	"	"	"	"	
Tetrachloroethene	ND	6.9	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	7.8	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	7.0	"	"	"	"	"	"	

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Geochemistry Inc.

2470 Impala Drive
Carlsbad, CA 92010
760-804-9678 Phone
760-804-9159 Fax

ATC Group Services - Modesto	Project: ATC051917-16	
1117 Lone Palm Ave., Suite B	Project Number: TSAO-Oakland / Z054000006	Reported:
Modesto, CA 95351	Project Manager: Mr. Mike Sonke	30-May-17 09:23

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
BSS-1 (E705090-01) Vapor Sampled: 16-May-17 Received: 19-May-17									
Chlorobenzene	ND	4.7	ug/m3	1	EE72210	22-May-17	22-May-17	EPA TO-15	
Ethylbenzene	ND	4.4	"	"	"	"	"	"	
m,p-Xylene	ND	8.8	"	"	"	"	"	"	
Styrene	ND	4.3	"	"	"	"	"	"	
o-Xylene	ND	4.4	"	"	"	"	"	"	
Bromoform	ND	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	7.0	"	"	"	"	"	"	
4-Ethyltoluene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	12	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	12	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	12	"	"	"	"	"	"	
Naphthalene	ND	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	38	"	"	"	"	"	"	
Hexachlorobutadiene	ND	54	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*109 %*		*76-134*	"	"	"	"	
Surrogate: Toluene-d8		*102 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*95.1 %*		*77-127*	"	"	"	"	
BSS-2 (E705090-02) Vapor Sampled: 16-May-17 Received: 19-May-17									
Dichlorodifluoromethane (F12)	ND	5.0	ug/m3	1	EE72210	22-May-17	22-May-17	EPA TO-15	
Chloromethane	ND	2.1	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	7.1	"	"	"	"	"	"	
Vinyl chloride	ND	2.6	"	"	"	"	"	"	
Bromomethane	ND	16	"	"	"	"	"	"	
Chloroethane	ND	8.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.6	"	"	"	"	"	"	
1,1-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	6.1	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	3.5	"	"	"	"	"	"	
Carbon disulfide	ND	6.3	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	8.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	4.1	"	"	"	"	"	"	
2-Butanone (MEK)	ND	30	"	"	"	"	"	"	

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Geochemistry Inc.

2470 Impala Drive
Carlsbad, CA 92010
760-804-9678 Phone
760-804-9159 Fax

ATC Group Services - Modesto	Project: ATC051917-16	
1117 Lone Palm Ave., Suite B	Project Number: TSAO-Oakland / Z054000006	Reported:
Modesto, CA 95351	Project Manager: Mr. Mike Sonke	30-May-17 09:23

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
BSS-2 (E705090-02) Vapor Sampled: 16-May-17 Received: 19-May-17									
cis-1,2-Dichloroethene	ND	4.0	ug/m3	1	EE72210	22-May-17	22-May-17	EPA TO-15	
Diisopropyl ether (DIPE)	ND	4.2	"	"	"	"	"	"	
Chloroform	ND	4.9	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	4.1	"	"	"	"	"	"	
Benzene	ND	3.2	"	"	"	"	"	"	
Carbon tetrachloride	ND	6.4	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	4.2	"	"	"	"	"	"	
Trichloroethene	ND	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	9.4	"	"	"	"	"	"	
Bromodichloromethane	ND	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	4.6	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	ND	8.3	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	4.6	"	"	"	"	"	"	
Toluene	**14**	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.5	"	"	"	"	"	"	
2-Hexanone (MBK)	ND	8.3	"	"	"	"	"	"	
Dibromochloromethane	ND	8.6	"	"	"	"	"	"	
Tetrachloroethene	ND	6.9	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	7.8	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	7.0	"	"	"	"	"	"	
Chlorobenzene	ND	4.7	"	"	"	"	"	"	
Ethylbenzene	ND	4.4	"	"	"	"	"	"	
m,p-Xylene	ND	8.8	"	"	"	"	"	"	
Styrene	ND	4.3	"	"	"	"	"	"	
o-Xylene	ND	4.4	"	"	"	"	"	"	
Bromoform	ND	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	7.0	"	"	"	"	"	"	
4-Ethyltoluene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	12	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	12	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	12	"	"	"	"	"	"	
Naphthalene	ND	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	38	"	"	"	"	"	"	
Hexachlorobutadiene	ND	54	"	"	"	"	"	"	

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Geochemistry Inc.

2470 Impala Drive
Carlsbad, CA 92010
760-804-9678 Phone
760-804-9159 Fax

ATC Group Services - Modesto	Project: ATC051917-16	
1117 Lone Palm Ave., Suite B	Project Number: TSAO-Oakland / Z054000006	Reported:
Modesto, CA 95351	Project Manager: Mr. Mike Sonke	30-May-17 09:23

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
BSS-2 (E705090-02) Vapor Sampled: 16-May-17 Received: 19-May-17									
Surrogate: 1,2-Dichloroethane-d4		*109 %*		*76-134*	*EE72210*	*22-May-17*	*22-May-17*	*EPA TO-15*	
Surrogate: Toluene-d8		*102 %*		*78-125*	*"*	*"*	*"*	*"*	
Surrogate: 4-Bromofluorobenzene		*95.8 %*		*77-127*	*"*	*"*	*"*	*"*	
BSS-3 (E705090-03) Vapor Sampled: 16-May-17 Received: 19-May-17									
Dichlorodifluoromethane (F12)	ND	5.0	ug/m3	1	EE72210	22-May-17	22-May-17	EPA TO-15	
Chloromethane	ND	2.1	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	7.1	"	"	"	"	"	"	
Vinyl chloride	ND	2.6	"	"	"	"	"	"	
Bromomethane	ND	16	"	"	"	"	"	"	
Chloroethane	ND	8.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.6	"	"	"	"	"	"	
1,1-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	6.1	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	3.5	"	"	"	"	"	"	
Carbon disulfide	ND	6.3	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	8.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	4.1	"	"	"	"	"	"	
2-Butanone (MEK)	ND	30	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	4.2	"	"	"	"	"	"	
Chloroform	ND	4.9	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	4.1	"	"	"	"	"	"	
Benzene	ND	3.2	"	"	"	"	"	"	
Carbon tetrachloride	ND	6.4	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	4.2	"	"	"	"	"	"	
Trichloroethene	ND	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	9.4	"	"	"	"	"	"	
Bromodichloromethane	ND	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	4.6	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	ND	8.3	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	4.6	"	"	"	"	"	"	
Toluene	**10**	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.5	"	"	"	"	"	"	

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Geochemistry Inc.

2470 Impala Drive
Carlsbad, CA 92010
760-804-9678 Phone
760-804-9159 Fax

ATC Group Services - Modesto	Project: ATC051917-16	
1117 Lone Palm Ave., Suite B	Project Number: TSAO-Oakland / Z054000006	Reported:
Modesto, CA 95351	Project Manager: Mr. Mike Sonke	30-May-17 09:23

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
BSS-3 (E705090-03) Vapor Sampled: 16-May-17 Received: 19-May-17									
2-Hexanone (MBK)	ND	8.3	ug/m3	1	EE72210	22-May-17	22-May-17	EPA TO-15	
Dibromochloromethane	ND	8.6	"	"	"	"	"	"	
Tetrachloroethene	ND	6.9	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	7.8	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	7.0	"	"	"	"	"	"	
Chlorobenzene	ND	4.7	"	"	"	"	"	"	
Ethylbenzene	ND	4.4	"	"	"	"	"	"	
m,p-Xylene	ND	8.8	"	"	"	"	"	"	
Styrene	ND	4.3	"	"	"	"	"	"	
o-Xylene	ND	4.4	"	"	"	"	"	"	
Bromoform	ND	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	7.0	"	"	"	"	"	"	
4-Ethyltoluene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	12	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	12	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	12	"	"	"	"	"	"	
Naphthalene	ND	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	38	"	"	"	"	"	"	
Hexachlorobutadiene	ND	54	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*112 %*		*76-134*	"	"	"	"	
Surrogate: Toluene-d8		*105 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*93.3 %*		*77-127*	"	"	"	"	

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2470 Impala Drive
Carlsbad, CA 92010
760-804-9678 Phone
760-804-9159 Fax

ATC Group Services - Modesto	Project: ATC051917-16	
1117 Lone Palm Ave., Suite B	Project Number: TSAO-Oakland / Z054000006	Reported:
Modesto, CA 95351	Project Manager: Mr. Mike Sonke	30-May-17 09:23

Soil Gas and Vapor Analysis - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EE72312 - GC										
Blank (EE72312-BLK1)				Prepared & Analyzed: 24-May-17						
Methane	ND	10	ppmv							
Batch EE72410 - GC										
Blank (EE72410-BLK1)				Prepared & Analyzed: 24-May-17						
Carbon dioxide	ND	0.20	%							

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Geochemistry Inc.

2470 Impala Drive
Carlsbad, CA 92010
760-804-9678 Phone
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1117 Lone Palm Ave., Suite B	Project Number: TSAO-Oakland / Z054000006	Reported:
Modesto, CA 95351	Project Manager: Mr. Mike Sonke	30-May-17 09:23

Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EE72210 - TO-15										
Blank (EE72210-BLK1)				Prepared & Analyzed: 22-May-17						
Dichlorodifluoromethane (F12)	ND	5.0	ug/m3							
Chloromethane	ND	2.1	"							
Dichlorotetrafluoroethane (F114)	ND	7.1	"							
Vinyl chloride	ND	2.6	"							
Bromomethane	ND	16	"							
Chloroethane	ND	8.0	"							
Trichlorofluoromethane (F11)	ND	5.6	"							
1,1-Dichloroethene	ND	4.0	"							
Tertiary-butyl alcohol (TBA)	ND	6.1	"							
1,1,2-Trichlorotrifluoroethane (F113)	ND	7.7	"							
Methylene chloride (Dichloromethane)	ND	3.5	"							
Carbon disulfide	ND	6.3	"							
trans-1,2-Dichloroethene	ND	8.0	"							
Methyl tertiary-butyl ether (MTBE)	ND	3.6	"							
1,1-Dichloroethane	ND	4.1	"							
2-Butanone (MEK)	ND	30	"							
cis-1,2-Dichloroethene	ND	4.0	"							
Diisopropyl ether (DIPE)	ND	4.2	"							
Chloroform	ND	4.9	"							
Ethyl tert-butyl ether (ETBE)	ND	4.2	"							
1,1,1-Trichloroethane	ND	5.5	"							
1,2-Dichloroethane (EDC)	ND	4.1	"							
Benzene	ND	3.2	"							
Carbon tetrachloride	ND	6.4	"							
Tertiary-amyl methyl ether (TAME)	ND	4.2	"							
Trichloroethene	ND	5.5	"							
1,2-Dichloropropane	ND	9.4	"							
Bromodichloromethane	ND	6.8	"							
cis-1,3-Dichloropropene	ND	4.6	"							
4-Methyl-2-pentanone (MIBK)	ND	8.3	"							
trans-1,3-Dichloropropene	ND	4.6	"							
Toluene	ND	3.8	"							
1,1,2-Trichloroethane	ND	5.5	"							
2-Hexanone (MBK)	ND	8.3	"							

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2470 Impala Drive
Carlsbad, CA 92010
760-804-9678 Phone
760-804-9159 Fax

ATC Group Services - Modesto	Project: ATC051917-16	
1117 Lone Palm Ave., Suite B	Project Number: TSAO-Oakland / Z054000006	Reported:
Modesto, CA 95351	Project Manager: Mr. Mike Sonke	30-May-17 09:23

Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EE72210 - TO-15										
Blank (EE72210-BLK1)				Prepared & Analyzed: 22-May-17						
Dibromochloromethane	ND	8.6	ug/m3							
Tetrachloroethene	ND	6.9	"							
1,2-Dibromoethane (EDB)	ND	7.8	"							
1,1,1,2-Tetrachloroethane	ND	7.0	"							
Chlorobenzene	ND	4.7	"							
Ethylbenzene	ND	4.4	"							
m,p-Xylene	ND	8.8	"							
Styrene	ND	4.3	"							
o-Xylene	ND	4.4	"							
Bromoform	ND	10	"							
1,1,2,2-Tetrachloroethane	ND	7.0	"							
4-Ethyltoluene	ND	5.0	"							
1,3,5-Trimethylbenzene	ND	5.0	"							
1,2,4-Trimethylbenzene	ND	5.0	"							
1,3-Dichlorobenzene	ND	12	"							
1,4-Dichlorobenzene	ND	12	"							
1,2-Dichlorobenzene	ND	12	"							
Naphthalene	ND	5.3	"							
1,2,4-Trichlorobenzene	ND	38	"							
Hexachlorobutadiene	ND	54	"							
Surrogate: 1,2-Dichloroethane-d4	*231*		*"*	*214*		*108*	*76-134*			
Surrogate: Toluene-d8	*212*		*"*	*207*		*102*	*78-125*			
Surrogate: 4-Bromofluorobenzene	*355*		*"*	*364*		*97.4*	*77-127*			
LCS (EE72210-BS1)				Prepared & Analyzed: 22-May-17						
Dichlorodifluoromethane (F12)	100	5.0	ug/m3	101		100	59-128			
Vinyl chloride	45	2.6	"	52.0		87.2	64-127			
Chloroethane	42	8.0	"	53.6		79.3	63-127			
Trichlorofluoromethane (F11)	110	5.6	"	113		96.0	62-126			
1,1-Dichloroethene	68	4.0	"	80.8		84.5	61-133			
1,1,2-Trichlorotrifluoroethane (F113)	150	7.7	"	155		97.1	66-126			
Methylene chloride (Dichloromethane)	64	3.5	"	70.8		90.1	62-115			
trans-1,2-Dichloroethene	59	8.0	"	80.8		73.0	67-124			

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Geochemistry Inc.

2470 Impala Drive
Carlsbad, CA 92010
760-804-9678 Phone
760-804-9159 Fax

ATC Group Services - Modesto	Project: ATC051917-16	
1117 Lone Palm Ave., Suite B	Project Number: TSAO-Oakland / Z054000006	Reported:
Modesto, CA 95351	Project Manager: Mr. Mike Sonke	30-May-17 09:23

Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EE72210 - TO-15										
LCS (EE72210-BS1)				Prepared & Analyzed: 22-May-17						
1,1-Dichloroethane	66	4.1	ug/m3	82.4		80.4	68-126			
cis-1,2-Dichloroethene	63	4.0	"	80.0		78.5	70-121			
Chloroform	93	4.9	"	99.2		93.6	68-123			
1,1,1-Trichloroethane	110	5.5	"	111		96.0	68-125			
1,2-Dichloroethane (EDC)	79	4.1	"	82.4		95.9	65-128			
Benzene	54	3.2	"	64.8		82.6	69-119			
Carbon tetrachloride	120	6.4	"	128		94.8	68-132			
Trichloroethene	100	5.5	"	110		92.2	71-123			
Toluene	64	3.8	"	76.8		83.6	66-119			
1,1,2-Trichloroethane	99	5.5	"	111		88.7	73-119			
Tetrachloroethene	120	6.9	"	138		89.0	66-124			
1,1,1,2-Tetrachloroethane	130	7.0	"	140		93.8	67-129			
Ethylbenzene	78	4.4	"	88.4		88.2	70-124			
m,p-Xylene	86	8.8	"	88.4		97.6	61-134			
o-Xylene	78	4.4	"	88.4		88.1	67-125			
1,1,2,2-Tetrachloroethane	120	7.0	"	140		86.6	65-127			
Surrogate: 1,2-Dichloroethane-d4	*246*		*"*	*214*		*115*	*76-134*			
Surrogate: Toluene-d8	*206*		*"*	*207*		*99.4*	*78-125*			
Surrogate: 4-Bromofluorobenzene	*362*		*"*	*364*		*99.2*	*77-127*			

H&P Mobile
Geochemistry Inc.

2470 Impala Drive
Carlsbad, CA 92010
760-804-9678 Phone
760-804-9159 Fax

ATC Group Services - Modesto	Project: ATC051917-16	
1117 Lone Palm Ave., Suite B	Project Number: TSAO-Oakland / Z054000006	Reported:
Modesto, CA 95351	Project Manager: Mr. Mike Sonke	30-May-17 09:23

Notes and Definitions

LCC	Leak Check Compound
ND	Analyte NOT DETECTED at or above the reporting limit
MDL	Method Detection Limit
%REC	Percent Recovery
RPD	Relative Percent Difference

Appendix

H&P Mobile Geochemistry, Inc. is approved as an Environmental Testing Laboratory and Mobile Laboratory in accordance with the DoD-ELAP Program and ISO/IEC 17025:2005 programs, accreditation number 69070 for EPA Method TO-15, H&P Method TO-15, EPA Method 8260B and H&P 8260SV.

H&P is approved by the State of Arizona as an Environmental Testing Laboratory and Mobile Laboratory, certification numbers AZM758 and AZ0779.

H&P is approved by the State of California as an Environmental Laboratory and Mobile Laboratory in conformance with the Environmental Laboratory Accreditation Program (ELAP) for the category of Volatile and Semi-Volatile Organic Chemistry of Hazardous Waste, certification numbers 2740, 2741, 2743, 2744, 2745, 2754 & 2930.

H&P is approved by the State of Florida Department of Health under the National Environmental Laboratory Accreditation Conference (NELAC) certification number E871100.

The complete list of stationary and mobile laboratory certifications along with the fields of testing (FOTs) and analyte lists are available at www.handpmg.com/about/certifications.

H&P Mobile Geochemistry Inc.
2470 Impala Drive, Carlsbad, CA 92010
& Field Office - Signal Hill, CA
W handpmg.com E info@handpmg.com
P 760.804.9678 F 760.804.9159

VAPOR / AIR Chain of Custody

DATE:_____
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Lab Client and Project Information

Lab Client/Consultant: ATC Group Services LLC	Project Name / #: TSAO-Oakland / Z054000006
Lab Client Project Manager: Mike Sonke	Project Location: 601 Webster St., Oakland, CA 94607
Lab Client Address: 1117 Lone Palm Ave., Suite 201B	Report E-Mail(s): mike.sonke@atcassociates.com jim.kundert@atcassociates.com
Lab Client City, State, Zip: Modesto, CA 95351	
Phone Number: (209) 579-2221	

Sample Receipt (Lab Use Only)

Date Rec'd: 5/19/17	Control #: 170416.01
H&P Project # ATC051917-16	
Lab Work Order # E705090	
Sample Intact: ☒ Yes ☐ No ☐ See Notes Below	
Receipt Gauge ID: 11167	Temp: RT
Outside Lab:	
Receipt Notes/Tracking #: 1293TT6184515428 46	
Lab PM Initials: KM	

Reporting Requirements	Turnaround Time	Sampler Information
☑ Standard Report ☐ Level III ☐ Level IV	☑ 5-7 day Stnd ☐ 24-Hr Rush	Sampler(s): Jim Kundert
☐ Excel EDD ☐ Other EDD:_____	☐ 3-day Rush ☐ Mobile Lab	Signature:
☑ CA Geotracker Global ID: T10000003428	☐ 48-Hr Rush ☐ Other:_____	Date:

Additional Instructions to Laboratory:

Project Analyte List:
TO-15 / VOCs / Oxys / Naphthalene / 1,1 DFA
ASTM D1945 CO2 / O2 / N2
8015M / METHANE
Sorbent Tube to be submitted to Eurofins for TO-17 on separate chain.

(*) N_2 Not reported summas were pressurized w/ N_2 prior to FC analysis

Preferred VOC units (please choose one): ☐ µg/L ☑ µg/m³ ☐ ppbv ☐ ppmv

SAMPLE NAME	FIELD POINT NAME (if applicable)	DATE mm/dd/yy	TIME 24hr clock	SAMPLE TYPE Indoor Air (IA), Ambient Air (AA), Subslab (SS), Soil Vapor (SV)	CONTAINER SIZE & TYPE 400mL/1L/6L Summa, Tedlar, Tube, etc.	CONTAINER ID (###)	Lab use only: Receipt Vac	VOCs Standard Full List ☐ 8260SV ☑ TO-15	VOCs Short List / Project List ☐ 8260SV ☐ TO-15	Oxygenates ☐ 8260SV ☑ TO-15	Naphthalene ☐ 8260SV ☑ TO-15	TPHv as Gas ☐ 8260SVm ☑ TO-15m	Aromatic/Aliphatic Fractions ☐ 8260SVm ☐ TO-15m	Leak Check Compound ☑ DFA ☐ IPA ☐ He	Methane by EPA 8015m	Fixed Gases by ASTM D1945 ☑ CO2 ☑ O2 ☑ N2				
BSS-1		5/16/17	0917	SV	400 mL	226	-3.56	X		X	X	X		X	X	X				
BSS-2		5/16/17	0942	SV	400 mL	135	-3.76	X		X	X	X		X	X	X				
BSS-3		5/16/17	1011	SV	400 mL	207	-4.11	X		X	X	X		X	X	X				

Approved/Relinquished by:	Company: ATC	Date: 5-18-17	Time: 1200	Received by: Joni Unsworth	Company: H&P	Date: 5/19/17	Time: 10:40
Approved/Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:
Approved/Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:

*Approval constitutes as authorization to proceed with analysis and acceptance of conditions on back

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WORK ORDER NUMBER: 17-05-1647

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: ATC Group Services LLC

Client Project Name: TSAO / Z054000006

Attention: Mike Sonke
1117 Lone Palm Ave.
Suite 201B
Modesto, CA 95351-1531

Approved for release on 06/05/2017 by:
Lori Thompson
Project Manager

ResultLink

Email your PM

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Contents

Client Project Name: TSAO / Z054000006
Work Order Number: 17-05-1647

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Work Order Narrative

Work Order: 17-05-1647 Page 1 of 1

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 05/19/17. They were assigned to Work Order 17-05-1647.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

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Sample Summary

Client:	ATC Group Services LLC	Work Order:	17-05-1647
	1117 Lone Palm Ave., Suite 201B	Project Name:	TSAO / Z054000006
	Modesto, CA 95351-1531	PO Number:	
		Date/Time Received:	05/19/17 19:35
		Number of Containers:	3
Attn:	Mike Sonke		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
BSS-1	17-05-1647-1	05/16/17 09:17	1	Air
BSS-2	17-05-1647-2	05/16/17 09:42	1	Air
BSS-3	17-05-1647-3	05/16/17 10:11	1	Air

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Analytical Report

ATC Group Services LLC
1117 Lone Palm Ave., Suite 201B
Modesto, CA 95351-1531

Project: TSAO / Z054000006

Date Received: 05/19/17
Work Order: 17-05-1647
Preparation: N/A
Method: EPA TO-17 (M)
Units: ug/m3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
BSS-1	**17-05-1647-1-A**	**05/16/17 09:17**	**Air**	**GC/MS MMM**	**N/A**	**05/24/17 17:51**	**170524L02**

Parameter	Result	RL	DF	Qualifiers
Naphthalene	ND	10	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	85	57-129	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
BSS-2	**17-05-1647-2-A**	**05/16/17 09:42**	**Air**	**GC/MS MMM**	**N/A**	**05/24/17 18:34**	**170524L02**

Parameter	Result	RL	DF	Qualifiers
Naphthalene	ND	10	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	91	57-129	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
BSS-3	**17-05-1647-3-A**	**05/16/17 10:11**	**Air**	**GC/MS MMM**	**N/A**	**05/24/17 19:16**	**170524L02**

Parameter	Result	RL	DF	Qualifiers
Naphthalene	ND	10	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	88	57-129	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-15-178-63**	**N/A**	**Air**	**GC/MS MMM**	**N/A**	**05/24/17 15:03**	**170524L02**

Comment(s): - MB data is reported in ng/sample.

Parameter	Result	RL	DF	Qualifiers
Naphthalene	ND	2.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	81	57-129	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Quality Control - LCS/LCSD

ATC Group Services LLC
1117 Lone Palm Ave., Suite 201B
Modesto, CA 95351-1531

Project: TSAO / Z054000006

Date Received: 05/19/17
Work Order: 17-05-1647
Preparation: N/A
Method: EPA TO-17 (M)
Page 1 of 1

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-15-178-63	**LCS**	**Air**	**GC/MS MMM**	**N/A**	**05/24/17 12:58**	**170524L02**
099-15-178-63	**LCSD**	**Air**	**GC/MS MMM**	**N/A**	**05/24/17 13:39**	**170524L02**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Naphthalene	100.0	82.92	83	81.37	81	40-190	2	0-35	

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RPD: Relative Percent Difference. CL: Control Limits

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Sample Analysis Summary Report

Work Order: 17-05-1647 Page 1 of 1

Method	Extraction	Chemist ID	Instrument	Analytical Location
EPA TO-17 (M)	N/A	953	GC/MS MMM	2

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Glossary of Terms and Qualifiers

Work Order: 17-05-1647 Page 1 of 1

Qualifiers	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

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7440 Lincoln Way, Garden Grove, CA 92841-1427 • (714) 895-5494
For courier service / sample drop off information, contact us26_sales@eurofinsus.com or call us.

WO # / LAB USE ONLY
17-05-1647

AIR CHAIN OF CUSTODY RECORD

DATE: 5/16/17
PAGE: 1 OF 1

LABORATORY CLIENT: ATC Group Services LLC (through H&P) KIM 5/19/17	CLIENT PROJECT NAME / NUMBER: TSAO / Z054000006		P.O. NO.:
ADDRESS: 1117 Lone Palm Avenue, Suite 201B	PROJECT ADDRESS: 601 Webster St.		LAB CONTACT OR QUOTE NO.:
CITY: Modesto STATE: CA ZIP: 95351	CITY: Oakland STATE: CA ZIP: 94607		
TEL: (209) 579-221 E-MAIL: mike.sonke@atcassociates.com	PROJECT CONTACT: Mike Sonke		SAMPLER(S): (PRINT) Jim Kundert

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☑ STANDARD

☐ EDD ☑ UNITS ug/m3

SPECIAL INSTRUCTIONS:
Sorbent Tube. Sample volume = 200 cc per tube
EDF Requested.
CA Geotracker Global ID: T10000003428

H&P - EUROFINS PM = LORI THOMPSON
H&P PM = KIM BOYD
H&P Proj # = ATC051917-CEL
H&P Control # = 170416.01
KIM 5/19/17

REQUESTED ANALYSES

LAB USE ONLY	SAMPLE ID	FIELD ID / POINT OF COLLECTION	Air Type (I) Indoor (SV) Soil Vap. (A) Ambient	Sampling Equipment: Media ID #	Sampling Equipment: Canister Size 6L or 1L	Sampling Equipment: Flow Controller ID #	Start Sampling Information: Date	Start Sampling Information: Time (24 hr clock)	Start Sampling Information: Canister Pressure ("Hg)	Stop Sampling Information: Date	Stop Sampling Information: Time (24 hr clock)	Stop Sampling Information: Canister Pressure ("Hg)	Naphthalene by TO-17m
1	BSS-1	BSS-1	SV	60150657			5/16/17	0917					X
2	BSS-2	BSS-2	SV	60186930			5/16/17	0942					X
3	BSS-3	BSS-3	SV	60189103			5/16/17	1011					X

Relinquished by: (Signature)	Received by: (Signature/Affiliation) 5/19/17 10:40	Date: 5-18-2017	Time: 1200
Relinquished by: (Signature)	Received by: (Signature/Affiliation) ECI	Date: 05/19/17	Time: 1700
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date: 5/19/17	Time: 1935

06/02/14 Revision

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WORK ORDER NUMBER: 17-05- 1647

SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: ACT

DATE: 05 / 19 / 2017

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC3 (CF: 0.0°C); Temperature (w/o CF): 3.2 °C (w/ CF): 3.2 °C; ☑ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter Checked by: 671

CUSTODY SEAL:

Cooler ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: 671

Sample(s) ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: SR

SAMPLE CONDITION:	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers			
☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished time			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and in good condition	☑	☐	☐
Proper containers for analyses requested	☑	☐	☐
Sufficient volume/mass for analyses requested	☑	☐	☐
Samples received within holding time	☑	☐	☐
Aqueous samples for certain analyses received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen	☐	☐	☑
Proper preservation chemical(s) noted on COC and/or sample container	☐	☐	☑
Unpreserved aqueous sample(s) received for certain analyses			
☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals			
Container(s) for certain analysis free of headspace	☐	☐	☑
☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)			
☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE: **(Trip Blank Lot Number:** _____**)**

Aqueous: ☐ VOA ☐ VOA**h** ☐ VOA**na$_2$** ☐ 100PJ ☐ 100PJ**na$_2$** ☐ 125AGB ☐ 125AGB**h** ☐ 125AGB**p** ☐ 125PB

☐ 125PB**znna** ☐ 250AGB ☐ 250CGB ☐ 250CGB**s** ☐ 250PB ☐ 250PB**n** ☐ 500AGB ☐ 500AGJ ☐ 500AGJ**s**

☐ 500PB ☐ 1AGB ☐ 1AGB**na$_2$** ☐ 1AGB**s** ☐ 1PB ☐ 1PB**na** ☐ _____ ☐ _____ ☐ _____ ☐ _____

Solid: ☐ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (_____) ☐ EnCores® (_____) ☐ TerraCores® (_____) ☐ _____

Air: ☐ Tedlar™ ☐ Canister ☑ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____): ☐ _____ ☐ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = HNO_3, **na** = NaOH, **na$_2$** = $Na_2S_2O_3$, **p** = H_3PO_4, **s** = H_2SO_4, **u** = ultra-pure, **x** = Na_2SO_3+$NaHSO_4.H_2O$, **znna** = Zn $(CH_3CO_2)_2$ + NaOH

Labeled/Checked by: SR

Reviewed by: 77

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