Atlantic Richfield Company

Chuck Carmel
Remediation Management Project Manager

PO Box 1257
San Ramon, CA 94583
Phone: (925) 275-3804
Fax: (925) 275-3815
E-Mail: chuck.carmel@bp.com

March 27, 2015

Re: Vapor Intrusion, Soil and Groundwater Investigation Report
Former Atlantic Richfield Company Station #596-A
1900 Webster Street, Oakland, California
ACEH Case #RO00003100

I declare that to the best of my knowledge at the present time, that the information and/or recommendations contained in the attached document are true and correct.

Submitted by,

Chuck Carmel
Remediation Management Project Manager

Attachment

Vapor Intrusion, Soil and Groundwater Investigation Report
Former Richfield Oil Company Station #596-A
1900 Webster Street
Oakland, Alameda County, California
ACEH Case #RO0003100

Prepared for:

Mr. Chuck Carmel
Atlantic Richfield Company
P.O. Box 1257
San Ramon, CA 94583

Prepared by:

Broadbent & Associates, Inc.
4820 Business Center Drive, Suite 110
Fairfield, California 94534
(707) 455-7290

March 27, 2015

Project No. 14-90-103

BROADBENT
4820 Business Center Drive, Suite 110
Fairfield, CA 94534
[T] 707-455-7290 [F] 707-863-9046
broadbentinc.com

March 27, 2015

Project #14-90-103

Atlantic Richfield Company
P.O. Box 1257
San Ramon, CA 94583
Submitted via ENFOS

Attn.: Mr. Chuck Carmel

Re: Vapor Intrusion, Soil and Groundwater Investigation Report
Former Richfield Oil Company Station #596-A, 1900 Webster Street, Oakland, Alameda County
ACEH Case #RO0003100

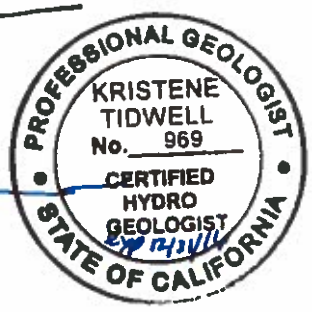
Dear Mr. Carmel:

Broadbent & Associates, Inc. (Broadbent) is pleased to submit *Vapor Intrusion, Soil and Groundwater Investigation Report* (Report) on behalf of Atlantic Richfield Company (a BP affiliated company), for Former Richfield Oil Company Station #596-A located at 1900 Webster Street, Oakland, Alameda County, California. This Report presents a description of recently conducted activities including soil boring installation, vapor intrusion assessment, soil and groundwater investigation. This work was carried out in accordance with the *Addendum to Groundwater Investigation and Vapor Intrusion Assessment Work Plan* dated August 20, 2014 (Broadbent, 2014).

Please do not hesitate to contact me at (707) 455-7290.

Sincerely,
BROADBENT & ASSOCIATES, INC.

James Ramos, EIT
Project Engineer



Kristene Tidwell, P.G., C. Hg.
Associate Geologist

cc: Ms. Karel Detterman, P.G., Alameda County Environmental Health (submitted via ACEH ftp site)
Electronic copy uploaded to GeoTracker

VAPOR INTRUSION, SOIL AND GROUNDWATER INVESTIGATION REPORT

Former Richfield Oil Company Station #596-A
1900 Webster Street
Oakland, Alameda County, California
ACEH Case #RO0003100

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Former Richfield Oil Company Station #596-A
1900 Webster Street
Oakland, Alameda County, California
ACEH Case #RO0003100

1.0 INTRODUCTION

Broadbent & Associates, Inc. (Broadbent) has prepared this Report on behalf of the Atlantic Richfield Company (ARC) – a BP affiliated company, for Former Richfield Oil Company Station #596-A located at 1900 Webster Street in Oakland, Alameda County, California (Site). The Report documents the soil and groundwater investigation and vapor intrusion assessment activities performed as discussed within the *Groundwater Investigation and Vapor Intrusion Assessment Work Plan* (Work Plan; Broadbent, 2014). The Work Plan was prepared to assess the extent of the residual petroleum hydrocarbon impacts to the soil and to evaluate risks to the potential current building occupants. On July 31, 2014, a meeting between BP, the Alameda County Environmental Health (ACEH), Broadbent, and P&D Environmental (P&D) took place to discuss the report P&D submitted on behalf of the property owner. It was noted during the meeting that there was a potential offsite source upgradient of the Site that should be evaluated. A total of three (3) additional borings for the groundwater investigation were agreed upon to be incorporated into the Work Plan. Additionally, a Conceptual Site Model (CSM) was also prepared to identify any data gaps in order to have the Site be eligible for closure under the California State Water Resources Control Board's (SWRCB) *Low Threat Underground Storage Tank Case Closure Policy* (LTCP; SWRCB, 2012). This Report includes Site background information, soil boring installation activities, vapor intrusion assessment activities, investigation results, CSM evaluation and recommendations.

2.0 SITE BACKGROUND INFORMATION

The Site is currently occupied by the Lake Merritt Dental and Ikon Office Solutions located on the northeast corner of Webster Street and 19th Street in Oakland, Alameda County, California. To the north of the Site is a Physical Therapy Innovations company and to the east of the Site is an open parking lot that separates the Site from Copymat Oakland. The Site is located in a commercial area along Webster Street in central Oakland and is approximately 0.17-mile west of Lake Merrit (SCHUTZE, 2012). A Site Location Map is presented as Drawing 1.

3.0 PRELIMINARY ACTIVITIES, LOCAL PERMITTING, AND NOTIFICATION

Necessary permits including drilling permits from the Alameda County Public Works Agency (ACPWA) and obstruction and encroachment permits with the City of Oakland were secured prior to carrying out the field investigation. Copies of these permits are included in Appendix B. Additionally, all borings were marked and areas were outlined with white spray paint, and an Underground Service Alert (USA) ticket was secured to notify all utility companies on the area of the upcoming activities. Additionally, all boring locations were cleared for underground utilities by NorCal Geophysical (NorCal) on January 6, 2015. NorCal's utility clearance report is included in Appendix C.

The Site-specific HASP was prepared for use by field personnel. The HASP addressed hazards associated with drilling activities. A copy of the HASP was available onsite during work. The subcontractor(s) performing field activities were provided with a copy of the HASP prior to initiating work, and daily safety tailgate meetings were conducted to review hazards and drilling safety associated with execution of the work.

4.0 SOIL BORING INSTALLATION ACTIVITIES

The purpose of this recently conducted investigation was to collect data in order to evaluate current subsurface Site conditions, including the presence and extent of residual hydrocarbon impacts in soil and groundwater, which was not able to be determined from the previous investigations. In order to evaluate current soil and groundwater conditions, seven (7) soil borings were advanced to approximate total depth of 20 to 25 feet (ft) below ground surface (bgs) by direct push. Soil borings SB-5 thru SB-8 were installed within the parking lot area and SB-4 was installed south of the building in the sidewalk to assess the upgradient and downgradient extent of the plume. Soil borings SB-9 and SB-10 were installed across 19th street to evaluate groundwater conditions upgradient to the Site and to determine whether the offsite impacts are affecting groundwater beneath the Site. These soil boring locations are presented in Drawing 2.

4.1 Soil Borings

Gregg Drilling and Testing, Inc. (Gregg) mobilized to the Site on February 2 through 4, 2015 to perform borehole clearance and installation. These locations were cleared using an airknife to a total of 6.5 ft bgs in order to protect any potential unidentified underground utilities from damage. Soil borings were advanced via direct push to total depth and soil samples were collected using a macrocore sampler lined with acetate tubes. All soil borings were logged for lithology, presence of first-encountered groundwater, and identification of potential contamination. Select soil samples were collected at 3 ft and 7 ft and at depths where hydrocarbon staining was observed. Soil cores were classified according to the Unified Soil Classification System (USCS), and were additionally logged using visual and manual methods for parameters including odor, staining, color, grain size, and moisture content. Field screening for hydrocarbons will include use of a photo-ionization detector (PID) measurements. Boring/well logs are presented in Appendix D.

4.2 Soil Sampling and Analysis

Collected soil sample cores were sealed with Teflon sheets, capped and placed in a chilled cooler. Samples were then be submitted to TestAmerica Laboratory (TestAmerica) of Irvine, California, a state-certified analytical laboratory, under standard chain-of-custody protocol. Soil samples were analyzed for Gasoline-Range Organics (GRO, C6-C12) by EPA Method 8015M and for Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX), Naphthalene and Methyl Tertiary Butyl Ether (MTBE) by EPA Method 8260B. Table 1 summarizes soil analytical results. The laboratory analytical report, including chain-of-custody documentation, is provided in Appendix E.

4.3 Groundwater Sampling and Analysis

Groundwater samples were collected from each of the soil borings to evaluate the current groundwater conditions. No irregularities were reported during sampling activities. Samples were submitted under chain-of-custody protocol to Test America Laboratories, Inc. of Irvine, California, for analysis of GRO, by EPA Method 8015B; for BTEX, MTBE, Ethyl-t-Butyl ether (ETBE), Tert-amyl-methyl ether (TAME), Ter-Butyl alcohol (TBA), Isopropyl Ether (DIPE), and Naphthalene by EPA Method 8260B. No irregularities were encountered during analysis of the samples. The laboratory analytical report,

including chain-of-custody documentation, is provided in Appendix E. Table 2 summarizes groundwater analytical results.

4.4 Investigation-Derived Soil and Water Disposal

Soil and water produced during the investigation was temporarily stored on-site in 55-gallon drums, pending characterization for proper disposal. Broadbent coordinated the transportation and disposal of the excess soil and water to the appropriate California-regulated facilities.

5.0 VAPOR INTRUSION ASSESSMENT ACTIVITIES

The purpose of soil vapor probe installation and sampling activities was to collect data in order to evaluate current subsurface Site conditions including the presence and extent of residual hydrocarbon and to evaluate the vapor intrusion risk to the current and adjacent building occupants associated with the historic release. In order to evaluate this potential risk, four (4) soil vapor probes in two sampling locations were installed. Soil vapor sampling activities were performed in accordance with The California Department of Toxic Substances Control's (DTSC's) *Advisory – Active Soil Gas Investigations* (DTSC, 2012)**.** The location of the soil vapor probe wells can be found on Drawing 2.

5.1 Soil Vapor Probe Borings

Two (2) soil vapor sampling locations were installed on February 4, 2015 by Gregg. Two (2) soil vapor probes were installed at each location: An "A" soil vapor probe was constructed with the probe installed at 3.5 ft bgs, and a "B" soil vapor probe was constructed with the probe installed at 5.5 ft bgs. The two depth intervals were installed at each location to assess the potential bioattenuation of residual hydrocarbons in soil vapor. Specific bioattenuation indicator parameters (oxygen, argon, methane, and carbon dioxide; see Section 5.4 below) were measured in each interval to determine the presence and length of any zone of bioattenuation.

In lieu of nested multi-level wells, each soil vapor boring was constructed to a specific depth within its own boring, thus minimizing the potential for short-circuiting. Probes SG-1A and SG-1B were installed along the west perimeter of the parking lot in order to quantify risks to the current building occupants. Soil vapor probes SG-2A and SG-2B were installed on the eastern perimeter of the parking lot to evaluate the risks to the building occupants to the east of the property. Each probe is horizontally separated by at least three (3) feet at each location.

5.2 Soil Vapor Probe Construction

Soil vapor probes were constructed by attaching a 6-inch long soil vapor probe tip to a 0.125-inch diameter Teflon tubing extending approximately two (2) feet above the surface. The soil vapor probe tips were constructed of double-woven stainless steel wire screen with a 0.057-inch pore diameter, equipped with stainless-steel end fittings. Each soil vapor probe was embedded within the middle of a one-foot thick sand filter pack of #2/12 sorted sand, topped with one-half foot of dry powdered Bentonite clay below a minimum of one-half foot of hydrated powdered Bentonite clay, and completed with a traffic-rated well vault at the surface set with neat cement concrete surface seal to match the existing grade.

5.3 Soil Vapor Probe Sampling

Broadbent personnel conducted soil vapor sampling activities on February 25, 2015. No rainfall event of 0.5 inches or more had recently occurred within 24 hours of sampling.

The soil vapor sampling train was assembled by connecting the Swagelok fitting at the end of the probe's tubing to an inline vacuum gauge with a tee then to a 100-cubic centimeter (cc) calibrated syringe with three-way valve at the tip. Coming off the tee for the sample was a one-liter Summa canister. With the valve of the soil vapor probe closed and the valve to the canister closed, the sampling train was checked for leaks during a "shut-in" leak test by applying a vacuum of -15 in. Hg with a calibrated syringe for a period of five minutes (-15 in. Hg is fifty percent above the standard threshold of -10 in. Hg which is considered a representation of "No flow" conditions). If the applied vacuum did not drop during the five minute shut-in test, the sampling train assembly was considered leak-tested tight.

After the shut-in leak test, the closed valve of the soil vapor probe was opened and the sampling train was slowly purged of three calculated interior volumes using the calibrated syringe. The calculated interior volume included the aboveground tubing, appurtenances, below-ground tubing, and probe tip. Following the completion of purging, a clear plastic shroud was setup over the sampling train to contain the chemical tracer/leak-check compound of Helium gas. The shroud was placed to completely cover the soil vapor well, its aboveground tubing, fittings, and canister.

Once the setup was complete, Helium gas was released via tubing installed on the side of the shroud. A Radiodetection Model MGD-2002 Helium detector was used to monitor the concentration within the shroud by placing its sensor probe through the port installed on the side of the shroud. Prior to and during sampling, a positive-pressure concentration of approximately 20 percent Helium was maintained within the shroud using the compressed gas cylinder's flow regulator.

Once a positive-pressure Helium atmosphere was created under the shroud, the valve to the Summa canister was opened and the sample was collected. Sampling rates into the Summa canisters were fixed by laboratory-supplied critical orifice assemblies (i.e. mini flow regulators) with a 0.0060 inch orifice allowing approximately 200 standard cc per minute (cc/min). Samples were collected into the Summa canisters until the vacuum dropped from the initial laboratory-supplied vacuum of -30 in. Hg to -5 in. Hg. Sample start times, end times, starting vacuums, ending vacuums, and Helium concentrations during sampling were recorded in the field notes. These notes are included in Appendix F.

5.4 Laboratory Analysis of Soil Vapor Samples

Collected samples were submitted to TestAmerica of Sacramento under standard chain-of-custody protocol. At the laboratory, soil vapor samples will be analyzed for GRO, BTEX, Naphthalene and MTBE by EPA Method TO-15. Soil vapor samples will also be analyzed for Oxygen (O_2) and Carbon Dioxide (CO_2), Methane (CH_4) and Helium (tracer/leak-check compound) by Modified ASTM D-1946. Laboratory analyses for soil vapor samples were performed in accordance with EPA standard holding times for Summa canisters. Soil vapor analytical results can be found in Table 3. Laboratory analytical results are located in Appendix E.

6.0 INVESIGATION RESULTS

The following sections summarize the results of the recently conducted Site assessment activities. These results include the soil analytical results, groundwater analytical results, and soil vapor analytical results. The analytical results were compared to Environmental Screening Levels (ESLs; CRWQCB, 2013) and applicable Low Threat UST Closure Policy (LTCP; SWRCB, 2012), where appropriate.

6.1 Soil Analytical Results

Soil samples were collected at 3 ft and 7 ft and at depths that contain hydrocarbon staining. GRO was detected above reporting limits in boring SB-6 and SB-7 at a depth of 20 -25 ft bgs. DRO was detected above reporting limits in soil boring SB-5, SB-6 and SB-10 at a depth of 7 ft for SB-5 and SB-10 and at a depth of 21.5 ft for SB-6. Benzene was only detected above reporting limits in soil boring SB-10 at a depth of 19 ft bgs. Ethylbenzene and Xylenes was detected above reporting limits in soil boring SB-6 at a depth of 21.5 ft bgs. Naphthalene was only detected above reporting limit in soil boring SB-6 at a depth of 21.5 ft bgs.

Detected concentrations in soil appear to be minor residual resulting from the highly degraded petroleum plume. Shallow soil samples collected (above 10 feet bgs) did not contain any petroleum concentrations in excess of values listed in Table 1 of the LTCP. Residual concentrations of petroleum in soil do not pose a risk for direct contact.

6.2 Groundwater Analytical Results

GRO was detected in borings SB-6, SB-7, SB-9, and SB-10 at concentrations of 11,000 µ/L, 3,100 µ/L, 350 µ/L, and at 4,500 µ/L respectively. Benzene and Toluene were detected in boring SB-10 at 140 µ/L and 34 µ/L respectively. Ethylbenzene and Xylenes were detected in boring SB-6 and SB-7. Naphthalene was detected only in boring SB-6. Other hydrocarbon constituents were not detected above reporting limits. Borings SB-6 and SB-7 are within the source area whereas borings SB-9 and SB-10 are upgradient from the Site. Given that the groundwater concentrations for borings SB-4, SB-5, and SB-8 were not detected for any hydrocarbon constituents, the groundwater onsite is unlikely affected from the offsite impact upgradient from the Site.

Concentrations detected are in excess of ESLs for commercial and industrial scenario for groundwater being a potential drinking water source. The extent of the petroleum in groundwater is not defined in the north to northeast direction since soil boring SB-7 is the furthest downgradient boring on the Site but contain an elevated concentration of 3,100 µ/L. Table 2 summarizes groundwater analytical results and ESLs. Laboratory analytical reports are included in Appendix H. GRO and benzene contaminant isoconcentration maps are included as Drawings 3 and 4.

6.3 Soil Vapor Analytical Results

GRO and Xylenes were detected above reporting limits for all soil vapor probes. Ethylbenzene was detected above reporting limits for SG-1A and SG-1B. Toluene and MTBE were only detected above the reporting limits in SG-1A. Naphthalene was not detected above the reporting limits for any of the soil vapor probes. However, the concentrations that were detected were below the Tier 1 ESLs.
CO_2 was detected in all soil vapor robes ranging from 3.8% in SG-1A to 4.5% in SG-2B, suggesting that bioattentuation is likely occurring at the Site.

7.0 CONCEPTUAL SITE MODEL

A CSM was prepared in order to evaluate the Site against the LTCP criteria and identify any data gaps that still exist. The CSM is presented in Table 4. Each category in the policy has been individually evaluated using the data presented in the CSM and are presented in the following sections.

7.1 General Criteria

The general criteria relate to the Site use, presence of free product, sources, and completeness of the Site understanding. As evidenced in the data presented in the CSM, a good understanding of Site conditions, on- and offsite receptors, and Site history has been established. These general criteria and a discussion on how the Site is consistent with these criteria are presented below.

The unauthorized release is located within the service area of a public water system
The Site is located within the East Bay Municipal Utilities District Service Area.

The unauthorized release consists only of petroleum
The release at the Site occurred presumably from the former USTs. The Site has been a gasoline service station approximately from 1940 until 1966. According to the SCHUTZE investigation report, there is no indication of any other contaminant releases other than petroleum. (SCHUTZE, 2012)

The unauthorized release has been stopped
According to AEI Phase I Environmental Site Assessment, there were no records on file at the Oakland Building Department, Alameda county Environmental Health Services Department, or Oakland Fire Department. (AEI, 2011) According to P&D investigation report, Mr. Buttner suggested that if the USTs had not been removed at the time of service station demolition, then it would have been removed at the time of foundation system construction for the existing building onsite. No USTs have been encountered during any of the investigations conducted for the Site. (P&D, 2013)

Free product has been removed to the extent possible
No free product has been encountered at the Site during any of the investigations that were conducted.

A conceptual site model (CSM) that assesses the nature, extent, and mobility of the release has been developed
A conceptual site model has been prepared for this site and is summarized in Table 4.

Secondary source has been removed to the extent practical
According to Mr. Buttner, the site has been excavated to several feet on the south side of the parcel adjacent to 19th Street. Soil and groundwater samples collected have been analyzed for benzene and methyl tert-butyl ether (MTBE). Table 1 and 2 contains the soil and groundwater results from the recent investigation. Historical benzene and MTBE analytical data are included in Appendix G.

Nuisance as defined by the Water Code section 13050 does not exist at this site
A nuisance as defined by the water code does not exist at this Site.

7.2 Media- Specific Criteria - Groundwater

The Low Threat UST Closure Policy lists four scenarios for groundwater plumes. According to the plume sizes indicated in Drawings 3 and Drawing 4, the plume size for GRO is slightly over 100 feet in length, and therefore does not apply to the first scenario. For this reason, the Site hydrocarbon plume falls into the second scenario. Current benzene and MTBE concentrations are well below the maximum levels for this scenario of 3,000 ug/L and 1,000 ug/L, respectively. No free product has been encountered during any of the investigations. However, a sensitive survey has never been conducted for the Site so at the moment, there is no water wells known to be within 1000 ft of the Site. Additionally, Lake Merrit is located 0.18 miles to the northeast, or 950 ft, of the Site. This surface water can potentially be a receptor.

It is also worth noting that the plume length for benzene and its associated concentration is 20 times the magnitude lower than the maximum allowable concentrations for the second scenario, and all soil borings at the Site exhibit no detection of benzene MTBE has not been detected in any of the soil samples or water samples collected in any of the investigations.

7.3 Media Specific Criteria – Petroleum Vapor Intrusion to Indoor Air

The soil vapor sampling results from February 25, 2015 indicate that petroleum compounds that were detected were well below Tier 1 risked-based screening levels. Therefore, it was concluded that the vapor intrusion is least likely a potential risk.

7.4 Media Specific Criteria – Direct Contact and Outdoor Air Exposure

For the direct contact and outdoor air exposure, only relatively current soil data was considered. Benzene concentrations historically have not been detected in any of the soil borings. In the recent investigation, benzene was detected in SB-10 at a depth of 19 ft but as mentioned earlier, SB-10 is located offsite and is unlikely impacting the Site. Ethyl benzene and Napthalene each have been detected in four (4) of the soil borings but at depths greater than 13 ft therefore meeting LTCP requirements.

8.0 CONCLUSIONS AND RECOMMENDATIONS

The results of the recently conducted investigation indicate that residual impacts are primarily in groundwater to the north –northeast area of the Site. Highest concentrations are within the area of soil borings B-2, SB-3, and SB-6 possibly indicating the locations of the former USTs. These residual impacts are largely present in the silt with sand layer in well logs at approximately 16-20 feet bgs. Groundwater was encountered in this interval, and is under semi-confined conditions. Based on the topography and investigation reports, it is inferred that groundwater is flowing to the north to northeast direction.

The areal extent of GRO plume is partially defined. Soil borings SB-3 contained the highest concentration of GRO at 59,000 µg/L. Going downgradient to soil boring SB-7, approximately 35 ft to the northeast of soil boring SB-3, GRO decreases to 3,100 µg/L. Upgradient of SB-7, soil borings SB-4, SB-8, and SB-5 resulted in no detection in GRO. Cross-gradient to soil boring SB-7 to the west, soil borings B8 and B6 resulted in no detection in GRO. However, there is no data available to determine the extent of the GRO plume is in the north and northeast direction. The area extent of benzene plume is defined. Soil boring

SB-3 contained the highest concentration at 89 µg/L whereas the rest of the soil borings onsite resulted in no detection of benzene. MTBE was not detected in any of the onsite soil borings.

The potential for offsite source impact to the Site from 1732 Webster Street is unlikely. Although SB-9 and SB-10 contained concentrations of GRO and benzene, the groundwater samples collected from soil borings SB-4, SB-5, and SB-8 contained no petroleum compounds therefore suggesting it is unlikely the upgradient source is impacting the Site.

Soil vapor analytical and soil analytical results indicate that no concentrations were above ESLs or applicable LTCP criteria exist. These data indicate minimal to no risk for the onsite building occupants from potential petroleum vapor intrusion to indoor air, outdoor air exposure and potential direct contact with soil.

Reviewing the CSM, there exist a few data gaps in order for this Site to be a candidate for LTCP. Based on the historical and recent soil and groundwater investigations, the GRO plume is partially defined. The extent of the GRO plume in the downgradient direction to the north-northeast is extrapolated based on the data available. No sensitive survey has been conducted for the Site to determine if there is water wells within a 2000 ft radius. Lake Merrit has been identified as a possible receptor being its elevation is below the Sites elevation according to P&D report and that it is less than the LTCP requirement for scenario 2 of 1000 ft.

Based on the following information, data, and investigations conducted, Broadbent recommends that a Sensitive Survey should be conducted to validate that there is no other potential receptors downgradient to the Site. Additionally, we recommend evaluating the possibility of additional downgradient assessment to the north to northeast assumed direction of the Site to determine the extent of groundwater contamination for GRO. However, the north and northeast adjacent properties contain buildings therefore making it difficult to further investigate groundwater in this direction. Broadbent will evaluate possible other alternatives to further define the GRO plume in the north and northeast direction. Furthermore, groundwater monitoring wells should be installed onsite to further assess the elevated concentrations in groundwater which Broadbent will evaluate and determine the locations for these monitoring wells.

9.0 REFERENCES

Broadbent & Associates, Inc., August 20, 2014. *Addendum to Groundwater Investigation and Vapor Intrusion Assessment Work Plan,* 1900 Webster Street, Oakland, California. Prepared for Ms. Karel Detterman.

State Water Resources Control Board, 2012. *Low-Threat Underground Storage Tank Case Closure Policy, August 17.*

SCHUTZE & Associates, Inc., September 21,2012. *Phase I Environmental Site Assessment and Limited Phase I Subsurface Investigation,* 1900 Webster Street, Oakland, California. Prepared for Mr. Ted Buttner.

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SFBRWQCB, 2013. Environmental Screening Levels – San Francisco Bay Regional Water Quality Control Board

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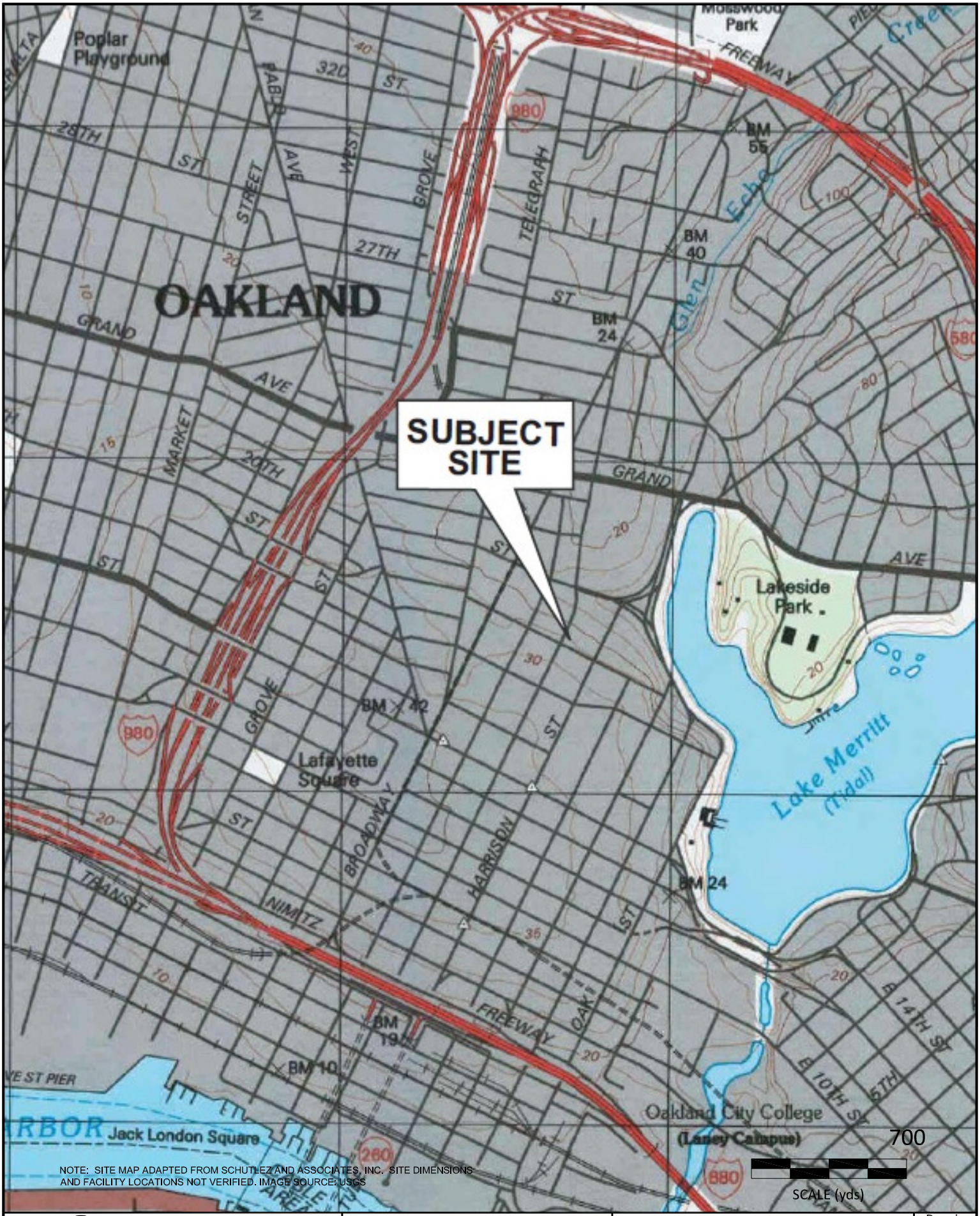
Regional Water Quality Control Board, San Francisco Bay Region, Groundwater Committee, June 1999. *Easy Bay Plain Groundwater Basin Beneficial Use Evaluation Report, Alameda and Contra Costa Counties, CA.*

P&D Environmental, Inc., June 11, 2013. *Subsurface Investigation Report,* 1900 Webster Street, Oakland, California. Prepared for Karel Dettermen.



NOTE: SITE MAP ADAPTED FROM SCHUTLEZ AND ASSOCIATES, INC. SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED. IMAGE SOURCE: USGS

BROADBENT 4820 Business Center Dr., Suite 110 Fairfield, California 94534 Project No.: 14-10-103 Date: 1/28/2014	Station #596-A 1900 Webster Street Oakland, California	Site Location Map	Drawing 1

LEGEND

- 2011 AEI Soil Boring Locations
- 2012 AEI Soil Boring Locations
- Soil Boring Locations
- Soil Vapor Points Locations
- P&D Soil Boring Locations
- Subject Property

0 40 80

SCALE (ft)

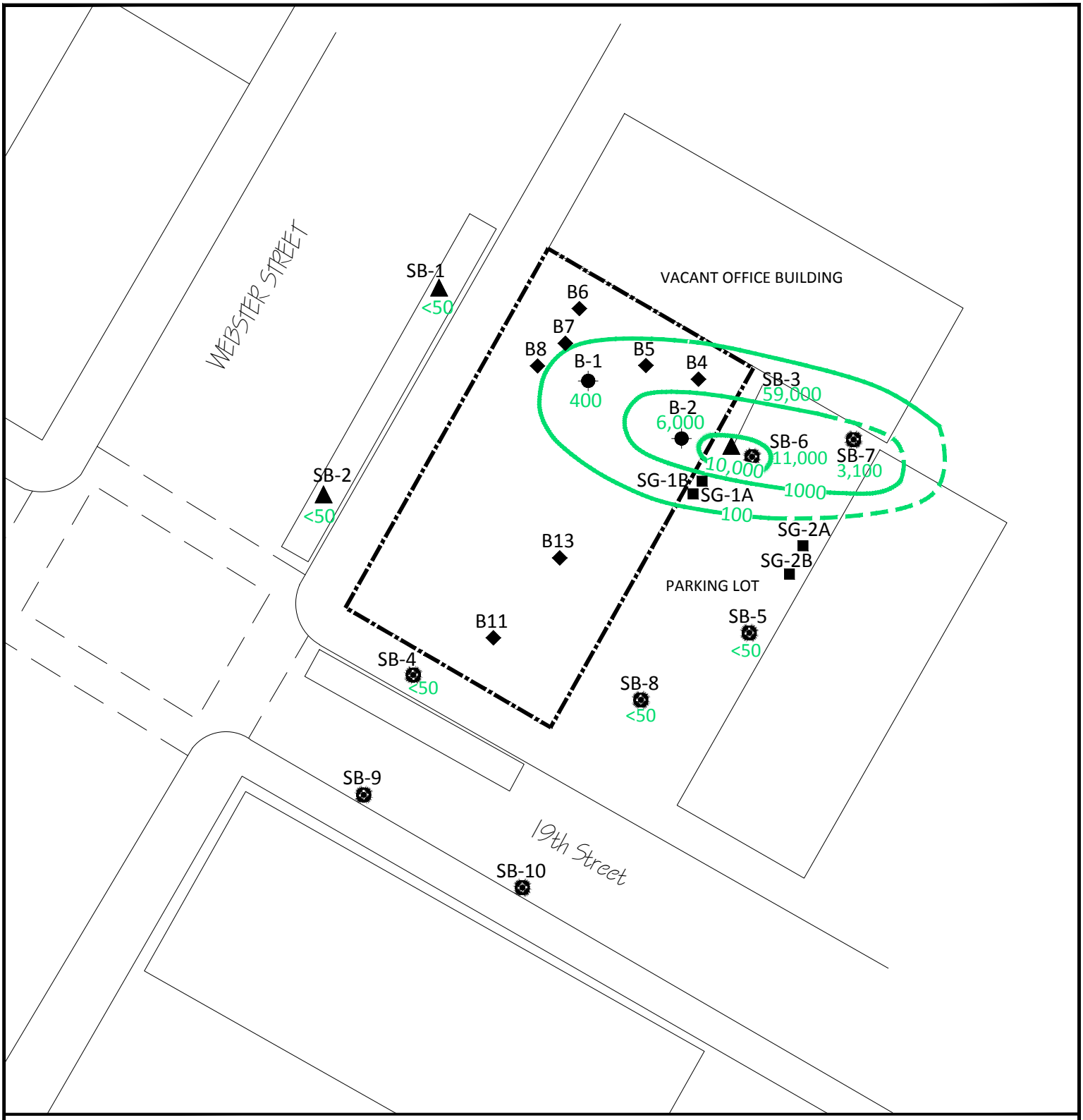
N

BROADBENT
4820 Business Center Drive, Suite 110
Fairfield, CA 94534
Project No.: 14-90-103 Date: 02/03/15

Station #596-A
1900 Webster Street
Oakland, California

Site Map with
Soil Borings and Soil Vapor Points

Drawing
2



LEGEND

- 2011 AEI Soil Boring Locations
- 2012 AEI Soil Boring Locations
- Soil Boring Locations
- Soil Vapor Points Locations
- P&D Soil Boring Locations
- 100 — GRO Isoconcentration Contour
- 400 — GRO Concentration in µg/L
- Subject Property

0 40 80

SCALE (ft)

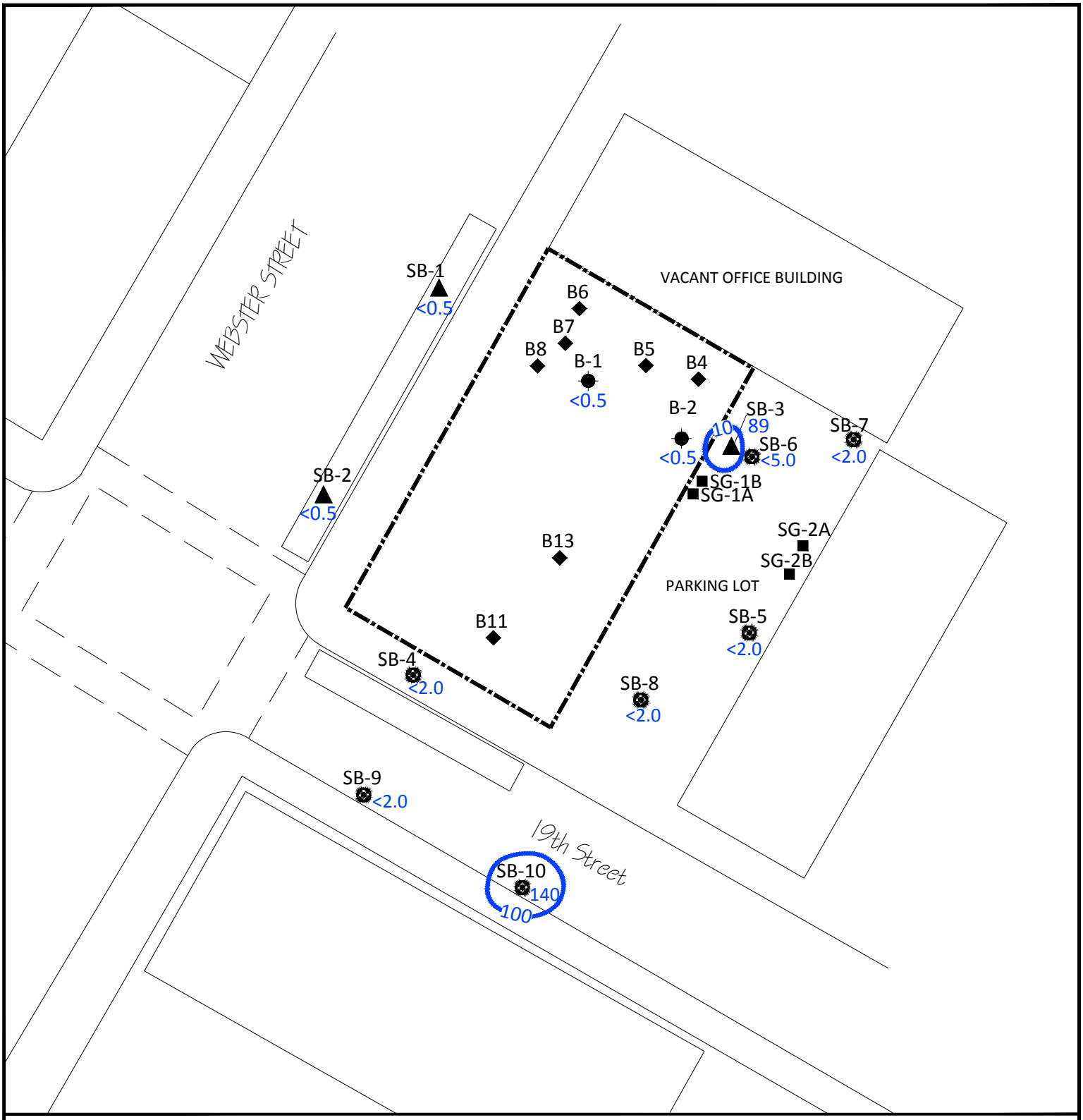
N

BROADBENT
4820 Business Center Drive, Suite 110
Fairfield, CA 94534
Project No.: 14-90-103 Date: 21/04/15

Station #596-A
1900 Webster Street
Oakland, California

GRO Isoconcentration Contour Map

Drawing
3



LEGEND

- 2011 AEI Soil Boring Locations
- 2012 AEI Soil Boring Locations
- Soil Boring Locations
- Soil Vapor Points Locations
- P&D Soil Boring Locations
- 100 — Benzene Isoconcentration Contour
- 140 — GRO Concentration in µg/L
- Subject Property

0 40 80

SCALE (ft)

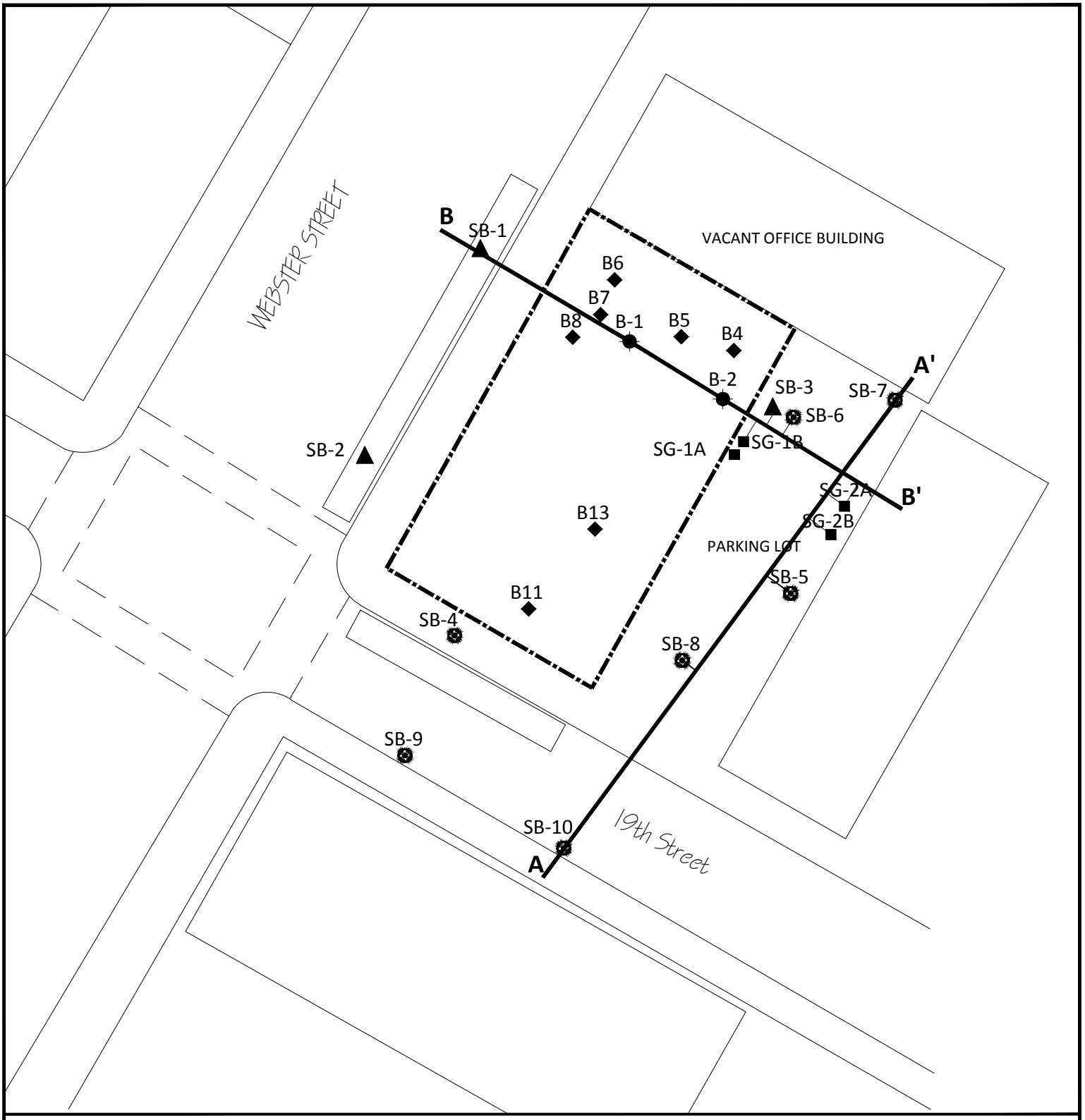
N

BROADBENT
4820 Business Center Drive, Suite 110
Fairfield, CA 94534
Project No.: 14-90-103 Date: 21/04/15

Station #596-A
1900 Webster Street
Oakland, California

Benzene Isoconcentration Contour Map

Drawing
4



LEGEND

- 2011 AEI Soil Boring Locations
- 2012 AEI Soil Boring Locations
- Soil Boring Locations
- Soil Vapor Points Locations
- P&D Soil Boring Locations
- Subject Property

0 40 80

SCALE (ft)

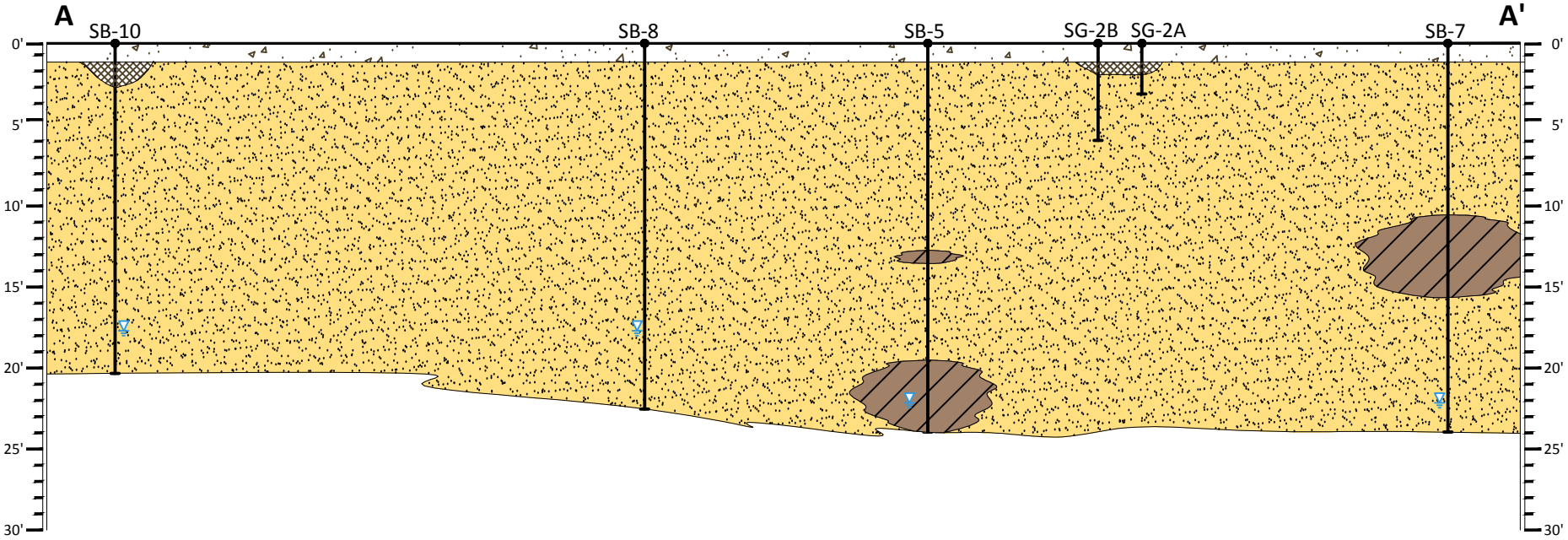
N

BROADBENT
4820 Business Center Drive, Suite 110
Fairfield, CA 94534
Project No.: 14-90-103 Date: 03/21/15

Station #596-A
1900 Webster Street
Oakland, California

Cross Section Location Map

Drawing
5



Asphalt/Concrete

Base Rock/Fill

Sand, Silty Sand

Clay, Sandy Clay

First Encountered Groundwater

0 20 40

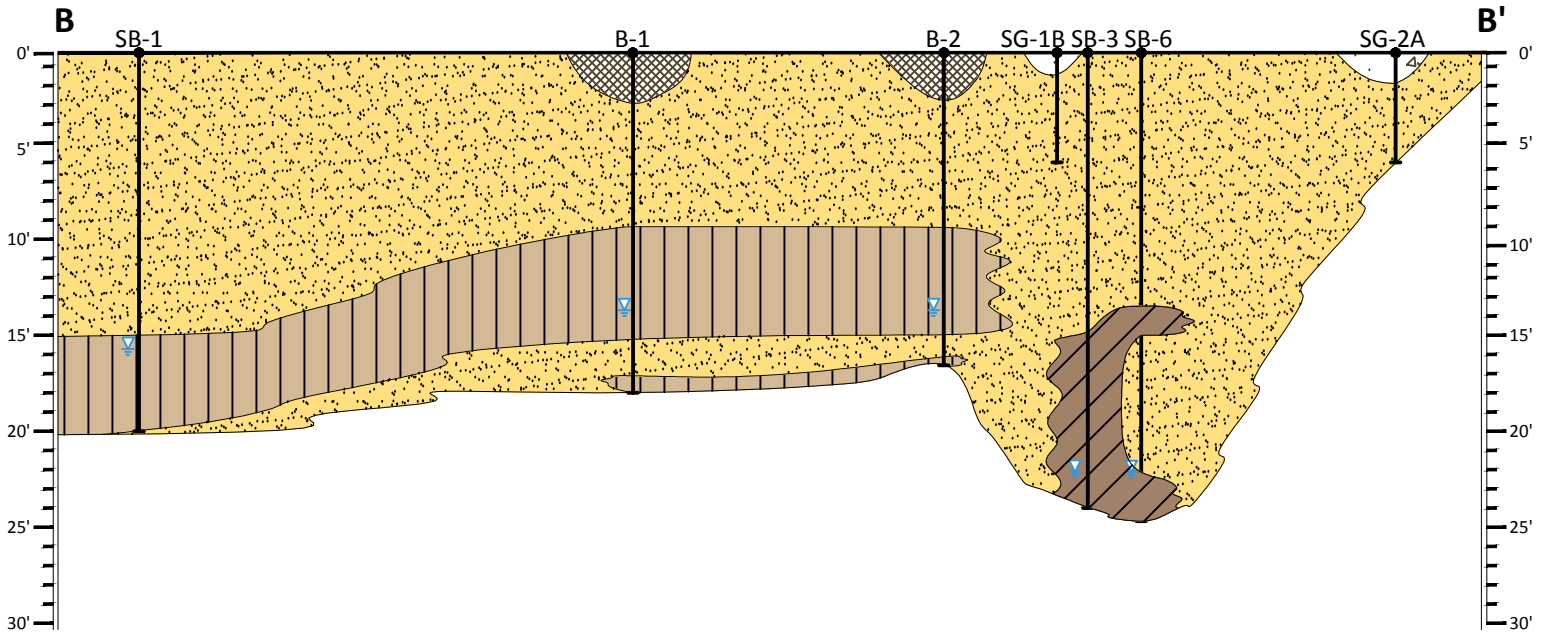
HORIZONTAL SCALE (ft)
VERTICAL EXAGGERATION 2:1

BROADBENT
4820 Business Center Drive, Suite 110
Fairfield, CA 94534
Project No.: 14-90-103 Date: 03/21/2015

Station #596-A
1900 Webster Street
Oakland, California

Cross Section A-A'

Drawing
6



Asphalt/Concrete

Base Rock/Fill

Sand

Clay, Sandy Clay

Silt/Silty Sand

First Encountered Groundwater

0 20 40

HORIZONTAL SCALE (ft)
VERTICAL EXAGGERATION 2:1

BROADBENT
4820 Business Center Drive, Suite 110
Fairfield, CA 94534
Project No.: 14-90-103 Date: 03/21/2015

Station #596-A
1900 Webster Street
Oakland, California

Cross Section B-B'

Drawing
7

Table 1
Soil Analytical Results
February 2015
Former ARC Station No. 596-A
1900 Webster Street, Oakland, California

Well Identification	Soil Sample Depth (feet bgs)	Date Collected	GRO (mg/kg)	DRO (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes* (mg/kg)	MTBE (mg/kg)	ETBE (mg/kg)	TAME (mg/kg)	TBA (mg/kg)	DIPE (mg/kg)	Naphthalene (mg/kg)
SB-4-3	3	2/2/2015	ND<0.39	ND<4.9	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0039	ND<0.0049	ND<0.0049	ND<0.0049	ND<0.098	ND<0.0049	ND<0.0049
SB-4-7	7	2/2/2015	ND<0.39	ND<5.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0039	ND<0.0049	ND<0.0049	ND<0.0049	ND<0.098	ND<0.0049	ND<0.0049
SB-5-3	3	2/3/2015	ND<0.40	ND<4.9	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.099	ND<0.0050	ND<0.0050
SB-5-7	7	2/3/2015	ND<0.39	**5.3**	ND<0.0019	ND<0.0020	ND<0.0019	ND<0.0039	ND<0.0049	ND<0.0049	ND<0.0049	ND<0.097	ND<0.0049	ND<0.0049
SB-6-3	3	2/3/2015	ND<0.40	ND<5.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.0050	ND<0.0050
SB-6-7	7	2/3/2015	ND<0.38	ND<5.0	ND<0.0019	ND<0.0019	ND<0.0019	ND<0.0038	ND<0.0047	ND<0.0047	ND<0.0047	ND<0.095	ND<0.0047	ND<0.0047
SB-6-17.5	17.5	2/3/2015	ND<0.38	ND<5.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.0050	ND<0.0050
SB-6-21.5	21.5	2/3/2015	**4**	**5.2**	ND<0.0020	ND<0.0020	**0.014**	**0.012**	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.099	ND<0.0050	**0.012**
SB-6-24	24	2/3/2015	**47**	ND<9.9	ND<0.0098	ND<0.0098	ND<0.0098	ND<0.020	ND<0.025	ND<0.025	ND<0.025	ND<0.49	ND<0.025	ND<0.025
SB-7-3	3	2/3/2015	ND<0.38	ND<5.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.0050	ND<0.0050
SB-7-7	7	2/3/2015	ND<0.38	ND<5.0	ND<0.0019	ND<0.0019	ND<0.0019	ND<0.0038	ND<0.0047	ND<0.0047	ND<0.0047	ND<0.094	ND<0.0047	ND<0.0047
SB-7-25	25	2/3/2015	**6.8**	ND<5.0	ND<0.0097	ND<0.0097	ND<0.0097	ND<0.019	ND<0.024	ND<0.024	ND<0.024	ND<0.49	ND<0.024	ND<0.024
SB-8-3	3	2/3/2015	ND<0.40	ND<5.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0039	ND<0.0049	ND<0.0049	ND<0.0049	ND<0.098	ND<0.0049	ND<0.0049
SB-8-7	7	2/3/2015	ND<0.38	ND<5.0	ND<0.0019	ND<0.0019	ND<0.0019	ND<0.0039	ND<0.0049	ND<0.0049	ND<0.0049	ND<0.097	ND<0.0049	ND<0.0049
SB-9-3	3	2/2/2015	ND<0.38	ND<5.0	ND<0.0019	ND<0.0019	ND<0.0019	ND<0.0037	ND<0.0047	ND<0.0047	ND<0.0047	ND<0.094	ND<0.0047	ND<0.0047
SB-9-7	7	2/2/2015	ND<0.39	ND<5.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0039	ND<0.0049	ND<0.0049	ND<0.0049	ND<0.098	ND<0.0049	ND<0.0049
SB-9-17.5	17.5	2/2/2015	ND<0.38	ND<5.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.0050	ND<0.0050
SB-10-3	3	2/2/2015	ND<0.39	ND<5.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.099	ND<0.0050	ND<0.0050
SB-10-7	7	2/2/2015	ND<0.40	**5**	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.010	ND<0.0050	ND<0.0050
SB-10-19	19	2/2/2015	ND<0.39	ND<5.0	**0.0025**	ND<0.0019	ND<0.0019	ND<0.0038	ND<0.0048	ND<0.0048	ND<0.0048	ND<0.096	ND<0.0048	ND<0.0048
SB-1A-3.5	3.5	2/4/2015	ND<0.38	ND<5.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0039	ND<0.0049	ND<0.0049	ND<0.0049	ND<0.098	ND<0.0049	ND<0.0049
SB-1B-3	3	2/4/2015	ND<0.39	ND<4.9	ND<0.0019	ND<0.0019	ND<0.0019	ND<0.0038	ND<0.0047	ND<0.0047	ND<0.0047	ND<0.094	ND<0.0047	ND<0.0047
SB-2A-3.5	3.5	2/4/2015	ND<0.40	ND<5.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.099	ND<0.0050	ND<0.0050
SB-2B-3.5	3.5	2/4/2015	ND<0.39	ND<5.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.0050	ND<0.0050
LTCP Criteria - 0 to 5 feet bgs		NA	NA	NA	**8.2**	NA	**89**	NA	NA	NA	NA	NA	NA	**45**
LTCP Criteria - 5 to 10 feet bgs		NA	NA	NA	**12**	NA	**134**	NA	NA	NA	NA	NA	NA	**45**
LTCP Criteria - Utility Worker		NA	NA	NA	**14**	NA	**314**	NA	NA	NA	NA	NA	NA	**219**

feet bgs = feet below ground surface
mg/kg = milligrams per kilogram
GRO = gasoline range organics (C6-C12)
DRO = diesel range organics (C10-C24)
MTBE = methyl tert-butyl ether
ETBE = ethyl tert-butyl ether
TAME = tert-amyl methyl ether
TBA = tert butyl alcohol
DIPE = di isopropyl ether

ND<X.XX = not detected above reporting limit of X.XX
LTCP = Low Threat UST Closure Policy, California Stae Water Resources Control Board (SWRCB), August 17, 2012
LTCP Criteria listed in Table 1, page 8 of the LTCP for a commercial/industrial exposure scenario

Table 2
Soil Analytical Results
February 2015
Former ARC Station No. 596-A
1900 Webster Street, Oakland, California

Well Identification	Soil Sample Depth (feet bgs)	Date Collected	GRO (mg/kg)	DRO (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes* (mg/kg)	MTBE (mg/kg)	ETBE (mg/kg)	TAME (mg/kg)	TBA (mg/kg)	DIPE (mg/kg)	Naphthalene (mg/kg)
SB-4-3	3	2/2/2015	ND<0.39	ND<4.9	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0039	ND<0.0049	ND<0.0049	ND<0.0049	ND<0.098	ND<0.0049	ND<0.0049
SB-4-7	7	2/2/2015	ND<0.39	ND<5.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0039	ND<0.0049	ND<0.0049	ND<0.0049	ND<0.098	ND<0.0049	ND<0.0049
SB-5-3	3	2/3/2015	ND<0.40	ND<4.9	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.099	ND<0.0050	ND<0.0050
SB-5-7	7	2/3/2015	ND<0.39	**5.3**	ND<0.0019	ND<0.0020	ND<0.0019	ND<0.0039	ND<0.0049	ND<0.0049	ND<0.0049	ND<0.097	ND<0.0049	ND<0.0049
SB-6-3	3	2/3/2015	ND<0.40	ND<5.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.0050	ND<0.0050
SB-6-7	7	2/3/2015	ND<0.38	ND<5.0	ND<0.0019	ND<0.0019	ND<0.0019	ND<0.0038	ND<0.0047	ND<0.0047	ND<0.0047	ND<0.095	ND<0.0047	ND<0.0047
SB-6-17.5	17.5	2/3/2015	ND<0.38	ND<5.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.0050	ND<0.0050
SB-6-21.5	21.5	2/3/2015	**4**	**5.2**	ND<0.0020	ND<0.0020	**0.014**	**0.012**	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.099	ND<0.0050	**0.012**
SB-6-24	24	2/3/2015	**47**	ND<9.9	ND<0.0098	ND<0.0098	ND<0.0098	ND<0.020	ND<0.025	ND<0.025	ND<0.025	ND<0.49	ND<0.025	ND<0.025
SB-7-3	3	2/3/2015	ND<0.38	ND<5.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.0050	ND<0.0050
SB-7-7	7	2/3/2015	ND<0.38	ND<5.0	ND<0.0019	ND<0.0019	ND<0.0019	ND<0.0038	ND<0.0047	ND<0.0047	ND<0.0047	ND<0.094	ND<0.0047	ND<0.0047
SB-7-25	25	2/3/2015	**6.8**	ND<5.0	ND<0.0097	ND<0.0097	ND<0.0097	ND<0.019	ND<0.024	ND<0.024	ND<0.024	ND<0.49	ND<0.024	ND<0.024
SB-8-3	3	2/3/2015	ND<0.40	ND<5.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0039	ND<0.0049	ND<0.0049	ND<0.0049	ND<0.098	ND<0.0049	ND<0.0049
SB-8-7	7	2/3/2015	ND<0.38	ND<5.0	ND<0.0019	ND<0.0019	ND<0.0019	ND<0.0039	ND<0.0049	ND<0.0049	ND<0.0049	ND<0.097	ND<0.0049	ND<0.0049
SB-9-3	3	2/2/2015	ND<0.38	ND<5.0	ND<0.0019	ND<0.0019	ND<0.0019	ND<0.0037	ND<0.0047	ND<0.0047	ND<0.0047	ND<0.094	ND<0.0047	ND<0.0047
SB-9-7	7	2/2/2015	ND<0.39	ND<5.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0039	ND<0.0049	ND<0.0049	ND<0.0049	ND<0.098	ND<0.0049	ND<0.0049
SB-9-17.5	17.5	2/2/2015	ND<0.38	ND<5.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.0050	ND<0.0050
SB-10-3	3	2/2/2015	ND<0.39	ND<5.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.099	ND<0.0050	ND<0.0050
SB-10-7	7	2/2/2015	ND<0.40	**5**	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.010	ND<0.0050	ND<0.0050
SB-10-19	19	2/2/2015	ND<0.39	ND<5.0	**0.0025**	ND<0.0019	ND<0.0019	ND<0.0038	ND<0.0048	ND<0.0048	ND<0.0048	ND<0.096	ND<0.0048	ND<0.0048
SB-1A-3.5	3.5	2/4/2015	ND<0.38	ND<5.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0039	ND<0.0049	ND<0.0049	ND<0.0049	ND<0.098	ND<0.0049	ND<0.0049
SB-1B-3	3	2/4/2015	ND<0.39	ND<4.9	ND<0.0019	ND<0.0019	ND<0.0019	ND<0.0038	ND<0.0047	ND<0.0047	ND<0.0047	ND<0.094	ND<0.0047	ND<0.0047
SB-2A-3.5	3.5	2/4/2015	ND<0.40	ND<5.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.099	ND<0.0050	ND<0.0050
SB-2B-3.5	3.5	2/4/2015	ND<0.39	ND<5.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.0050	ND<0.0050
LTCP Criteria - 0 to 5 feet bgs		NA	NA	NA	**8.2**	NA	**89**	NA	NA	NA	NA	NA	NA	**45**
LTCP Criteria - 5 to 10 feet bgs		NA	NA	NA	**12**	NA	**134**	NA	NA	NA	NA	NA	NA	**45**
LTCP Criteria - Utility Worker		NA	NA	NA	**14**	NA	**314**	NA	NA	NA	NA	NA	NA	**219**

feet bgs = feet below ground surface
mg/kg = milligrams per kilogram
GRO = gasoline range organics (C6-C12)
DRO = diesel range organics (C10-C24)
MTBE = methyl tert-butyl ether
ETBE = ethyl tert-butyl ether
TAME = tert-amyl methyl ether
TBA = tert butyl alcohol
DIPE = di isopropyl ether

ND<X.XX = not detected above reporting limit of X.XX
LTCP = Low Threat UST Closure Policy, California Stae Water Resources Control Board (SWRCB), August 17, 2012
LTCP Criteria listed in Table 1, page 8 of the LTCP for a commercial/industrial exposure scenario

Table 3
Groundwater Analytical Results
February 2015
Former ARC Station No. 596-A
1900 Webster Street, Oakland, California

Boring Identification	Date Collected	GRO (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes* (ug/L)	MTBE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	DIPE (ug/L)	Naphthalene (ug/L)
SB-4	2/2/2015	ND<50	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<1.0	ND<5.0	ND<5.0	ND<10	ND<5.0	ND<5.0
SB-5	2/3/2015	ND<50	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<1.0	ND<5.0	ND<5.0	ND<10	ND<5.0	ND<5.0
SB-6	2/3/2015	**11,000**	ND<5.0	ND<5.0	**69**	**60**	ND<2.5	ND<13	ND<13	ND<25	ND<13	**27**
SB-7	2/4/2015	**3,100**	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<1.0	ND<5.0	ND<5.0	ND<10	ND<5.0	ND<5.0
SB-8	2/3/2015	ND<50	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<1.0	ND<5.0	ND<5.0	ND<10	ND<5.0	ND<5.0
SB-9	2/2/2015	**350**	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<1.0	ND<5.0	ND<5.0	ND<10	ND<5.0	ND<5.0
SB-10	2/2/2015	**4,500**	**140**	**34**	**32**	**59**	ND<1.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
ESLs		**100**	**1.0**	**40**	**30**	**20**	**5**	--	--	--	--	--

Notes:

µg/Liter = micrograms per liter
GRO = gasoline range organics (C6-C12)
MTBE = methyl tert-butyl ether
ETBE = ethyl tert-butyl ether
TAME = tert-amyl methyl ether
TBA = tert butyl alcohol
DIPE = di isopropyl ether
1,2-DCA = 1,2-dichloroethane
EDB = 1,2-dibromomethane
ND<X.XX = not detected above reporting limit of X.XX µg/L
ESLs - Tier 1 Environmental Screening Levels, *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater,*
California Regional Water Quality Control Board (CRWQCB), Interim Final, December 2013.
Commercial/Industrical exposure scenario, assuming groundwater is a potential drinking water resource

Table 4
Soil Vapor Analytical Results
February 2015
Former ARC Station No. 596-A
1900 Webster Street, Oakland, California

Soil Vapor Probe Identification	Probe Sample Depth (feet bgs)	Date Collected	GRO (µg/m^3)	Benzene (µg/m^3)	Toluene (µg/m^3)	Ethylbenzene (µg/m3)	Total Xylenes* (µg/m^3)	MTBE (µg/m^3)	Naphthalene (µg/m^3)	Carbon Dioxide (%)	Methane (%)	Oxygen (%)
SG-1A	3.0-3.50	2/25/2015	**22,000**	ND<13	**16**	**55**	**200**	**16**	ND<21	3.8	0.0017	17.0
SG-1B	5.25-5.75	2/25/2015	**9,500**	ND<13	ND<15	**22**	**83**	ND<14	ND<21	3.9	0.0017	16.0
SG-2A	3.0-3.50	2/25/2015	**6,900**	ND<13	ND<15	ND<17	**56**	ND<14	ND<21	4.7	0.0016	17.0
SG-2B	5.25-5.75	2/25/2015	**4,200**	ND<13	ND<15	ND<17	**41**	ND<14	ND<21	4.5	0.0016	17.0
ESLs			**2,500,000**	**420.0**	**1,300,000**	**4,900**	**440,000**	**47,000**	**360**	--	--	--

Notes:

feet bgs = feet below ground surface
µg/m^3= micrograms per cubic meter
GRO = gasoline range organics (C6-C12)
MTBE = methyl tert-butyl ether
ND<X.XX = not detected above reporting limit of X.XX µg/m^3
NA = not analyzed
ESLs - Tier 1 Environmental Screening Levels, *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater,* California Regional Water Quality Control Board (CRWQCB), Interim Final, December 2013.
Commercial/Industrical exposure scenario; Table E-2

TABLE 4

CONCEPTUAL SITE MODEL
Former Atlantic Richfield Company Station 596-A
1900 Webster Street
Oakland, California

CSM Element	CSM Sub-Element	Description	Data Gap	How to Address
Geology and Hydrogeology	Regional	According to the United States Geological Survey (USGS) San Francisco Bay Quadrangle Geologic Map, the area surrounding the subject property is underlain by Holocene era alluvium which is commonly characterized by light-grey to grayish-brown or yellowish-brown gravel, sand, silt and clay. Texture varies from cobble gravel to clay, mixed or interbedded laterally and vertically in places (AEI, 2011). Based on a review of the USGS Oakland West, CA Quadrangle Topographic Map, the Site property is situated approximately 27 feet above mean sea level, and the local topography slopes to the north-northeast. (AEI, 2011) According to the *East Bay Plain Groundwater Basin Beneficial Use Evaluation Report* (California Regional Water Quality Control Board – San Francisco Bay Region/SFRWQCB, June 1999), the Site is located within the Oakland Sub-Area of the East Bay Plain of the San Francisco Basin. The Oakland Sub-Area contains a sequence of alluvial fan deposits. The alluvial fill thickness ranges from 300 to 700 feet deep and there are no well-defined aquitards such as estuarine muds. The largest and deepest wells in this sub-area have historically pumped one to two million gallons per day at depths greater than 200 feet. Overall, sustainable yields are low due in part to low recharge potential. The Merrit sand in West Oakland was an important part of the early water supply for the City of Oakland. It is shallow (up to 60 feet), but before the turn of the last century, septic systems contaminated the water supply wells. Throughout most of the Alameda County portion of the East Bay Plain, from Hayward north to Albany, water level contours show that the general direction of groundwater flow is from east to west or from the Hayward Fault to the San Francisco Bay. Groundwater flow direction generally correlates to topography. Flow direction and velocity are also influenced by buried stream channels that typically are oriented in an east to west direction.	None	NA
	Site	Based on the reports by AEI and SCHUTZE, groundwater was encountered at an approximate depth range of 13.5 bgs in B-1 to 21.36 bgs in SB-3. The groundwater gradient direction associated with the Site is unable to be determined with given information but it can be inferred that it is possibly flowing to the north-northeast direction due to the topography sloping to the northeast direction. Based on review of geologic boring logs by AEI, soil beneath the Site encountered consisted of fine to medium grained poorly graded sand, clayey sands, sandy silt and clay. First-encountered groundwater was in the clayey silt layer located 15 bgs. Broadbent conducted a soil and groundwater investigation from February 2-4, 2015 and the resulting boring logs are consistent with the lithology that AEI, SCHUTZE, and P&D encountered. First-encountered groundwater was between 16 ft bgs to 20 ft bgs, consistent with the previous investigations. Cross Sections of the Site is depicted in Drawing 6 and 7.	None	NA

TABLE 4

CONCEPTUAL SITE MODEL
Former Atlantic Richfield Company Station 596-A
1900 Webster Street
Oakland, California

CSM Element	CSM Sub-Element	Description	Data Gap	How to Address
Surface Water Bodies		The nearest surface water is Lake Merritt, located approximately 0.18 miles east of the property (AEI, 2011). The next nearest surface water is San Francisco Bay, which is approximately 1 mile to the southwest from the Site.	None	NA
Nearby Wells		A Sensitive Receptor Survey has not been conducted for the Site. SCHUTZLE conducted a 0.25 mile radius reconnaissance of the surrounding area for potential water wells and found no visual evidence for any. (SCHUTZE, 2012) Nearest wells are from the Douglas Parking Company LUST Site located upgradient from the Site.	Yes	Sensitive Receptor Survey
Constituents of Concern	Light-Non Aqueous Phase Liquids (LNAPL)	LNAPL has not been observed during any of the investigations conducted on the Site.	None	NA
	Gasoline Range Organics (GRO)	GRO has been detected in five of the soil borings in soil (SB-3, B7, B14, SB-6, and SB-7) with B7 yielding the highest concentration of 500 mg/kg. For groundwater, GRO has been detected in soil borings SB-3, B-1, B-2,B-5, SB-6, SB-7, SB-9, and SB-10 with soil boring SB-3 yielding the highest concentration of 59,000 µg/L . Soil borings SB-9 and SB-10, however, are located offsite and were installed to assess the potential upgradient hydrocarbon plume from 1732 Webster Street. It was concluded that the offsite source was unlikely impacting the site therefore defining the source of the contamination to Site specific. Tabulated soil and groundwater analytical results from the recent investigation can be located in Tables 2 and 3 respectively. Historical soil and groundwater results are located in Appendix G.	Potential	Conduct potential down-gradient assessment
	Benzene	Benzene has been detected in groundwater only in soil boring SB-3 at a concentration of 89 µg/L. Soil boring SB-10 did contain concentrations of Benzene in soil and in groundwater. However, SB-10 is located offsite and was installed to assess the potential offsite contamination associated with the upgradient hydrocarbon plume at 1732 Webster Street. As mentioned in the report, it was concluded that the offsite source was unlikely impacting the Site. Based on the following information and Drawing 4, Benzene has been defined to be within the area of SB-3.	None	NA
	MTBE	MTBE has not been detected in any of the soil and groundwater analytical results.	None	NA

TABLE 4

CONCEPTUAL SITE MODEL
Former Atlantic Richfield Company Station 596-A
1900 Webster Street
Oakland, California

CSM Element	CSM Sub-Element	Description	Data Gap	How to Address
Potential Sources	Offsite	During Broadbent's soil and groundwater investigation, two soil borings (SB-9 and SB-10) were installed across 19th Street to determine if there was a potential contamination from the upgradient petroleum hydrocarbon source located at 1732 Webster Street. According to the groundwater analytical data, SB-10 results detected GRO and Benzene at elevated concentrations. However, SB-4, SB-5, and SB-8 did not detect any hydrocarbon constituents therefore suggesting it is unlikely that the upgradient petroleum hydrocarbon source from 1732 Webster Street is impacting the Site.	None	NA
	Onsite	The main sources of contamination onsite were from presumably from the USTs. According to the report by P&D, the subject property was historically occupied by a gasoline service station from approximately 1940 until 1966 and there were no records on file at the Oakland Building Department, Environmental Health Services Department, or Oakland Fire Department regarding the removal of presumed formerly utilized fuel USTs form the Site. (P&D, 2014). The report indicated inconclusively that the Underground Storage Tanks (USTs) may still be present at the Site. On July 20, 2011, AEI advanced three soil borings (SB-1 through SB-3) and collected five soil and three groundwater samples from all three locations, which the locations can be seen on Drawing 2. Total Petroleum Hydrocarbons as Gasoline (TPH-g) in soil was reported in samples SB-3-16 and SB-3-20 at concentrations of 8.3 milligrams per kilograms (mg/kg) and 42 mg/kg, respectively. Total Petroleum Hydrocarbons as Diesel (TPH-d) in soil was reported in SB-2-16, SB-3-16, SB-3-20 at concentrations of 7.7 mg/kg, 6.5 mg/kg and 8.7 mg/kg, respectively. Total Petroleum Hydrocarbons as Motor Oil (TPH-mo) in soil was reported above laboratory reporting limit in SB-2-16 at a concentration of 25 mg/kg. TPH-g and TPH-d in groundwater samples were reported at 59,000 µg/L and 200,000 µg/L respectively in SB-3. (AEI, 2011) On August 22, 2012, SCHUTZE & Associates, Inc. (SCHUTZE) performed a Limited Phase II Subsurface Investigation by advancing two soil borings to 16.5 and 18 ft bgs in the interior of the south tenant space. TPH-g was detected in groundwater samples B1-18-W and B2-16.5-W at respective concentrations of 400 and 6,000 µg/L. TPH-d was detected in groundwater samples B1-18-W and B-2-16.5-W at respective concentrations of 1,100 and 3,800 µg/L. Ethylbenzene and Xylenes were detected in the groundwater sample from B2-16.5-W at concentrations of 210 and 680 µg/L, respectively. Benzene, toluene and MTBE were not detected in soil and groundwater samples. (SCHUTZE, 2012).	None	NA

TABLE 4

CONCEPTUAL SITE MODEL
Former Atlantic Richfield Company Station 596-A
1900 Webster Street
Oakland, California

CSM Element	CSM Sub-Element	Description	Data Gap	How to Address
Potential Sources (continued)	Onsite (continued)	In August and in October of 2013, P&D Environmental performed a subsurface investigation by advancing 8 soil borings to 14.5 ft bgs. Soil samples were collected every 4.5 ft in each soil boring and groundwater samples were only collected in three out of the eight soil borings. GRO was detected in soil in two of the soil borings with soil boring B7 yielding the highest concentration at 500 mg/kg.. DRO was detected in soil in seven of the eight soil borings with B7 yielding the highest concentration at 1,200 mg/kg. TPH –Bunker Oil was detected in six of the eight soil borings with B7 yielding the highest concentration in soil at 1,200 mg/kg. TPH – Motor oil was detected in four of the eight soil borings with B11 yielding the highest concentration in soil at 44 mg/kg. Ethyl-benzene and Total Xylenes were detected in two of the eight soil borings in soil with B7 yielding the highest concentration in both analytes at 5.7 mg/kg and 43 mg/kg respectively. Soil boring B5 was the only groundwater sample that resulted in hydrocarbon detections. GRO was detected at a concentration of 650 µg/L. DRO was detected at a concentration of 550 µg/L. TPH-Bunker Oil was detected at a concentration of 620 µg/L. Ethyl-benzene and Total Xylenes were detected at concentrations of 14 µg/L and 19 µg/L respectively. Benzene, Toluene, and MTBE were not detected in any of the soil and groundwater samples collected. (P&D, 2013)	None	NA
Migration Pathways	Potential Conduits	Norcal utility clearance drawing is located in Appendix C. According to this drawing, the only potential onsite conduit is the electrical line that is located along the eastern perimeter of the parking lot of the Site. The groundwater gradient for the Site is to the north to northeast. Two neighboring residences adjacent to the Site are located in the downgradient direction on Webster and Harrison St. According to Schultze investigation report and Norcal utility drawing, all the utilities are located along the sidewalk entering the Site building along Webster and along 19th street. Since groundwater has been determined to be between 16-20 ft bgs, the potential for any deeper utilities to act as a preferential pathway for contaminant migration is unlikely.	None	NA
Potential Receptors	Onsite	No onsite water supply wells or surface water exists. The only potential onsite receptor would be onsite workers exposed to gasoline vapors. Broadbent installed two soil vapor probes at two locations. SG-1A and SG-1B are located along the eastern side of the Site building and SG-2A and SG-2B are located adjacent to the building to the west of the Site. Broadbent conducted a soil vapor sampling event on February 25, 2015 and the results indicate that all soil vapor probes yielded concentration measurements of GRO ranging between 4,200 µg/m³ in SG-2B to 22,000 µg/m³ in SG-1A. MTBE was only detected in SG-1A at a concentration of 16 µg/m³ and Total Xylenes was detected in all soil vapor probes with SG-1A containing the highest concentration of 200 µg/m³.	None	NA

TABLE 4

CONCEPTUAL SITE MODEL
Former Atlantic Richfield Company Station 596-A
1900 Webster Street
Oakland, California

CSM Element	CSM Sub-Element	Description	Data Gap	How to Address
Potential Receptors (continued)	Onsite (continued)	Toluene was only detected in SG-1A at a concentration of 16 µg/m³ and Ethylbenzene was detected in SG-1A and SG-1B at concentrations of 55 µg/m³ and 22 µg/m³ respectively. All Other hydrocarbon constituents were not detected. However, the concentrations for all detected constituents were below the ESLs. Soil analytical data from the previous investigations and with the investigation Broadbent conducted in February 2015 indicate that GRO, Benzene, and MTBE were not detected within the first 7.5 ft of soil. TPH-D has been detected in borings SB-5-7, B2-6, B4-4.5, B5-5, B8-5, and B11-5 with concentrations ranging from 1.2 mg/kg in B5-5 to 5.3 in SB-5-7. The current concentrations of contaminants in soil and groundwater indicate that vapor intrusion is least likely a risk to onsite workers and tenants due to the low concentration levels detected in the soil and soil vapor probes.	None	NA
	Offsite	The tenants to the north and east of the Site are located downgradient of the Site and are considered a potential offsite receptor. Although the concentrations of GRO in groundwater were elevated within the area of SB-3 and SB-6, the results from the soil vaporing sampling of SG-1A and SG-2B were far below the ESLs therefore making soil vapor intrusion a least likely risk. A Sensitive Receptor Survey has not been conducted for the Site. SCHUTZLE conducted a 0.25 mile radius reconnaissance of the surrounding area for potential water wells and found no visual evidence for any. (SCHUTZE, 2012) Nearest wells are from the Douglas Parking Company LUST Site located upgradient from the Site.	Yes	Sensitive Receptor Survey
Nature and Extent of Environmental Impacts	Extent in Soil	Based on the soil analytical results from Broadbent's investigation and the soil analytical results from the previous investigations, GRO, Benzene, Ethyl Benzene, MTBE, and Napthalene were not detected within the first 10 ft which meets the LTCP criteria (SWRCB, 2012). Hydrocarbon concentrations that were detected at depths greater than 13 ft bgs were low in concentration with the exception of SB-6-24, SB-3-20, and B7-13. SB-6-24,SB-3-20, and B7-13 contain GRO concentrations of 47 mg/kg, 42 mg/kg and 500 mg/kg respectively. B7-13 also contained DRO concentration of 1,200 mg/kg. Although B7-13 contained highly elevated concentrations of GRO and DRO, soil borings B5, B6, and B8 did not detect any concentrations of GRO and DRO. Additionally, SB-7-25 had a GRO concentration of 6.8 kg/mg and B4-14.5 did not detect any concentration of GRO. Benzene and MTBE were not detected in any of the onsite soil borings. Based on these findings, the lateral and vertical extent of soil contamination is defined.	None	NA

TABLE 4

CONCEPTUAL SITE MODEL
Former Atlantic Richfield Company Station 596-A
1900 Webster Street
Oakland, California

CSM Element	CSM Sub-Element	Description	Data Gap	How to Address
Nature and Extent of Environmental Impacts (continued)	Extent in Shallow Groundwater	Based on the soil borings, groundwater encountered at the Site ranged between 16 to 20 ft bgs. According to the recent and historical groundwater analytical results, the highest elevated concentrations of GRO is situated around soil borings B-2, SB-3, and SB-6 – with SB-3 containing the highest concentration at 59,000 µg/L. Benzene was only in detected in soil boring SB-3 at 89 µg/L. MTBE was no detected in any of the soil borings. Isoconcentration Maps 3 and 4 show the extent of GRO and Benzene respectively. Based on these drawings the extent of the residual petroleum compounds is predominantly limited around the northern area of the Site, presumably the location of the USTs. Additionally, the north-northeast portion of the GRO plume extends underneath the adjacent building to the north. LNAPL has not been observed during any of the investigations.	Potential	Conduct potential down-gradient assessment
	Extent in Deeper Groundwater	Soil borings SB-3 thru SB-8 were advanced to depths between 20-25 ft bgs. Based on the results of these boring logs, petroleum compounds in groundwater appear to be vertically defined between 12 to 24 ft bgs.	No	NA

es:

bgs = below ground surface
GRO = Gasoline Range Organics
DRO = Diesel Range Organics
MTBE = Methyl tert-butyl Ether
BTEX = benzene, toluene, ethylbenzene, xylenes
µg/L = micrograms per liter
mg/Kg = milligrams per kilogram
ESLs = Tier 1 Environmental Screening Level s
µg/m³ = micrograms per cubic meter
LTCP = Low Threat Closure Policy
SWRCB = State Water Regional Control Board

APPENDIX A

Regulatory Email

From:	Detterman, Karel, Env. Health
To:	"Carmel, Charles"; Miller, Robert (Broadbent & Associates); Tidwell, Kristene (BROADBENT & ASSOC. INC); "PDKing0000@aol.com"
Cc:	Roe, Dilan, Env. Health
Subject:	FW: Fuel Leak Case RO0003100; Geotracker Global IDT10000004348, Buttner Property, 1900 Webster Street, Oakland, CA 94612-2946
Date:	Friday, August 29, 2014 5:34:39 PM
Attachments:	Attachment_1_and_ftpUploadInstructions_2014-05-15.pdf

Hello Chuck, Kristene, Rob, and Paul (Please forward this e-mail to Sammy Joselewitz at Webster Equity LLC):

Thank you for participating in a meeting on July 31, 2014 with Alameda County Environmental Health (ACEH) at our office for a discussion of the site. ACEH staff has reviewed the case file in conjunction with the State Water Resources Control Board's (SWRCB) Low Threat Underground Storage Tank Case Closure Policy (LTCP). ACEH provided conditional approval on June 6, 2014 to implement the March 5, 2014 *Work Plan for Additional Groundwater Investigation and Vapor Intrusion Assessment* (Work Plan) prepared by Broadbent. However, a *Subsurface Investigation Report* (Report) dated June 11, 2014 prepared by P&D Environmental, Inc. (P&D) on behalf of the current property owner, Webster Equity LLC, was uploaded to ACEH's ftp site. P&D prepared the *Subsurface Investigation Report* because Webster Equity LLC was refinancing the property. Prior to implementation of the Work Plan, ACEH invited Paul King to the July 31st meeting to discuss the new data presented in the Report prior to implementation of the Work Plan.

Based on the discussions during our meeting, ACEH requests that you address the following Technical Comments in addition to ACEH's June 6, 2014 Technical Comments and submit the requested report by the date provided below.

TECHNICAL COMMENTS

1. **Additional Soil Boring Location** – Please add a soil boring in the vicinity of the site's 19th Street driveway or in the sidewalk across 19th Street from the driveway to address the existence of an on &/or off-site source;

2. **LTCP's Technical Justification for Groundwater Media-Specific Criteria** – Because the site has no groundwater monitoring wells, there is a lack of trend data for Gasoline-Range Organics (GRO) and benzene in groundwater. Using LTCP's Technical Justification for Groundwater Media-Specific Criteria, please estimate the GRO and benzene plume lengths and submit the findings as an appendix of the SCM requested below.

TECHNICAL REPORT REQUEST

Please upload technical reports to the ACEH ftp site (Attention: Karel Detterman), and to the State Water Resources Control Board's Geotracker website, according to Attachment 1 and the following specified file naming convention and schedule:

- **October 31, 2014 –** Site Conceptual Model
  File to be named: RO3100_SCM_R_yyyy-mm-dd

These reports are being requested pursuant to California Health and Safety Code Section

25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

Online case files are available for review at the following website: http://www.acgov.org/aceh/index.htm.

Thank you for your cooperation. Should you have any questions or concerns regarding this correspondence or your case, please send me an e-mail message at karel.detterman@acgov.org or call me at (510) 567-6708.

Karel Detterman, PG
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502
Direct: 510.567.6708
Fax: 510.337.9335
Email: karel.detterman@acgov.org

PDF copies of case files can be downloaded at:

http://www.acgov.org/aceh/lop/ust.htm

From: Detterman, Karel, Env. Health
Sent: Friday, June 06, 2014 5:24 PM
To: Carmel, Charles; 'Kristene Tidwell'; Rob Miller
Cc: Roe, Dilan, Env. Health
Subject: Fuel Leak Case RO0003100; Geotracker Global IDT10000004348, Buttner Property, 1900 Webster Street, Oakland, CA 94612-2946

Hello Chuck, Kristene, and Rob:

Thank you for participating today in a meeting with Alameda County Environmental Health (ACEH) at our office for a discussion of the March 5, 2014 *Work Plan for Additional Groundwater Investigation and Vapor Intrusion Assessment* (Work Plan) prepared by Broadbent. Thank you for submitting the Work Plan.

Based on ACEH staff review of the case file and the Work Plan, we generally concur with the proposed scope of work, provided that the modifications requested in the technical comments below are addressed and incorporated during the field implementation. This may require some changes to the planned scope of work; however, inclusion of the additional scope of work is expected to expedite the case to closure. The submittal of a Work Plan Addendum is not required unless an alternate scope of work outside that described in the Work Plan and technical comments below is proposed.

We request that you address the following technical comments, perform the proposed work, and send us the technical reports requested below. Please provide 72-hour advance written notification to this office (e-mail preferred to: karel.detterman@acgov.org) prior to the start of field activities.

TECHNICAL COMMENTS

1. 2014 Work Plan Modifications – The referenced work plan proposes a series of actions with which ACEH is in general agreement of undertaking; however, ACEH requests several modifications to the approach for the purpose of collecting specific data required to close the case under the LTCP in the minimum number of field events:

    a. **LTCP General Criteria c (unauthorized release stopped) and f (Secondary source removed extent practicable):** Please place a second soil boring in the sidewalk to the southeast and approximately 20 – 25 feet of SB-4 as shown on Figure 3 of the Work Plan;
    b. **LTCP General Criteria e (Site Conceptual Model):** Please prepare a site conceptual model in a tabular form including a sensitive receptor survey;
    c. **LTCP Media Specific Criteria for Groundwater:** Please include analysis for VOCs on groundwater sample for SB-6 only and please use the criteria listed in Table 1 of the LTCP's Technical Justification for Groundwater Media-Specific Criteria to define the length of the plume;
    d. **LTCP Media Specific Criteria for Vapor Intrusion to Indoor Air:** Please collect soil vapor samples 5 feet below the bottom of the existing buildings foundation;
    e. **LTCP Media Specific Criteria for Direct Contact and Outdoor Air Criteria:** Please collect samples from depths of 3 feet and 7 feet from all soil borings.

Based on the discussions during today's meeting, please summarize the data, prepare the SCM Table, and contact us to set up a meeting to discuss the findings. At that meeting, we'll discuss the results, any remaining data gaps, and determine the path forward.

TECHNICAL REPORT REQUEST

Please upload the technical report to the ACEH ftp site (Attention: Karel Detterman), and to the State Water Resources Control Board's Geotracker website, in accordance with Attachment 1 and the following specified file naming convention and schedule:

- **July 31, 2014 –** Site Conceptual Model
  File to be named: RO3100_SCM_R_yyyy-mm-dd

This report is being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

Thank you,

Karel Detterman, PG
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway

APPENDIX B

Drilling and Encroachment Permits

Alameda County Public Works Agency - Water Resources Well Permit

Public Works Agency
Alameda County

399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 01/08/2015 By jamesy

Permit Numbers: W2015-0006 to W2015-0007
Permits Valid from 01/13/2015 to 01/13/2015

Application Id:	1420580473957	**City of Project Site:**Oakland
Site Location:	1900 Webster Street, Oakland, California	
Project Start Date:	01/13/2015	**Completion Date:**01/13/2015
Assigned Inspector:	Contact Steve Miller at (510) 670-5517 or stevem@acpwa.org	
Applicant:	Broadbent & Associates - James Ramos 4820 Business Center Drive, Suite 110, Fairfield, CA 94534	**Phone:** 707-455-7290
Property Owner:	Chuck Carmel 4 Centerpoint Drive, La Palma, CA 94534	**Phone:** --
Client:	** same as Property Owner **	
Contact:	James Ramos	**Phone:** 707-455-7290 **Cell:** 707-342-5669

	Total Due:	$530.00
Receipt Number: WR2015-0006	**Total Amount Paid:**	$530.00
Payer Name : Kristene Tidwell	Paid By: VISA	**PAID IN FULL**

Works Requesting Permits:

Borehole(s) for Investigation-Contamination Study - 7 Boreholes
Driller: Gregg Drilling - Lic #: 485165 - Method: DP **Work Total: $265.00**

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2015-0006	01/08/2015	04/13/2015	7	2.00 in.	25.00 ft

Specific Work Permit Conditions

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site. The containers shall be clearly labeled to the ownership of the container and labeled hazardous or non-hazardous.

2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.

3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

4. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

5. Applicant shall contact assigned inspector listed on the top of the permit at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

6. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of $500.00.

7. NOTE:
Under California laws, the owner/operator are responsible for reporting the contamination to the governmental regulatory agencies under Section 25295(a). The owner/operator is liable for civil penalties under Section 25299(a)(4) and criminal penalties under Section 25299(d) for failure to report a leak. The owner/operator is liable for civil penalties under Section 25299(b)(4) for knowing failure to ensure compliance with the law by the operator. These penalty provisions do not apply to a potential buyer.

8. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.

Well Construction-Vapor monitoring well-Vapor monitoring well - 4 Wells
Driller: Gregg Drilling - Lic #: 485165 - Method: Hand **Work Total: $265.00**

Specifications

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth
W2015-0007	01/08/2015	04/13/2015	SG-1A	2.00 in.	6.00 in.	1.00 ft	3.50 ft
W2015-0007	01/08/2015	04/13/2015	SG-1B	2.00 in.	6.00 in.	1.00 ft	5.50 ft
W2015-0007	01/08/2015	04/13/2015	SG-2A	2.00 in.	6.00 in.	1.00 ft	3.50 ft
W2015-0007	01/08/2015	04/13/2015	SG-2B	2.00 in.	6.00 in.	1.00 ft	5.50 ft

Specific Work Permit Conditions

1. Drilling Permit(s) can be voided/ cancelled only in writing. It is the applicant's responsibility to notify Alameda County Public Works Agency, Water Resources Section in writing for an extension or to cancel the drilling permit application. No drilling permit application(s) shall be extended beyond ninety (90) days from the original start date. Applicants may not cancel a drilling permit application after the completion date of the permit issued has passed.

2. Compliance with the above well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate state reporting-requirements related to well destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days, including permit number and site map.

3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

4. Permittee, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or

waterways or be allowed to move off the property where work is being completed.

5. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

6. No changes in construction procedures or well type shall change, as described on this permit application. This permit may be voided if it contains incorrect information.

7. Applicant shall submit the copies of the approved encroachment permit to this office within 10 days.

8. Applicant shall contact assigned inspector listed on the top of the permit at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

9. Wells shall have a Christy box or similar structure with a locking cap or cover. Well(s) shall be kept locked at all times. Well(s) that become damaged by traffic or construction shall be repaired in a timely manner or destroyed immediately (through permit process). No well(s) shall be left in a manner to act as a conduit at any time.

10. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of $500.00.

11. Vapor monitoring wells above water level constructed with tubing maybe be backfilled with pancake-batter consistency bentonite. Minimum surface seal thickness is two inches of cement grout around well box.

Vapor monitoring wells above water level constructed with pvc pipe shall have a minimum seal depth (Neat Cement Seal) of 2 feet below ground surface (BGS). Minimum surface seal thickness is two inches of cement grout around well box. All other conditions for monitoring well construction shall apply.

Permits for which no major inspection has been approved within 180 days shall expire by limitation. No refund more than 180 days after expiration or final.

CITY OF OAKLAND

250 FRANK H. OGAWA PLAZA • 2ND FLOOR • OAKLAND, CA 94612

Planning and Building Department
www.oaklandnet.com

PH: 510-238-3891
FAX: 510-238-2263
TDD: 510-238-3254

Permit No: OB1401124 Obstruction

Filed Date: 12/17/2014

Job Site: 1900 WEBSTER

Schedule Inspection by calling: 510-238-3444

Parcel No: 008 063601500

District:

Project Description: Soil borings south of 19th St near Webster St per site plan.
Permit valid 90 days.
Separate Obstruction permit required to reserve/block parking lane; divert traffic.
Contact: Lu Damerell, PG 510-364-2079.
Call PWA INSPECTION prior to start: 510-238-3651. 4th FLOOR.

Related Permits: X1403081

	Name	Applicant	Address	Phone	License #
Owner:	WEBSTER EQUITY LLC		1440 BROADWAY OAKLAND, CA		
Contractor:	GREGG DRILLING & TESTING INC		2726 WALNUT AVENUE SIGNAL HILL, CA	(562) 427-6899	485165
Owner-Agent:	LU DAMERELL	X	1440 BROADWAY OAKLAND, CA	5103642079	

PERMIT DETAILS: Building/Public Use/Activity/Obstructions

Work Information

Start Date:	01/13/2015	Obstruction Permit Type:	Short Term (Max 14 Days)
End Date:	01/13/2015	Number of Meters (Metered Area):	3
		Length Of Obstruction (Unmetered Area):	

TOTAL FEES TO BE PAID AT FILING: $200.24

Application Fee	$71.00	Records Management Fee	$16.58	Short Term Meter	$51.75
Short Term Permits	$51.75	Technology Enhancement Fee	$9.16		

Plans Checked By _____ Date _____ Permit Issued By _____ Date _____

Finalized By _____ Date _____

FIELD COPY

Permits for which no major inspection has been ap[illegible] an 180 days after expiration or final.

CITY OF OAKLAND

250 FRANK H. OGAWA PLAZA • 2ND FLOOR • OAKLAND, CA 94612

Planning and Building Department
www.oaklandnet.com

PH: 510-238-3891
FAX: 510-238-2263
TDD: 510-238-3254

Permit No: X1403081 Excavation **Filed Date:** 12/17/2014

Job Site: 1900 WEBSTER **Schedule Inspection by calling:** 510-238-3444

Parcel No: 008 063601500

District:

Project Description: Soil borings south of 19th St near Webster St per site plan.
Permit valid 90 days.
Separate Obstruction permit required to reserve/block parking lane; divert traffic.
Contact: Lu Damerell, PG 510-364-2079.
Call PWA INSPECTION prior to start: 510-238-3651. 4th FLOOR.

Related Permits: X1402805 OB1400992

	Name	Applicant	Address	Phone	License #
Owner:	WEBSTER EQUITY LLC		1440 BROADWAY OAKLAND, CA		
Contractor-Employee:	GREGG DRILLING & TESTING INC	X	2726 WALNUT AVENUE SIGNAL HILL, CA	(562) 427-6899	485165

PERMIT DETAILS: Building/Public Infrastructure/Excavation/NA

General Information

Excavation Type: Private Party
Special Paving Detail Required:
Tree Removal Involved:
Date Street Last Resurfaced:
Holiday Restriction (Nov 1 - Jan 1):
Worker's Compensation Company Name:
Limited Operation Area (7AM-9AM) And (4PM-6PM):
Worker's Compensation Policy #:

Key Dates

Approximate Start Date:
Approximate End Date:

TOTAL FEES TO BE PAID AT FILING: $436.05

Application Fee	$71.00	Excavation - Private Party Type	$309.00	Records Management Fee	$36.10
Technology Enhancement Fee	$19.95				

Plans Checked By _____ Date _____ Permit Issued By _____ Date _____

Finalized By _____ Date _____

FIELD COPY

...ved within 180 days shall expire by limitation. No refund more than 180 days after expiration or final.

JOB SITE

CITY OF OAKLAND

250 FRANK H. OGAWA PLAZA • 2ND FLOOR • OAKLAND, CA 94612

Planning and Building Department
www.oaklandnet.com

PH: 510-238-3891
FAX: 510-238-2263
TDD: 510-238-3254

Filed Date: 1/27/2015

Schedule Inspection by calling: 510-238-3444

Permit No: OB1500082 Obstruction

Job Site: 1900 WEBSTER

Parcel No: 008 063601500

District:

Project Description: Reserve three metered spaces on 19th St and close 25' sidewalk per TSD-0194.
Background:
Soil borings south of 19th St near Webster St per site plan.
Contact: Alex Martinez, Broadbent 408 701-7002.
Call PWA INSPECTION prior to start: 510-238-3651. 4th FLOOR.

Related Permits: OB1401124

	Name	Applicant	Address	Phone	License #
Owner:	WEBSTER EQUITY LLC		1440 BROADWAY OAKLAND, CA		
Contractor:	GREGG DRILLING & TESTING INC		2726 WALNUT AVENUE SIGNAL HILL, CA	(562) 427-6899	485165
Owner-Agent:	Alex Martinez, Broadbent	X	1440 BROADWAY OAKLAND, CA	408 701-7002	

PERMIT DETAILS: Building/Public Use/Activity/Obstructions

Work Information

Start Date: 02/02/2015
End Date: 02/03/2015

Obstruction Permit Type: Short Term (Max 14 Days)
Number of Meters (Metered Area): 3
Length Of Obstruction (Unmetered Area): 25

TOTAL FEES TO BE PAID AT FILING: $358.60

Application Fee	$71.00	Records Management Fee	$29.69	Short Term Meter	$103.50
Short Term Permits	$138.00	Technology Enhancement Fee	$16.41		

Plans Checked By _____ Date _____

Permit Issued By _____ Date 1-27

Finalized By _____ Date _____

APPENDIX C

Utility Clearance Report

PERSONNEL: DTH

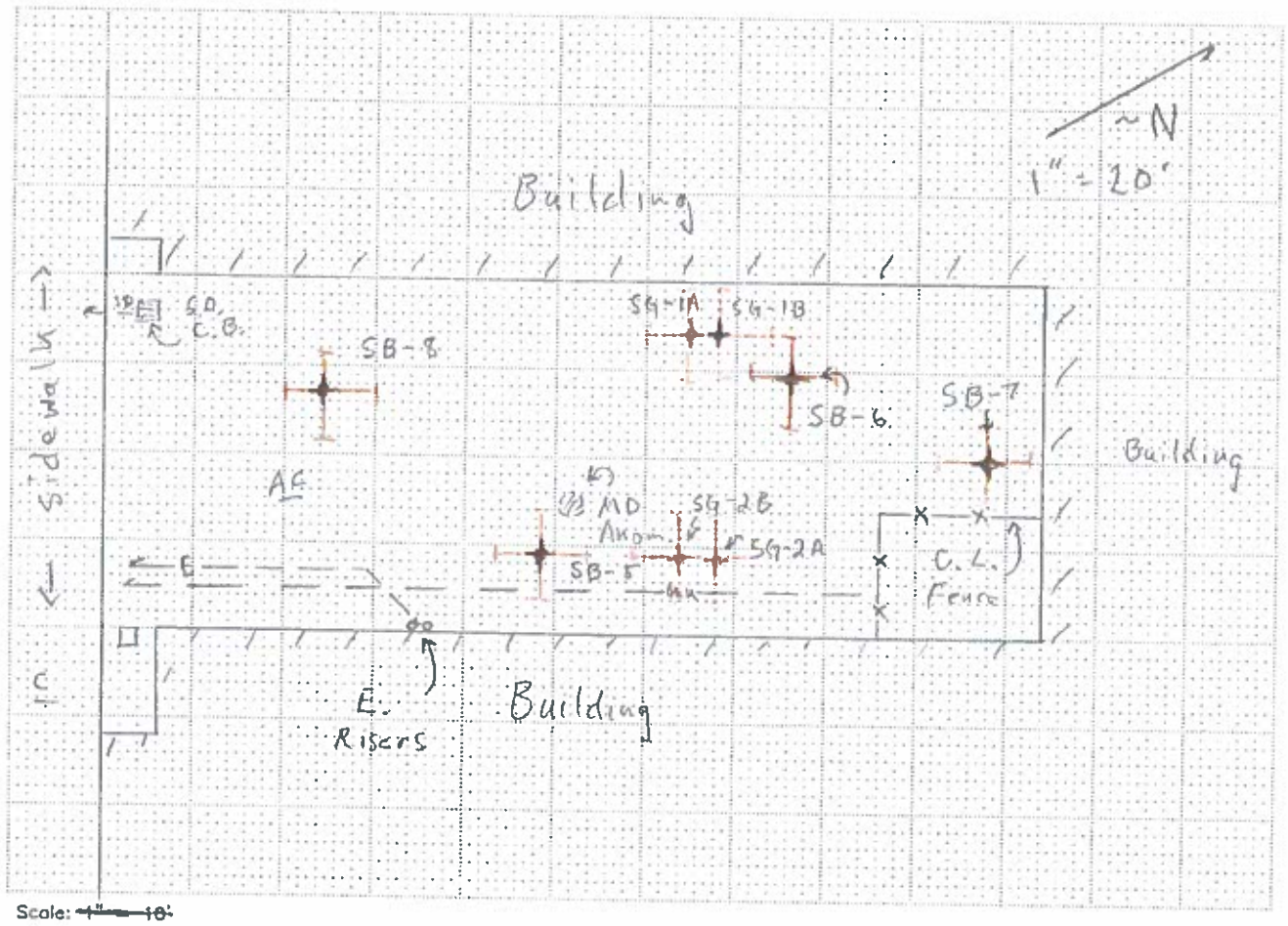
JOB: 14-1034.42 | DATE: 1/8/15

NORCAL GEOPHYSICAL CONSULTANTS INC.

CLIENT: Broadbent & Assoc.

LOCATION: 1900 Webster St., Oakland

BORING: SB-5, 6, 7, 8, SG-1A, B, SG-2 A&B



EXPLANATION

- Original Boring Location
- Final Boring Location
- Existing Well Location
- GPR Traverse
- OR — Localized GPR Anomaly
- Utility Alignment

Utilities

- _ T (Telephone, Comm.)
- ✓ E (Electric)
- _ NG (Natural Gas)
- _ CA (Compressed Air)
- _ STM (Steam)
- _ SS (Sanitary Sewer)
- _ SD (Storm Drain)
- _ W (Water)
- _ FS (Fire Supression)
- ✓ UU (Undifferentiated Utility)

Surface

- _ RC (Reinforced Concrete)
- ✓ AC (Asphalt)
- ✓ C (Concrete)
- _ Soil
- _ Gravel
- _ other

NOTES

Equipment:
- _ GPR (Radar)
- ✓ RD 4000
- _ M Scope
- ✓ other

Procedure:
- _ EMC (Conduction)
- ✓ EMI (Induction)
- ✓ Ambient
- ✓ GPR

Surface Conditions:
- _ Wet
- ✓ Dry
- _ other

REMARKS

PERSONNEL: DTH

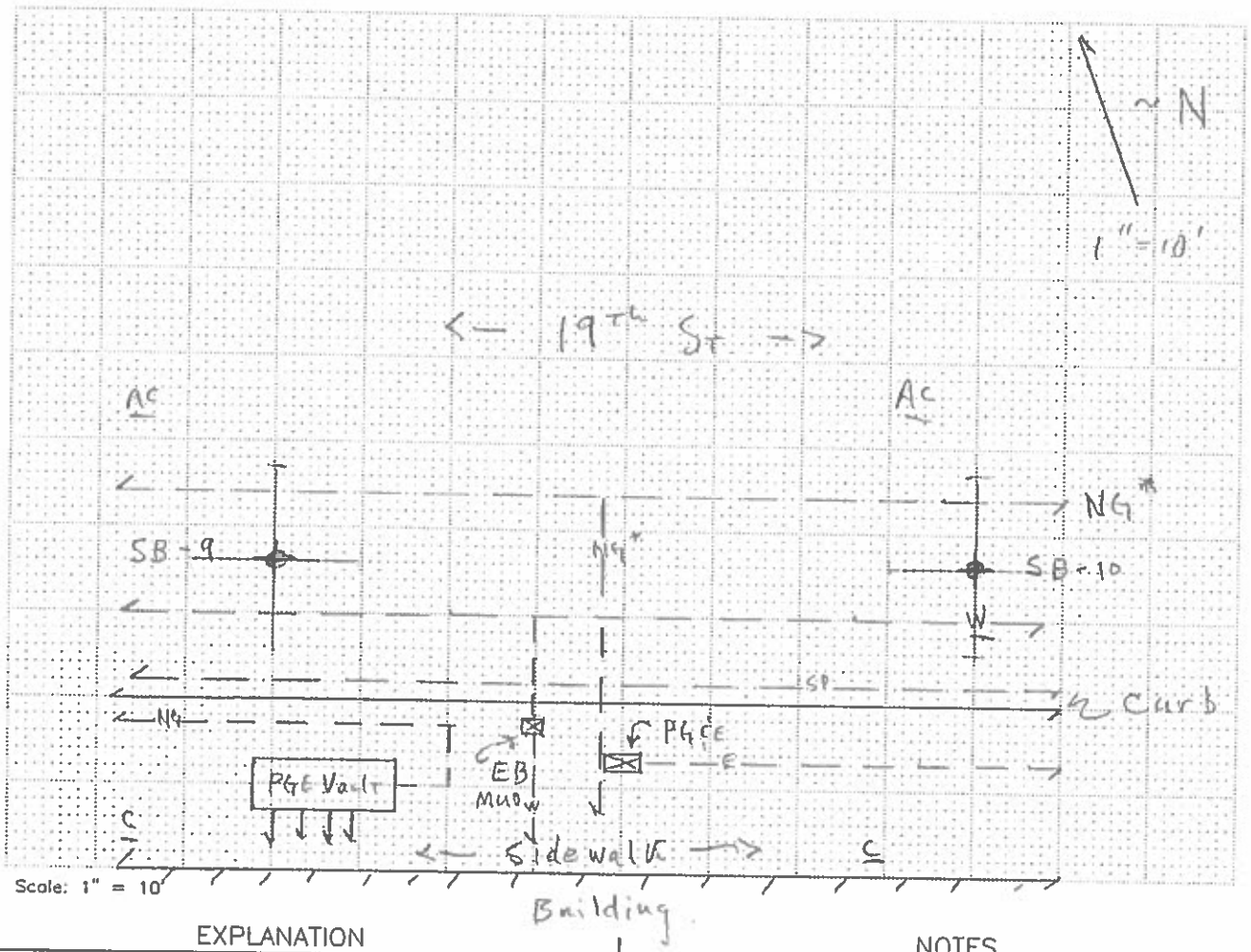
JOB: 14-1034.42 | DATE: 1/8/15

NORCAL GEOPHYSICAL CONSULTANTS INC.

CLIENT: Broadbent & Assoc.

LOCATION: 1900 Webster St., Oakland

BORING: SB-9 & SB-10



EXPLANATION

- Original Boring Location
- Final Boring Location
- Existing Well Location
- GPR Traverse
- OR — Localized GPR Anomaly
- Utility Alignment

Utilities

- _ T (Telephone, Comm.)
- ✓ E (Electric)
- ✓ NG (Natural Gas)
- _ CA (Compressed Air)
- _ STM (Steam)
- _ SS (Sanitary Sewer)
- ✓ SD (Storm Drain)
- ✓ W (Water)
- _ FS (Fire Supression)
- _ UU (Undifferentiated Utility)

Surface

- _ RC (Reinforced Concrete)
- ✓ AC (Asphalt)
- ✓ C (Concrete)
- _ Soil
- _ Gravel
- _ other

NOTES

Equipment:	Procedure:	Surface Conditions:
✓ GPR (Radar)	_ EMC (Conduction)	_ Wet
_ RD 4000	✓ EMI (Induction)	✓ Dry
_ M Scope	✓ Ambient	_ other
_ other	✓ GPR	

REMARKS

* Marked by others
Verified by NORCAL

PERSONNEL: DTH

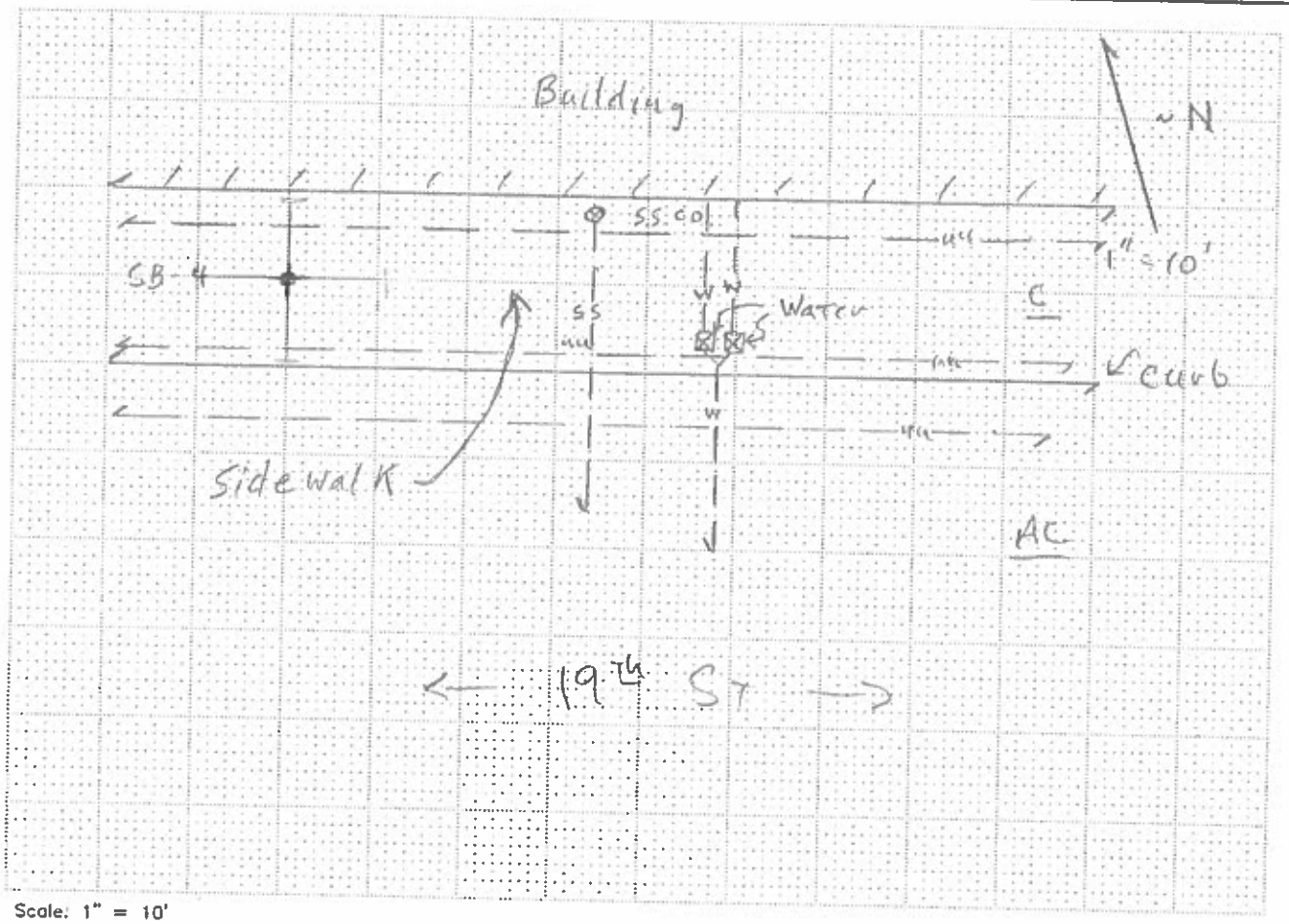
JOB: 14-1034.42 | DATE: 1/8/15

NORCAL GEOPHYSICAL CONSULTANTS INC.

CLIENT: Broadbent & Assoc.

LOCATION: 1900 Webster St., Oakland

BORING: SB-4



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- Existing Well Location
- GPR Traverse
- OR — Localized GPR Anomaly
- Utility Alignment

Utilities

- _ T (Telephone, Comm.)
- _ E (Electric)
- _ NG (Natural Gas)
- _ CA (Compressed Air)
- _ STM (Steam)
- ✓ SS (Sanitary Sewer)
- _ SD (Storm Drain)
- ✓ W (Water)
- _ FS (Fire Supression)
- ✓ UU (Undifferentiated Utility)

Surface

- _ RC (Reinforced Concrete)
- ✓ AC (Asphalt)
- ✓ C (Concrete)
- _ Soil
- _ Gravel
- _ other

NOTES

Equipment:	Procedure:	Surface Conditions:
✓ GPR (Radar)	_ EMC (Conduction)	_ Wet
✓ RD 4000	✓ EMI (Induction)	✓ Dry
✓ M Scope	✓ Ambient	_ other
_ other	✓ GPR	

REMARKS

APPENDIX D

Boring/Well Logs

BROADBENT

LITHOLOGIC AND MONITOR WELL CONSTRUCTION LOG

PROJECT NAME: BP 596A
SITE ADDRESS: 1900 Webster Street, Oakland, California
PROJECT NUMBER: 14-90-103
LEGAL DESC: _____ APN: _____
LOGGED BY: Nick Vrdoljak
FACILITY ID OR WAIVER: _____ NOI NUMBER: _____
DATE: 2/2/2015 START: 1345
DRILLING COMPANY: Gregg DRILLER: L.S.
WELL ID: SB-4 STOP: 1500
DRILLING METHOD: GeoProbe SAMPLE METHOD: Direct Push

DEPTH (FEET)	BORING DIAMETER: –	SAMPLE ID	PID (ppm)	MOISTURE	COLOR	CONSISTENCY	GRAIN SIZE CLASSIFICATION		REMARKS, ODORS & BLOW COUNT
0							Concrete		
1									
2				Dry	Light Brown	Loose	Silty Medium Sand	SM	No Odor
3		SB-4-3'	0.0						
4				Slightly Moist	Light Brown Mottled Dark Brown	Loose	Silty Medium Sand	SM	No Odor
5	GROUT								
6			0.8						
7		SB-4-7'							
8									
9			0.0						
10				Slightly Moist	Brown	Medium Dense	Silty Medium Sand	SM	No Odor
11									
12			0.2						
13									
14				Moist	Grayish Brown	Dense	Silty Medium Sand	SM	No Odor
15									
16			0.0						
17									
18				Moist	Brown	Dense	Silty Medium Sand	SM	No Odor
19 ▼									
20			0.0	Wet	Brown	Dense	Silty Medium Sand	SM	No Odor
21									
22				Wet	Mottled Brown	Firm	Clay with Some Silt and Trace Fine to Medium Sand	CL	No Odor
23			0.0						
24				Wet	Brown	Dense	Silty Sand with Gravel	SM	No Odor
25			0.0						

TOTAL BORING DEPTH: 25' PAGE NO: 1 OF 1 ▼ ESTIMATED GROUNDWATER DEPTH: 19'

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF ACTUAL CONDITIONS ENCOUNTERED.

BROADBENT

LITHOLOGIC AND MONITOR WELL CONSTRUCTION LOG

PROJECT NAME: BP 596A
SITE ADDRESS: 1900 Webster Street, Oakland, California
PROJECT NUMBER: 14-90-103
LEGAL DESC: _____ APN: _____
LOGGED BY: Nick Vrdoljak
FACILITY ID OR WAIVER: _____ NOI NUMBER: _____
DATE: 2/3/2015 START: 1120
DRILLING COMPANY: Gregg DRILLER: L.S.
WELL ID: SB-5 STOP: 1300
DRILLING METHOD: GeoProbe SAMPLE METHOD: Direct Push

DEPTH (FEET)	BORING DIAMETER: –	SAMPLE ID	PID (ppm)	MOISTURE	COLOR	CONSISTENCY	GRAIN SIZE	CLASSIFICATION	REMARKS, ODORS & BLOW COUNT
1	GROUT						Asphalt		
2				Moist	Brown	Medium Loose	Silty Sand	SM	No Odor
3			0.3						
4									
5									
6			0.2						
7									
8									
9			0.0						
10				Moist	Brown	Medium Loose	Silty Sand (Increased Silt)	SM	No Odor
11				Moist	Brown	Firm	Sandy Clay	CL	No Odor
12									
13				Moist	Brown	Dense	Silty Sand	SM	No Odor
14			0.0						
15									
16									
17			0.2						
18									
19									
20									
21			0.3						
22				Moist	Gray	Stiff	Clay	CL	No Odor
23				Wet	Brown	Stiff	Sandy Clay	CL	No Odor
24									
25									

TOTAL BORING DEPTH: 25' PAGE NO: 1 OF 1 ESTIMATED GROUNDWATER DEPTH: 22.5'

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF ACTUAL CONDITIONS ENCOUNTERED.

BROADBENT

LITHOLOGIC AND MONITOR WELL CONSTRUCTION LOG

PROJECT NAME: BP 596A
SITE ADDRESS: 1900 Webster Street, Oakland, California
PROJECT NUMBER: 14-90-103
LEGAL DESC: _____ APN: _____
LOGGED BY: Nick Vrdoljak
FACILITY ID OR WAIVER: _____ NOI NUMBER: _____
DATE: 2/3/2015 START: 1330
DRILLING COMPANY: Gregg DRILLER: L.S.
WELL ID: SB-6 STOP: 1500
DRILLING METHOD: GeoProbe SAMPLE METHOD: Direct Push

DEPTH (FEET)	BORING DIAMETER: –	SAMPLE ID	PID (ppm)	MOISTURE	COLOR	CONSISTENCY	GRAIN SIZE	CLASSIFICATION	REMARKS, ODORS & BLOW COUNT
0							Asphalt		
2	GROUT		0.2	Dry	Dark Brown / Light Brown	Loose	Silty Sand	SM	No Odor
5			0.2						
8			0.0	Slightly Moist	Brown	Medium Dense			
12			0.0						
14				Moist	Grayish Brown	Firm	Sandy Clay	CL	No Odor
16			0.0	Moist	Brown	Dense	Silty Sand	SM	No Odor
18			6.0	Moist	Greenish Gray	Loose	Silty Sand	SM	Strong Hydrocarbon Odor
20			2.6	Moist	Brown	Firm			Mild Hydrocarbon Odor
22 ▼			204	Moist	Greenish Gray	Medium Dense	Silty Sand	SM	Strong Hydrocarbon Odor
23				Wet	Greenish Gray	Firm	Clay	CL	Strong Hydrocarbon Odor
25			203	Wet	Greenish Gray	Loose	Silty Sand	SM	Strong Hydrocarbon Odor

TOTAL BORING DEPTH: 25' PAGE NO: 1 OF 1 ▼ ESTIMATED GROUNDWATER DEPTH: 22'

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF ACTUAL CONDITIONS ENCOUNTERED.

BROADBENT

LITHOLOGIC AND MONITOR WELL CONSTRUCTION LOG

PROJECT NAME: BP 596A
SITE ADDRESS: 1900 Webster Street, Oakland, California
PROJECT NUMBER: 14-90-103
LEGAL DESC: _____ APN: _____
LOGGED BY: Nick Vrdoljak
FACILITY ID OR WAIVER: _____ NOI NUMBER: _____
DATE: 2/3/2015 START: 0715
DRILLING COMPANY: Gregg DRILLER: L.S.
WELL ID: SB-7 STOP: 0915
DRILLING METHOD: GeoProbe SAMPLE METHOD: Direct Push

DEPTH (FEET)	BORING DIAMETER: –	SAMPLE ID	PID (ppm)	MOISTURE	COLOR	CONSISTENCY	GRAIN SIZE	CLASSIFICATION	REMARKS, ODORS & BLOW COUNT
0							Concrete/Asphalt		
2	GROUT		0.1	Moist	Dark Brown	Loose	Silty Sandwith Some Gravel and Pieces of Brick, Trace Clay	SM	No Odor
6			0.3	Moist	Light Brown	Medium Dense	Silty Sand	SM	No Odor
8					Brown				
9			0.2						
10					Grayish Brown				
12				Moist	Gray	Stiff	Sandy Clay	CL	No Odor
13			0.0						
17			0.5						
18				Moist	Grayish Brown	Medium Dense	Silty Sand	SM	No Odor
20			0.3						
21				Very Moist	Light Brown	Stiff	Sandy Clay	CL	No Odor
22			0.6						
23 ▼			0.0	Wet	Brown	Dense	Silty Sand	SM	Slight Hydrocarbon Odor
24				Wet	Greenish Gray	Very Stiff	Clay with Trace Silt	CL	Strong Hydrocarbon Odor
25			45.2						

TOTAL BORING DEPTH: 25' PAGE NO: 1 OF 1 ▼ ESTIMATED GROUNDWATER DEPTH: 23'

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF ACTUAL CONDITIONS ENCOUNTERED.

BROADBENT

LITHOLOGIC AND MONITOR WELL CONSTRUCTION LOG

PROJECT NAME: BP 596A
SITE ADDRESS: 1900 Webster Street, Oakland, California
PROJECT NUMBER: 14-90-103
LEGAL DESC: _____ APN: _____
LOGGED BY: Nick Vrdoljak
FACILITY ID OR WAIVER: _____ NOI NUMBER: _____
DATE: 2/3/2015 START: 0920
DRILLING COMPANY: Gregg DRILLER: L.S.
WELL ID: SB-8 STOP: 1100
DRILLING METHOD: GeoProbe SAMPLE METHOD: Direct Push

DEPTH (FEET)	BORING DIAMETER: –	SAMPLE ID	PID (ppm)	MOISTURE	COLOR	CONSISTENCY	GRAIN SIZE	CLASSIFICATION	REMARKS, ODORS & BLOW COUNT
1							Concrete/Asphalt		
2	GROUT			Slightly Moist	Light Brown	Loose	Silty Sand	SM	No Odor
3			0.4						
4									
5									
6			0.3		Brown	Medium Dense			No Odor
7									
8									
9			0.3						
10					Grayish Brown	Dense			No Odor
11									
12									
13			0.3						
14					Grayish Brown	Dense			
15									
16			0.2	Moist					
17									
18 ▼			0.1	Wet	Grayish Brown	Dense	Silty Sand	SM	No Odor
19									
20									
21									
22			0.0	Wet	Grayish Brown	Dense	Silty Sand	SM	No Odor
23									
24									
25									

TOTAL BORING DEPTH: 22' PAGE NO: 1 OF 1 ▼ ESTIMATED GROUNDWATER DEPTH: 18'

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF ACTUAL CONDITIONS ENCOUNTERED.

BROADBENT

LITHOLOGIC AND MONITOR WELL CONSTRUCTION LOG

PROJECT NAME: BP 596A
SITE ADDRESS: 1900 Webster Street, Oakland, California
PROJECT NUMBER: 14-90-103
LEGAL DESC: _____ APN: _____
LOGGED BY: Nick Vrdoljak
FACILITY ID OR WAIVER: _____ NOI NUMBER: _____
DATE: 2/2/2015 START: 1115
DRILLING COMPANY: Gregg DRILLER: L.S.
WELL ID: SB-9 STOP: 1330
DRILLING METHOD: GeoProbe SAMPLE METHOD: Direct Push

DEPTH (FEET)	BORING DIAMETER: –	SAMPLE ID	PID (ppm)	MOISTURE	COLOR	CONSISTENCY	GRAIN SIZE / CLASSIFICATION		REMARKS, ODORS & BLOW COUNT
1							Concrete/Asphalt		
2							Road Base		
3	GROUT	SB-9-3'	0.5	Dry	Light Brown	Very Loose to Loose	Medium Sand with Silt and Some Gravel (Gravel Decreasing with Depth and Silt Increasing with Depth)	SM	No Odor
4									
5									
6			0.0						
7		SB-9-7'							
8									
9									
10				Slightly Moist	Grayish Brown	Loose	Silty Sand	SM	No Odor
11			0.6						
12									
13				Slightly Moist to moist	Brown Mottled Grayish Brown	Dense	Silty Sand	SM	No Odor
14									
15			0.7						
16									
17									Slight Hydrocarbon Odor
18			6.1	Moist	Greenish Gray	Dense	Silty Sand	SM	Strong Hydrocarbon Odor
19 ▼									
20									
21			0.5						
22				Very Wet	Grayish Brown	Dense	Silty Sand	SM	Slight Hydrocarbon Odor
23									
24									
25			0.1						

TOTAL BORING DEPTH: 25' PAGE NO: 1 OF 1 ▼ ESTIMATED GROUNDWATER DEPTH: 19'

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF ACTUAL CONDITIONS ENCOUNTERED.

BROADBENT

LITHOLOGIC AND MONITOR WELL CONSTRUCTION LOG

PROJECT NAME: BP 596A
SITE ADDRESS: 1900 Webster Street, Oakland, California
PROJECT NUMBER: 14-90-103
LEGAL DESC: _____ APN: _____
LOGGED BY: Nick Vrdoljak
FACILITY ID OR WAIVER: _____ NOI NUMBER: _____
DATE: 2/2/2015 START: 0910
DRILLING COMPANY: Gregg DRILLER: L.S.
WELL ID: SB-10 STOP: 1100
DRILLING METHOD: GeoProbe SAMPLE METHOD: Direct Push

DEPTH (FEET)	BORING DIAMETER: –	SAMPLE ID	PID (ppm)	MOISTURE	COLOR	CONSISTENCY	GRAIN SIZE / CLASSIFICATION		REMARKS, ODORS & BLOW COUNT
1							Concrete/Asphalt		
2							Road Base		
3		SB-10-3'							
4	GROUT		0.0	Slightly Moist	Light Brown	Loose	Silty Sand with Trace Gravel	SM	No Odor
5									
6				Slightly Moist	Medium Brown	Loose	Medium to Coarse Sand with Trace Silt and Trace Gravel (Increasing Gravel with Depth)	SM	No Odor
7		SB-10-7'							
8			0.0	Slightly Moist	Grayish Brown	Loose	Silty Sand Fine to Medium Grain No Gravel	SM	No Odor
9									
10									
11			0.0						
12				Moist	Reddish Brown	Loose	Silty Sand Fine to Medium Grain	SM	No Odor
13									
14				Moist	Grayish Brown	Loose	Silty Sand Fine to Medium Grain	SM	No Odor
15									
16			0.5						Slight Hydrocarbon Odor
17		SB-10-17'							
18 ▼			5.5	Wet	Greenish Gray	Medium Dense	Silty Sand Fine to Medium Grain	SM	Strong Hydrocarbon Odor
19									
20			29.9						
21									
22									
23									
24									
25									

TOTAL BORING DEPTH: 20' PAGE NO: 1 OF 1 ▼ ESTIMATED GROUNDWATER DEPTH: 18'

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF ACTUAL CONDITIONS ENCOUNTERED.

BROADBENT

LITHOLOGIC AND MONITOR WELL CONSTRUCTION LOG

PROJECT NAME: BP 596A
SITE ADDRESS: 1900 Webster Street, Oakland, California

PROJECT NUMBER: 14-90-103
LEGAL DESC: _____ APN: _____

LOGGED BY: Nick Vrdoljak
FACILITY ID OR WAIVER: _____ NOI NUMBER: _____

DATE: 2/4/2015 START: 0922
DRILLING COMPANY: Gregg DRILLER: L.S.

WELL ID: SG-1A STOP: 0945
DRILLING METHOD: Hand Auger SAMPLE METHOD: N/A

DEPTH (FEET)	VAPOR POINT CONSTRUCTION DIAMETER: 0.25"	SAMPLE ID	PID	MOISTURE	COLOR	CONSISTENCY	GRAIN SIZE	CLASSIFICATION	REMARKS & ODORS
0							Concrete/Asphalt		
1	GROUT			Dry	Dark Brown	Loose	Silty Sand with Crushed Brick	SM	No Odor
2	HYDRATED BENTONITE								
3	DRY BENTONITE #2/12 SAND								
4									
5									

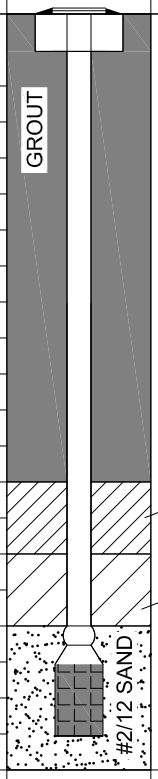
TOTAL BORING DEPTH: 3.5' PAGE NO: 1 OF 1 ESTIMATED GROUNDWATER DEPTH: NA

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF ACTUAL CONDITIONS ENCOUNTERED.

BROADBENT

LITHOLOGIC AND MONITOR WELL CONSTRUCTION LOG

PROJECT NAME: BP 596A
SITE ADDRESS: 1900 Webster Street, Oakland, California
PROJECT NUMBER: 14-90-103
LEGAL DESC: _____ APN: _____
LOGGED BY: Nick Vrdoljak
FACILITY ID OR WAIVER: _____ NOI NUMBER: _____
DATE: 2/4/2015 START: 0945
DRILLING COMPANY: Gregg DRILLER: L.S.
WELL ID: SG-1B STOP: 1010
DRILLING METHOD: Hand Auger SAMPLE METHOD: N/A



DEPTH (FEET)	VAPOR POINT CONSTRUCTION DIAMETER: 0.25"	SAMPLE ID	PID	MOISTURE	COLOR	CONSISTENCY	GRAIN SIZE / CLASSIFICATION		REMARKS & ODORS
							Concrete/Asphalt		
1	GROUT			Dry	Brown	Loose	Silty Sand with BrickPieces	SM	No Odor
2									
3			0.0	Slightly Moist	Dark Brown	Medium			
4	HYDRATED BENTONITE / DRY BENTONITE								
5	#2/12 SAND				Light Brown				

TOTAL BORING DEPTH: 5.5' PAGE NO: 1 OF 1 ESTIMATED GROUNDWATER DEPTH: NA

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF ACTUAL CONDITIONS ENCOUNTERED.

BROADBENT

LITHOLOGIC AND MONITOR WELL CONSTRUCTION LOG

PROJECT NAME: BP 596A
SITE ADDRESS: 1900 Webster Street, Oakland, California
PROJECT NUMBER: 14-90-103
LEGAL DESC: _____ APN: _____
LOGGED BY: Nick Vrdoljak
FACILITY ID OR WAIVER: _____ NOI NUMBER: _____
DATE: 2/4/2015 START: 0820
DRILLING COMPANY: Gregg DRILLER: L.S.
WELL ID: SG-2A STOP: 0835
DRILLING METHOD: Hand Auger SAMPLE METHOD: N/A

DEPTH (FEET)	VAPOR POINT CONSTRUCTION DIAMETER: 0.25"	SAMPLE ID	PID	MOISTURE	COLOR	CONSISTENCY	GRAIN SIZE / CLASSIFICATION		REMARKS & ODORS
0							Concrete/Asphalt		
1	GROUT						Road Base and Brick		
2	HYDRATED BENTONITE								
3	DRY BENTONITE #2/12 SAND		0.0	Slightly Moist	Brown	Medium Dense	Silty Sand with Some Clay	SM	No Odor
4									
5									

TOTAL BORING DEPTH: 3.5' PAGE NO: 1 OF 1 ESTIMATED GROUNDWATER DEPTH: NA

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF ACTUAL CONDITIONS ENCOUNTERED.

BROADBENT

LITHOLOGIC AND MONITOR WELL CONSTRUCTION LOG

PROJECT NAME: BP 596A
SITE ADDRESS: 1900 Webster Street, Oakland, California
PROJECT NUMBER: 14-90-103
LEGAL DESC: _____ APN: _____
LOGGED BY: Nick Vrdoljak
FACILITY ID OR WAIVER: _____ NOI NUMBER: _____
DATE: 2/4/2015 START: 0745
DRILLING COMPANY: Gregg DRILLER: L.S.
WELL ID: SG-2B STOP: 0820
DRILLING METHOD: Hand Auger SAMPLE METHOD: N/A

DEPTH (FEET)	VAPOR POINT CONSTRUCTION DIAMETER: 0.25"	SAMPLE ID	PID	MOISTURE	COLOR	CONSISTENCY	GRAIN SIZE / CLASSIFICATION		REMARKS & ODORS
							Concrete/Asphalt		
1	GROUT								
							Road Base with Brick Pieces		
2									
3	HYDRATED BENTONITE		0.2	Slightly Moist	Light Brown	Loose	Silty Sand	SM	No Odor
4	DRY BENTONITE								
5	#2/12 SAND								

TOTAL BORING DEPTH: 5.5' PAGE NO: 1 OF 1 ESTIMATED GROUNDWATER DEPTH: NA

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF ACTUAL CONDITIONS ENCOUNTERED.

APPENDIX E

Laboratory Analytical Reports

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-101017-1
Client Project/Site: ARCO 0596-A, Oakland

For:
Broadbent & Associates, Inc.
4820 Business Center Drive
#110
Fairfield, California 94534

Attn: Kristene Tidwell

Authorized for release by:
2/23/2015 11:55:43 AM

Kathleen Robb, Project Manager II
(949)261-1022
kathleen.robb@testamericainc.com

Table of Contents

Sample Summary

Client: Broadbent & Associates, Inc.
Project/Site: ARCO 0596-A, Oakland

TestAmerica Job ID: 440-101017-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-101017-1	SB-4	Water	02/02/15 14:50	02/05/15 10:00
440-101017-2	SB-5	Water	02/03/15 12:25	02/05/15 10:00
440-101017-3	SB-6	Water	02/03/15 15:05	02/05/15 10:00
440-101017-4	SB-7	Water	02/04/15 07:15	02/05/15 10:00
440-101017-5	SB-8	Water	02/03/15 10:15	02/05/15 10:00
440-101017-6	SB-9	Water	02/02/15 13:20	02/05/15 10:00
440-101017-7	SB-10	Water	02/02/15 11:00	02/05/15 10:00

Client: Broadbent & Associates, Inc.
Project/Site: ARCO 0596-A, Oakland

TestAmerica Job ID: 440-101017-1

Job ID: 440-101017-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-101017-1

Comments
No additional comments.

Receipt
The samples were received on 2/5/2015 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.1° C.

GC/MS VOA
Method(s) 8260B: The following sample(s) were collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, pH=3 was outside the required criteria when verified by the laboratory, and corrective action was not possible: SB-5 (440-101017-2), SB-9 (440-101017-6). Samples contained sediments.

Method(s) 8260B: The following sample(s) were collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, pH=5 was outside the required criteria when verified by the laboratory, and corrective action was not possible: SB-6 (440-101017-3). Sample contained sediments.

Method(s) 8260B: The following sample(s) were collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, pH=4 was outside the required criteria when verified by the laboratory, and corrective action was not possible: SB-10 (440-101017-7). Sample contained sediments.

Method(s) 8260B: The following volatile sample(s) was received and analyzed with significant headspace in the sample vial(s): SB-10 (440-101017-7). Significant headspace is defined as a bubble greater than 6 mm in diameter.

Method(s) 624, 8260B: The following samples were collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, the pH=3 was outside the required criteria when verified by the laboratory, and corrective action was not possible: SB-10 (440-101017-7).

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

GC VOA
Method(s) 8015B: The following sample(s) were collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, the pH was outside the required criteria when verified by the laboratory, and corrective action was not possible. pH is 4.: SB-10 (440-101017-7).

Method(s) 8015B: The following sample(s) were collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, pH=3 was outside the required criteria when verified by the laboratory, and corrective action was not possible.: SB-5 (440-101017-2).

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

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

Client: Broadbent & Associates, Inc.
Project/Site: ARCO 0596-A, Oakland

TestAmerica Job ID: 440-101017-1

Client Sample ID: SB-4

Lab Sample ID: 440-101017-1

Date Collected: 02/02/15 14:50

Matrix: Water

Date Received: 02/05/15 10:00

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0		ug/L			02/14/15 16:10	1
Isopropyl Ether (DIPE)	ND		5.0		ug/L			02/14/15 16:10	1
Ethyl-t-butyl ether (ETBE)	ND		5.0		ug/L			02/14/15 16:10	1
Ethylbenzene	ND		2.0		ug/L			02/14/15 16:10	1
m,p-Xylene	ND		2.0		ug/L			02/14/15 16:10	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0		ug/L			02/14/15 16:10	1
o-Xylene	ND		2.0		ug/L			02/14/15 16:10	1
Tert-amyl-methyl ether (TAME)	ND		5.0		ug/L			02/14/15 16:10	1
tert-Butyl alcohol (TBA)	ND		10		ug/L			02/14/15 16:10	1
Toluene	ND		2.0		ug/L			02/14/15 16:10	1
Xylenes, Total	ND		2.0		ug/L			02/14/15 16:10	1
Naphthalene	ND		5.0		ug/L			02/14/15 16:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 128*		*02/14/15 16:10*	*1*
4-Bromofluorobenzene (Surr)	*88*		*80 - 120*		*02/14/15 16:10*	*1*
Dibromofluoromethane (Surr)	*97*		*76 - 132*		*02/14/15 16:10*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		50		ug/L			02/13/15 08:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*65 - 140*		*02/13/15 08:08*	*1*

Client Sample ID: SB-5

Lab Sample ID: 440-101017-2

Date Collected: 02/03/15 12:25

Matrix: Water

Date Received: 02/05/15 10:00

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0		ug/L			02/14/15 16:39	1
Isopropyl Ether (DIPE)	ND		5.0		ug/L			02/14/15 16:39	1
Ethyl-t-butyl ether (ETBE)	ND		5.0		ug/L			02/14/15 16:39	1
Ethylbenzene	ND		2.0		ug/L			02/14/15 16:39	1
m,p-Xylene	ND		2.0		ug/L			02/14/15 16:39	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0		ug/L			02/14/15 16:39	1
o-Xylene	ND		2.0		ug/L			02/14/15 16:39	1
Tert-amyl-methyl ether (TAME)	ND		5.0		ug/L			02/14/15 16:39	1
tert-Butyl alcohol (TBA)	ND		10		ug/L			02/14/15 16:39	1
Toluene	ND		2.0		ug/L			02/14/15 16:39	1
Xylenes, Total	ND		2.0		ug/L			02/14/15 16:39	1
Naphthalene	ND		5.0		ug/L			02/14/15 16:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 128*		*02/14/15 16:39*	*1*
4-Bromofluorobenzene (Surr)	*89*		*80 - 120*		*02/14/15 16:39*	*1*
Dibromofluoromethane (Surr)	*97*		*76 - 132*		*02/14/15 16:39*	*1*

Client: Broadbent & Associates, Inc.
Project/Site: ARCO 0596-A, Oakland

TestAmerica Job ID: 440-101017-1

Client Sample ID: SB-5

Lab Sample ID: 440-101017-2

Date Collected: 02/03/15 12:25

Matrix: Water

Date Received: 02/05/15 10:00

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		50		ug/L			02/14/15 19:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*65 - 140*		*02/14/15 19:55*	*1*

Client Sample ID: SB-6

Lab Sample ID: 440-101017-3

Date Collected: 02/03/15 15:05

Matrix: Water

Date Received: 02/05/15 10:00

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		5.0		ug/L			02/14/15 17:09	2.5
Isopropyl Ether (DIPE)	ND		13		ug/L			02/14/15 17:09	2.5
Ethyl-t-butyl ether (ETBE)	ND		13		ug/L			02/14/15 17:09	2.5
Ethylbenzene	**69**		5.0		ug/L			02/14/15 17:09	2.5
m,p-Xylene	**60**		5.0		ug/L			02/14/15 17:09	2.5
Methyl-t-Butyl Ether (MTBE)	ND		2.5		ug/L			02/14/15 17:09	2.5
o-Xylene	ND		5.0		ug/L			02/14/15 17:09	2.5
Tert-amyl-methyl ether (TAME)	ND		13		ug/L			02/14/15 17:09	2.5
tert-Butyl alcohol (TBA)	ND		25		ug/L			02/14/15 17:09	2.5
Toluene	ND		5.0		ug/L			02/14/15 17:09	2.5
Xylenes, Total	**60**		5.0		ug/L			02/14/15 17:09	2.5
Naphthalene	**27**		13		ug/L			02/14/15 17:09	2.5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 128*		*02/14/15 17:09*	*2.5*
4-Bromofluorobenzene (Surr)	*91*		*80 - 120*		*02/14/15 17:09*	*2.5*
Dibromofluoromethane (Surr)	*94*		*76 - 132*		*02/14/15 17:09*	*2.5*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	**11000**		5000		ug/L			02/12/15 06:13	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*65 - 140*		*02/12/15 06:13*	*100*

Client Sample ID: SB-7

Lab Sample ID: 440-101017-4

Date Collected: 02/04/15 07:15

Matrix: Water

Date Received: 02/05/15 10:00

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0		ug/L			02/14/15 17:38	1
Isopropyl Ether (DIPE)	ND		5.0		ug/L			02/14/15 17:38	1
Ethyl-t-butyl ether (ETBE)	ND		5.0		ug/L			02/14/15 17:38	1
Ethylbenzene	ND		2.0		ug/L			02/14/15 17:38	1
m,p-Xylene	ND		2.0		ug/L			02/14/15 17:38	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0		ug/L			02/14/15 17:38	1
o-Xylene	ND		2.0		ug/L			02/14/15 17:38	1
Tert-amyl-methyl ether (TAME)	ND		5.0		ug/L			02/14/15 17:38	1
tert-Butyl alcohol (TBA)	ND		10		ug/L			02/14/15 17:38	1

Client Sample ID: SB-7

Lab Sample ID: 440-101017-4

Date Collected: 02/04/15 07:15

Matrix: Water

Date Received: 02/05/15 10:00

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND		2.0		ug/L			02/14/15 17:38	1
Xylenes, Total	ND		2.0		ug/L			02/14/15 17:38	1
Naphthalene	ND		5.0		ug/L			02/14/15 17:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 128*		*02/14/15 17:38*	*1*
4-Bromofluorobenzene (Surr)	*89*		*80 - 120*		*02/14/15 17:38*	*1*
Dibromofluoromethane (Surr)	*96*		*76 - 132*		*02/14/15 17:38*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	**3100**		1000		ug/L			02/14/15 20:20	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*65 - 140*		*02/14/15 20:20*	*20*

Client Sample ID: SB-8

Lab Sample ID: 440-101017-5

Date Collected: 02/03/15 10:15

Matrix: Water

Date Received: 02/05/15 10:00

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0		ug/L			02/14/15 18:08	1
Isopropyl Ether (DIPE)	ND		5.0		ug/L			02/14/15 18:08	1
Ethyl-t-butyl ether (ETBE)	ND		5.0		ug/L			02/14/15 18:08	1
Ethylbenzene	ND		2.0		ug/L			02/14/15 18:08	1
m,p-Xylene	ND		2.0		ug/L			02/14/15 18:08	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0		ug/L			02/14/15 18:08	1
o-Xylene	ND		2.0		ug/L			02/14/15 18:08	1
Tert-amyl-methyl ether (TAME)	ND		5.0		ug/L			02/14/15 18:08	1
tert-Butyl alcohol (TBA)	ND		10		ug/L			02/14/15 18:08	1
Toluene	ND		2.0		ug/L			02/14/15 18:08	1
Xylenes, Total	ND		2.0		ug/L			02/14/15 18:08	1
Naphthalene	ND		5.0		ug/L			02/14/15 18:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*80 - 128*		*02/14/15 18:08*	*1*
4-Bromofluorobenzene (Surr)	*91*		*80 - 120*		*02/14/15 18:08*	*1*
Dibromofluoromethane (Surr)	*96*		*76 - 132*		*02/14/15 18:08*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		50		ug/L			02/12/15 07:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*65 - 140*		*02/12/15 07:04*	*1*

Client: Broadbent & Associates, Inc.
Project/Site: ARCO 0596-A, Oakland

TestAmerica Job ID: 440-101017-1

Client Sample ID: SB-9

Lab Sample ID: 440-101017-6

Date Collected: 02/02/15 13:20

Matrix: Water

Date Received: 02/05/15 10:00

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0		ug/L			02/14/15 18:37	1
Isopropyl Ether (DIPE)	ND		5.0		ug/L			02/14/15 18:37	1
Ethyl-t-butyl ether (ETBE)	ND		5.0		ug/L			02/14/15 18:37	1
Ethylbenzene	ND		2.0		ug/L			02/14/15 18:37	1
m,p-Xylene	ND		2.0		ug/L			02/14/15 18:37	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0		ug/L			02/14/15 18:37	1
o-Xylene	ND		2.0		ug/L			02/14/15 18:37	1
Tert-amyl-methyl ether (TAME)	ND		5.0		ug/L			02/14/15 18:37	1
tert-Butyl alcohol (TBA)	ND		10		ug/L			02/14/15 18:37	1
Toluene	ND		2.0		ug/L			02/14/15 18:37	1
Xylenes, Total	ND		2.0		ug/L			02/14/15 18:37	1
Naphthalene	ND		5.0		ug/L			02/14/15 18:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 128*		*02/14/15 18:37*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*02/14/15 18:37*	*1*
Dibromofluoromethane (Surr)	*97*		*76 - 132*		*02/14/15 18:37*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	**350**		50		ug/L			02/13/15 08:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*65 - 140*		*02/13/15 08:34*	*1*

Client Sample ID: SB-10

Lab Sample ID: 440-101017-7

Date Collected: 02/02/15 11:00

Matrix: Water

Date Received: 02/05/15 10:00

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl Ether (DIPE)	ND		5.0		ug/L			02/14/15 19:07	1
Ethyl-t-butyl ether (ETBE)	ND		5.0		ug/L			02/14/15 19:07	1
Ethylbenzene	**32**		2.0		ug/L			02/14/15 19:07	1
m,p-Xylene	**55**		2.0		ug/L			02/14/15 19:07	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0		ug/L			02/14/15 19:07	1
o-Xylene	**4.4**		2.0		ug/L			02/14/15 19:07	1
Tert-amyl-methyl ether (TAME)	ND		5.0		ug/L			02/14/15 19:07	1
tert-Butyl alcohol (TBA)	ND		10		ug/L			02/14/15 19:07	1
Toluene	**34**		2.0		ug/L			02/14/15 19:07	1
Xylenes, Total	**59**		2.0		ug/L			02/14/15 19:07	1
Naphthalene	ND		5.0		ug/L			02/14/15 19:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 128*		*02/14/15 19:07*	*1*
4-Bromofluorobenzene (Surr)	*89*		*80 - 120*		*02/14/15 19:07*	*1*
Dibromofluoromethane (Surr)	*90*		*76 - 132*		*02/14/15 19:07*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**140**		10		ug/L			02/15/15 11:52	5

Client: Broadbent & Associates, Inc.
Project/Site: ARCO 0596-A, Oakland

TestAmerica Job ID: 440-101017-1

Client Sample ID: SB-10
Date Collected: 02/02/15 11:00
Date Received: 02/05/15 10:00

Lab Sample ID: 440-101017-7
Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 128*		*02/15/15 11:52*	*5*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*02/15/15 11:52*	*5*
Dibromofluoromethane (Surr)	*103*		*76 - 132*		*02/15/15 11:52*	*5*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	4500		250	ug/L			02/15/15 11:50	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*65 - 140*		*02/15/15 11:50*	*5*

Method Summary

Client: Broadbent & Associates, Inc.
Project/Site: ARCO 0596-A, Oakland

TestAmerica Job ID: 440-101017-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8015B	Gasoline Range Organics - (GC)	SW846	TAL IRV

Protocol References:

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

Laboratory References:

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

Lab Chronicle

Client: Broadbent & Associates, Inc.
Project/Site: ARCO 0596-A, Oakland

TestAmerica Job ID: 440-101017-1

Client Sample ID: SB-4

Date Collected: 02/02/15 14:50
Date Received: 02/05/15 10:00

Lab Sample ID: 440-101017-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	236518	02/14/15 16:10	TN	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	236036	02/13/15 08:08	TL	TAL IRV

Client Sample ID: SB-5

Date Collected: 02/03/15 12:25
Date Received: 02/05/15 10:00

Lab Sample ID: 440-101017-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	236518	02/14/15 16:39	TN	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	236554	02/14/15 19:55	TL	TAL IRV

Client Sample ID: SB-6

Date Collected: 02/03/15 15:05
Date Received: 02/05/15 10:00

Lab Sample ID: 440-101017-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2.5	10 mL	10 mL	236518	02/14/15 17:09	TN	TAL IRV
Total/NA	Analysis	8015B		100	10 mL	10 mL	236035	02/12/15 06:13	AT	TAL IRV

Client Sample ID: SB-7

Date Collected: 02/04/15 07:15
Date Received: 02/05/15 10:00

Lab Sample ID: 440-101017-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	236518	02/14/15 17:38	TN	TAL IRV
Total/NA	Analysis	8015B		20	10 mL	10 mL	236554	02/14/15 20:20	TL	TAL IRV

Client Sample ID: SB-8

Date Collected: 02/03/15 10:15
Date Received: 02/05/15 10:00

Lab Sample ID: 440-101017-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	236518	02/14/15 18:08	TN	TAL IRV
Total/NA	Analysis	8015B		1	10 mL	10 mL	236035	02/12/15 07:04	AT	TAL IRV

Client Sample ID: SB-9

Date Collected: 02/02/15 13:20
Date Received: 02/05/15 10:00

Lab Sample ID: 440-101017-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	236518	02/14/15 18:37	TN	TAL IRV

Lab Chronicle

Client: Broadbent & Associates, Inc.
Project/Site: ARCO 0596-A, Oakland

TestAmerica Job ID: 440-101017-1

Client Sample ID: SB-9

Lab Sample ID: 440-101017-6

Date Collected: 02/02/15 13:20

Matrix: Water

Date Received: 02/05/15 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015B		1	10 mL	10 mL	236036	02/13/15 08:34	TL	TAL IRV

Client Sample ID: SB-10

Lab Sample ID: 440-101017-7

Date Collected: 02/02/15 11:00

Matrix: Water

Date Received: 02/05/15 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	236518	02/14/15 19:07	TN	TAL IRV
Total/NA	Analysis	8260B	DL	5	10 mL	10 mL	236584	02/15/15 11:52	HR	TAL IRV
Total/NA	Analysis	8015B		5	10 mL	10 mL	236594	02/15/15 11:50	TN	TAL IRV

Laboratory References:

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

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

Lab Sample ID: MB 440-236518/4
Matrix: Water
Analysis Batch: 236518

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0		ug/L			02/14/15 10:46	1
Isopropyl Ether (DIPE)	ND		5.0		ug/L			02/14/15 10:46	1
Ethyl-t-butyl ether (ETBE)	ND		5.0		ug/L			02/14/15 10:46	1
Ethylbenzene	ND		2.0		ug/L			02/14/15 10:46	1
m,p-Xylene	ND		2.0		ug/L			02/14/15 10:46	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0		ug/L			02/14/15 10:46	1
o-Xylene	ND		2.0		ug/L			02/14/15 10:46	1
Tert-amyl-methyl ether (TAME)	ND		5.0		ug/L			02/14/15 10:46	1
tert-Butyl alcohol (TBA)	ND		10		ug/L			02/14/15 10:46	1
Toluene	ND		2.0		ug/L			02/14/15 10:46	1
Xylenes, Total	ND		2.0		ug/L			02/14/15 10:46	1
Naphthalene	ND		5.0		ug/L			02/14/15 10:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 128*		*02/14/15 10:46*	*1*
4-Bromofluorobenzene (Surr)	*88*		*80 - 120*		*02/14/15 10:46*	*1*
Dibromofluoromethane (Surr)	*98*		*76 - 132*		*02/14/15 10:46*	*1*

Lab Sample ID: LCS 440-236518/5
Matrix: Water
Analysis Batch: 236518

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	23.0		ug/L		92	68 - 130		
Isopropyl Ether (DIPE)			25.0	23.7		ug/L		95	58 - 139		
Ethyl-t-butyl ether (ETBE)			25.0	24.0		ug/L		96	60 - 136		
Ethylbenzene			25.0	21.7		ug/L		87	70 - 130		
m,p-Xylene			25.0	24.1		ug/L		96	70 - 130		
Methyl-t-Butyl Ether (MTBE)			25.0	23.7		ug/L		95	63 - 131		
o-Xylene			25.0	23.8		ug/L		95	70 - 130		
Tert-amyl-methyl ether (TAME)			25.0	23.5		ug/L		94	57 - 139		
tert-Butyl alcohol (TBA)			250	246		ug/L		98	70 - 130		
Toluene			25.0	22.0		ug/L		88	70 - 130		
Naphthalene			25.0	22.3		ug/L		89	60 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*95*		*80 - 128*
4-Bromofluorobenzene (Surr)	*86*		*80 - 120*
Dibromofluoromethane (Surr)	*96*		*76 - 132*

Lab Sample ID: 440-101134-A-6 MS
Matrix: Water
Analysis Batch: 236518

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	ND		25.0	21.7		ug/L		87	66 - 130		
Isopropyl Ether (DIPE)	ND		25.0	22.7		ug/L		91	64 - 138		

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

Lab Sample ID: 440-101134-A-6 MS
Matrix: Water
Analysis Batch: 236518

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethyl-t-butyl ether (ETBE)	ND		25.0	23.0		ug/L		92	70 - 130
Ethylbenzene	ND		25.0	21.1		ug/L		84	70 - 130
m,p-Xylene	ND		25.0	23.0		ug/L		92	70 - 133
Methyl-t-Butyl Ether (MTBE)	ND		25.0	22.8		ug/L		91	70 - 130
o-Xylene	ND		25.0	22.6		ug/L		90	70 - 133
Tert-amyl-methyl ether (TAME)	ND		25.0	22.2		ug/L		89	68 - 133
tert-Butyl alcohol (TBA)	ND		250	235		ug/L		94	70 - 130
Toluene	ND		25.0	21.0		ug/L		84	70 - 130
Naphthalene	ND		25.0	20.7		ug/L		83	60 - 140

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*97*		*80 - 128*
4-Bromofluorobenzene (Surr)	*87*		*80 - 120*
Dibromofluoromethane (Surr)	*94*		*76 - 132*

Lab Sample ID: 440-101134-A-6 MSD
Matrix: Water
Analysis Batch: 236518

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	ND		25.0	23.0		ug/L		92	66 - 130	6	20
Isopropyl Ether (DIPE)	ND		25.0	23.3		ug/L		93	64 - 138	3	25
Ethyl-t-butyl ether (ETBE)	ND		25.0	24.6		ug/L		99	70 - 130	7	25
Ethylbenzene	ND		25.0	21.9		ug/L		88	70 - 130	4	20
m,p-Xylene	ND		25.0	23.8		ug/L		95	70 - 133	3	25
Methyl-t-Butyl Ether (MTBE)	ND		25.0	24.0		ug/L		96	70 - 130	5	25
o-Xylene	ND		25.0	23.1		ug/L		92	70 - 133	2	20
Tert-amyl-methyl ether (TAME)	ND		25.0	23.4		ug/L		94	68 - 133	5	30
tert-Butyl alcohol (TBA)	ND		250	252		ug/L		101	70 - 130	7	25
Toluene	ND		25.0	21.3		ug/L		85	70 - 130	1	20
Naphthalene	ND		25.0	22.6		ug/L		90	60 - 140	9	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*94*		*80 - 128*
4-Bromofluorobenzene (Surr)	*88*		*80 - 120*
Dibromofluoromethane (Surr)	*94*		*76 - 132*

Lab Sample ID: MB 440-236584/4
Matrix: Water
Analysis Batch: 236584

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0		ug/L			02/15/15 08:19	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*80 - 128*		*02/15/15 08:19*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*02/15/15 08:19*	*1*

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

Lab Sample ID: MB 440-236584/4
Matrix: Water
Analysis Batch: 236584

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	102		76 - 132		02/15/15 08:19	1

Lab Sample ID: LCS 440-236584/5
Matrix: Water
Analysis Batch: 236584

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	21.9		ug/L		88	68 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	98		80 - 128
4-Bromofluorobenzene (Surr)	94		80 - 120
Dibromofluoromethane (Surr)	103		76 - 132

Lab Sample ID: 440-101116-O-2 MS
Matrix: Water
Analysis Batch: 236584

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	ND		125	112		ug/L		89	66 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	99		80 - 128
4-Bromofluorobenzene (Surr)	93		80 - 120
Dibromofluoromethane (Surr)	103		76 - 132

Lab Sample ID: 440-101116-O-2 MSD
Matrix: Water
Analysis Batch: 236584

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	ND		125	117		ug/L		93	66 - 130	4	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	99		80 - 128
4-Bromofluorobenzene (Surr)	95		80 - 120
Dibromofluoromethane (Surr)	103		76 - 132

Method: 8015B - Gasoline Range Organics - (GC)

Lab Sample ID: MB 440-236035/5
Matrix: Water
Analysis Batch: 236035

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		50		ug/L			02/12/15 04:57	1

Method: 8015B - Gasoline Range Organics - (GC) (Continued)

Lab Sample ID: MB 440-236035/5
Matrix: Water
Analysis Batch: 236035

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		65 - 140		02/12/15 04:57	1

Lab Sample ID: LCS 440-236035/4
Matrix: Water
Analysis Batch: 236035

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
GRO (C4-C12)			800	841		ug/L		105	80 - 120		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		65 - 140

Lab Sample ID: 440-101104-D-1 MS
Matrix: Water
Analysis Batch: 236035

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
GRO (C4-C12)	130		800	874		ug/L		92	65 - 140		

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		65 - 140

Lab Sample ID: 440-101104-E-1 MSD
Matrix: Water
Analysis Batch: 236035

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
GRO (C4-C12)	130		800	1020		ug/L		110	65 - 140	15	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	108		65 - 140

Lab Sample ID: MB 440-236036/36
Matrix: Water
Analysis Batch: 236036

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		50		ug/L			02/13/15 00:54	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		65 - 140		02/13/15 00:54	1

Method: 8015B - Gasoline Range Organics - (GC) (Continued)

Lab Sample ID: LCS 440-236036/35
Matrix: Water
Analysis Batch: 236036

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
GRO (C4-C12)			800	850		ug/L		106	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*65 - 140*

Lab Sample ID: MB 440-236554/5
Matrix: Water
Analysis Batch: 236554

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		50		ug/L			02/14/15 13:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*65 - 140*		*02/14/15 13:29*	*1*

Lab Sample ID: LCS 440-236554/4
Matrix: Water
Analysis Batch: 236554

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
GRO (C4-C12)			800	877		ug/L		110	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*65 - 140*

Lab Sample ID: 440-100731-B-7 MS
Matrix: Water
Analysis Batch: 236554

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
GRO (C4-C12)	ND		800	885		ug/L		111	65 - 140		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*65 - 140*

Lab Sample ID: 440-100731-B-7 MSD
Matrix: Water
Analysis Batch: 236554

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
GRO (C4-C12)	ND		800	880		ug/L		110	65 - 140	0	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*65 - 140*

Method: 8015B - Gasoline Range Organics - (GC) (Continued)

Lab Sample ID: MB 440-236594/5
Matrix: Water
Analysis Batch: 236594

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		50		ug/L			02/15/15 11:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*65 - 140*		*02/15/15 11:20*	*1*

Lab Sample ID: LCS 440-236594/4
Matrix: Water
Analysis Batch: 236594

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
GRO (C4-C12)			800	797		ug/L		100	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*65 - 140*

Lab Sample ID: 440-101076-E-1 MS
Matrix: Water
Analysis Batch: 236594

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
GRO (C4-C12)	ND		800	831		ug/L		100	65 - 140		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*65 - 140*

Lab Sample ID: 440-101076-E-1 MSD
Matrix: Water
Analysis Batch: 236594

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
GRO (C4-C12)	ND		800	878		ug/L		106	65 - 140	5	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*65 - 140*

GC/MS VOA

Analysis Batch: 236518

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-101017-1	SB-4	Total/NA	Water	8260B	
440-101017-2	SB-5	Total/NA	Water	8260B	
440-101017-3	SB-6	Total/NA	Water	8260B	
440-101017-4	SB-7	Total/NA	Water	8260B	
440-101017-5	SB-8	Total/NA	Water	8260B	
440-101017-6	SB-9	Total/NA	Water	8260B	
440-101017-7	SB-10	Total/NA	Water	8260B	
440-101134-A-6 MS	Matrix Spike	Total/NA	Water	8260B	
440-101134-A-6 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
LCS 440-236518/5	Lab Control Sample	Total/NA	Water	8260B	
MB 440-236518/4	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 236584

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-101017-7 - DL	SB-10	Total/NA	Water	8260B	
440-101116-O-2 MS	Matrix Spike	Total/NA	Water	8260B	
440-101116-O-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
LCS 440-236584/5	Lab Control Sample	Total/NA	Water	8260B	
MB 440-236584/4	Method Blank	Total/NA	Water	8260B	

GC VOA

Analysis Batch: 236035

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-101017-3	SB-6	Total/NA	Water	8015B	
440-101017-5	SB-8	Total/NA	Water	8015B	
440-101104-D-1 MS	Matrix Spike	Total/NA	Water	8015B	
440-101104-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8015B	
LCS 440-236035/4	Lab Control Sample	Total/NA	Water	8015B	
MB 440-236035/5	Method Blank	Total/NA	Water	8015B	

Analysis Batch: 236036

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-101017-1	SB-4	Total/NA	Water	8015B	
440-101017-6	SB-9	Total/NA	Water	8015B	
LCS 440-236036/35	Lab Control Sample	Total/NA	Water	8015B	
MB 440-236036/36	Method Blank	Total/NA	Water	8015B	

Analysis Batch: 236554

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-100731-B-7 MS	Matrix Spike	Total/NA	Water	8015B	
440-100731-B-7 MSD	Matrix Spike Duplicate	Total/NA	Water	8015B	
440-101017-2	SB-5	Total/NA	Water	8015B	
440-101017-4	SB-7	Total/NA	Water	8015B	
LCS 440-236554/4	Lab Control Sample	Total/NA	Water	8015B	
MB 440-236554/5	Method Blank	Total/NA	Water	8015B	

Analysis Batch: 236594

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-101017-7	SB-10	Total/NA	Water	8015B	

GC VOA (Continued)

Analysis Batch: 236594 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-101076-E-1 MS	Matrix Spike	Total/NA	Water	8015B	
440-101076-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8015B	
LCS 440-236594/4	Lab Control Sample	Total/NA	Water	8015B	
MB 440-236594/5	Method Blank	Total/NA	Water	8015B	

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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)

Certification Summary

Client: Broadbent & Associates, Inc.
Project/Site: ARCO 0596-A, Oakland

TestAmerica Job ID: 440-101017-1

Laboratory: TestAmerica Irvine

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-15
Arizona	State Program	9	AZ0671	10-13-15
California	LA Cty Sanitation Districts	9	10256	01-31-16 *
California	State Program	9	2706	06-30-16
Guam	State Program	9	Cert. No. 12.002r	01-23-15 *
Hawaii	State Program	9	N/A	01-29-16
Nevada	State Program	9	CA015312007A	07-31-15
New Mexico	State Program	6	N/A	01-29-15 *
Northern Mariana Islands	State Program	9	MP0002	01-29-15 *
Oregon	NELAP	10	4005	01-29-16
USDA	Federal		P330-09-00080	06-06-15

* Certification renewal pending - certification considered valid.

440-101017 Chain of Custody

Management Program LaMP Chain of Custody Record

Page 1 of 1

BP Site Node Path: 14-90-103 | Req Due Date (mm/dd/yy): | Rush TAT: Yes ___ No x

BP Facility No: 596-A | Lab Work Order Number:

Lab Name: Test America	Facility Address: 1900 Webster Street	Consultant/Contractor: Broadbent and Associates, Inc.
Lab Address: 17461 Derian Avenue Suite #100, Irvine, CA 92614	City, State, ZIP Code: Oakland, CA 94612	Consultant/Contractor Project No: 14-90-103
Lab PM: Kathleen Robb	Lead Regulatory Agency: Alameda County Public Works Agency	Address: 4820 Business Center Drive, Suite 110, Fairfield, CA 94534
Lab Phone: 949-261-1022	California Global ID No.: T10000004348	Consultant/Contractor PM: Kristene Tidwell
Lab Shipping Accnt: 1103-6633-7	Enfos Proposal No: 0092H-0004 / WR286504	Phone: 707-455-7290 Fax: 707-863-9046
Lab Bottle Order No.	Accounting Mode: Provision x OOC-BU ___ OOC-RM ___	Email EDD To: ktidwell@broadbentinc.com and to lab.enfosdoc@bp.com
Other Info:	Stage: Activity:	Invoice To: BP x Contractor ___
BP Project Manager (PM): Chuck Carmel		
BP PM Phone: 925-275-3804		
BP PM Email: chuck.carmel@bp.com		

Lab No.	Sample Description	Date	Time	Matrix: Soil / Solid	Matrix: Water / Liquid	Matrix: Air / Vapor	Matrix: Is this location a well?	No. Containers / Preservative: Total Number of Containers	Unpreserved	H2SO4	HNO3	HCl	Methanol	Requested Analyses: GRO & DRO by 8015M	BTEX & Naphthalene by 8260	MTBE, TAME, & ETBE by 8260	DIPE & TBA by 8260	Comments
	SB-4	2/2/2015	1450		x		n	6				x		x	x	x	x	
	SB-5	2/3/2015	1225		x		n	6				x		x	x	x	x	
	SB-6	2/3/2015	1505		x		n	6				x		x	x	x	x	
	SB-7	2/4/2015	0715		x		n	6				x		x	x	x	x	
	SB-8	2/3/2015	1015		x		n	6				x		x	x	x	x	
	SB-9	2/2/2015	1320		x		n	6				x		x	x	x	x	
	SB-10	2/2/2015	1100		x		n	6				x		x	x	x	x	
	TB-596A-02042015	–	–		x		n	2				x						On Hold

Report Type & QC Level: Standard x; Full Data Package ___

Sampler's Name: Alex Martinez	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company: Broadbent & Associates, Inc.	Alex Martinez BAI	2/4/15	1700	[illegible] TAI	2/5/15	10:00
Shipment Method: FedEx Ship Date: 2/4/2015						
Shipment Tracking No: 5037 8050 3055						

Special Instructions:

THIS LINE - LAB USE ONLY: Custody Seals In Place: Yes / No | Temp Blank: Yes / No | Cooler Temp on Receipt: 3.1 °F/C | Trip Blank: Yes / No | MS/MSD Sample Submitted: Yes / No

Login Sample Receipt Checklist

Client: Broadbent & Associates, Inc.

Job Number: 440-101017-1

Login Number: 101017

List Source: TestAmerica Irvine

List Number: 1

Creator: Blocker, Kristina M

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.	True	
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.	False	Missing invoicing info
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.	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	False	No containers rec'd for DRO analysis.
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	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-101019-1
Client Project/Site: ARCO 0596-A, Oakland

For:
Broadbent & Associates, Inc.
4820 Business Center Drive
#110
Fairfield, California 94534

Attn: Kristene Tidwell

Authorized for release by:
2/23/2015 12:02:08 PM

Kathleen Robb, Project Manager II
(949)261-1022
kathleen.robb@testamericainc.com

Table of Contents

Sample Summary

Client: Broadbent & Associates, Inc.
Project/Site: ARCO 0596-A, Oakland

TestAmerica Job ID: 440-101019-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-101019-1	SB-4-3	Solid	02/02/15 14:00	02/05/15 10:00
440-101019-2	SB-4-7	Solid	02/02/15 14:15	02/05/15 10:00
440-101019-3	SB-5-3	Solid	02/03/15 11:40	02/05/15 10:00
440-101019-4	SB-5-7	Solid	02/03/15 11:55	02/05/15 10:00
440-101019-5	SB-6-3	Solid	02/03/15 14:10	02/05/15 10:00
440-101019-6	SB-6-7	Solid	02/03/15 14:30	02/05/15 10:00
440-101019-7	SB-6-17.5	Solid	02/03/15 14:40	02/05/15 10:00
440-101019-8	SB-6-21.5	Solid	02/03/15 14:45	02/05/15 10:00
440-101019-9	SB-6-24	Solid	02/03/15 15:00	02/05/15 10:00
440-101019-10	SB-7-3	Solid	02/03/15 07:45	02/05/15 10:00
440-101019-11	SB-7-7	Solid	02/03/15 08:05	02/05/15 10:00
440-101019-12	SB-7-25	Solid	02/03/15 08:45	02/05/15 10:00
440-101019-13	SB-8-3	Solid	02/03/15 09:30	02/05/15 10:00
440-101019-14	SB-8-7	Solid	02/03/15 09:45	02/05/15 10:00
440-101019-15	SB-9-3	Solid	02/02/15 12:00	02/05/15 10:00
440-101019-16	SB-9-7	Solid	02/02/15 12:45	02/05/15 10:00
440-101019-17	SB-9-17.5	Solid	02/02/15 13:00	02/05/15 10:00
440-101019-18	SB-10-3	Solid	02/02/15 09:45	02/05/15 10:00
440-101019-19	SB-10-7	Solid	02/02/15 10:00	02/05/15 10:00
440-101019-20	SB-10-19	Solid	02/02/15 10:45	02/05/15 10:00
440-101019-21	SG-1A-3.5	Solid	02/04/15 09:45	02/05/15 10:00
440-101019-22	SG-1B-3	Solid	02/04/15 09:55	02/05/15 10:00
440-101019-23	SG-2A-3.5	Solid	02/04/15 08:30	02/05/15 10:00
440-101019-24	SG-2B-3.5	Solid	02/04/15 08:15	02/05/15 10:00

Client: Broadbent & Associates, Inc.
Project/Site: ARCO 0596-A, Oakland

TestAmerica Job ID: 440-101019-1

Job ID: 440-101019-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-101019-1

Comments
No additional comments.

Receipt
The samples were received on 2/5/2015 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.1° C.

GC/MS VOA
Method(s) 8260B: The following sample(s) was diluted due to the nature of the sample matrix: SB-6-24 (440-101019-9), SB-7-25 (440-101019-12). Elevated reporting limits (RLs) are provided.

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

GC VOA
Method(s) 8015B: The following sample(s) was diluted to bring the concentration of target analytes within the calibration range: SB-6-24 (440-101019-9). The 5g run was above calibration range/contained saturated peak(s) for GRO, while the 100ul extract run was below the reporting limit. Both analyses are being reported.

Method(s) 8015B: For the following sample(s), the 5 gram run was above calibration range/contained saturated peak(s) for GRO, while the 100ul extract run was below the reporting limit: SB-6-24 (440-101019-9). Both analyses are being reported.

SB-6-24 (440-101019-9)

No additional analytical or quality issues were noted, other than those described above or 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
Method(s) 3546: The following sample(s) was diluted due to the nature of the sample matrix: SB-6-24 (440-101019-9). Elevated reporting limits (RLs) are provided.

batch # 236024
method 3546-8015B Diesel

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

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

Client: Broadbent & Associates, Inc.
Project/Site: ARCO 0596-A, Oakland

TestAmerica Job ID: 440-101019-1

Client Sample ID: SB-4-3

Date Collected: 02/02/15 14:00
Date Received: 02/05/15 10:00

Lab Sample ID: 440-101019-1
Matrix: Solid

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0020		mg/Kg			02/10/15 20:54	1
Ethylbenzene	ND		0.0020		mg/Kg			02/10/15 20:54	1
Ethyl-t-butyl ether (ETBE)	ND		0.0049		mg/Kg			02/10/15 20:54	1
Isopropyl Ether (DIPE)	ND		0.0049		mg/Kg			02/10/15 20:54	1
m,p-Xylene	ND		0.0039		mg/Kg			02/10/15 20:54	1
Methyl-t-Butyl Ether (MTBE)	ND		0.0049		mg/Kg			02/10/15 20:54	1
Naphthalene	ND		0.0049		mg/Kg			02/10/15 20:54	1
o-Xylene	ND		0.0020		mg/Kg			02/10/15 20:54	1
Tert-amyl-methyl ether (TAME)	ND		0.0049		mg/Kg			02/10/15 20:54	1
tert-Butyl alcohol (TBA)	ND		0.098		mg/Kg			02/10/15 20:54	1
Toluene	ND		0.0020		mg/Kg			02/10/15 20:54	1
Xylenes, Total	ND		0.0039		mg/Kg			02/10/15 20:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*79 - 123*		*02/10/15 20:54*	*1*
4-Bromofluorobenzene (Surr)	*90*		*79 - 120*		*02/10/15 20:54*	*1*
Dibromofluoromethane (Surr)	*95*		*60 - 120*		*02/10/15 20:54*	*1*

Method: 8015B/5030B - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		0.39		mg/Kg			02/11/15 18:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*65 - 140*		*02/11/15 18:42*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C24)	ND		4.9		mg/Kg		02/13/15 15:35	02/17/15 09:28	1
ORO (C25-C40)	ND		4.9		mg/Kg		02/13/15 15:35	02/17/15 09:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*94*		*40 - 140*	*02/13/15 15:35*	*02/17/15 09:28*	*1*

Client Sample ID: SB-4-7

Date Collected: 02/02/15 14:15
Date Received: 02/05/15 10:00

Lab Sample ID: 440-101019-2
Matrix: Solid

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0019		mg/Kg			02/10/15 21:24	1
Ethylbenzene	ND		0.0019		mg/Kg			02/10/15 21:24	1
Ethyl-t-butyl ether (ETBE)	ND		0.0047		mg/Kg			02/10/15 21:24	1
Isopropyl Ether (DIPE)	ND		0.0047		mg/Kg			02/10/15 21:24	1
m,p-Xylene	ND		0.0038		mg/Kg			02/10/15 21:24	1
Methyl-t-Butyl Ether (MTBE)	ND		0.0047		mg/Kg			02/10/15 21:24	1
Naphthalene	ND		0.0047		mg/Kg			02/10/15 21:24	1
o-Xylene	ND		0.0019		mg/Kg			02/10/15 21:24	1
Tert-amyl-methyl ether (TAME)	ND		0.0047		mg/Kg			02/10/15 21:24	1
tert-Butyl alcohol (TBA)	ND		0.095		mg/Kg			02/10/15 21:24	1
Toluene	ND		0.0019		mg/Kg			02/10/15 21:24	1
Xylenes, Total	ND		0.0038		mg/Kg			02/10/15 21:24	1

Client Sample ID: SB-4-7

Lab Sample ID: 440-101019-2

Date Collected: 02/02/15 14:15

Matrix: Solid

Date Received: 02/05/15 10:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	*100*		*79 - 123*		*02/10/15 21:24*	*1*
4-Bromofluorobenzene (Surr)	*88*		*79 - 120*		*02/10/15 21:24*	*1*
Dibromofluoromethane (Surr)	*99*		*60 - 120*		*02/10/15 21:24*	*1*

Method: 8015B/5030B - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		0.39	mg/Kg			02/11/15 19:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*102*		*65 - 140*		*02/11/15 19:10*	*1*

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C24)	ND		5.0	mg/Kg		02/13/15 15:35	02/17/15 09:48	1
ORO (C25-C40)	ND		5.0	mg/Kg		02/13/15 15:35	02/17/15 09:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	*92*		*40 - 140*	*02/13/15 15:35*	*02/17/15 09:48*	*1*

Client Sample ID: SB-5-3

Lab Sample ID: 440-101019-3

Date Collected: 02/03/15 11:40

Matrix: Solid

Date Received: 02/05/15 10:00

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0020	mg/Kg			02/10/15 21:53	1
Ethylbenzene	ND		0.0020	mg/Kg			02/10/15 21:53	1
Ethyl-t-butyl ether (ETBE)	ND		0.0050	mg/Kg			02/10/15 21:53	1
Isopropyl Ether (DIPE)	ND		0.0050	mg/Kg			02/10/15 21:53	1
m,p-Xylene	ND		0.0040	mg/Kg			02/10/15 21:53	1
Methyl-t-Butyl Ether (MTBE)	ND		0.0050	mg/Kg			02/10/15 21:53	1
Naphthalene	ND		0.0050	mg/Kg			02/10/15 21:53	1
o-Xylene	ND		0.0020	mg/Kg			02/10/15 21:53	1
Tert-amyl-methyl ether (TAME)	ND		0.0050	mg/Kg			02/10/15 21:53	1
tert-Butyl alcohol (TBA)	ND		0.099	mg/Kg			02/10/15 21:53	1
Toluene	ND		0.0020	mg/Kg			02/10/15 21:53	1
Xylenes, Total	ND		0.0040	mg/Kg			02/10/15 21:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	*103*		*79 - 123*		*02/10/15 21:53*	*1*
4-Bromofluorobenzene (Surr)	*89*		*79 - 120*		*02/10/15 21:53*	*1*
Dibromofluoromethane (Surr)	*96*		*60 - 120*		*02/10/15 21:53*	*1*

Method: 8015B/5030B - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		0.40	mg/Kg			02/11/15 18:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*92*		*65 - 140*		*02/11/15 18:14*	*1*

Client Sample ID: SB-5-3

Lab Sample ID: 440-101019-3

Date Collected: 02/03/15 11:40

Matrix: Solid

Date Received: 02/05/15 10:00

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C24)	ND		4.9		mg/Kg		02/13/15 15:35	02/17/15 10:08	1
ORO (C25-C40)	ND		4.9		mg/Kg		02/13/15 15:35	02/17/15 10:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*58*		*40 - 140*	*02/13/15 15:35*	*02/17/15 10:08*	*1*

Client Sample ID: SB-5-7

Lab Sample ID: 440-101019-4

Date Collected: 02/03/15 11:55

Matrix: Solid

Date Received: 02/05/15 10:00

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0019		mg/Kg			02/10/15 22:23	1
Ethylbenzene	ND		0.0019		mg/Kg			02/10/15 22:23	1
Ethyl-t-butyl ether (ETBE)	ND		0.0049		mg/Kg			02/10/15 22:23	1
Isopropyl Ether (DIPE)	ND		0.0049		mg/Kg			02/10/15 22:23	1
m,p-Xylene	ND		0.0039		mg/Kg			02/10/15 22:23	1
Methyl-t-Butyl Ether (MTBE)	ND		0.0049		mg/Kg			02/10/15 22:23	1
Naphthalene	ND		0.0049		mg/Kg			02/10/15 22:23	1
o-Xylene	ND		0.0019		mg/Kg			02/10/15 22:23	1
Tert-amyl-methyl ether (TAME)	ND		0.0049		mg/Kg			02/10/15 22:23	1
tert-Butyl alcohol (TBA)	ND		0.097		mg/Kg			02/10/15 22:23	1
Toluene	ND		0.0019		mg/Kg			02/10/15 22:23	1
Xylenes, Total	ND		0.0039		mg/Kg			02/10/15 22:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*79 - 123*		*02/10/15 22:23*	*1*
4-Bromofluorobenzene (Surr)	*90*		*79 - 120*		*02/10/15 22:23*	*1*
Dibromofluoromethane (Surr)	*95*		*60 - 120*		*02/10/15 22:23*	*1*

Method: 8015B/5030B - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		0.40		mg/Kg			02/17/15 12:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*65 - 140*		*02/17/15 12:05*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C24)	**5.3**		5.0		mg/Kg		02/13/15 15:35	02/17/15 12:07	1
ORO (C25-C40)	**11**		5.0		mg/Kg		02/13/15 15:35	02/17/15 12:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*87*		*40 - 140*	*02/13/15 15:35*	*02/17/15 12:07*	*1*

Client Sample ID: SB-6-3

Lab Sample ID: 440-101019-5

Date Collected: 02/03/15 14:10

Matrix: Solid

Date Received: 02/05/15 10:00

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0020		mg/Kg			02/11/15 01:49	1
Ethylbenzene	ND		0.0020		mg/Kg			02/11/15 01:49	1
Ethyl-t-butyl ether (ETBE)	ND		0.0050		mg/Kg			02/11/15 01:49	1
Isopropyl Ether (DIPE)	ND		0.0050		mg/Kg			02/11/15 01:49	1
m,p-Xylene	ND		0.0040		mg/Kg			02/11/15 01:49	1
Methyl-t-Butyl Ether (MTBE)	ND		0.0050		mg/Kg			02/11/15 01:49	1
Naphthalene	ND		0.0050		mg/Kg			02/11/15 01:49	1
o-Xylene	ND		0.0020		mg/Kg			02/11/15 01:49	1
Tert-amyl-methyl ether (TAME)	ND		0.0050		mg/Kg			02/11/15 01:49	1
tert-Butyl alcohol (TBA)	ND		0.10		mg/Kg			02/11/15 01:49	1
Toluene	ND		0.0020		mg/Kg			02/11/15 01:49	1
Xylenes, Total	ND		0.0040		mg/Kg			02/11/15 01:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*110*		*79 - 123*		*02/11/15 01:49*	*1*
4-Bromofluorobenzene (Surr)	*106*		*79 - 120*		*02/11/15 01:49*	*1*
Dibromofluoromethane (Surr)	*103*		*60 - 120*		*02/11/15 01:49*	*1*

Method: 8015B/5030B - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		0.40		mg/Kg			02/17/15 12:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*65 - 140*		*02/17/15 12:34*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C24)	ND		5.0		mg/Kg		02/12/15 12:26	02/13/15 04:05	1
ORO (C25-C40)	ND		5.0		mg/Kg		02/12/15 12:26	02/13/15 04:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*94*		*40 - 140*	*02/12/15 12:26*	*02/13/15 04:05*	*1*

Client Sample ID: SB-6-7

Lab Sample ID: 440-101019-6

Date Collected: 02/03/15 14:30

Matrix: Solid

Date Received: 02/05/15 10:00

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0019		mg/Kg			02/11/15 02:19	1
Ethylbenzene	ND		0.0019		mg/Kg			02/11/15 02:19	1
Ethyl-t-butyl ether (ETBE)	ND		0.0047		mg/Kg			02/11/15 02:19	1
Isopropyl Ether (DIPE)	ND		0.0047		mg/Kg			02/11/15 02:19	1
m,p-Xylene	ND		0.0038		mg/Kg			02/11/15 02:19	1
Methyl-t-Butyl Ether (MTBE)	ND		0.0047		mg/Kg			02/11/15 02:19	1
Naphthalene	ND		0.0047		mg/Kg			02/11/15 02:19	1
o-Xylene	ND		0.0019		mg/Kg			02/11/15 02:19	1
Tert-amyl-methyl ether (TAME)	ND		0.0047		mg/Kg			02/11/15 02:19	1
tert-Butyl alcohol (TBA)	ND		0.095		mg/Kg			02/11/15 02:19	1
Toluene	ND		0.0019		mg/Kg			02/11/15 02:19	1
Xylenes, Total	ND		0.0038		mg/Kg			02/11/15 02:19	1

Client Sample ID: SB-6-7

Lab Sample ID: 440-101019-6

Date Collected: 02/03/15 14:30

Matrix: Solid

Date Received: 02/05/15 10:00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*79 - 123*		*02/11/15 02:19*	*1*
4-Bromofluorobenzene (Surr)	*89*		*79 - 120*		*02/11/15 02:19*	*1*
Dibromofluoromethane (Surr)	*96*		*60 - 120*		*02/11/15 02:19*	*1*

Method: 8015B/5030B - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		0.38	mg/Kg			02/11/15 20:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*65 - 140*		*02/11/15 20:38*	*1*

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C24)	ND		5.0	mg/Kg		02/12/15 12:26	02/13/15 04:26	1
ORO (C25-C40)	ND		5.0	mg/Kg		02/12/15 12:26	02/13/15 04:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*85*		*40 - 140*	*02/12/15 12:26*	*02/13/15 04:26*	*1*

Client Sample ID: SB-6-17.5

Lab Sample ID: 440-101019-7

Date Collected: 02/03/15 14:40

Matrix: Solid

Date Received: 02/05/15 10:00

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0020	mg/Kg			02/11/15 02:48	1
Ethylbenzene	ND		0.0020	mg/Kg			02/11/15 02:48	1
Ethyl-t-butyl ether (ETBE)	ND		0.0050	mg/Kg			02/11/15 02:48	1
Isopropyl Ether (DIPE)	ND		0.0050	mg/Kg			02/11/15 02:48	1
m,p-Xylene	ND		0.0040	mg/Kg			02/11/15 02:48	1
Methyl-t-Butyl Ether (MTBE)	ND		0.0050	mg/Kg			02/11/15 02:48	1
Naphthalene	ND		0.0050	mg/Kg			02/11/15 02:48	1
o-Xylene	ND		0.0020	mg/Kg			02/11/15 02:48	1
Tert-amyl-methyl ether (TAME)	ND		0.0050	mg/Kg			02/11/15 02:48	1
tert-Butyl alcohol (TBA)	ND		0.10	mg/Kg			02/11/15 02:48	1
Toluene	ND		0.0020	mg/Kg			02/11/15 02:48	1
Xylenes, Total	ND		0.0040	mg/Kg			02/11/15 02:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*79 - 123*		*02/11/15 02:48*	*1*
4-Bromofluorobenzene (Surr)	*88*		*79 - 120*		*02/11/15 02:48*	*1*
Dibromofluoromethane (Surr)	*97*		*60 - 120*		*02/11/15 02:48*	*1*

Method: 8015B/5030B - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		0.38	mg/Kg			02/11/15 21:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*65 - 140*		*02/11/15 21:07*	*1*

Client Sample ID: SB-6-17.5

Date Collected: 02/03/15 14:40
Date Received: 02/05/15 10:00

Lab Sample ID: 440-101019-7
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C24)	ND		5.0		mg/Kg		02/12/15 12:26	02/13/15 01:15	1
ORO (C25-C40)	ND		5.0		mg/Kg		02/12/15 12:26	02/13/15 01:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*74*		*40 - 140*	*02/12/15 12:26*	*02/13/15 01:15*	*1*

Client Sample ID: SB-6-21.5

Date Collected: 02/03/15 14:45
Date Received: 02/05/15 10:00

Lab Sample ID: 440-101019-8
Matrix: Solid

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0020		mg/Kg			02/11/15 11:20	1
Ethylbenzene	**0.014**		0.0020		mg/Kg			02/11/15 11:20	1
Ethyl-t-butyl ether (ETBE)	ND		0.0050		mg/Kg			02/11/15 11:20	1
Isopropyl Ether (DIPE)	ND		0.0050		mg/Kg			02/11/15 11:20	1
m,p-Xylene	**0.012**		0.0040		mg/Kg			02/11/15 11:20	1
Methyl-t-Butyl Ether (MTBE)	ND		0.0050		mg/Kg			02/11/15 11:20	1
Naphthalene	**0.012**		0.0050		mg/Kg			02/11/15 11:20	1
o-Xylene	ND		0.0020		mg/Kg			02/11/15 11:20	1
Tert-amyl-methyl ether (TAME)	ND		0.0050		mg/Kg			02/11/15 11:20	1
tert-Butyl alcohol (TBA)	ND		0.099		mg/Kg			02/11/15 11:20	1
Toluene	ND		0.0020		mg/Kg			02/11/15 11:20	1
Xylenes, Total	**0.012**		0.0040		mg/Kg			02/11/15 11:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*79 - 123*		*02/11/15 11:20*	*1*
4-Bromofluorobenzene (Surr)	*93*		*79 - 120*		*02/11/15 11:20*	*1*
Dibromofluoromethane (Surr)	*83*		*60 - 120*		*02/11/15 11:20*	*1*

Method: 8015B/5030B - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	**4.0**		1.4		mg/Kg			02/17/15 14:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*137*		*65 - 140*		*02/17/15 14:59*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C24)	**5.2**		4.9		mg/Kg		02/12/15 12:26	02/13/15 01:36	1
ORO (C25-C40)	ND		4.9		mg/Kg		02/12/15 12:26	02/13/15 01:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*93*		*40 - 140*	*02/12/15 12:26*	*02/13/15 01:36*	*1*

Client Sample ID: SB-6-24

Lab Sample ID: 440-101019-9

Date Collected: 02/03/15 15:00

Matrix: Solid

Date Received: 02/05/15 10:00

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0098		mg/Kg			02/12/15 13:20	1
Ethylbenzene	ND		0.0098		mg/Kg			02/12/15 13:20	1
Ethyl-t-butyl ether (ETBE)	ND		0.025		mg/Kg			02/12/15 13:20	1
Isopropyl Ether (DIPE)	ND		0.025		mg/Kg			02/12/15 13:20	1
m,p-Xylene	ND		0.020		mg/Kg			02/12/15 13:20	1
Methyl-t-Butyl Ether (MTBE)	ND		0.025		mg/Kg			02/12/15 13:20	1
Naphthalene	ND		0.025		mg/Kg			02/12/15 13:20	1
o-Xylene	ND		0.0098		mg/Kg			02/12/15 13:20	1
Tert-amyl-methyl ether (TAME)	ND		0.025		mg/Kg			02/12/15 13:20	1
tert-Butyl alcohol (TBA)	ND		0.49		mg/Kg			02/12/15 13:20	1
Toluene	ND		0.0098		mg/Kg			02/12/15 13:20	1
Xylenes, Total	ND		0.020		mg/Kg			02/12/15 13:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*79 - 123*		*02/12/15 13:20*	*1*
4-Bromofluorobenzene (Surr)	*97*		*79 - 120*		*02/12/15 13:20*	*1*
Dibromofluoromethane (Surr)	*102*		*60 - 120*		*02/12/15 13:20*	*1*

Method: 8015B/5030B - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	**47**	**EY**	0.40		mg/Kg			02/12/15 11:26	1
GRO (C6-C12)	**40**		40		mg/Kg		02/11/15 14:41	02/17/15 16:38	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*2092*	*LH*	*65 - 140*		*02/12/15 11:26*	*1*
4-Bromofluorobenzene (Surr)	*117*		*65 - 140*	*02/11/15 14:41*	*02/17/15 16:38*	*100*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C24)	ND		9.9		mg/Kg		02/12/15 12:26	02/13/15 01:58	1
ORO (C25-C40)	ND		9.9		mg/Kg		02/12/15 12:26	02/13/15 01:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*87*		*40 - 140*	*02/12/15 12:26*	*02/13/15 01:58*	*1*

Client Sample ID: SB-7-3

Lab Sample ID: 440-101019-10

Date Collected: 02/03/15 07:45

Matrix: Solid

Date Received: 02/05/15 10:00

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0020		mg/Kg			02/11/15 13:19	1
Ethylbenzene	ND		0.0020		mg/Kg			02/11/15 13:19	1
Ethyl-t-butyl ether (ETBE)	ND		0.0050		mg/Kg			02/11/15 13:19	1
Isopropyl Ether (DIPE)	ND		0.0050		mg/Kg			02/11/15 13:19	1
m,p-Xylene	ND		0.0040		mg/Kg			02/11/15 13:19	1
Methyl-t-Butyl Ether (MTBE)	ND		0.0050		mg/Kg			02/11/15 13:19	1
Naphthalene	ND		0.0050		mg/Kg			02/11/15 13:19	1
o-Xylene	ND		0.0020		mg/Kg			02/11/15 13:19	1
Tert-amyl-methyl ether (TAME)	ND		0.0050		mg/Kg			02/11/15 13:19	1
tert-Butyl alcohol (TBA)	ND		0.10		mg/Kg			02/11/15 13:19	1

Client Sample ID: SB-7-3

Lab Sample ID: 440-101019-10

Date Collected: 02/03/15 07:45

Matrix: Solid

Date Received: 02/05/15 10:00

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND		0.0020		mg/Kg			02/11/15 13:19	1
Xylenes, Total	ND		0.0040		mg/Kg			02/11/15 13:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*112*		*79 - 123*		*02/11/15 13:19*	*1*
4-Bromofluorobenzene (Surr)	*102*		*79 - 120*		*02/11/15 13:19*	*1*
Dibromofluoromethane (Surr)	*84*		*60 - 120*		*02/11/15 13:19*	*1*

Method: 8015B/5030B - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		0.38		mg/Kg			02/12/15 18:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*60*	*LG*	*65 - 140*		*02/12/15 18:59*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C24)	ND		5.0		mg/Kg		02/12/15 12:26	02/13/15 10:13	1
ORO (C25-C40)	**38**		5.0		mg/Kg		02/12/15 12:26	02/13/15 10:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*97*		*40 - 140*	*02/12/15 12:26*	*02/13/15 10:13*	*1*

Client Sample ID: SB-7-7

Lab Sample ID: 440-101019-11

Date Collected: 02/03/15 08:05

Matrix: Solid

Date Received: 02/05/15 10:00

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0019		mg/Kg			02/11/15 03:48	1
Ethylbenzene	ND		0.0019		mg/Kg			02/11/15 03:48	1
Ethyl-t-butyl ether (ETBE)	ND		0.0047		mg/Kg			02/11/15 03:48	1
Isopropyl Ether (DIPE)	ND		0.0047		mg/Kg			02/11/15 03:48	1
m,p-Xylene	ND		0.0038		mg/Kg			02/11/15 03:48	1
Methyl-t-Butyl Ether (MTBE)	ND		0.0047		mg/Kg			02/11/15 03:48	1
Naphthalene	ND		0.0047		mg/Kg			02/11/15 03:48	1
o-Xylene	ND		0.0019		mg/Kg			02/11/15 03:48	1
Tert-amyl-methyl ether (TAME)	ND		0.0047		mg/Kg			02/11/15 03:48	1
tert-Butyl alcohol (TBA)	ND		0.094		mg/Kg			02/11/15 03:48	1
Toluene	ND		0.0019		mg/Kg			02/11/15 03:48	1
Xylenes, Total	ND		0.0038		mg/Kg			02/11/15 03:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*79 - 123*		*02/11/15 03:48*	*1*
4-Bromofluorobenzene (Surr)	*90*		*79 - 120*		*02/11/15 03:48*	*1*
Dibromofluoromethane (Surr)	*96*		*60 - 120*		*02/11/15 03:48*	*1*

Method: 8015B/5030B - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		0.38		mg/Kg			02/13/15 07:35	1

Client Sample ID: SB-7-7

Lab Sample ID: 440-101019-11

Date Collected: 02/03/15 08:05

Matrix: Solid

Date Received: 02/05/15 10:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*81*		*65 - 140*		*02/13/15 07:35*	*1*

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C24)	**6.3**		5.0	mg/Kg		02/12/15 12:26	02/13/15 02:19	1
ORO (C25-C40)	ND		5.0	mg/Kg		02/12/15 12:26	02/13/15 02:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	*83*		*40 - 140*	*02/12/15 12:26*	*02/13/15 02:19*	*1*

Client Sample ID: SB-7-25

Lab Sample ID: 440-101019-12

Date Collected: 02/03/15 08:45

Matrix: Solid

Date Received: 02/05/15 10:00

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0097	mg/Kg			02/12/15 13:47	1
Ethylbenzene	ND		0.0097	mg/Kg			02/12/15 13:47	1
Ethyl-t-butyl ether (ETBE)	ND		0.024	mg/Kg			02/12/15 13:47	1
Isopropyl Ether (DIPE)	ND		0.024	mg/Kg			02/12/15 13:47	1
m,p-Xylene	ND		0.019	mg/Kg			02/12/15 13:47	1
Methyl-t-Butyl Ether (MTBE)	ND		0.024	mg/Kg			02/12/15 13:47	1
Naphthalene	ND		0.024	mg/Kg			02/12/15 13:47	1
o-Xylene	ND		0.0097	mg/Kg			02/12/15 13:47	1
Tert-amyl-methyl ether (TAME)	ND		0.024	mg/Kg			02/12/15 13:47	1
tert-Butyl alcohol (TBA)	ND		0.49	mg/Kg			02/12/15 13:47	1
Toluene	ND		0.0097	mg/Kg			02/12/15 13:47	1
Xylenes, Total	ND		0.019	mg/Kg			02/12/15 13:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	*100*		*79 - 123*		*02/12/15 13:47*	*1*
4-Bromofluorobenzene (Surr)	*98*		*79 - 120*		*02/12/15 13:47*	*1*
Dibromofluoromethane (Surr)	*103*		*60 - 120*		*02/12/15 13:47*	*1*

Method: 8015B/5030B - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	**6.8**		2.0	mg/Kg			02/14/15 22:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*113*		*65 - 140*		*02/14/15 22:15*	*1*

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C24)	ND		5.0	mg/Kg		02/12/15 12:26	02/13/15 00:53	1
ORO (C25-C40)	ND		5.0	mg/Kg		02/12/15 12:26	02/13/15 00:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	*90*		*40 - 140*	*02/12/15 12:26*	*02/13/15 00:53*	*1*

Client Sample ID: SB-8-3

Date Collected: 02/03/15 09:30
Date Received: 02/05/15 10:00

Lab Sample ID: 440-101019-13
Matrix: Solid

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0020		mg/Kg			02/11/15 04:17	1
Ethylbenzene	ND		0.0020		mg/Kg			02/11/15 04:17	1
Ethyl-t-butyl ether (ETBE)	ND		0.0049		mg/Kg			02/11/15 04:17	1
Isopropyl Ether (DIPE)	ND		0.0049		mg/Kg			02/11/15 04:17	1
m,p-Xylene	ND		0.0039		mg/Kg			02/11/15 04:17	1
Methyl-t-Butyl Ether (MTBE)	ND		0.0049		mg/Kg			02/11/15 04:17	1
Naphthalene	ND		0.0049		mg/Kg			02/11/15 04:17	1
o-Xylene	ND		0.0020		mg/Kg			02/11/15 04:17	1
Tert-amyl-methyl ether (TAME)	ND		0.0049		mg/Kg			02/11/15 04:17	1
tert-Butyl alcohol (TBA)	ND		0.098		mg/Kg			02/11/15 04:17	1
Toluene	ND		0.0020		mg/Kg			02/11/15 04:17	1
Xylenes, Total	ND		0.0039		mg/Kg			02/11/15 04:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*79 - 123*		*02/11/15 04:17*	*1*
4-Bromofluorobenzene (Surr)	*90*		*79 - 120*		*02/11/15 04:17*	*1*
Dibromofluoromethane (Surr)	*95*		*60 - 120*		*02/11/15 04:17*	*1*

Method: 8015B/5030B - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		0.40		mg/Kg			02/13/15 08:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*65 - 140*		*02/13/15 08:33*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C24)	ND		5.0		mg/Kg		02/12/15 12:26	02/13/15 02:40	1
ORO (C25-C40)	ND		5.0		mg/Kg		02/12/15 12:26	02/13/15 02:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*83*		*40 - 140*	*02/12/15 12:26*	*02/13/15 02:40*	*1*

Client Sample ID: SB-8-7

Date Collected: 02/03/15 09:45
Date Received: 02/05/15 10:00

Lab Sample ID: 440-101019-14
Matrix: Solid

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0019		mg/Kg			02/11/15 04:47	1
Ethylbenzene	ND		0.0019		mg/Kg			02/11/15 04:47	1
Ethyl-t-butyl ether (ETBE)	ND		0.0049		mg/Kg			02/11/15 04:47	1
Isopropyl Ether (DIPE)	ND		0.0049		mg/Kg			02/11/15 04:47	1
m,p-Xylene	ND		0.0039		mg/Kg			02/11/15 04:47	1
Methyl-t-Butyl Ether (MTBE)	ND		0.0049		mg/Kg			02/11/15 04:47	1
Naphthalene	ND		0.0049		mg/Kg			02/11/15 04:47	1
o-Xylene	ND		0.0019		mg/Kg			02/11/15 04:47	1
Tert-amyl-methyl ether (TAME)	ND		0.0049		mg/Kg			02/11/15 04:47	1
tert-Butyl alcohol (TBA)	ND		0.097		mg/Kg			02/11/15 04:47	1
Toluene	ND		0.0019		mg/Kg			02/11/15 04:47	1
Xylenes, Total	ND		0.0039		mg/Kg			02/11/15 04:47	1

Client Sample ID: SB-8-7

Lab Sample ID: 440-101019-14

Date Collected: 02/03/15 09:45

Matrix: Solid

Date Received: 02/05/15 10:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	*104*		*79 - 123*		*02/11/15 04:47*	*1*
4-Bromofluorobenzene (Surr)	*91*		*79 - 120*		*02/11/15 04:47*	*1*
Dibromofluoromethane (Surr)	*99*		*60 - 120*		*02/11/15 04:47*	*1*

Method: 8015B/5030B - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		0.38	mg/Kg			02/11/15 21:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*85*		*65 - 140*		*02/11/15 21:35*	*1*

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C24)	ND		5.0	mg/Kg		02/12/15 12:26	02/13/15 03:01	1
ORO (C25-C40)	ND		5.0	mg/Kg		02/12/15 12:26	02/13/15 03:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	*89*		*40 - 140*	*02/12/15 12:26*	*02/13/15 03:01*	*1*

Client Sample ID: SB-9-3

Lab Sample ID: 440-101019-15

Date Collected: 02/02/15 12:00

Matrix: Solid

Date Received: 02/05/15 10:00

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0019	mg/Kg			02/11/15 05:16	1
Ethylbenzene	ND		0.0019	mg/Kg			02/11/15 05:16	1
Ethyl-t-butyl ether (ETBE)	ND		0.0047	mg/Kg			02/11/15 05:16	1
Isopropyl Ether (DIPE)	ND		0.0047	mg/Kg			02/11/15 05:16	1
m,p-Xylene	ND		0.0037	mg/Kg			02/11/15 05:16	1
Methyl-t-Butyl Ether (MTBE)	ND		0.0047	mg/Kg			02/11/15 05:16	1
Naphthalene	ND		0.0047	mg/Kg			02/11/15 05:16	1
o-Xylene	ND		0.0019	mg/Kg			02/11/15 05:16	1
Tert-amyl-methyl ether (TAME)	ND		0.0047	mg/Kg			02/11/15 05:16	1
tert-Butyl alcohol (TBA)	ND		0.094	mg/Kg			02/11/15 05:16	1
Toluene	ND		0.0019	mg/Kg			02/11/15 05:16	1
Xylenes, Total	ND		0.0037	mg/Kg			02/11/15 05:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	*103*		*79 - 123*		*02/11/15 05:16*	*1*
4-Bromofluorobenzene (Surr)	*89*		*79 - 120*		*02/11/15 05:16*	*1*
Dibromofluoromethane (Surr)	*97*		*60 - 120*		*02/11/15 05:16*	*1*

Method: 8015B/5030B - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		0.38	mg/Kg			02/13/15 09:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*82*		*65 - 140*		*02/13/15 09:01*	*1*

Client: Broadbent & Associates, Inc.
Project/Site: ARCO 0596-A, Oakland

TestAmerica Job ID: 440-101019-1

Client Sample ID: SB-9-3

Lab Sample ID: 440-101019-15

Date Collected: 02/02/15 12:00

Matrix: Solid

Date Received: 02/05/15 10:00

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C24)	ND		5.0		mg/Kg		02/12/15 12:26	02/13/15 00:32	1
ORO (C25-C40)	ND		5.0		mg/Kg		02/12/15 12:26	02/13/15 00:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*87*		*40 - 140*	*02/12/15 12:26*	*02/13/15 00:32*	*1*

Client Sample ID: SB-9-7

Lab Sample ID: 440-101019-16

Date Collected: 02/02/15 12:45

Matrix: Solid

Date Received: 02/05/15 10:00

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0020		mg/Kg			02/11/15 05:46	1
Ethylbenzene	ND		0.0020		mg/Kg			02/11/15 05:46	1
Ethyl-t-butyl ether (ETBE)	ND		0.0049		mg/Kg			02/11/15 05:46	1
Isopropyl Ether (DIPE)	ND		0.0049		mg/Kg			02/11/15 05:46	1
m,p-Xylene	ND		0.0039		mg/Kg			02/11/15 05:46	1
Methyl-t-Butyl Ether (MTBE)	ND		0.0049		mg/Kg			02/11/15 05:46	1
Naphthalene	ND		0.0049		mg/Kg			02/11/15 05:46	1
o-Xylene	ND		0.0020		mg/Kg			02/11/15 05:46	1
Tert-amyl-methyl ether (TAME)	ND		0.0049		mg/Kg			02/11/15 05:46	1
tert-Butyl alcohol (TBA)	ND		0.098		mg/Kg			02/11/15 05:46	1
Toluene	ND		0.0020		mg/Kg			02/11/15 05:46	1
Xylenes, Total	ND		0.0039		mg/Kg			02/11/15 05:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*79 - 123*		*02/11/15 05:46*	*1*
4-Bromofluorobenzene (Surr)	*91*		*79 - 120*		*02/11/15 05:46*	*1*
Dibromofluoromethane (Surr)	*99*		*60 - 120*		*02/11/15 05:46*	*1*

Method: 8015B/5030B - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		0.39		mg/Kg			02/13/15 09:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*76*		*65 - 140*		*02/13/15 09:30*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C24)	ND		5.0		mg/Kg		02/13/15 15:35	02/17/15 10:28	1
ORO (C25-C40)	**8.6**		5.0		mg/Kg		02/13/15 15:35	02/17/15 10:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*92*		*40 - 140*	*02/13/15 15:35*	*02/17/15 10:28*	*1*

Client Sample ID: SB-9-17.5

Lab Sample ID: 440-101019-17

Date Collected: 02/02/15 13:00

Matrix: Solid

Date Received: 02/05/15 10:00

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0020		mg/Kg			02/11/15 11:50	1
Ethylbenzene	ND		0.0020		mg/Kg			02/11/15 11:50	1
Ethyl-t-butyl ether (ETBE)	ND		0.0050		mg/Kg			02/11/15 11:50	1
Isopropyl Ether (DIPE)	ND		0.0050		mg/Kg			02/11/15 11:50	1
m,p-Xylene	ND		0.0040		mg/Kg			02/11/15 11:50	1
Methyl-t-Butyl Ether (MTBE)	ND		0.0050		mg/Kg			02/11/15 11:50	1
Naphthalene	ND		0.0050		mg/Kg			02/11/15 11:50	1
o-Xylene	ND		0.0020		mg/Kg			02/11/15 11:50	1
Tert-amyl-methyl ether (TAME)	ND		0.0050		mg/Kg			02/11/15 11:50	1
tert-Butyl alcohol (TBA)	ND		0.10		mg/Kg			02/11/15 11:50	1
Toluene	ND		0.0020		mg/Kg			02/11/15 11:50	1
Xylenes, Total	ND		0.0040		mg/Kg			02/11/15 11:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*79 - 123*		*02/11/15 11:50*	*1*
4-Bromofluorobenzene (Surr)	*95*		*79 - 120*		*02/11/15 11:50*	*1*
Dibromofluoromethane (Surr)	*83*		*60 - 120*		*02/11/15 11:50*	*1*

Method: 8015B/5030B - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		0.38		mg/Kg			02/13/15 11:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*77*		*65 - 140*		*02/13/15 11:05*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C24)	ND		5.0		mg/Kg		02/13/15 15:35	02/17/15 10:48	1
ORO (C25-C40)	ND		5.0		mg/Kg		02/13/15 15:35	02/17/15 10:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*99*		*40 - 140*	*02/13/15 15:35*	*02/17/15 10:48*	*1*

Client Sample ID: SB-10-3

Lab Sample ID: 440-101019-18

Date Collected: 02/02/15 09:45

Matrix: Solid

Date Received: 02/05/15 10:00

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0020		mg/Kg			02/11/15 09:51	1
Ethylbenzene	ND		0.0020		mg/Kg			02/11/15 09:51	1
Ethyl-t-butyl ether (ETBE)	ND		0.0050		mg/Kg			02/11/15 09:51	1
Isopropyl Ether (DIPE)	ND		0.0050		mg/Kg			02/11/15 09:51	1
m,p-Xylene	ND		0.0040		mg/Kg			02/11/15 09:51	1
Methyl-t-Butyl Ether (MTBE)	ND		0.0050		mg/Kg			02/11/15 09:51	1
Naphthalene	ND		0.0050		mg/Kg			02/11/15 09:51	1
o-Xylene	ND		0.0020		mg/Kg			02/11/15 09:51	1
Tert-amyl-methyl ether (TAME)	ND		0.0050		mg/Kg			02/11/15 09:51	1
tert-Butyl alcohol (TBA)	ND		0.099		mg/Kg			02/11/15 09:51	1
Toluene	ND		0.0020		mg/Kg			02/11/15 09:51	1
Xylenes, Total	ND		0.0040		mg/Kg			02/11/15 09:51	1

Client Sample ID: SB-10-3

Lab Sample ID: 440-101019-18

Date Collected: 02/02/15 09:45

Matrix: Solid

Date Received: 02/05/15 10:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	*106*		*79 - 123*		*02/11/15 09:51*	*1*
4-Bromofluorobenzene (Surr)	*93*		*79 - 120*		*02/11/15 09:51*	*1*
Dibromofluoromethane (Surr)	*85*		*60 - 120*		*02/11/15 09:51*	*1*

Method: 8015B/5030B - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		0.39	mg/Kg			02/14/15 21:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*87*		*65 - 140*		*02/14/15 21:47*	*1*

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C24)	ND		5.0	mg/Kg		02/13/15 15:35	02/17/15 11:47	1
ORO (C25-C40)	ND		5.0	mg/Kg		02/13/15 15:35	02/17/15 11:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	*90*		*40 - 140*	*02/13/15 15:35*	*02/17/15 11:47*	*1*

Client Sample ID: SB-10-7

Lab Sample ID: 440-101019-19

Date Collected: 02/02/15 10:00

Matrix: Solid

Date Received: 02/05/15 10:00

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0020	mg/Kg			02/10/15 22:52	1
Ethylbenzene	ND		0.0020	mg/Kg			02/10/15 22:52	1
Ethyl-t-butyl ether (ETBE)	ND		0.0050	mg/Kg			02/10/15 22:52	1
Isopropyl Ether (DIPE)	ND		0.0050	mg/Kg			02/10/15 22:52	1
m,p-Xylene	ND		0.0040	mg/Kg			02/10/15 22:52	1
Methyl-t-Butyl Ether (MTBE)	ND		0.0050	mg/Kg			02/10/15 22:52	1
Naphthalene	ND		0.0050	mg/Kg			02/10/15 22:52	1
o-Xylene	ND		0.0020	mg/Kg			02/10/15 22:52	1
Tert-amyl-methyl ether (TAME)	ND		0.0050	mg/Kg			02/10/15 22:52	1
tert-Butyl alcohol (TBA)	ND		0.10	mg/Kg			02/10/15 22:52	1
Toluene	ND		0.0020	mg/Kg			02/10/15 22:52	1
Xylenes, Total	ND		0.0040	mg/Kg			02/10/15 22:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	*104*		*79 - 123*		*02/10/15 22:52*	*1*
4-Bromofluorobenzene (Surr)	*90*		*79 - 120*		*02/10/15 22:52*	*1*
Dibromofluoromethane (Surr)	*96*		*60 - 120*		*02/10/15 22:52*	*1*

Method: 8015B/5030B - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		0.40	mg/Kg			02/14/15 21:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*89*		*65 - 140*		*02/14/15 21:18*	*1*

Client Sample ID: SB-10-7

Lab Sample ID: 440-101019-19

Date Collected: 02/02/15 10:00

Matrix: Solid

Date Received: 02/05/15 10:00

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C24)	5.0		4.9		mg/Kg		02/13/15 15:35	02/17/15 12:27	1
ORO (C25-C40)	7.1		4.9		mg/Kg		02/13/15 15:35	02/17/15 12:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*92*		*40 - 140*	*02/13/15 15:35*	*02/17/15 12:27*	*1*

Client Sample ID: SB-10-19

Lab Sample ID: 440-101019-20

Date Collected: 02/02/15 10:45

Matrix: Solid

Date Received: 02/05/15 10:00

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.0025		0.0019		mg/Kg			02/11/15 00:21	1
Ethylbenzene	ND		0.0019		mg/Kg			02/11/15 00:21	1
Ethyl-t-butyl ether (ETBE)	ND		0.0048		mg/Kg			02/11/15 00:21	1
Isopropyl Ether (DIPE)	ND		0.0048		mg/Kg			02/11/15 00:21	1
m,p-Xylene	ND		0.0038		mg/Kg			02/11/15 00:21	1
Methyl-t-Butyl Ether (MTBE)	ND		0.0048		mg/Kg			02/11/15 00:21	1
Naphthalene	ND		0.0048		mg/Kg			02/11/15 00:21	1
o-Xylene	ND		0.0019		mg/Kg			02/11/15 00:21	1
Tert-amyl-methyl ether (TAME)	ND		0.0048		mg/Kg			02/11/15 00:21	1
tert-Butyl alcohol (TBA)	ND		0.096		mg/Kg			02/11/15 00:21	1
Toluene	ND		0.0019		mg/Kg			02/11/15 00:21	1
Xylenes, Total	ND		0.0038		mg/Kg			02/11/15 00:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*79 - 123*		*02/11/15 00:21*	*1*
4-Bromofluorobenzene (Surr)	*91*		*79 - 120*		*02/11/15 00:21*	*1*
Dibromofluoromethane (Surr)	*94*		*60 - 120*		*02/11/15 00:21*	*1*

Method: 8015B/5030B - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		0.39		mg/Kg			02/14/15 20:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*65 - 140*		*02/14/15 20:50*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C24)	ND		5.0		mg/Kg		02/13/15 15:35	02/17/15 13:07	1
ORO (C25-C40)	ND		5.0		mg/Kg		02/13/15 15:35	02/17/15 13:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*87*		*40 - 140*	*02/13/15 15:35*	*02/17/15 13:07*	*1*

Client Sample ID: SG-1A-3.5

Lab Sample ID: 440-101019-21

Date Collected: 02/04/15 09:45

Matrix: Solid

Date Received: 02/05/15 10:00

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0020		mg/Kg			02/11/15 00:50	1
Ethylbenzene	ND		0.0020		mg/Kg			02/11/15 00:50	1
Ethyl-t-butyl ether (ETBE)	ND		0.0049		mg/Kg			02/11/15 00:50	1
Isopropyl Ether (DIPE)	ND		0.0049		mg/Kg			02/11/15 00:50	1
m,p-Xylene	ND		0.0039		mg/Kg			02/11/15 00:50	1
Methyl-t-Butyl Ether (MTBE)	ND		0.0049		mg/Kg			02/11/15 00:50	1
Naphthalene	ND		0.0049		mg/Kg			02/11/15 00:50	1
o-Xylene	ND		0.0020		mg/Kg			02/11/15 00:50	1
Tert-amyl-methyl ether (TAME)	ND		0.0049		mg/Kg			02/11/15 00:50	1
tert-Butyl alcohol (TBA)	ND		0.098		mg/Kg			02/11/15 00:50	1
Toluene	ND		0.0020		mg/Kg			02/11/15 00:50	1
Xylenes, Total	ND		0.0039		mg/Kg			02/11/15 00:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*79 - 123*		*02/11/15 00:50*	*1*
4-Bromofluorobenzene (Surr)	*89*		*79 - 120*		*02/11/15 00:50*	*1*
Dibromofluoromethane (Surr)	*97*		*60 - 120*		*02/11/15 00:50*	*1*

Method: 8015B/5030B - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		0.38		mg/Kg			02/14/15 20:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*65 - 140*		*02/14/15 20:21*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C24)	ND		5.0		mg/Kg		02/13/15 15:35	02/17/15 13:27	1
ORO (C25-C40)	ND		5.0		mg/Kg		02/13/15 15:35	02/17/15 13:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*82*		*40 - 140*	*02/13/15 15:35*	*02/17/15 13:27*	*1*

Client Sample ID: SG-1B-3

Lab Sample ID: 440-101019-22

Date Collected: 02/04/15 09:55

Matrix: Solid

Date Received: 02/05/15 10:00

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0019		mg/Kg			02/11/15 01:20	1
Ethylbenzene	ND		0.0019		mg/Kg			02/11/15 01:20	1
Ethyl-t-butyl ether (ETBE)	ND		0.0047		mg/Kg			02/11/15 01:20	1
Isopropyl Ether (DIPE)	ND		0.0047		mg/Kg			02/11/15 01:20	1
m,p-Xylene	ND		0.0038		mg/Kg			02/11/15 01:20	1
Methyl-t-Butyl Ether (MTBE)	ND		0.0047		mg/Kg			02/11/15 01:20	1
Naphthalene	ND		0.0047		mg/Kg			02/11/15 01:20	1
o-Xylene	ND		0.0019		mg/Kg			02/11/15 01:20	1
Tert-amyl-methyl ether (TAME)	ND		0.0047		mg/Kg			02/11/15 01:20	1
tert-Butyl alcohol (TBA)	ND		0.094		mg/Kg			02/11/15 01:20	1
Toluene	ND		0.0019		mg/Kg			02/11/15 01:20	1
Xylenes, Total	ND		0.0038		mg/Kg			02/11/15 01:20	1

Client Sample ID: SG-1B-3

Lab Sample ID: 440-101019-22

Date Collected: 02/04/15 09:55

Matrix: Solid

Date Received: 02/05/15 10:00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*79 - 123*		*02/11/15 01:20*	*1*
4-Bromofluorobenzene (Surr)	*92*		*79 - 120*		*02/11/15 01:20*	*1*
Dibromofluoromethane (Surr)	*99*		*60 - 120*		*02/11/15 01:20*	*1*

Method: 8015B/5030B - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		0.39	mg/Kg			02/14/15 19:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*72*		*65 - 140*		*02/14/15 19:52*	*1*

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C24)	ND		4.9	mg/Kg		02/13/15 15:35	02/17/15 13:47	1
ORO (C25-C40)	**5.0**		4.9	mg/Kg		02/13/15 15:35	02/17/15 13:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*80*		*40 - 140*	*02/13/15 15:35*	*02/17/15 13:47*	*1*

Client Sample ID: SG-2A-3.5

Lab Sample ID: 440-101019-23

Date Collected: 02/04/15 08:30

Matrix: Solid

Date Received: 02/05/15 10:00

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0020	mg/Kg			02/11/15 13:48	1
Ethylbenzene	ND		0.0020	mg/Kg			02/11/15 13:48	1
Ethyl-t-butyl ether (ETBE)	ND		0.0050	mg/Kg			02/11/15 13:48	1
Isopropyl Ether (DIPE)	ND		0.0050	mg/Kg			02/11/15 13:48	1
m,p-Xylene	ND		0.0040	mg/Kg			02/11/15 13:48	1
Methyl-t-Butyl Ether (MTBE)	ND		0.0050	mg/Kg			02/11/15 13:48	1
Naphthalene	ND		0.0050	mg/Kg			02/11/15 13:48	1
o-Xylene	ND		0.0020	mg/Kg			02/11/15 13:48	1
Tert-amyl-methyl ether (TAME)	ND		0.0050	mg/Kg			02/11/15 13:48	1
tert-Butyl alcohol (TBA)	ND		0.099	mg/Kg			02/11/15 13:48	1
Toluene	ND		0.0020	mg/Kg			02/11/15 13:48	1
Xylenes, Total	ND		0.0040	mg/Kg			02/11/15 13:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*79 - 123*		*02/11/15 13:48*	*1*
4-Bromofluorobenzene (Surr)	*96*		*79 - 120*		*02/11/15 13:48*	*1*
Dibromofluoromethane (Surr)	*89*		*60 - 120*		*02/11/15 13:48*	*1*

Method: 8015B/5030B - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		0.39	mg/Kg			02/14/15 19:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*65 - 140*		*02/14/15 19:24*	*1*

Client Sample ID: SG-2A-3.5

Lab Sample ID: 440-101019-23

Date Collected: 02/04/15 08:30

Matrix: Solid

Date Received: 02/05/15 10:00

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C24)	ND		5.0		mg/Kg		02/13/15 15:35	02/17/15 14:07	1
ORO (C25-C40)	ND		5.0		mg/Kg		02/13/15 15:35	02/17/15 14:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*53*		*40 - 140*	*02/13/15 15:35*	*02/17/15 14:07*	*1*

Client Sample ID: SG-2B-3.5

Lab Sample ID: 440-101019-24

Date Collected: 02/04/15 08:15

Matrix: Solid

Date Received: 02/05/15 10:00

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0020		mg/Kg			02/11/15 14:18	1
Ethylbenzene	ND		0.0020		mg/Kg			02/11/15 14:18	1
Ethyl-t-butyl ether (ETBE)	ND		0.0050		mg/Kg			02/11/15 14:18	1
Isopropyl Ether (DIPE)	ND		0.0050		mg/Kg			02/11/15 14:18	1
m,p-Xylene	ND		0.0040		mg/Kg			02/11/15 14:18	1
Methyl-t-Butyl Ether (MTBE)	ND		0.0050		mg/Kg			02/11/15 14:18	1
Naphthalene	ND		0.0050		mg/Kg			02/11/15 14:18	1
o-Xylene	ND		0.0020		mg/Kg			02/11/15 14:18	1
Tert-amyl-methyl ether (TAME)	ND		0.0050		mg/Kg			02/11/15 14:18	1
tert-Butyl alcohol (TBA)	ND		0.10		mg/Kg			02/11/15 14:18	1
Toluene	ND		0.0020		mg/Kg			02/11/15 14:18	1
Xylenes, Total	ND		0.0040		mg/Kg			02/11/15 14:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*79 - 123*		*02/11/15 14:18*	*1*
4-Bromofluorobenzene (Surr)	*93*		*79 - 120*		*02/11/15 14:18*	*1*
Dibromofluoromethane (Surr)	*89*		*60 - 120*		*02/11/15 14:18*	*1*

Method: 8015B/5030B - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		0.39		mg/Kg			02/14/15 15:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*65 - 140*		*02/14/15 15:32*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C24)	ND		5.0		mg/Kg		02/18/15 15:46	02/19/15 09:38	1
ORO (C25-C40)	ND		5.0		mg/Kg		02/18/15 15:46	02/19/15 09:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*72*		*40 - 140*	*02/18/15 15:46*	*02/19/15 09:38*	*1*

Method Summary

Client: Broadbent & Associates, Inc.
Project/Site: ARCO 0596-A, Oakland

TestAmerica Job ID: 440-101019-1

Method	Method Description	Protocol	Laboratory
8260B/5030B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8015B/5030B	Gasoline Range Organics (GC)	SW846	TAL IRV
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL IRV

Protocol References:

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

Laboratory References:

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

Client Sample ID: SB-4-3 — **Lab Sample ID: 440-101019-1**
Date Collected: 02/02/15 14:00 — **Matrix: Solid**
Date Received: 02/05/15 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/5030B		1	5.09 g	10 mL	235461	02/10/15 20:54	MP	TAL IRV
Total/NA	Analysis	8015B/5030B		1	5.07 g	10 mL	235585	02/11/15 18:42	IM	TAL IRV
Total/NA	Prep	3546			15.18 g	1 mL	236422	02/13/15 15:35	AP	TAL IRV
Total/NA	Analysis	8015B		1	15.18 g	1 mL	236728	02/17/15 09:28	KW	TAL IRV

Client Sample ID: SB-4-7 — **Lab Sample ID: 440-101019-2**
Date Collected: 02/02/15 14:15 — **Matrix: Solid**
Date Received: 02/05/15 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/5030B		1	5.27 g	10 mL	235461	02/10/15 21:24	MP	TAL IRV
Total/NA	Analysis	8015B/5030B		1	5.13 g	10 mL	235585	02/11/15 19:10	IM	TAL IRV
Total/NA	Prep	3546			15.14 g	1 mL	236422	02/13/15 15:35	AP	TAL IRV
Total/NA	Analysis	8015B		1	15.14 g	1 mL	236728	02/17/15 09:48	KW	TAL IRV

Client Sample ID: SB-5-3 — **Lab Sample ID: 440-101019-3**
Date Collected: 02/03/15 11:40 — **Matrix: Solid**
Date Received: 02/05/15 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/5030B		1	5.04 g	10 mL	235461	02/10/15 21:53	MP	TAL IRV
Total/NA	Analysis	8015B/5030B		1	5.02 g	10 mL	235727	02/11/15 18:14	IM	TAL IRV
Total/NA	Prep	3546			15.19 g	1 mL	236422	02/13/15 15:35	AP	TAL IRV
Total/NA	Analysis	8015B		1	15.19 g	1 mL	236728	02/17/15 10:08	KW	TAL IRV

Client Sample ID: SB-5-7 — **Lab Sample ID: 440-101019-4**
Date Collected: 02/03/15 11:55 — **Matrix: Solid**
Date Received: 02/05/15 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/5030B		1	5.14 g	10 mL	235461	02/10/15 22:23	MP	TAL IRV
Total/NA	Analysis	8015B/5030B		1	5.01 g	10 mL	236737	02/17/15 12:05	IM	TAL IRV
Total/NA	Prep	3546			15.13 g	1 mL	236422	02/13/15 15:35	AP	TAL IRV
Total/NA	Analysis	8015B		1	15.13 g	1 mL	236728	02/17/15 12:07	KW	TAL IRV

Client Sample ID: SB-6-3 — **Lab Sample ID: 440-101019-5**
Date Collected: 02/03/15 14:10 — **Matrix: Solid**
Date Received: 02/05/15 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/5030B		1	4.99 g	10 mL	235461	02/11/15 01:49	MP	TAL IRV
Total/NA	Analysis	8015B/5030B		1	4.98 g	10 mL	236737	02/17/15 12:34	IM	TAL IRV

Client Sample ID: SB-6-3

Lab Sample ID: 440-101019-5

Date Collected: 02/03/15 14:10

Matrix: Solid

Date Received: 02/05/15 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.03 g	1 mL	236024	02/12/15 12:26	AP	TAL IRV
Total/NA	Analysis	8015B		1	15.03 g	1 mL	236258	02/13/15 04:05	CN	TAL IRV

Client Sample ID: SB-6-7

Lab Sample ID: 440-101019-6

Date Collected: 02/03/15 14:30

Matrix: Solid

Date Received: 02/05/15 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/5030B		1	5.27 g	10 mL	235461	02/11/15 02:19	MP	TAL IRV
Total/NA	Analysis	8015B/5030B		1	5.22 g	10 mL	235727	02/11/15 20:38	IM	TAL IRV
Total/NA	Prep	3546			15.06 g	1 mL	236024	02/12/15 12:26	AP	TAL IRV
Total/NA	Analysis	8015B		1	15.06 g	1 mL	236258	02/13/15 04:26	CN	TAL IRV

Client Sample ID: SB-6-17.5

Lab Sample ID: 440-101019-7

Date Collected: 02/03/15 14:40

Matrix: Solid

Date Received: 02/05/15 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/5030B		1	4.96 g	10 mL	235461	02/11/15 02:48	MP	TAL IRV
Total/NA	Analysis	8015B/5030B		1	5.25 g	10 mL	235727	02/11/15 21:07	IM	TAL IRV
Total/NA	Prep	3546			15.01 g	1 mL	236024	02/12/15 12:26	AP	TAL IRV
Total/NA	Analysis	8015B		1	15.01 g	1 mL	236258	02/13/15 01:15	CN	TAL IRV

Client Sample ID: SB-6-21.5

Lab Sample ID: 440-101019-8

Date Collected: 02/03/15 14:45

Matrix: Solid

Date Received: 02/05/15 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/5030B		1	5.04 g	10 mL	235571	02/11/15 11:20	HR	TAL IRV
Total/NA	Analysis	8015B/5030B		1	1.43 g	10 mL	236737	02/17/15 14:59	IM	TAL IRV
Total/NA	Prep	3546			15.19 g	1 mL	236024	02/12/15 12:26	AP	TAL IRV
Total/NA	Analysis	8015B		1	15.19 g	1 mL	236258	02/13/15 01:36	CN	TAL IRV

Client Sample ID: SB-6-24

Lab Sample ID: 440-101019-9

Date Collected: 02/03/15 15:00

Matrix: Solid

Date Received: 02/05/15 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/5030B		1	1.02 g	10 mL	235908	02/12/15 13:20	SS	TAL IRV
Total/NA	Analysis	8015B/5030B		1	5.06 g	10 mL	235976	02/12/15 11:26	AK	TAL IRV
Total/NA	Prep	5030B			9.97 g	10 mL	235732	02/11/15 14:41	WK	TAL IRV
Total/NA	Analysis	8015B/5030B		100	9.97 g	10 mL	236734	02/17/15 16:38	TL	TAL IRV

Client Sample ID: SB-6-24

Lab Sample ID: 440-101019-9

Date Collected: 02/03/15 15:00

Matrix: Solid

Date Received: 02/05/15 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			7.61 g	1 mL	236024	02/12/15 12:26	AP	TAL IRV
Total/NA	Analysis	8015B		1	7.61 g	1 mL	236258	02/13/15 01:58	CN	TAL IRV

Client Sample ID: SB-7-3

Lab Sample ID: 440-101019-10

Date Collected: 02/03/15 07:45

Matrix: Solid

Date Received: 02/05/15 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/5030B		1	5.01 g	10 mL	235571	02/11/15 13:19	HR	TAL IRV
Total/NA	Analysis	8015B/5030B		1	5.31 g	10 mL	235976	02/12/15 18:59	AK	TAL IRV
Total/NA	Prep	3546			15.00 g	1 mL	236024	02/12/15 12:26	AP	TAL IRV
Total/NA	Analysis	8015B		1	15.00 g	1 mL	236258	02/13/15 10:13	CN	TAL IRV

Client Sample ID: SB-7-7

Lab Sample ID: 440-101019-11

Date Collected: 02/03/15 08:05

Matrix: Solid

Date Received: 02/05/15 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/5030B		1	5.31 g	10 mL	235461	02/11/15 03:48	MP	TAL IRV
Total/NA	Analysis	8015B/5030B		1	5.22 g	10 mL	235976	02/13/15 07:35	AK	TAL IRV
Total/NA	Prep	3546			15.12 g	1 mL	236024	02/12/15 12:26	AP	TAL IRV
Total/NA	Analysis	8015B		1	15.12 g	1 mL	236258	02/13/15 02:19	CN	TAL IRV

Client Sample ID: SB-7-25

Lab Sample ID: 440-101019-12

Date Collected: 02/03/15 08:45

Matrix: Solid

Date Received: 02/05/15 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/5030B		1	1.03 g	10 mL	235908	02/12/15 13:47	SS	TAL IRV
Total/NA	Analysis	8015B/5030B		1	1.01 g	10 mL	236555	02/14/15 22:15	TL	TAL IRV
Total/NA	Prep	3546			15.15 g	1 mL	236024	02/12/15 12:26	AP	TAL IRV
Total/NA	Analysis	8015B		1	15.15 g	1 mL	236258	02/13/15 00:53	CN	TAL IRV

Client Sample ID: SB-8-3

Lab Sample ID: 440-101019-13

Date Collected: 02/03/15 09:30

Matrix: Solid

Date Received: 02/05/15 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/5030B		1	5.12 g	10 mL	235461	02/11/15 04:17	MP	TAL IRV
Total/NA	Analysis	8015B/5030B		1	5.05 g	10 mL	235976	02/13/15 08:33	AK	TAL IRV
Total/NA	Prep	3546			15.05 g	1 mL	236024	02/12/15 12:26	AP	TAL IRV
Total/NA	Analysis	8015B		1	15.05 g	1 mL	236258	02/13/15 02:40	CN	TAL IRV

Client Sample ID: SB-8-7

Lab Sample ID: 440-101019-14

Date Collected: 02/03/15 09:45

Matrix: Solid

Date Received: 02/05/15 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/5030B		1	5.14 g	10 mL	235461	02/11/15 04:47	MP	TAL IRV
Total/NA	Analysis	8015B/5030B		1	5.28 g	10 mL	235727	02/11/15 21:35	IM	TAL IRV
Total/NA	Prep	3546			15.14 g	1 mL	236024	02/12/15 12:26	AP	TAL IRV
Total/NA	Analysis	8015B		1	15.14 g	1 mL	236258	02/13/15 03:01	CN	TAL IRV

Client Sample ID: SB-9-3

Lab Sample ID: 440-101019-15

Date Collected: 02/02/15 12:00

Matrix: Solid

Date Received: 02/05/15 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/5030B		1	5.34 g	10 mL	235461	02/11/15 05:16	MP	TAL IRV
Total/NA	Analysis	8015B/5030B		1	5.32 g	10 mL	235976	02/13/15 09:01	AK	TAL IRV
Total/NA	Prep	3546			15.12 g	1 mL	236024	02/12/15 12:26	AP	TAL IRV
Total/NA	Analysis	8015B		1	15.12 g	1 mL	236258	02/13/15 00:32	CN	TAL IRV

Client Sample ID: SB-9-7

Lab Sample ID: 440-101019-16

Date Collected: 02/02/15 12:45

Matrix: Solid

Date Received: 02/05/15 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/5030B		1	5.11 g	10 mL	235461	02/11/15 05:46	MP	TAL IRV
Total/NA	Analysis	8015B/5030B		1	5.07 g	10 mL	235976	02/13/15 09:30	AK	TAL IRV
Total/NA	Prep	3546			15.15 g	1 mL	236422	02/13/15 15:35	AP	TAL IRV
Total/NA	Analysis	8015B		1	15.15 g	1 mL	236728	02/17/15 10:28	KW	TAL IRV

Client Sample ID: SB-9-17.5

Lab Sample ID: 440-101019-17

Date Collected: 02/02/15 13:00

Matrix: Solid

Date Received: 02/05/15 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/5030B		1	5 g	10 mL	235571	02/11/15 11:50	HR	TAL IRV
Total/NA	Analysis	8015B/5030B		1	5.22 g	10 mL	235976	02/13/15 11:05	AK	TAL IRV
Total/NA	Prep	3546			15.13 g	1 mL	236422	02/13/15 15:35	AP	TAL IRV
Total/NA	Analysis	8015B		1	15.13 g	1 mL	236728	02/17/15 10:48	KW	TAL IRV

Client Sample ID: SB-10-3

Lab Sample ID: 440-101019-18

Date Collected: 02/02/15 09:45

Matrix: Solid

Date Received: 02/05/15 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/5030B		1	5.04 g	10 mL	235571	02/11/15 09:51	HR	TAL IRV
Total/NA	Analysis	8015B/5030B		1	5.15 g	10 mL	236555	02/14/15 21:47	TL	TAL IRV

Client Sample ID: SB-10-3

Lab Sample ID: 440-101019-18

Date Collected: 02/02/15 09:45

Matrix: Solid

Date Received: 02/05/15 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.11 g	1 mL	236422	02/13/15 15:35	AP	TAL IRV
Total/NA	Analysis	8015B		1	15.11 g	1 mL	236728	02/17/15 11:47	KW	TAL IRV

Client Sample ID: SB-10-7

Lab Sample ID: 440-101019-19

Date Collected: 02/02/15 10:00

Matrix: Solid

Date Received: 02/05/15 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/5030B		1	5.02 g	10 mL	235461	02/10/15 22:52	MP	TAL IRV
Total/NA	Analysis	8015B/5030B		1	5.02 g	10 mL	236555	02/14/15 21:18	TL	TAL IRV
Total/NA	Prep	3546			15.16 g	1 mL	236422	02/13/15 15:35	AP	TAL IRV
Total/NA	Analysis	8015B		1	15.16 g	1 mL	236728	02/17/15 12:27	KW	TAL IRV

Client Sample ID: SB-10-19

Lab Sample ID: 440-101019-20

Date Collected: 02/02/15 10:45

Matrix: Solid

Date Received: 02/05/15 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/5030B		1	5.21 g	10 mL	235461	02/11/15 00:21	MP	TAL IRV
Total/NA	Analysis	8015B/5030B		1	5.17 g	10 mL	236555	02/14/15 20:50	TL	TAL IRV
Total/NA	Prep	3546			15.11 g	1 mL	236422	02/13/15 15:35	AP	TAL IRV
Total/NA	Analysis	8015B		1	15.11 g	1 mL	236728	02/17/15 13:07	KW	TAL IRV

Client Sample ID: SG-1A-3.5

Lab Sample ID: 440-101019-21

Date Collected: 02/04/15 09:45

Matrix: Solid

Date Received: 02/05/15 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/5030B		1	5.1 g	10 mL	235461	02/11/15 00:50	MP	TAL IRV
Total/NA	Analysis	8015B/5030B		1	5.3 g	10 mL	236555	02/14/15 20:21	TL	TAL IRV
Total/NA	Prep	3546			15.11 g	1 mL	236422	02/13/15 15:35	AP	TAL IRV
Total/NA	Analysis	8015B		1	15.11 g	1 mL	236728	02/17/15 13:27	KW	TAL IRV

Client Sample ID: SG-1B-3

Lab Sample ID: 440-101019-22

Date Collected: 02/04/15 09:55

Matrix: Solid

Date Received: 02/05/15 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/5030B		1	5.32 g	10 mL	235461	02/11/15 01:20	MP	TAL IRV
Total/NA	Analysis	8015B/5030B		1	5.17 g	10 mL	236555	02/14/15 19:52	TL	TAL IRV
Total/NA	Prep	3546			15.19 g	1 mL	236422	02/13/15 15:35	AP	TAL IRV
Total/NA	Analysis	8015B		1	15.19 g	1 mL	236728	02/17/15 13:47	KW	TAL IRV

Client Sample ID: SG-2A-3.5

Lab Sample ID: 440-101019-23

Date Collected: 02/04/15 08:30

Matrix: Solid

Date Received: 02/05/15 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/5030B		1	5.04 g	10 mL	235571	02/11/15 13:48	HR	TAL IRV
Total/NA	Analysis	8015B/5030B		1	5.18 g	10 mL	236555	02/14/15 19:24	TL	TAL IRV
Total/NA	Prep	3546			15.10 g	1 mL	236422	02/13/15 15:35	AP	TAL IRV
Total/NA	Analysis	8015B		1	15.10 g	1 mL	236728	02/17/15 14:07	KW	TAL IRV

Client Sample ID: SG-2B-3.5

Lab Sample ID: 440-101019-24

Date Collected: 02/04/15 08:15

Matrix: Solid

Date Received: 02/05/15 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/5030B		1	5.01 g	10 mL	235571	02/11/15 14:18	HR	TAL IRV
Total/NA	Analysis	8015B/5030B		1	5.16 g	10 mL	236555	02/14/15 15:32	TL	TAL IRV
Total/NA	Prep	3546			15.13 g	1 mL	237171	02/18/15 15:46	QCT	TAL IRV
Total/NA	Analysis	8015B		1	15.13 g	1 mL	237327	02/19/15 09:38	KW	TAL IRV

Laboratory References:

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

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-235461/3
Matrix: Solid
Analysis Batch: 235461

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0020		mg/Kg			02/10/15 19:26	1
Ethylbenzene	ND		0.0020		mg/Kg			02/10/15 19:26	1
Ethyl-t-butyl ether (ETBE)	ND		0.0050		mg/Kg			02/10/15 19:26	1
Isopropyl Ether (DIPE)	ND		0.0050		mg/Kg			02/10/15 19:26	1
m,p-Xylene	ND		0.0040		mg/Kg			02/10/15 19:26	1
Methyl-t-Butyl Ether (MTBE)	ND		0.0050		mg/Kg			02/10/15 19:26	1
Naphthalene	ND		0.0050		mg/Kg			02/10/15 19:26	1
o-Xylene	ND		0.0020		mg/Kg			02/10/15 19:26	1
Tert-amyl-methyl ether (TAME)	ND		0.0050		mg/Kg			02/10/15 19:26	1
tert-Butyl alcohol (TBA)	ND		0.10		mg/Kg			02/10/15 19:26	1
Toluene	ND		0.0020		mg/Kg			02/10/15 19:26	1
Xylenes, Total	ND		0.0040		mg/Kg			02/10/15 19:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*79 - 123*		*02/10/15 19:26*	*1*
4-Bromofluorobenzene (Surr)	*89*		*79 - 120*		*02/10/15 19:26*	*1*
Dibromofluoromethane (Surr)	*98*		*60 - 120*		*02/10/15 19:26*	*1*

Lab Sample ID: LCS 440-235461/4
Matrix: Solid
Analysis Batch: 235461

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.0500	0.0480		mg/Kg		96	65 - 120		
Ethylbenzene			0.0500	0.0457		mg/Kg		91	70 - 125		
Ethyl-t-butyl ether (ETBE)			0.0500	0.0497		mg/Kg		99	60 - 140		
Isopropyl Ether (DIPE)			0.0500	0.0487		mg/Kg		97	60 - 140		
m,p-Xylene			0.0500	0.0497		mg/Kg		99	70 - 125		
Methyl-t-Butyl Ether (MTBE)			0.0500	0.0507		mg/Kg		101	60 - 140		
Naphthalene			0.0500	0.0450		mg/Kg		90	55 - 135		
o-Xylene			0.0500	0.0502		mg/Kg		100	70 - 125		
Tert-amyl-methyl ether (TAME)			0.0500	0.0475		mg/Kg		95	60 - 145		
tert-Butyl alcohol (TBA)			0.500	0.499		mg/Kg		100	70 - 135		
Toluene			0.0500	0.0459		mg/Kg		92	70 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*98*		*79 - 123*
4-Bromofluorobenzene (Surr)	*89*		*79 - 120*
Dibromofluoromethane (Surr)	*97*		*60 - 120*

Lab Sample ID: 440-101019-19 MS
Matrix: Solid
Analysis Batch: 235461

Client Sample ID: SB-10-7
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	ND		0.0493	0.0467		mg/Kg		95	65 - 130		
Ethylbenzene	ND		0.0493	0.0454		mg/Kg		92	70 - 135		

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-101019-19 MS
Matrix: Solid
Analysis Batch: 235461

Client Sample ID: SB-10-7
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethyl-t-butyl ether (ETBE)	ND		0.0493	0.0484		mg/Kg		98	60 - 145
Isopropyl Ether (DIPE)	ND		0.0493	0.0474		mg/Kg		96	60 - 150
m,p-Xylene	ND		0.0493	0.0499		mg/Kg		101	70 - 130
Methyl-t-Butyl Ether (MTBE)	ND		0.0493	0.0505		mg/Kg		102	55 - 155
Naphthalene	ND		0.0493	0.0441		mg/Kg		89	40 - 150
o-Xylene	ND		0.0493	0.0500		mg/Kg		101	65 - 130
Tert-amyl-methyl ether (TAME)	ND		0.0493	0.0472		mg/Kg		96	60 - 150
tert-Butyl alcohol (TBA)	ND		0.493	0.486		mg/Kg		99	65 - 145
Toluene	ND		0.0493	0.0455		mg/Kg		92	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*79 - 123*
4-Bromofluorobenzene (Surr)	*90*		*79 - 120*
Dibromofluoromethane (Surr)	*97*		*60 - 120*

Lab Sample ID: 440-101019-19 MSD
Matrix: Solid
Analysis Batch: 235461

Client Sample ID: SB-10-7
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	ND		0.0499	0.0446		mg/Kg		89	65 - 130	5	20
Ethylbenzene	ND		0.0499	0.0438		mg/Kg		88	70 - 135	4	25
Ethyl-t-butyl ether (ETBE)	ND		0.0499	0.0479		mg/Kg		96	60 - 145	1	30
Isopropyl Ether (DIPE)	ND		0.0499	0.0462		mg/Kg		93	60 - 150	3	25
m,p-Xylene	ND		0.0499	0.0484		mg/Kg		97	70 - 130	3	25
Methyl-t-Butyl Ether (MTBE)	ND		0.0499	0.0493		mg/Kg		99	55 - 155	2	35
Naphthalene	ND		0.0499	0.0455		mg/Kg		91	40 - 150	3	40
o-Xylene	ND		0.0499	0.0478		mg/Kg		96	65 - 130	4	25
Tert-amyl-methyl ether (TAME)	ND		0.0499	0.0467		mg/Kg		93	60 - 150	1	25
tert-Butyl alcohol (TBA)	ND		0.499	0.501		mg/Kg		100	65 - 145	3	30
Toluene	ND		0.0499	0.0443		mg/Kg		89	70 - 130	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*79 - 123*
4-Bromofluorobenzene (Surr)	*88*		*79 - 120*
Dibromofluoromethane (Surr)	*94*		*60 - 120*

Lab Sample ID: MB 440-235571/4
Matrix: Solid
Analysis Batch: 235571

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0020		mg/Kg			02/11/15 08:14	1
Ethylbenzene	ND		0.0020		mg/Kg			02/11/15 08:14	1
Ethyl-t-butyl ether (ETBE)	ND		0.0050		mg/Kg			02/11/15 08:14	1
Isopropyl Ether (DIPE)	ND		0.0050		mg/Kg			02/11/15 08:14	1
m,p-Xylene	ND		0.0040		mg/Kg			02/11/15 08:14	1
Methyl-t-Butyl Ether (MTBE)	ND		0.0050		mg/Kg			02/11/15 08:14	1

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-235571/4
Matrix: Solid
Analysis Batch: 235571

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.0050		mg/Kg			02/11/15 08:14	1
o-Xylene	ND		0.0020		mg/Kg			02/11/15 08:14	1
Tert-amyl-methyl ether (TAME)	ND		0.0050		mg/Kg			02/11/15 08:14	1
tert-Butyl alcohol (TBA)	ND		0.10		mg/Kg			02/11/15 08:14	1
Toluene	ND		0.0020		mg/Kg			02/11/15 08:14	1
Xylenes, Total	ND		0.0040		mg/Kg			02/11/15 08:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*79 - 123*		*02/11/15 08:14*	*1*
4-Bromofluorobenzene (Surr)	*94*		*79 - 120*		*02/11/15 08:14*	*1*
Dibromofluoromethane (Surr)	*87*		*60 - 120*		*02/11/15 08:14*	*1*

Lab Sample ID: LCS 440-235571/5
Matrix: Solid
Analysis Batch: 235571

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.0500	0.0462		mg/Kg		92	65 - 120		
Ethylbenzene			0.0500	0.0477		mg/Kg		95	70 - 125		
Ethyl-t-butyl ether (ETBE)			0.0500	0.0542		mg/Kg		108	60 - 140		
Isopropyl Ether (DIPE)			0.0500	0.0537		mg/Kg		107	60 - 140		
m,p-Xylene			0.0500	0.0516		mg/Kg		103	70 - 125		
Methyl-t-Butyl Ether (MTBE)			0.0500	0.0495		mg/Kg		99	60 - 140		
Naphthalene			0.0500	0.0516		mg/Kg		103	55 - 135		
o-Xylene			0.0500	0.0498		mg/Kg		100	70 - 125		
Tert-amyl-methyl ether (TAME)			0.0500	0.0465		mg/Kg		93	60 - 145		
tert-Butyl alcohol (TBA)			0.500	0.498		mg/Kg		100	70 - 135		
Toluene			0.0500	0.0486		mg/Kg		97	70 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*79 - 123*
4-Bromofluorobenzene (Surr)	*94*		*79 - 120*
Dibromofluoromethane (Surr)	*87*		*60 - 120*

Lab Sample ID: 440-101019-18 MS
Matrix: Solid
Analysis Batch: 235571

Client Sample ID: SB-10-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	ND		0.0495	0.0462		mg/Kg		93	65 - 130		
Ethylbenzene	ND		0.0495	0.0475		mg/Kg		96	70 - 135		
Ethyl-t-butyl ether (ETBE)	ND		0.0495	0.0547		mg/Kg		110	60 - 145		
Isopropyl Ether (DIPE)	ND		0.0495	0.0526		mg/Kg		106	60 - 150		
m,p-Xylene	ND		0.0495	0.0517		mg/Kg		104	70 - 130		
Methyl-t-Butyl Ether (MTBE)	ND		0.0495	0.0504		mg/Kg		102	55 - 155		
Naphthalene	ND		0.0495	0.0542		mg/Kg		109	40 - 150		
o-Xylene	ND		0.0495	0.0504		mg/Kg		102	65 - 130		
Tert-amyl-methyl ether (TAME)	ND		0.0495	0.0466		mg/Kg		94	60 - 150		

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-101019-18 MS
Matrix: Solid
Analysis Batch: 235571

Client Sample ID: SB-10-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
tert-Butyl alcohol (TBA)	ND		0.495	0.497		mg/Kg		100	65 - 145
Toluene	ND		0.0495	0.0486		mg/Kg		98	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*79 - 123*
4-Bromofluorobenzene (Surr)	*94*		*79 - 120*
Dibromofluoromethane (Surr)	*87*		*60 - 120*

Lab Sample ID: 440-101019-18 MSD
Matrix: Solid
Analysis Batch: 235571

Client Sample ID: SB-10-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	ND		0.0495	0.0456		mg/Kg		92	65 - 130	1	20
Ethylbenzene	ND		0.0495	0.0476		mg/Kg		96	70 - 135	0	25
Ethyl-t-butyl ether (ETBE)	ND		0.0495	0.0536		mg/Kg		108	60 - 145	2	30
Isopropyl Ether (DIPE)	ND		0.0495	0.0525		mg/Kg		106	60 - 150	0	25
m,p-Xylene	ND		0.0495	0.0502		mg/Kg		101	70 - 130	3	25
Methyl-t-Butyl Ether (MTBE)	ND		0.0495	0.0494		mg/Kg		100	55 - 155	2	35
Naphthalene	ND		0.0495	0.0534		mg/Kg		108	40 - 150	1	40
o-Xylene	ND		0.0495	0.0502		mg/Kg		101	65 - 130	0	25
Tert-amyl-methyl ether (TAME)	ND		0.0495	0.0456		mg/Kg		92	60 - 150	2	25
tert-Butyl alcohol (TBA)	ND		0.495	0.477		mg/Kg		96	65 - 145	4	30
Toluene	ND		0.0495	0.0478		mg/Kg		97	70 - 130	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*79 - 123*
4-Bromofluorobenzene (Surr)	*94*		*79 - 120*
Dibromofluoromethane (Surr)	*86*		*60 - 120*

Lab Sample ID: MB 440-235908/4
Matrix: Solid
Analysis Batch: 235908

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0020	mg/Kg			02/12/15 08:46	1
Ethylbenzene	ND		0.0020	mg/Kg			02/12/15 08:46	1
Ethyl-t-butyl ether (ETBE)	ND		0.0050	mg/Kg			02/12/15 08:46	1
Isopropyl Ether (DIPE)	ND		0.0050	mg/Kg			02/12/15 08:46	1
m,p-Xylene	ND		0.0040	mg/Kg			02/12/15 08:46	1
Methyl-t-Butyl Ether (MTBE)	ND		0.0050	mg/Kg			02/12/15 08:46	1
Naphthalene	ND		0.0050	mg/Kg			02/12/15 08:46	1
o-Xylene	ND		0.0020	mg/Kg			02/12/15 08:46	1
Tert-amyl-methyl ether (TAME)	ND		0.0050	mg/Kg			02/12/15 08:46	1
tert-Butyl alcohol (TBA)	ND		0.10	mg/Kg			02/12/15 08:46	1
Toluene	ND		0.0020	mg/Kg			02/12/15 08:46	1
Xylenes, Total	ND		0.0040	mg/Kg			02/12/15 08:46	1

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-235908/4
Matrix: Solid
Analysis Batch: 235908

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		79 - 123		02/12/15 08:46	1
4-Bromofluorobenzene (Surr)	100		79 - 120		02/12/15 08:46	1
Dibromofluoromethane (Surr)	102		60 - 120		02/12/15 08:46	1

Lab Sample ID: LCS 440-235908/5
Matrix: Solid
Analysis Batch: 235908

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.0474		mg/Kg		95	65 - 120
Ethylbenzene	0.0500	0.0467		mg/Kg		93	70 - 125
Ethyl-t-butyl ether (ETBE)	0.0500	0.0545		mg/Kg		109	60 - 140
Isopropyl Ether (DIPE)	0.0500	0.0509		mg/Kg		102	60 - 140
m,p-Xylene	0.0500	0.0477		mg/Kg		95	70 - 125
Methyl-t-Butyl Ether (MTBE)	0.0500	0.0533		mg/Kg		107	60 - 140
Naphthalene	0.0500	0.0488		mg/Kg		98	55 - 135
o-Xylene	0.0500	0.0471		mg/Kg		94	70 - 125
Tert-amyl-methyl ether (TAME)	0.0500	0.0574		mg/Kg		115	60 - 145
tert-Butyl alcohol (TBA)	0.500	0.484		mg/Kg		97	70 - 135
Toluene	0.0500	0.0459		mg/Kg		92	70 - 125

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	92		79 - 123
4-Bromofluorobenzene (Surr)	96		79 - 120
Dibromofluoromethane (Surr)	103		60 - 120

Lab Sample ID: 440-101314-A-16 MS
Matrix: Solid
Analysis Batch: 235908

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		0.0500	0.0498		mg/Kg		100	65 - 130
Ethylbenzene	ND		0.0500	0.0508		mg/Kg		102	70 - 135
Ethyl-t-butyl ether (ETBE)	ND		0.0500	0.0553		mg/Kg		111	60 - 145
Isopropyl Ether (DIPE)	ND		0.0500	0.0509		mg/Kg		102	60 - 150
m,p-Xylene	ND		0.0500	0.0506		mg/Kg		101	70 - 130
Methyl-t-Butyl Ether (MTBE)	ND		0.0500	0.0548		mg/Kg		110	55 - 155
Naphthalene	ND		0.0500	0.0528		mg/Kg		106	40 - 150
o-Xylene	ND		0.0500	0.0513		mg/Kg		103	65 - 130
Tert-amyl-methyl ether (TAME)	ND		0.0500	0.0588		mg/Kg		118	60 - 150
tert-Butyl alcohol (TBA)	ND		0.500	0.497		mg/Kg		99	65 - 145
Toluene	ND		0.0500	0.0505		mg/Kg		101	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	99		79 - 123
4-Bromofluorobenzene (Surr)	100		79 - 120
Dibromofluoromethane (Surr)	103		60 - 120

Method: 8260B/5030B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-101314-A-16 MSD
Matrix: Solid
Analysis Batch: 235908

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	ND		0.0500	0.0490		mg/Kg		98	65 - 130	2	20
Ethylbenzene	ND		0.0500	0.0518		mg/Kg		104	70 - 135	2	25
Ethyl-t-butyl ether (ETBE)	ND		0.0500	0.0566		mg/Kg		113	60 - 145	2	30
Isopropyl Ether (DIPE)	ND		0.0500	0.0502		mg/Kg		100	60 - 150	1	25
m,p-Xylene	ND		0.0500	0.0528		mg/Kg		106	70 - 130	4	25
Methyl-t-Butyl Ether (MTBE)	ND		0.0500	0.0548		mg/Kg		110	55 - 155	0	35
Naphthalene	ND		0.0500	0.0553		mg/Kg		111	40 - 150	5	40
o-Xylene	ND		0.0500	0.0526		mg/Kg		105	65 - 130	2	25
Tert-amyl-methyl ether (TAME)	ND		0.0500	0.0605		mg/Kg		121	60 - 150	3	25
tert-Butyl alcohol (TBA)	ND		0.500	0.478		mg/Kg		96	65 - 145	4	30
Toluene	ND		0.0500	0.0504		mg/Kg		101	70 - 130	0	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*79 - 123*
4-Bromofluorobenzene (Surr)	*95*		*79 - 120*
Dibromofluoromethane (Surr)	*99*		*60 - 120*

Method: 8015B/5030B - Gasoline Range Organics (GC)

Lab Sample ID: MB 440-235585/5
Matrix: Solid
Analysis Batch: 235585

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		0.40		mg/Kg			02/11/15 11:09	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*65 - 140*		*02/11/15 11:09*	*1*

Lab Sample ID: LCS 440-235585/3
Matrix: Solid
Analysis Batch: 235585

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
GRO (C4-C12)			1.60	1.89		mg/Kg		118	70 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*65 - 140*

Lab Sample ID: LCSD 440-235585/4
Matrix: Solid
Analysis Batch: 235585

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
GRO (C4-C12)			1.60	1.97		mg/Kg		123	70 - 135	4	20

Method: 8015B/5030B - Gasoline Range Organics (GC) (Continued)

Lab Sample ID: LCSD 440-235585/4
Matrix: Solid
Analysis Batch: 235585

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

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		65 - 140

Lab Sample ID: 440-101377-A-3 MS
Matrix: Solid
Analysis Batch: 235585

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
GRO (C4-C12)	6.3		7.55	12.1		mg/Kg		77	60 - 140

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		65 - 140

Lab Sample ID: 440-101377-A-3 MSD
Matrix: Solid
Analysis Batch: 235585

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
GRO (C4-C12)	6.3		7.84	9.83	LN	mg/Kg		45	60 - 140	21	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	87		65 - 140

Lab Sample ID: MB 440-235727/6
Matrix: Solid
Analysis Batch: 235727

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		0.40		mg/Kg			02/11/15 17:46	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		65 - 140		02/11/15 17:46	1

Lab Sample ID: LCS 440-235727/4
Matrix: Solid
Analysis Batch: 235727

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
GRO (C4-C12)			1.60	1.72		mg/Kg		108	70 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		65 - 140

Method: 8015B/5030B - Gasoline Range Organics (GC) (Continued)

Lab Sample ID: LCSD 440-235727/5
Matrix: Solid
Analysis Batch: 235727

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
GRO (C4-C12)			1.60	1.76		mg/Kg		110	70 - 135	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*65 - 140*

Lab Sample ID: 440-101019-3 MS
Matrix: Solid
Analysis Batch: 235727

Client Sample ID: SB-5-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
GRO (C4-C12)	ND		1.57	1.46		mg/Kg		93	60 - 140		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*86*		*65 - 140*

Lab Sample ID: 440-101019-3 MSD
Matrix: Solid
Analysis Batch: 235727

Client Sample ID: SB-5-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
GRO (C4-C12)	ND		1.54	1.70		mg/Kg		110	60 - 140	15	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*65 - 140*

Lab Sample ID: MB 440-235976/61
Matrix: Solid
Analysis Batch: 235976

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		0.40		mg/Kg			02/12/15 10:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*65 - 140*		*02/12/15 10:57*	*1*

Lab Sample ID: LCS 440-235976/59
Matrix: Solid
Analysis Batch: 235976

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
GRO (C4-C12)			1.60	1.83		mg/Kg		114	70 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*79*		*65 - 140*

Method: 8015B/5030B - Gasoline Range Organics (GC) (Continued)

Lab Sample ID: LCSD 440-235976/60
Matrix: Solid
Analysis Batch: 235976

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
GRO (C4-C12)			1.60	1.79		mg/Kg		112	70 - 135	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*72*		*65 - 140*

Lab Sample ID: 440-101529-A-2 MS
Matrix: Solid
Analysis Batch: 235976

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
GRO (C4-C12)	2.4		7.34	8.21		mg/Kg		79	60 - 140		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*65 - 140*

Lab Sample ID: 440-101529-A-2 MSD
Matrix: Solid
Analysis Batch: 235976

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
GRO (C4-C12)	2.4		6.84	7.00		mg/Kg		67	60 - 140	16	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*65 - 140*

Lab Sample ID: MB 440-236555/6
Matrix: Solid
Analysis Batch: 236555

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		0.40		mg/Kg			02/14/15 14:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*65 - 140*		*02/14/15 14:05*	*1*

Lab Sample ID: LCS 440-236555/4
Matrix: Solid
Analysis Batch: 236555

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
GRO (C4-C12)			1.60	1.84		mg/Kg		115	70 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*65 - 140*

Method: 8015B/5030B - Gasoline Range Organics (GC) (Continued)

Lab Sample ID: LCSD 440-236555/5
Matrix: Solid
Analysis Batch: 236555

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
GRO (C4-C12)			1.60	1.78		mg/Kg		111	70 - 135	3	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*65 - 140*

Lab Sample ID: 440-101019-24 MS
Matrix: Solid
Analysis Batch: 236555

Client Sample ID: SG-2B-3.5
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
GRO (C4-C12)	ND		1.61	1.67		mg/Kg		104	60 - 140		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*65 - 140*

Lab Sample ID: 440-101019-24 MSD
Matrix: Solid
Analysis Batch: 236555

Client Sample ID: SG-2B-3.5
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
GRO (C4-C12)	ND		1.52	1.61		mg/Kg		106	60 - 140	4	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*65 - 140*

Lab Sample ID: MB 440-236734/6
Matrix: Solid
Analysis Batch: 236734

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		40		mg/Kg			02/17/15 12:05	100

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*65 - 140*		*02/17/15 12:05*	*100*

Lab Sample ID: LCS 440-236734/4
Matrix: Solid
Analysis Batch: 236734

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
GRO (C4-C12)			160	172		mg/Kg		108	70 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*116*		*65 - 140*

Method: 8015B/5030B - Gasoline Range Organics (GC) (Continued)

Lab Sample ID: LCSD 440-236734/5
Matrix: Solid
Analysis Batch: 236734

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
GRO (C4-C12)			160	171		mg/Kg		107	70 - 135	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*115*		*65 - 140*

Lab Sample ID: MB 440-236737/6
Matrix: Solid
Analysis Batch: 236737

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND		0.40		mg/Kg			02/17/15 11:23	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*65 - 140*		*02/17/15 11:23*	*1*

Lab Sample ID: LCS 440-236737/4
Matrix: Solid
Analysis Batch: 236737

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
GRO (C4-C12)			1.60	1.33		mg/Kg		83	70 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*88*		*65 - 140*

Lab Sample ID: LCSD 440-236737/5
Matrix: Solid
Analysis Batch: 236737

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
GRO (C4-C12)			1.60	1.41		mg/Kg		88	70 - 135	6	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*65 - 140*

Lab Sample ID: 440-101019-4 MS
Matrix: Solid
Analysis Batch: 236737

Client Sample ID: SB-5-7
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
GRO (C4-C12)	ND		1.58	1.40		mg/Kg		88	60 - 140		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*65 - 140*

Method: 8015B/5030B - Gasoline Range Organics (GC) (Continued)

Lab Sample ID: 440-101019-4 MSD — **Client Sample ID: SB-5-7**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 236737

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
GRO (C4-C12)	ND		1.58	1.42		mg/Kg		90	60 - 140	1	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*65 - 140*

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

Lab Sample ID: MB 440-236024/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 236258 — **Prep Batch: 236024**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C24)	ND		5.0		mg/Kg		02/12/15 12:26	02/12/15 22:25	1
ORO (C25-C40)	ND		5.0		mg/Kg		02/12/15 12:26	02/12/15 22:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*88*		*40 - 140*	*02/12/15 12:26*	*02/12/15 22:25*	*1*

Lab Sample ID: LCS 440-236024/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 236258 — **Prep Batch: 236024**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics [C10-C28]			66.7	56.4		mg/Kg		85	45 - 115		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Octacosane	*92*		*40 - 140*

Lab Sample ID: 440-101620-A-1-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 236258 — **Prep Batch: 236024**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics [C10-C28]	ND		66.4	48.9		mg/Kg		74	40 - 120		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
n-Octacosane	*76*		*40 - 140*

Lab Sample ID: 440-101620-A-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 236258 — **Prep Batch: 236024**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]	ND		66.4	50.3		mg/Kg		76	40 - 120	3	30

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

Lab Sample ID: 440-101620-A-1-E MSD
Matrix: Solid
Analysis Batch: 236258

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 236024

Surrogate	MSD %Recovery	MSD Qualifier	Limits
n-Octacosane	83		40 - 140

Lab Sample ID: MB 440-236422/1-A
Matrix: Solid
Analysis Batch: 236728

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 236422

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C24)	ND		5.0		mg/Kg		02/13/15 15:35	02/17/15 08:09	1
ORO (C25-C40)	ND		5.0		mg/Kg		02/13/15 15:35	02/17/15 08:09	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	100		40 - 140	02/13/15 15:35	02/17/15 08:09	1

Lab Sample ID: LCS 440-236422/2-A
Matrix: Solid
Analysis Batch: 236728

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 236422

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics [C10-C28]			66.7	52.5		mg/Kg		79	45 - 115		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
n-Octacosane	90		40 - 140

Lab Sample ID: 440-101019-1 MS
Matrix: Solid
Analysis Batch: 236728

Client Sample ID: SB-4-3
Prep Type: Total/NA
Prep Batch: 236422

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics [C10-C28]	ND		65.9	53.7		mg/Kg		81	40 - 120		

Surrogate	MS %Recovery	MS Qualifier	Limits
n-Octacosane	90		40 - 140

Lab Sample ID: 440-101019-1 MSD
Matrix: Solid
Analysis Batch: 236728

Client Sample ID: SB-4-3
Prep Type: Total/NA
Prep Batch: 236422

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]	ND		65.8	53.7		mg/Kg		82	40 - 120	0	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
n-Octacosane	97		40 - 140

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

Lab Sample ID: MB 440-237171/1-A
Matrix: Solid
Analysis Batch: 237327

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 237171

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C24)	ND		5.0		mg/Kg		02/18/15 15:46	02/19/15 08:18	1
ORO (C25-C40)	ND		5.0		mg/Kg		02/18/15 15:46	02/19/15 08:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*84*		*40 - 140*	*02/18/15 15:46*	*02/19/15 08:18*	*1*

Lab Sample ID: LCS 440-237171/2-A
Matrix: Solid
Analysis Batch: 237327

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 237171

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics [C10-C28]			66.7	53.1		mg/Kg		80	45 - 115		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Octacosane	*84*		*40 - 140*

Lab Sample ID: 440-101019-24 MS
Matrix: Solid
Analysis Batch: 237327

Client Sample ID: SG-2B-3.5
Prep Type: Total/NA
Prep Batch: 237171

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics [C10-C28]	ND		65.7	46.1		mg/Kg		70	40 - 120		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
n-Octacosane	*75*		*40 - 140*

Lab Sample ID: 440-101019-24 MSD
Matrix: Solid
Analysis Batch: 237327

Client Sample ID: SG-2B-3.5
Prep Type: Total/NA
Prep Batch: 237171

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]	ND		66.0	46.2		mg/Kg		70	40 - 120	0	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
n-Octacosane	*71*		*40 - 140*

GC/MS VOA

Analysis Batch: 235461

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-101019-1	SB-4-3	Total/NA	Solid	8260B/5030B	
440-101019-2	SB-4-7	Total/NA	Solid	8260B/5030B	
440-101019-3	SB-5-3	Total/NA	Solid	8260B/5030B	
440-101019-4	SB-5-7	Total/NA	Solid	8260B/5030B	
440-101019-5	SB-6-3	Total/NA	Solid	8260B/5030B	
440-101019-6	SB-6-7	Total/NA	Solid	8260B/5030B	
440-101019-7	SB-6-17.5	Total/NA	Solid	8260B/5030B	
440-101019-11	SB-7-7	Total/NA	Solid	8260B/5030B	
440-101019-13	SB-8-3	Total/NA	Solid	8260B/5030B	
440-101019-14	SB-8-7	Total/NA	Solid	8260B/5030B	
440-101019-15	SB-9-3	Total/NA	Solid	8260B/5030B	
440-101019-16	SB-9-7	Total/NA	Solid	8260B/5030B	
440-101019-19	SB-10-7	Total/NA	Solid	8260B/5030B	
440-101019-19 MS	SB-10-7	Total/NA	Solid	8260B/5030B	
440-101019-19 MSD	SB-10-7	Total/NA	Solid	8260B/5030B	
440-101019-20	SB-10-19	Total/NA	Solid	8260B/5030B	
440-101019-21	SG-1A-3.5	Total/NA	Solid	8260B/5030B	
440-101019-22	SG-1B-3	Total/NA	Solid	8260B/5030B	
LCS 440-235461/4	Lab Control Sample	Total/NA	Solid	8260B/5030B	
MB 440-235461/3	Method Blank	Total/NA	Solid	8260B/5030B	

Analysis Batch: 235571

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-101019-8	SB-6-21.5	Total/NA	Solid	8260B/5030B	
440-101019-10	SB-7-3	Total/NA	Solid	8260B/5030B	
440-101019-17	SB-9-17.5	Total/NA	Solid	8260B/5030B	
440-101019-18	SB-10-3	Total/NA	Solid	8260B/5030B	
440-101019-18 MS	SB-10-3	Total/NA	Solid	8260B/5030B	
440-101019-18 MSD	SB-10-3	Total/NA	Solid	8260B/5030B	
440-101019-23	SG-2A-3.5	Total/NA	Solid	8260B/5030B	
440-101019-24	SG-2B-3.5	Total/NA	Solid	8260B/5030B	
LCS 440-235571/5	Lab Control Sample	Total/NA	Solid	8260B/5030B	
MB 440-235571/4	Method Blank	Total/NA	Solid	8260B/5030B	

Analysis Batch: 235908

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-101019-9	SB-6-24	Total/NA	Solid	8260B/5030B	
440-101019-12	SB-7-25	Total/NA	Solid	8260B/5030B	
440-101314-A-16 MS	Matrix Spike	Total/NA	Solid	8260B/5030B	
440-101314-A-16 MSD	Matrix Spike Duplicate	Total/NA	Solid	8260B/5030B	
LCS 440-235908/5	Lab Control Sample	Total/NA	Solid	8260B/5030B	
MB 440-235908/4	Method Blank	Total/NA	Solid	8260B/5030B	

GC VOA

Analysis Batch: 235585

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-101019-1	SB-4-3	Total/NA	Solid	8015B/5030B	
440-101019-2	SB-4-7	Total/NA	Solid	8015B/5030B	
440-101377-A-3 MS	Matrix Spike	Total/NA	Solid	8015B/5030B	

GC VOA (Continued)

Analysis Batch: 235585 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-101377-A-3 MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B/5030B	
LCS 440-235585/3	Lab Control Sample	Total/NA	Solid	8015B/5030B	
LCSD 440-235585/4	Lab Control Sample Dup	Total/NA	Solid	8015B/5030B	
MB 440-235585/5	Method Blank	Total/NA	Solid	8015B/5030B	

Analysis Batch: 235727

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-101019-3	SB-5-3	Total/NA	Solid	8015B/5030B	
440-101019-3 MS	SB-5-3	Total/NA	Solid	8015B/5030B	
440-101019-3 MSD	SB-5-3	Total/NA	Solid	8015B/5030B	
440-101019-6	SB-6-7	Total/NA	Solid	8015B/5030B	
440-101019-7	SB-6-17.5	Total/NA	Solid	8015B/5030B	
440-101019-14	SB-8-7	Total/NA	Solid	8015B/5030B	
LCS 440-235727/4	Lab Control Sample	Total/NA	Solid	8015B/5030B	
LCSD 440-235727/5	Lab Control Sample Dup	Total/NA	Solid	8015B/5030B	
MB 440-235727/6	Method Blank	Total/NA	Solid	8015B/5030B	

Prep Batch: 235732

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-101019-9	SB-6-24	Total/NA	Solid	5030B	

Analysis Batch: 235976

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-101019-9	SB-6-24	Total/NA	Solid	8015B/5030B	
440-101019-10	SB-7-3	Total/NA	Solid	8015B/5030B	
440-101019-11	SB-7-7	Total/NA	Solid	8015B/5030B	
440-101019-13	SB-8-3	Total/NA	Solid	8015B/5030B	
440-101019-15	SB-9-3	Total/NA	Solid	8015B/5030B	
440-101019-16	SB-9-7	Total/NA	Solid	8015B/5030B	
440-101019-17	SB-9-17.5	Total/NA	Solid	8015B/5030B	
440-101529-A-2 MS	Matrix Spike	Total/NA	Solid	8015B/5030B	
440-101529-A-2 MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B/5030B	
LCS 440-235976/59	Lab Control Sample	Total/NA	Solid	8015B/5030B	
LCSD 440-235976/60	Lab Control Sample Dup	Total/NA	Solid	8015B/5030B	
MB 440-235976/61	Method Blank	Total/NA	Solid	8015B/5030B	

Analysis Batch: 236555

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-101019-12	SB-7-25	Total/NA	Solid	8015B/5030B	
440-101019-18	SB-10-3	Total/NA	Solid	8015B/5030B	
440-101019-19	SB-10-7	Total/NA	Solid	8015B/5030B	
440-101019-20	SB-10-19	Total/NA	Solid	8015B/5030B	
440-101019-21	SG-1A-3.5	Total/NA	Solid	8015B/5030B	
440-101019-22	SG-1B-3	Total/NA	Solid	8015B/5030B	
440-101019-23	SG-2A-3.5	Total/NA	Solid	8015B/5030B	
440-101019-24	SG-2B-3.5	Total/NA	Solid	8015B/5030B	
440-101019-24 MS	SG-2B-3.5	Total/NA	Solid	8015B/5030B	
440-101019-24 MSD	SG-2B-3.5	Total/NA	Solid	8015B/5030B	
LCS 440-236555/4	Lab Control Sample	Total/NA	Solid	8015B/5030B	
LCSD 440-236555/5	Lab Control Sample Dup	Total/NA	Solid	8015B/5030B	
MB 440-236555/6	Method Blank	Total/NA	Solid	8015B/5030B	

GC VOA (Continued)

Analysis Batch: 236734

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-101019-9	SB-6-24	Total/NA	Solid	8015B/5030B	235732
LCS 440-236734/4	Lab Control Sample	Total/NA	Solid	8015B/5030B	
LCSD 440-236734/5	Lab Control Sample Dup	Total/NA	Solid	8015B/5030B	
MB 440-236734/6	Method Blank	Total/NA	Solid	8015B/5030B	

Analysis Batch: 236737

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-101019-4	SB-5-7	Total/NA	Solid	8015B/5030B	
440-101019-4 MS	SB-5-7	Total/NA	Solid	8015B/5030B	
440-101019-4 MSD	SB-5-7	Total/NA	Solid	8015B/5030B	
440-101019-5	SB-6-3	Total/NA	Solid	8015B/5030B	
440-101019-8	SB-6-21.5	Total/NA	Solid	8015B/5030B	
LCS 440-236737/4	Lab Control Sample	Total/NA	Solid	8015B/5030B	
LCSD 440-236737/5	Lab Control Sample Dup	Total/NA	Solid	8015B/5030B	
MB 440-236737/6	Method Blank	Total/NA	Solid	8015B/5030B	

GC Semi VOA

Prep Batch: 236024

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-101019-5	SB-6-3	Total/NA	Solid	3546	
440-101019-6	SB-6-7	Total/NA	Solid	3546	
440-101019-7	SB-6-17.5	Total/NA	Solid	3546	
440-101019-8	SB-6-21.5	Total/NA	Solid	3546	
440-101019-9	SB-6-24	Total/NA	Solid	3546	
440-101019-10	SB-7-3	Total/NA	Solid	3546	
440-101019-11	SB-7-7	Total/NA	Solid	3546	
440-101019-12	SB-7-25	Total/NA	Solid	3546	
440-101019-13	SB-8-3	Total/NA	Solid	3546	
440-101019-14	SB-8-7	Total/NA	Solid	3546	
440-101019-15	SB-9-3	Total/NA	Solid	3546	
440-101620-A-1-D MS	Matrix Spike	Total/NA	Solid	3546	
440-101620-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	3546	
LCS 440-236024/2-A	Lab Control Sample	Total/NA	Solid	3546	
MB 440-236024/1-A	Method Blank	Total/NA	Solid	3546	

Analysis Batch: 236258

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-101019-5	SB-6-3	Total/NA	Solid	8015B	236024
440-101019-6	SB-6-7	Total/NA	Solid	8015B	236024
440-101019-7	SB-6-17.5	Total/NA	Solid	8015B	236024
440-101019-8	SB-6-21.5	Total/NA	Solid	8015B	236024
440-101019-9	SB-6-24	Total/NA	Solid	8015B	236024
440-101019-10	SB-7-3	Total/NA	Solid	8015B	236024
440-101019-11	SB-7-7	Total/NA	Solid	8015B	236024
440-101019-12	SB-7-25	Total/NA	Solid	8015B	236024
440-101019-13	SB-8-3	Total/NA	Solid	8015B	236024
440-101019-14	SB-8-7	Total/NA	Solid	8015B	236024
440-101019-15	SB-9-3	Total/NA	Solid	8015B	236024
440-101620-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B	236024

GC Semi VOA (Continued)

Analysis Batch: 236258 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-101620-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B	236024
LCS 440-236024/2-A	Lab Control Sample	Total/NA	Solid	8015B	236024
MB 440-236024/1-A	Method Blank	Total/NA	Solid	8015B	236024

Prep Batch: 236422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-101019-1	SB-4-3	Total/NA	Solid	3546	
440-101019-1 MS	SB-4-3	Total/NA	Solid	3546	
440-101019-1 MSD	SB-4-3	Total/NA	Solid	3546	
440-101019-2	SB-4-7	Total/NA	Solid	3546	
440-101019-3	SB-5-3	Total/NA	Solid	3546	
440-101019-4	SB-5-7	Total/NA	Solid	3546	
440-101019-16	SB-9-7	Total/NA	Solid	3546	
440-101019-17	SB-9-17.5	Total/NA	Solid	3546	
440-101019-18	SB-10-3	Total/NA	Solid	3546	
440-101019-19	SB-10-7	Total/NA	Solid	3546	
440-101019-20	SB-10-19	Total/NA	Solid	3546	
440-101019-21	SG-1A-3.5	Total/NA	Solid	3546	
440-101019-22	SG-1B-3	Total/NA	Solid	3546	
440-101019-23	SG-2A-3.5	Total/NA	Solid	3546	
LCS 440-236422/2-A	Lab Control Sample	Total/NA	Solid	3546	
MB 440-236422/1-A	Method Blank	Total/NA	Solid	3546	

Analysis Batch: 236728

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-101019-1	SB-4-3	Total/NA	Solid	8015B	236422
440-101019-1 MS	SB-4-3	Total/NA	Solid	8015B	236422
440-101019-1 MSD	SB-4-3	Total/NA	Solid	8015B	236422
440-101019-2	SB-4-7	Total/NA	Solid	8015B	236422
440-101019-3	SB-5-3	Total/NA	Solid	8015B	236422
440-101019-4	SB-5-7	Total/NA	Solid	8015B	236422
440-101019-16	SB-9-7	Total/NA	Solid	8015B	236422
440-101019-17	SB-9-17.5	Total/NA	Solid	8015B	236422
440-101019-18	SB-10-3	Total/NA	Solid	8015B	236422
440-101019-19	SB-10-7	Total/NA	Solid	8015B	236422
440-101019-20	SB-10-19	Total/NA	Solid	8015B	236422
440-101019-21	SG-1A-3.5	Total/NA	Solid	8015B	236422
440-101019-22	SG-1B-3	Total/NA	Solid	8015B	236422
440-101019-23	SG-2A-3.5	Total/NA	Solid	8015B	236422
LCS 440-236422/2-A	Lab Control Sample	Total/NA	Solid	8015B	236422
MB 440-236422/1-A	Method Blank	Total/NA	Solid	8015B	236422

Prep Batch: 237171

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-101019-24	SG-2B-3.5	Total/NA	Solid	3546	
440-101019-24 MS	SG-2B-3.5	Total/NA	Solid	3546	
440-101019-24 MSD	SG-2B-3.5	Total/NA	Solid	3546	
LCS 440-237171/2-A	Lab Control Sample	Total/NA	Solid	3546	
MB 440-237171/1-A	Method Blank	Total/NA	Solid	3546	

GC Semi VOA (Continued)

Analysis Batch: 237327

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-101019-24	SG-2B-3.5	Total/NA	Solid	8015B	237171
440-101019-24 MS	SG-2B-3.5	Total/NA	Solid	8015B	237171
440-101019-24 MSD	SG-2B-3.5	Total/NA	Solid	8015B	237171
LCS 440-237171/2-A	Lab Control Sample	Total/NA	Solid	8015B	237171
MB 440-237171/1-A	Method Blank	Total/NA	Solid	8015B	237171

Qualifiers

GC VOA

Qualifier	Qualifier Description
LG	LG=Surrogate recovery below the acceptance limits
LH	Surrogate Recoveries were higher than QC limits
EY	Result exceeds normal dynamic range; reported as a min. est.
LN	MS and/or MSD below acceptance limits. See Blank Spike (LCS)

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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)

Certification Summary

Client: Broadbent & Associates, Inc.
Project/Site: ARCO 0596-A, Oakland

TestAmerica Job ID: 440-101019-1

Laboratory: TestAmerica Irvine

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-15
Arizona	State Program	9	AZ0671	10-13-15
California	LA Cty Sanitation Districts	9	10256	01-31-16 *
California	State Program	9	2706	06-30-16
Guam	State Program	9	Cert. No. 12.002r	01-23-15 *
Hawaii	State Program	9	N/A	01-29-16
Nevada	State Program	9	CA015312007A	07-31-15
New Mexico	State Program	6	N/A	01-29-15 *
Northern Mariana Islands	State Program	9	MP0002	01-29-15 *
Oregon	NELAP	10	4005	01-29-16
USDA	Federal		P330-09-00080	06-06-15

* Certification renewal pending - certification considered valid.

bp rm — Laboratory Management Program LaMP Chain of Custody Record

BP Site Node Path: 14-90-103 | Req Due Date (mm/dd/yy): | Rush TAT: Yes ___ No x

BP Facility No: 596-A | Lab Work Order Number:

Lab Name: Test America	Facility Address: 1900 Webster Street	Consultant/Contractor: Broadbent and Associates, Inc.	
Lab Address: 17461 Derian Avenue Suite #100, Irvine, CA 92614	City, State, ZIP Code: Oakland, CA 94612	Consultant/Contractor Project No: 14-90-103	
Lab PM: Kathleen Robb	Lead Regulatory Agency: Alameda County Public Works Agency	Address: 4820 Business Center Drive, Suite 110, Fairfield, CA 94534	
Lab Phone: 949-261-1022	California Global ID No: T10000004348	Consultant/Contractor PM: Kristene Tidwell	
Lab Shipping Accnt: 1103-6633-7	Enfos Proposal No: 0092H-0004 / WR286504	Phone: 707-455-7290 Fax: 707-863-9046	
Lab Bottle Order No.	Accounting Mode: Provision x OOC-BU ___ OOC-RM ___	Email EDD To: ktidwell@broadbentinc.com and to lab.enfosdoc@bp.com	
Other Info	Stage: Activity:	Invoice To: BP x Contractor ___	

BP Project Manager (PM): Chuck Carmel

BP PM Phone: 925-275-3804

BP PM Email: chuck.carmel@bp.com

Report Type & QC Level: Standard x; Full Data Package ___

Lab No.	Sample Description	Date	Time	Matrix: Soil / Solid	Matrix: Water / Liquid	Matrix: Air / Vapor	Matrix: Is this location a well?	No. Containers / Preservative: Total Number of Containers	Unpreserved	H2SO4	HNO3	HCl	Methanol	Requested Analyses: GRO & DRO by 8015M	BTEX & Naphthalene by 8260	MTBE, TAME, & ETBE by 8260	DIPE & TBA by 8260	Comments
	SB-4-3	2/2/2015	1400	x			n	1	x					x	x	x	x	
	SB-4-7	2/2/2015	1415	x			n	1	x					x	x	x	x	
	SB-5-3	2/3/2015	1140	x			n	1	x					x	x	x	x	
	SB-5-7	2/3/2015	1155	x			n	1	x					x	x	x	x	
	SB-6-3	2/3/2015	1410	x			n	1	x					x	x	x	x	
	SB-6-7	2/3/2015	1430	x			n	1	x					x	x	x	x	
	SB-6-17 5	2/3/2015	1440	x			n	1	x					x	x	x	x	
	SB-6-21.5	2/3/2015	1445	x			n	1	x					x	x	x	x	
	SB-6-24	2/3/2015	1500	x			n	1	x					x	x	x	x	
	SB-7-3	2/3/2015	0745	x			n	1	x					x	x	x	x	
	SB-7-7	2/3/2015	0805	x			n	1	x					x	x	x	x	
	SB-7-25	2/3/2015	0845	x			n	1	x					x	x	x	x	
	SB-8-3	2/3/2015	0930	x			n	1	x					x	x	x	x	
	SB-8-7	2/3/2015	0945	x			n	1	x					x	x	x	x	

Comments: *Note: If sample not collected, indicate "No Sample" in comments and single-strike out and initial any preprinted sample description.*

Sampler's Name: Alex Martinez	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company: Broadbent & Associates, Inc.	Alex Martinez RAI	2/4/15	1700	Vin Bandi TAL	2/5/15	10:10
Shipment Method: FedEx Ship Date: 2/4/2015						
Shipment Tracking No: 8037 8050 3055						

Special Instructions:

THIS LINE - LAB USE ONLY: Custody Seals In Place: (Yes) / No | Temp Blank: Yes / (No) | Cooler Temp on Receipt: 3.8/3.1 °F/C | Trip Blank: Yes / (No) | MS/MSD Sample Submitted: Yes / (No)

IR-65

bp rm

Laboratory Management Program LaMP Chain of Custody Record

BP Site Node Path: 14-90-103 | Req Due Date (mm/dd/yy): | Rush TAT: Yes ___ No x

BP Facility No: 596-A | Lab Work Order Number:

Lab Name: Test America	Facility Address: 1900 Webster Street	Consultant/Contractor: Broadbent and Associates, Inc
Lab Address: 17461 Derian Avenue Suite #100, Irvine, CA 92614	City, State, ZIP Code: Oakland, CA 94612	Consultant/Contractor Project No: 14-90-103
Lab PM: Kathleen Robb	Lead Regulatory Agency: Alameda County Public Works Agency	Address: 4820 Business Center Drive, Suite 110, Fairfield, CA 94534
Lab Phone: 949-261-1022	California Global ID No: T10000004348	Consultant/Contractor PM: Kristene Tidwell
Lab Shipping Acct: 1103-6633-7	Enfos Proposal No: 0092H-0004 / WR286504	Phone: 707-455-7290 Fax: 707-863-9046
Lab Bottle Order No:	Accounting Mode: Provision x OOC-BU ___ OOC-RM ___	Email EDD To: ktidwell@broadbentinc.com and to lab.enfosdoc@bp.com
Other Info:	Stage: Activity	Invoice To: BP x Contractor ___

BP Project Manager (PM): Chuck Carmel

BP PM Phone: 925-275-3804

BP PM Email: chuck.carmel@bp.com

Report Type & QC Level: Standard x; Full Data Package ___

Lab No.	Sample Description	Date	Time	Matrix: Soil / Solid	Matrix: Water / Liquid	Matrix: Air / Vapor	Matrix: Is this location a well?	No. Containers / Preservative: Total Number of Containers	Unpreserved	H2SO4	HNO3	HCl	Methanol	Requested Analyses: GRO & DRO by 8015M	BTEX & Naphthalene by 8260	MTBE, TAME, & ETBE by 8260	DIPE & TBA by 8260	Comments
	SB-9-3	2/2/2015	1200	x			n	1	x					x	x	x	x	
	SB-9-7	2/2/2015	1245	x			n	1	x					x	x	x	x	
	SB-9-17.5	2/2/2015	1300	x			n	1	x					x	x	x	x	
	SB-10-3	2/2/2015	0945	x			n	1	x					x	x	x	x	
	SB-10-7	2/2/2015	1000	x			n	1	x					x	x	x	x	
	SB-10-19	2/2/2015	1045	x			n	1	x					x	x	x	x	
	SG-1A-3.5	2/4/2015	0945	x			n	1	x					x	x	x	x	
	SG-1B-3	2/4/2015	0955	x			n	1	x					x	x	x	x	
	SG-2A-3.5	2/4/2015	0330	x			n	1	x					x	x	x	x	
	SG-2B-3 5	2/4/2015	0815	x			n	1	x					x	x	x	x	

	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Name: Alex Martinez						
Sampler's Company: Broadbent & Associates, Inc.	BAI	2/4/15	1700	TAI	2/5/15	1000
Shipment Method: FedEx Ship Date: 2/4/2015						
Shipment Tracking No: 3037 8050 3055						

Special Instructions:

THIS LINE - LAB USE ONLY: Custody Seals In Place: Yes / No | Temp Blank: Yes / No | Cooler Temp on Receipt: 3.8/3.1 °C | Trip Blank: Yes / No | MS/MSD Sample Submitted: Yes / No

IR-65

Login Sample Receipt Checklist

Client: Broadbent & Associates, Inc.

Job Number: 440-101019-1

Login Number: 101019

List Source: TestAmerica Irvine

List Number: 1

Creator: Blocker, Kristina M

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.	True	
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.	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	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
Tel: (916)373-5600

TestAmerica Job ID: 320-11850-1
Client Project/Site: ARCO 0596-A, Oakland

For:
Broadbent & Associates, Inc.
4820 Business Center Drive
#110
Fairfield, California 94534

Attn: Kristene Tidwell

Beth Riley

Authorized for release by:
3/12/2015 2:49:03 PM

Beth Riley, Project Manager II
(714)258-8610
beth.riley@testamericainc.com

Table of Contents

Qualifiers

Air - GC/MS VOA

Qualifier	Qualifier Description
LH	Surrogate Recoveries were higher than QC limits

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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: 320-11850-1

Laboratory: TestAmerica Sacramento

Narrative

Job Narrative
320-11850-1

Receipt
The samples were received on 2/27/2015 9:50 AM; the samples arrived in good condition.

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

Air - GC/MS VOA
Method(s) TO-15 MOD: Surrogate recovery of 1,2-Dichloroethane-d4 for the following standard(s) was outside control limits. (CCV 320-67908/25), (LCS 320-67908/26), (LCSD 320-67908/27). 1,2-Dichloroethane-d4 is not used as a monitoring compound for the this method; therefore, re-extraction and/or re-analysis was not performed.

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

Detection Summary

Client: Broadbent & Associates, Inc.
Project/Site: ARCO 0596-A, Oakland

TestAmerica Job ID: 320-11850-1

Client Sample ID: SG-1A — Lab Sample ID: 320-11850-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	0.013		0.0040		ppm v/v	1		TO-15 MOD	Total/NA
Methyl-t-Butyl Ether (MTBE)	0.0045		0.0040		ppm v/v	1		TO-15 MOD	Total/NA
Toluene	0.0043		0.0040		ppm v/v	1		TO-15 MOD	Total/NA
m,p-Xylene	0.037		0.0080		ppm v/v	1		TO-15 MOD	Total/NA
o-Xylene	0.0097		0.0040		ppm v/v	1		TO-15 MOD	Total/NA
Xylenes, Total	0.046		0.0040		ppm v/v	1		TO-15 MOD	Total/NA
GRO (C6-C12)	5.3		0.50		ppm v/v	1		TO-15 MOD	Total/NA
Carbon Dioxide (TCD)	3.8		1.0		% v/v	2.07		D1946	Total/NA
Methane (FID)	0.0017		0.00021		% v/v	2.07		D1946	Total/NA
Oxygen	17		0.41		% v/v	2.07		D1946	Total/NA

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	55		17		ug/m3	1		TO-15 MOD	Total/NA
Methyl-t-Butyl Ether (MTBE)	16		14		ug/m3	1		TO-15 MOD	Total/NA
Toluene	16		15		ug/m3	1		TO-15 MOD	Total/NA
m,p-Xylene	160		35		ug/m3	1		TO-15 MOD	Total/NA
o-Xylene	42		17		ug/m3	1		TO-15 MOD	Total/NA
Xylenes, Total	200		17		ug/m3	1		TO-15 MOD	Total/NA
GRO (C6-C12)	22000		2000		ug/m3	1		TO-15 MOD	Total/NA

Client Sample ID: SG-1B — Lab Sample ID: 320-11850-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	0.0050		0.0040		ppm v/v	1		TO-15 MOD	Total/NA
m,p-Xylene	0.015		0.0080		ppm v/v	1		TO-15 MOD	Total/NA
o-Xylene	0.0040		0.0040		ppm v/v	1		TO-15 MOD	Total/NA
Xylenes, Total	0.019		0.0040		ppm v/v	1		TO-15 MOD	Total/NA
GRO (C6-C12)	2.3		0.50		ppm v/v	1		TO-15 MOD	Total/NA
Carbon Dioxide (TCD)	3.9		1.1		% v/v	2.2		D1946	Total/NA
Methane (FID)	0.0017		0.00022		% v/v	2.2		D1946	Total/NA
Oxygen	16		0.44		% v/v	2.2		D1946	Total/NA

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	22		17		ug/m3	1		TO-15 MOD	Total/NA
m,p-Xylene	65		35		ug/m3	1		TO-15 MOD	Total/NA
o-Xylene	18		17		ug/m3	1		TO-15 MOD	Total/NA
Xylenes, Total	83		17		ug/m3	1		TO-15 MOD	Total/NA
GRO (C6-C12)	9500		2000		ug/m3	1		TO-15 MOD	Total/NA

Client Sample ID: SG-2A — Lab Sample ID: 320-11850-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
m,p-Xylene	0.010		0.0080		ppm v/v	1		TO-15 MOD	Total/NA
Xylenes, Total	0.013		0.0040		ppm v/v	1		TO-15 MOD	Total/NA
GRO (C6-C12)	1.7		0.50		ppm v/v	1		TO-15 MOD	Total/NA
Carbon Dioxide (TCD)	4.7		1.0		% v/v	2.04		D1946	Total/NA
Methane (FID)	0.0016		0.00020		% v/v	2.04		D1946	Total/NA
Oxygen	17		0.41		% v/v	2.04		D1946	Total/NA

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
m,p-Xylene	43		35		ug/m3	1		TO-15 MOD	Total/NA
Xylenes, Total	56		17		ug/m3	1		TO-15 MOD	Total/NA
GRO (C6-C12)	6900		2000		ug/m3	1		TO-15 MOD	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Broadbent & Associates, Inc.
Project/Site: ARCO 0596-A, Oakland

TestAmerica Job ID: 320-11850-1

Client Sample ID: SG-2B

Lab Sample ID: 320-11850-4

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Xylenes, Total	0.0095		0.0040		ppm v/v	1		TO-15 MOD	Total/NA
GRO (C6-C12)	1.0		0.50		ppm v/v	1		TO-15 MOD	Total/NA
Carbon Dioxide (TCD)	4.5		1.1		% v/v	2.18		D1946	Total/NA
Methane (FID)	0.0016		0.00022		% v/v	2.18		D1946	Total/NA
Oxygen	17		0.44		% v/v	2.18		D1946	Total/NA

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Xylenes, Total	41		17		ug/m3	1		TO-15 MOD	Total/NA
GRO (C6-C12)	4200		2000		ug/m3	1		TO-15 MOD	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Broadbent & Associates, Inc.
Project/Site: ARCO 0596-A, Oakland

TestAmerica Job ID: 320-11850-1

Client Sample ID: SG-1A
Date Collected: 02/25/15 09:43
Date Received: 02/27/15 09:50
Sample Container: Summa Canister 1L

Lab Sample ID: 320-11850-1
Matrix: Air

Method: TO-15 MOD - Volatile Organic Compounds in Ambient Air

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0040		ppm v/v			03/11/15 23:04	1
Ethylbenzene	**0.013**		0.0040		ppm v/v			03/11/15 23:04	1
Ethanol	ND		0.10		ppm v/v			03/11/15 23:04	1
Ethyl tert-Butyl Ether (ETBE)	ND		0.0020		ppm v/v			03/11/15 23:04	1
Di-isopropyl ether (DIPE)	ND		0.0040		ppm v/v			03/11/15 23:04	1
Methyl-t-Butyl Ether (MTBE)	**0.0045**		0.0040		ppm v/v			03/11/15 23:04	1
Toluene	**0.0043**		0.0040		ppm v/v			03/11/15 23:04	1
Tert-amyl-methyl ether (TAME)	ND		0.0040		ppm v/v			03/11/15 23:04	1
tert-Butyl alcohol (TBA)	ND		0.010		ppm v/v			03/11/15 23:04	1
m,p-Xylene	**0.037**		0.0080		ppm v/v			03/11/15 23:04	1
o-Xylene	**0.0097**		0.0040		ppm v/v			03/11/15 23:04	1
Xylenes, Total	**0.046**		0.0040		ppm v/v			03/11/15 23:04	1
GRO (C6-C12)	**5.3**		0.50		ppm v/v			03/11/15 23:04	1
Naphthalene	ND		0.0040		ppm v/v			03/11/15 23:04	1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		13		ug/m3			03/11/15 23:04	1
Ethylbenzene	**55**		17		ug/m3			03/11/15 23:04	1
Ethanol	ND		190		ug/m3			03/11/15 23:04	1
Ethyl tert-Butyl Ether (ETBE)	ND		8.4		ug/m3			03/11/15 23:04	1
Di-isopropyl ether (DIPE)	ND		17		ug/m3			03/11/15 23:04	1
Methyl-t-Butyl Ether (MTBE)	**16**		14		ug/m3			03/11/15 23:04	1
Toluene	**16**		15		ug/m3			03/11/15 23:04	1
Tert-amyl-methyl ether (TAME)	ND		17		ug/m3			03/11/15 23:04	1
tert-Butyl alcohol (TBA)	ND		30		ug/m3			03/11/15 23:04	1
m,p-Xylene	**160**		35		ug/m3			03/11/15 23:04	1
o-Xylene	**42**		17		ug/m3			03/11/15 23:04	1
Xylenes, Total	**200**		17		ug/m3			03/11/15 23:04	1
GRO (C6-C12)	**22000**		2000		ug/m3			03/11/15 23:04	1
Naphthalene	ND		21		ug/m3			03/11/15 23:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*		*03/11/15 23:04*	*1*
1,2-Dichloroethane-d4 (Surr)	*112*		*70 - 130*		*03/11/15 23:04*	*1*
Toluene-d8 (Surr)	*104*		*70 - 130*		*03/11/15 23:04*	*1*

Method: D1946 - Fixed Gases in Air (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Carbon Dioxide (TCD)	**3.8**		1.0		% v/v			03/05/15 13:32	2.07
Helium	ND		0.21		% v/v			03/05/15 13:32	2.07
Methane (FID)	**0.0017**		0.00021		% v/v			03/10/15 15:27	2.07
Oxygen	**17**		0.41		% v/v			03/05/15 13:32	2.07

Client: Broadbent & Associates, Inc.
Project/Site: ARCO 0596-A, Oakland

TestAmerica Job ID: 320-11850-1

Client Sample ID: SG-1B
Date Collected: 02/25/15 10:16
Date Received: 02/27/15 09:50
Sample Container: Summa Canister 1L

Lab Sample ID: 320-11850-2
Matrix: Air

Method: TO-15 MOD - Volatile Organic Compounds in Ambient Air

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0040		ppm v/v			03/11/15 23:46	1
Ethylbenzene	**0.0050**		0.0040		ppm v/v			03/11/15 23:46	1
Ethanol	ND		0.10		ppm v/v			03/11/15 23:46	1
Ethyl tert-Butyl Ether (ETBE)	ND		0.0020		ppm v/v			03/11/15 23:46	1
Di-isopropyl ether (DIPE)	ND		0.0040		ppm v/v			03/11/15 23:46	1
Methyl-t-Butyl Ether (MTBE)	ND		0.0040		ppm v/v			03/11/15 23:46	1
Toluene	ND		0.0040		ppm v/v			03/11/15 23:46	1
Tert-amyl-methyl ether (TAME)	ND		0.0040		ppm v/v			03/11/15 23:46	1
tert-Butyl alcohol (TBA)	ND		0.010		ppm v/v			03/11/15 23:46	1
m,p-Xylene	**0.015**		0.0080		ppm v/v			03/11/15 23:46	1
o-Xylene	**0.0040**		0.0040		ppm v/v			03/11/15 23:46	1
Xylenes, Total	**0.019**		0.0040		ppm v/v			03/11/15 23:46	1
GRO (C6-C12)	**2.3**		0.50		ppm v/v			03/11/15 23:46	1
Naphthalene	ND		0.0040		ppm v/v			03/11/15 23:46	1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		13		ug/m3			03/11/15 23:46	1
Ethylbenzene	**22**		17		ug/m3			03/11/15 23:46	1
Ethanol	ND		190		ug/m3			03/11/15 23:46	1
Ethyl tert-Butyl Ether (ETBE)	ND		8.4		ug/m3			03/11/15 23:46	1
Di-isopropyl ether (DIPE)	ND		17		ug/m3			03/11/15 23:46	1
Methyl-t-Butyl Ether (MTBE)	ND		14		ug/m3			03/11/15 23:46	1
Toluene	ND		15		ug/m3			03/11/15 23:46	1
Tert-amyl-methyl ether (TAME)	ND		17		ug/m3			03/11/15 23:46	1
tert-Butyl alcohol (TBA)	ND		30		ug/m3			03/11/15 23:46	1
m,p-Xylene	**65**		35		ug/m3			03/11/15 23:46	1
o-Xylene	**18**		17		ug/m3			03/11/15 23:46	1
Xylenes, Total	**83**		17		ug/m3			03/11/15 23:46	1
GRO (C6-C12)	**9500**		2000		ug/m3			03/11/15 23:46	1
Naphthalene	ND		21		ug/m3			03/11/15 23:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*		*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*			*03/11/15 23:46*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 130*			*03/11/15 23:46*	*1*
Toluene-d8 (Surr)	*103*		*70 - 130*			*03/11/15 23:46*	*1*

Method: D1946 - Fixed Gases in Air (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Carbon Dioxide (TCD)	**3.9**		1.1		% v/v			03/05/15 12:48	2.2
Helium	ND		0.22		% v/v			03/05/15 12:48	2.2
Methane (FID)	**0.0017**		0.00022		% v/v			03/10/15 15:50	2.2
Oxygen	**16**		0.44		% v/v			03/05/15 12:48	2.2

Client: Broadbent & Associates, Inc.
Project/Site: ARCO 0596-A, Oakland

TestAmerica Job ID: 320-11850-1

Client Sample ID: SG-2A
Date Collected: 02/25/15 10:47
Date Received: 02/27/15 09:50
Sample Container: Summa Canister 1L

Lab Sample ID: 320-11850-3
Matrix: Air

Method: TO-15 MOD - Volatile Organic Compounds in Ambient Air

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0040		ppm v/v			03/12/15 00:29	1
Ethylbenzene	ND		0.0040		ppm v/v			03/12/15 00:29	1
Ethanol	ND		0.10		ppm v/v			03/12/15 00:29	1
Ethyl tert-Butyl Ether (ETBE)	ND		0.0020		ppm v/v			03/12/15 00:29	1
Di-isopropyl ether (DIPE)	ND		0.0040		ppm v/v			03/12/15 00:29	1
Methyl-t-Butyl Ether (MTBE)	ND		0.0040		ppm v/v			03/12/15 00:29	1
Toluene	ND		0.0040		ppm v/v			03/12/15 00:29	1
Tert-amyl-methyl ether (TAME)	ND		0.0040		ppm v/v			03/12/15 00:29	1
tert-Butyl alcohol (TBA)	ND		0.010		ppm v/v			03/12/15 00:29	1
m,p-Xylene	**0.010**		0.0080		ppm v/v			03/12/15 00:29	1
o-Xylene	ND		0.0040		ppm v/v			03/12/15 00:29	1
Xylenes, Total	**0.013**		0.0040		ppm v/v			03/12/15 00:29	1
GRO (C6-C12)	**1.7**		0.50		ppm v/v			03/12/15 00:29	1
Naphthalene	ND		0.0040		ppm v/v			03/12/15 00:29	1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		13		ug/m3			03/12/15 00:29	1
Ethylbenzene	ND		17		ug/m3			03/12/15 00:29	1
Ethanol	ND		190		ug/m3			03/12/15 00:29	1
Ethyl tert-Butyl Ether (ETBE)	ND		8.4		ug/m3			03/12/15 00:29	1
Di-isopropyl ether (DIPE)	ND		17		ug/m3			03/12/15 00:29	1
Methyl-t-Butyl Ether (MTBE)	ND		14		ug/m3			03/12/15 00:29	1
Toluene	ND		15		ug/m3			03/12/15 00:29	1
Tert-amyl-methyl ether (TAME)	ND		17		ug/m3			03/12/15 00:29	1
tert-Butyl alcohol (TBA)	ND		30		ug/m3			03/12/15 00:29	1
m,p-Xylene	**43**		35		ug/m3			03/12/15 00:29	1
o-Xylene	ND		17		ug/m3			03/12/15 00:29	1
Xylenes, Total	**56**		17		ug/m3			03/12/15 00:29	1
GRO (C6-C12)	**6900**		2000		ug/m3			03/12/15 00:29	1
Naphthalene	ND		21		ug/m3			03/12/15 00:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*		*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*			*03/12/15 00:29*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 130*			*03/12/15 00:29*	*1*
Toluene-d8 (Surr)	*102*		*70 - 130*			*03/12/15 00:29*	*1*

Method: D1946 - Fixed Gases in Air (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Carbon Dioxide (TCD)	**4.7**		1.0		% v/v			03/05/15 12:56	2.04
Helium	ND		0.20		% v/v			03/05/15 12:56	2.04
Methane (FID)	**0.0016**		0.00020		% v/v			03/10/15 16:02	2.04
Oxygen	**17**		0.41		% v/v			03/05/15 12:56	2.04

Client: Broadbent & Associates, Inc.
Project/Site: ARCO 0596-A, Oakland

TestAmerica Job ID: 320-11850-1

Client Sample ID: SG-2B
Lab Sample ID: 320-11850-4
Date Collected: 02/25/15 11:04
Matrix: Air
Date Received: 02/27/15 09:50
Sample Container: Summa Canister 1L

Method: TO-15 MOD - Volatile Organic Compounds in Ambient Air

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0040		ppm v/v			03/12/15 01:11	1
Ethylbenzene	ND		0.0040		ppm v/v			03/12/15 01:11	1
Ethanol	ND		0.10		ppm v/v			03/12/15 01:11	1
Ethyl tert-Butyl Ether (ETBE)	ND		0.0020		ppm v/v			03/12/15 01:11	1
Di-isopropyl ether (DIPE)	ND		0.0040		ppm v/v			03/12/15 01:11	1
Methyl-t-Butyl Ether (MTBE)	ND		0.0040		ppm v/v			03/12/15 01:11	1
Toluene	ND		0.0040		ppm v/v			03/12/15 01:11	1
Tert-amyl-methyl ether (TAME)	ND		0.0040		ppm v/v			03/12/15 01:11	1
tert-Butyl alcohol (TBA)	ND		0.010		ppm v/v			03/12/15 01:11	1
m,p-Xylene	ND		0.0080		ppm v/v			03/12/15 01:11	1
o-Xylene	ND		0.0040		ppm v/v			03/12/15 01:11	1
Xylenes, Total	**0.0095**		0.0040		ppm v/v			03/12/15 01:11	1
GRO (C6-C12)	**1.0**		0.50		ppm v/v			03/12/15 01:11	1
Naphthalene	ND		0.0040		ppm v/v			03/12/15 01:11	1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		13		ug/m3			03/12/15 01:11	1
Ethylbenzene	ND		17		ug/m3			03/12/15 01:11	1
Ethanol	ND		190		ug/m3			03/12/15 01:11	1
Ethyl tert-Butyl Ether (ETBE)	ND		8.4		ug/m3			03/12/15 01:11	1
Di-isopropyl ether (DIPE)	ND		17		ug/m3			03/12/15 01:11	1
Methyl-t-Butyl Ether (MTBE)	ND		14		ug/m3			03/12/15 01:11	1
Toluene	ND		15		ug/m3			03/12/15 01:11	1
Tert-amyl-methyl ether (TAME)	ND		17		ug/m3			03/12/15 01:11	1
tert-Butyl alcohol (TBA)	ND		30		ug/m3			03/12/15 01:11	1
m,p-Xylene	ND		35		ug/m3			03/12/15 01:11	1
o-Xylene	ND		17		ug/m3			03/12/15 01:11	1
Xylenes, Total	**41**		17		ug/m3			03/12/15 01:11	1
GRO (C6-C12)	**4200**		2000		ug/m3			03/12/15 01:11	1
Naphthalene	ND		21		ug/m3			03/12/15 01:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*		*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*			*03/12/15 01:11*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 130*			*03/12/15 01:11*	*1*
Toluene-d8 (Surr)	*104*		*70 - 130*			*03/12/15 01:11*	*1*

Method: D1946 - Fixed Gases in Air (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Carbon Dioxide (TCD)	**4.5**		1.1		% v/v			03/05/15 13:04	2.18
Helium	ND		0.22		% v/v			03/05/15 13:04	2.18
Methane (FID)	**0.0016**		0.00022		% v/v			03/10/15 16:15	2.18
Oxygen	**17**		0.44		% v/v			03/05/15 13:04	2.18

Surrogate Summary

Client: Broadbent & Associates, Inc.
Project/Site: ARCO 0596-A, Oakland

TestAmerica Job ID: 320-11850-1

Method: TO-15 MOD - Volatile Organic Compounds in Ambient Air

Matrix: Air **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)								
		BFB	12DCE	TOL						
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)						
320-11850-1	SG-1A	110	112	104						
320-11850-2	SG-1B	108	101	103						
320-11850-3	SG-2A	107	98	102						
320-11850-4	SG-2B	107	99	104						
LCS 320-67908/26	Lab Control Sample	112	145 LH	107						
LCS 320-67908/3	Lab Control Sample	112	101	106						
LCS 320-67908/6	Lab Control Sample	108	99	103						
LCSD 320-67908/27	Lab Control Sample Dup	112	141 LH	107						
LCSD 320-67908/4	Lab Control Sample Dup	112	100	106						
LCSD 320-67908/7	Lab Control Sample Dup	109	100	103						
MB 320-67908/9	Method Blank	97	92	105						

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: TO-15 MOD - Volatile Organic Compounds in Ambient Air

Lab Sample ID: MB 320-67908/9
Matrix: Air
Analysis Batch: 67908

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0040		ppm v/v			03/11/15 22:22	1
Ethylbenzene	ND		0.0040		ppm v/v			03/11/15 22:22	1
Ethanol	ND		0.10		ppm v/v			03/11/15 22:22	1
Ethyl tert-Butyl Ether (ETBE)	ND		0.0020		ppm v/v			03/11/15 22:22	1
Di-isopropyl ether (DIPE)	ND		0.0040		ppm v/v			03/11/15 22:22	1
Methyl-t-Butyl Ether (MTBE)	ND		0.0040		ppm v/v			03/11/15 22:22	1
Toluene	ND		0.0040		ppm v/v			03/11/15 22:22	1
Tert-amyl-methyl ether (TAME)	ND		0.0040		ppm v/v			03/11/15 22:22	1
tert-Butyl alcohol (TBA)	ND		0.010		ppm v/v			03/11/15 22:22	1
m,p-Xylene	ND		0.0080		ppm v/v			03/11/15 22:22	1
o-Xylene	ND		0.0040		ppm v/v			03/11/15 22:22	1
Xylenes, Total	ND		0.0040		ppm v/v			03/11/15 22:22	1
GRO (C6-C12)	ND		0.50		ppm v/v			03/11/15 22:22	1
Naphthalene	ND		0.0040		ppm v/v			03/11/15 22:22	1

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		13		ug/m3			03/11/15 22:22	1
Ethylbenzene	ND		17		ug/m3			03/11/15 22:22	1
Ethanol	ND		190		ug/m3			03/11/15 22:22	1
Ethyl tert-Butyl Ether (ETBE)	ND		8.4		ug/m3			03/11/15 22:22	1
Di-isopropyl ether (DIPE)	ND		17		ug/m3			03/11/15 22:22	1
Methyl-t-Butyl Ether (MTBE)	ND		14		ug/m3			03/11/15 22:22	1
Toluene	ND		15		ug/m3			03/11/15 22:22	1
Tert-amyl-methyl ether (TAME)	ND		17		ug/m3			03/11/15 22:22	1
tert-Butyl alcohol (TBA)	ND		30		ug/m3			03/11/15 22:22	1
m,p-Xylene	ND		35		ug/m3			03/11/15 22:22	1
o-Xylene	ND		17		ug/m3			03/11/15 22:22	1
Xylenes, Total	ND		17		ug/m3			03/11/15 22:22	1
GRO (C6-C12)	ND		2000		ug/m3			03/11/15 22:22	1
Naphthalene	ND		21		ug/m3			03/11/15 22:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*03/11/15 22:22*	*1*
1,2-Dichloroethane-d4 (Surr)	*92*		*70 - 130*		*03/11/15 22:22*	*1*
Toluene-d8 (Surr)	*105*		*70 - 130*		*03/11/15 22:22*	*1*

Lab Sample ID: LCS 320-67908/26
Matrix: Air
Analysis Batch: 67908

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
TPH (as Gasoline)			25.0	21.2		ppm v/v		85	70 - 130		

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
TPH (as Gasoline)			100000	86800		ug/m3		85	70 - 130		

Method: TO-15 MOD - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: LCS 320-67908/26
Matrix: Air
Analysis Batch: 67908

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	112		70 - 130
1,2-Dichloroethane-d4 (Surr)	145	LH	70 - 130
Toluene-d8 (Surr)	107		70 - 130

Lab Sample ID: LCS 320-67908/3
Matrix: Air
Analysis Batch: 67908

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.0893		ppm v/v		89	68 - 128
Ethylbenzene	0.100	0.0869		ppm v/v		87	76 - 136
Methyl-t-Butyl Ether (MTBE)	0.100	0.0916		ppm v/v		92	72 - 132
Toluene	0.100	0.0973		ppm v/v		97	71 - 132
tert-Butyl alcohol (TBA)	0.100	0.116		ppm v/v		116	75 - 135
m,p-Xylene	0.200	0.170		ppm v/v		85	75 - 138
o-Xylene	0.100	0.0852		ppm v/v		85	77 - 132
Xylenes, Total	0.300	0.255		ppm v/v		85	78 - 136
Naphthalene	0.100	0.115		ppm v/v		115	58 - 150

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	320	285		ug/m3		89	68 - 128
Ethylbenzene	430	377		ug/m3		87	76 - 136
Methyl-t-Butyl Ether (MTBE)	360	330		ug/m3		92	72 - 132
Toluene	380	367		ug/m3		97	71 - 132
tert-Butyl alcohol (TBA)	300	351		ug/m3		116	75 - 135
m,p-Xylene	870	739		ug/m3		85	75 - 138
o-Xylene	430	370		ug/m3		85	77 - 132
Xylenes, Total	1300	1110		ug/m3		85	78 - 136
Naphthalene	520	603		ug/m3		115	58 - 150

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	112		70 - 130
1,2-Dichloroethane-d4 (Surr)	101		70 - 130
Toluene-d8 (Surr)	106		70 - 130

Lab Sample ID: LCS 320-67908/6
Matrix: Air
Analysis Batch: 67908

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethanol	0.500	0.514		ppm v/v		103	62 - 131
Ethyl tert-Butyl Ether (ETBE)	0.100	0.104		ppm v/v		104	60 - 137
Di-isopropyl ether (DIPE)	0.100	0.112		ppm v/v		112	60 - 141
Tert-amyl-methyl ether (TAME)	0.100	0.0922		ppm v/v		92	53 - 133

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethanol	940	968		ug/m3		103	62 - 131
Ethyl tert-Butyl Ether (ETBE)	420	435		ug/m3		104	60 - 137

Method: TO-15 MOD - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: LCS 320-67908/6
Matrix: Air
Analysis Batch: 67908

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Di-isopropyl ether (DIPE)			420	467		ug/m3		112	60 - 141		
Tert-amyl-methyl ether (TAME)			420	385		ug/m3		92	53 - 133		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 130*
Toluene-d8 (Surr)	*103*		*70 - 130*

Lab Sample ID: LCSD 320-67908/27
Matrix: Air
Analysis Batch: 67908

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
TPH (as Gasoline)			25.0	21.2		ppm v/v		85	70 - 130	0	25
Analyte			**Spike Added**	**LCSD Result**	**LCSD Qualifier**	**Unit**	**D**	**%Rec**	**%Rec. Limits**	**RPD**	**RPD Limit**
TPH (as Gasoline)			100000	86600		ug/m3		85	70 - 130	0	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*141*	*LH*	*70 - 130*
Toluene-d8 (Surr)	*107*		*70 - 130*

Lab Sample ID: LCSD 320-67908/4
Matrix: Air
Analysis Batch: 67908

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.100	0.0884		ppm v/v		88	68 - 128	1	25
Ethylbenzene			0.100	0.0838		ppm v/v		84	76 - 136	4	25
Methyl-t-Butyl Ether (MTBE)			0.100	0.0883		ppm v/v		88	72 - 132	4	25
Toluene			0.100	0.0952		ppm v/v		95	71 - 132	2	25
tert-Butyl alcohol (TBA)			0.100	0.115		ppm v/v		115	75 - 135	1	25
m,p-Xylene			0.200	0.164		ppm v/v		82	75 - 138	4	25
o-Xylene			0.100	0.0823		ppm v/v		82	77 - 132	3	25
Xylenes, Total			0.300	0.247		ppm v/v		82	78 - 136	4	25
Naphthalene			0.100	0.112		ppm v/v		112	58 - 150	2	25
Analyte			**Spike Added**	**LCSD Result**	**LCSD Qualifier**	**Unit**	**D**	**%Rec**	**%Rec. Limits**	**RPD**	**RPD Limit**
Benzene			320	282		ug/m3		88	68 - 128	1	25
Ethylbenzene			430	364		ug/m3		84	76 - 136	4	25
Methyl-t-Butyl Ether (MTBE)			360	318		ug/m3		88	72 - 132	4	25
Toluene			380	359		ug/m3		95	71 - 132	2	25
tert-Butyl alcohol (TBA)			300	348		ug/m3		115	75 - 135	1	25
m,p-Xylene			870	713		ug/m3		82	75 - 138	4	25
o-Xylene			430	357		ug/m3		82	77 - 132	3	25
Xylenes, Total			1300	1070		ug/m3		82	78 - 136	4	25
Naphthalene			520	590		ug/m3		112	58 - 150	2	25

Method: TO-15 MOD - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: LCSD 320-67908/4
Matrix: Air
Analysis Batch: 67908

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

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 130*
Toluene-d8 (Surr)	*106*		*70 - 130*

Lab Sample ID: LCSD 320-67908/7
Matrix: Air
Analysis Batch: 67908

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethanol			0.500	0.502		ppm v/v		100	62 - 131	2	25
Ethyl tert-Butyl Ether (ETBE)			0.100	0.100		ppm v/v		100	60 - 137	4	25
Di-isopropyl ether (DIPE)			0.100	0.108		ppm v/v		108	60 - 141	3	25
Tert-amyl-methyl ether (TAME)			0.100	0.0892		ppm v/v		89	53 - 133	3	25

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethanol			940	945		ug/m3		100	62 - 131	2	25
Ethyl tert-Butyl Ether (ETBE)			420	419		ug/m3		100	60 - 137	4	25
Di-isopropyl ether (DIPE)			420	452		ug/m3		108	60 - 141	3	25
Tert-amyl-methyl ether (TAME)			420	373		ug/m3		89	53 - 133	3	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 130*
Toluene-d8 (Surr)	*103*		*70 - 130*

Method: D1946 - Fixed Gases in Air (GC)

Lab Sample ID: MB 320-67313/7
Matrix: Air
Analysis Batch: 67313

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Carbon Dioxide (TCD)	ND		0.50		% v/v			03/05/15 10:06	1
Methane (TCD)	ND		0.50		% v/v			03/05/15 10:06	1
Oxygen	ND		0.20		% v/v			03/05/15 10:06	1

Lab Sample ID: MB 320-67313/8
Matrix: Air
Analysis Batch: 67313

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Helium	ND		0.10		% v/v			03/05/15 10:15	1

Method: D1946 - Fixed Gases in Air (GC) (Continued)

Lab Sample ID: LCS 320-67313/3
Matrix: Air
Analysis Batch: 67313

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon Dioxide (TCD)	28.1	27.6		% v/v		98	80 - 120
Methane (TCD)	11.5	12.1		% v/v		106	80 - 120

Lab Sample ID: LCS 320-67313/5
Matrix: Air
Analysis Batch: 67313

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Helium	25.9	24.2		% v/v		93	80 - 120
Oxygen	21.8	20.9		% v/v		96	80 - 120

Lab Sample ID: LCSD 320-67313/4
Matrix: Air
Analysis Batch: 67313

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon Dioxide (TCD)	28.1	28.0		% v/v		99	80 - 120
Methane (TCD)	11.5	12.3		% v/v		107	80 - 120

Lab Sample ID: LCSD 320-67313/6
Matrix: Air
Analysis Batch: 67313

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Helium	25.9	24.4		% v/v		94	80 - 120
Oxygen	21.8	21.2		% v/v		97	80 - 120

Lab Sample ID: MB 320-67650/5
Matrix: Air
Analysis Batch: 67650

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (FID)	ND		0.00010	% v/v			03/10/15 13:43	1

Lab Sample ID: LCS 320-67650/3
Matrix: Air
Analysis Batch: 67650

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane (FID)	0.0250	0.0240		% v/v		96	80 - 120

Lab Sample ID: LCSD 320-67650/4
Matrix: Air
Analysis Batch: 67650

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane (FID)	0.0250	0.0244		% v/v		98	80 - 120	2	20

Air - GC/MS VOA

Analysis Batch: 67908

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-11850-1	SG-1A	Total/NA	Air	TO-15 MOD	
320-11850-2	SG-1B	Total/NA	Air	TO-15 MOD	
320-11850-3	SG-2A	Total/NA	Air	TO-15 MOD	
320-11850-4	SG-2B	Total/NA	Air	TO-15 MOD	
LCS 320-67908/26	Lab Control Sample	Total/NA	Air	TO-15 MOD	
LCS 320-67908/3	Lab Control Sample	Total/NA	Air	TO-15 MOD	
LCS 320-67908/6	Lab Control Sample	Total/NA	Air	TO-15 MOD	
LCSD 320-67908/27	Lab Control Sample Dup	Total/NA	Air	TO-15 MOD	
LCSD 320-67908/4	Lab Control Sample Dup	Total/NA	Air	TO-15 MOD	
LCSD 320-67908/7	Lab Control Sample Dup	Total/NA	Air	TO-15 MOD	
MB 320-67908/9	Method Blank	Total/NA	Air	TO-15 MOD	

Air - GC VOA

Analysis Batch: 67313

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-11850-1	SG-1A	Total/NA	Air	D1946	
320-11850-2	SG-1B	Total/NA	Air	D1946	
320-11850-3	SG-2A	Total/NA	Air	D1946	
320-11850-4	SG-2B	Total/NA	Air	D1946	
LCS 320-67313/3	Lab Control Sample	Total/NA	Air	D1946	
LCS 320-67313/5	Lab Control Sample	Total/NA	Air	D1946	
LCSD 320-67313/4	Lab Control Sample	Total/NA	Air	D1946	
LCSD 320-67313/6	Lab Control Sample	Total/NA	Air	D1946	
MB 320-67313/7	Method Blank	Total/NA	Air	D1946	
MB 320-67313/8	Method Blank	Total/NA	Air	D1946	

Analysis Batch: 67650

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-11850-1	SG-1A	Total/NA	Air	D1946	
320-11850-2	SG-1B	Total/NA	Air	D1946	
320-11850-3	SG-2A	Total/NA	Air	D1946	
320-11850-4	SG-2B	Total/NA	Air	D1946	
LCS 320-67650/3	Lab Control Sample	Total/NA	Air	D1946	
LCSD 320-67650/4	Lab Control Sample Dup	Total/NA	Air	D1946	
MB 320-67650/5	Method Blank	Total/NA	Air	D1946	

Lab Chronicle

Client: Broadbent & Associates, Inc.
Project/Site: ARCO 0596-A, Oakland

TestAmerica Job ID: 320-11850-1

Client Sample ID: SG-1A

Lab Sample ID: 320-11850-1

Date Collected: 02/25/15 09:43

Matrix: Air

Date Received: 02/27/15 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15 MOD		1	50 mL	250 mL	67908	03/11/15 23:04	TAD	TAL SAC
Total/NA	Analysis	D1946		2.07	50 mL	50 mL	67650	03/10/15 15:27	TAD	TAL SAC
Total/NA	Analysis	D1946		2.07	50 mL	50 mL	67313	03/05/15 13:32	TAD	TAL SAC

Client Sample ID: SG-1B

Lab Sample ID: 320-11850-2

Date Collected: 02/25/15 10:16

Matrix: Air

Date Received: 02/27/15 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15 MOD		1	50 mL	250 mL	67908	03/11/15 23:46	TAD	TAL SAC
Total/NA	Analysis	D1946		2.2	50 mL	50 mL	67650	03/10/15 15:50	TAD	TAL SAC
Total/NA	Analysis	D1946		2.2	50 mL	50 mL	67313	03/05/15 12:48	TAD	TAL SAC

Client Sample ID: SG-2A

Lab Sample ID: 320-11850-3

Date Collected: 02/25/15 10:47

Matrix: Air

Date Received: 02/27/15 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15 MOD		1	50 mL	250 mL	67908	03/12/15 00:29	TAD	TAL SAC
Total/NA	Analysis	D1946		2.04	50 mL	50 mL	67650	03/10/15 16:02	TAD	TAL SAC
Total/NA	Analysis	D1946		2.04	50 mL	50 mL	67313	03/05/15 12:56	TAD	TAL SAC

Client Sample ID: SG-2B

Lab Sample ID: 320-11850-4

Date Collected: 02/25/15 11:04

Matrix: Air

Date Received: 02/27/15 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15 MOD		1	50 mL	250 mL	67908	03/12/15 01:11	TAD	TAL SAC
Total/NA	Analysis	D1946		2.18	50 mL	50 mL	67650	03/10/15 16:15	TAD	TAL SAC
Total/NA	Analysis	D1946		2.18	50 mL	50 mL	67313	03/05/15 13:04	TAD	TAL SAC

Laboratory References:

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Certification Summary

Client: Broadbent & Associates, Inc.
Project/Site: ARCO 0596-A, Oakland

TestAmerica Job ID: 320-11850-1

Laboratory: TestAmerica Sacramento

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

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2928-01	01-31-16
Alaska (UST)	State Program	10	UST-055	12-18-15
Arizona	State Program	9	AZ0708	08-11-15
Arkansas DEQ	State Program	6	88-0691	06-17-15
California	State Program	9	2897	01-31-16
Colorado	State Program	8	N/A	08-31-15
Connecticut	State Program	1	PH-0691	06-30-15
Florida	NELAP	4	E87570	06-30-15
Hawaii	State Program	9	N/A	01-29-16
Illinois	NELAP	5	200060	03-17-16
Kansas	NELAP	7	E-10375	10-31-15
Louisiana	NELAP	6	30612	06-30-15
Michigan	State Program	5	9947	01-31-16
Nevada	State Program	9	CA44	07-31-15
New Jersey	NELAP	2	CA005	06-30-15
New York	NELAP	2	11666	04-01-15
Oregon	NELAP	10	CA200005	01-29-16
Oregon	NELAP Secondary AB	10	E87570	06-30-15
Pennsylvania	NELAP	3	9947	03-31-15
Texas	NELAP	6	T104704399-08-TX	05-31-15
US Fish & Wildlife	Federal		LE148388-0	02-28-16
USDA	Federal		P330-11-00436	12-30-17
USEPA UCMR	Federal	1	CA00044	11-06-16
Utah	NELAP	8	QUAN1	02-28-16
Washington	State Program	10	C581	05-05-15
West Virginia (DW)	State Program	3	9930C	12-31-15
Wyoming	State Program	8	8TMS-Q	01-29-16

Method Summary

Client: Broadbent & Associates, Inc.
Project/Site: ARCO 0596-A, Oakland

TestAmerica Job ID: 320-11850-1

Method	Method Description	Protocol	Laboratory
TO-15 MOD	Volatile Organic Compounds in Ambient Air	EPA	TAL SAC
D1946	Fixed Gases in Air (GC)	ASTM	TAL SAC

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

Laboratory References:

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Broadbent & Associates, Inc.
Project/Site: ARCO 0596-A, Oakland

TestAmerica Job ID: 320-11850-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-11850-1	SG-1A	Air	02/25/15 09:43	02/27/15 09:50
320-11850-2	SG-1B	Air	02/25/15 10:16	02/27/15 09:50
320-11850-3	SG-2A	Air	02/25/15 10:47	02/27/15 09:50
320-11850-4	SG-2B	Air	02/25/15 11:04	02/27/15 09:50

320-11850 Chain of Custody

bp rm

Laboratory Management Program LaMP Chain of Custody Record

__ of ____

BP Site Node Path: 14-90-103

BP Facility No: 596-A

Req Due Date (mm/dd/yy): ____

Rush TAT: Yes ____ No X

Lab Work Order Number: ____

Lab Name: Test America	Facility Address: 1900 Webster Street	Consultant/Contractor: Broadbent and Associates, Inc.	
Lab Address: 880 Riverside Parkway, Sacramento, Ca	City, State, ZIP Code: Oakland, CA	Consultant/Contractor Project No: 14-90-103	
Lab PM: Beth Riley	Lead Regulatory Agency: ACEH	Address: 4820 Business Center Drive, Fairfield, California 94534	
Lab Phone: 916-373-5600	California Global ID No.: T10000004348	Consultant/Contractor PM: Kristene Tidwell	
Lab Shipping Acent: 1103-6633-7	Enfos Proposal No:	Phone: 707-455-7290	Fax: 707-863-9046
Lab Bottle Order No:	Accounting Mode: Provision X OOC-BU ____ OOC-RM ____	Email EDD To: ktidwell@broadbentinc.com	and to lab.enfosdoc@bp.com
Other Info:	Stage: Execute (40) Activity: Project Spend (80)	Invoice To: BP X	Contractor ____
BP Project Manager (PM): Chuck Carmel	Report Type & QC Level	Requested Analyses	
BP PM Phone: 925-275-3804	Standard X		
BP PM Email: chuck.carmel@bp.com	Full Data Package ____		

Lab No.	Sample Description	Date	Time Start	Time Stop	Canister Vacuum in Field, "Hg (start)"	Canister Vacuum in Field, "Hg (Stop)"	Flow Controller ID	Canister ID	GRO by TO-15	BTEX & MTBE by TO-15	TBA, DIPE, ETBE, TAME and Ethanol by TO-15	Oxygen by Modified ASTM D-1946	Carbon Dioxide and Methane by Modified ASTM D-1946	Helium (tracer/leak-check compound) by Modified ASTM D-1946	Comments
	SGHA	2-25-15	0939	0943	-30	-6	7308	A6904	x	x	x	x	x	x	
	SG-1B		1012	1016	-26	-5	7697	A6784	x	x	x	x	x	x	
	SG-2A		1043	1047	-29	-5	7326	A5049	x	x	x	x	x	x	
	SG-2B		1104	1107	-27	-5	7339	A6886	x	x	x	x	x	x	

Comments

Note: If sample not collected, indicate "No Sample" in comments and single-strike out and initial any preprinted sample description.

	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Name: James R / Jessica C						
Sampler's Company: Broadbent and Associates	BROADBENT	2.26.15	1700	Stephanie Edwards / TA-WS	2/27/15	9:50
Shipment Method: Fed Ex Ship Date:						
Shipment Tracking No:						

Special Instructions: 1 Week Turn Around Time

THIS LINE - LAB USE ONLY: Custody Seals In Place: Yes / No | Temp Blank: Yes / No | Cooler Temp on Receipt: ____ °F/C | Trip Blank: Yes / No | MS/MSD Sample Submitted: Yes / No

TestAmerica
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CANISTER FIELD DATA RECORD

Sacramento

JOB # 320-11850
Sample # 1

Client/Project:		VFR ID:		
Canister Serial #:	34000809	Duration:		☐ Hrs ☐ Min
Cleaning Job:		Flow:		mL/min
Client ID:		Initials:		
Site Location:				

FIELD				
READING	TIME	PRESS.	DATE	INITIALS
INITIAL FIELD VACUUM				
FINAL FIELD READING				

LABORATORY			
READING	PRESS.	DATE	INITIALS
INITIAL VACUUM CHECK (INCHES Hg)	29.8		JMT
☐ Helium Pre-dilution - Final Pressure (INCHES Hg)			
INITIAL PRESSURE (PSIA)	12.11	03/03/15	EP
FINAL PRESSURE (PSIA)	25.05	03/03/15	EP
Pressurization Gas: ☐ N2 ☐ He	SCREENED ☐	SCRN DIL. VS 250mLs:	
Initial Canister Dilution Factor = 2.07			

CANISTER REPRESSURIZATION

Date	Pi (PSIA)	Pf (PSIA)	Initial DF	Initials	NEW DF
			2.07		#DIV/0!
			#DIV/0!		#DIV/0!
			#DIV/0!		#DIV/0!

Analytical Dilution Factors

Date	Instr.	File #
3/11/2015	ATMS2	

Canister DF = 2.07 X Load DF = 0.4854369 (LVf (mLs) 50, LVi (mLs) 103) X Bag DF = 1 (BVf (mLs), Bvi (mLs)) = FINAL DF 1.004144853

Date	Instr.	File #

Canister DF = 2.07 X Load DF = #DIV/0! (LVf (mLs), LVi (mLs)) X Bag DF = 1 (BVf (mLs), Bvi (mLs)) = FINAL DF #DIV/0!

Date	Instr.	File #

Canister DF = 2.07 X Load DF = #DIV/0! (LVf (mLs), LVi (mLs)) X Bag DF = 1 (BVf (mLs), Bvi (mLs)) = FINAL DF #DIV/0!

CANISTER FIELD DATA RECORD

Sacramento

JOB # 320-11850
Sample # 2

Client/Project:		VFR ID:		
Canister Serial #:	34000369	Duration:		☐ Hrs ☐ Min
Cleaning Job:		Flow:		mL/min
Client ID:		Initials:		
Site Location:				

FIELD				
READING	TIME	PRESS.	DATE	INITIALS
INITIAL FIELD VACUUM				
FINAL FIELD READING				

LABORATORY			
READING	PRESS.	DATE	INITIALS
INITIAL VACUUM CHECK (INCHES Hg)	29.8		JMT
☐ Helium Pre-dilution - Final Pressure (INCHES Hg)			
INITIAL PRESSURE (PSIA)	11.47	03/03/15	EP
FINAL PRESSURE (PSIA)	25.27	03/03/15	EP
Pressurization Gas: ☐ N2 ☐ He	SCREENED ☐	SCRN DIL. VS 250mLs:	
Initial Canister Dilution Factor = 2.20			

CANISTER REPRESSURIZATION

Date	Pi (PSIA)	Pf (PSIA)	Initial DF	Initials	NEW DF
			2.20		#DIV/0!
			#DIV/0!		#DIV/0!
			#DIV/0!		#DIV/0!

Analytical Dilution Factors

Date	Instr.	File #
3/11/2015	ATMS2	

Canister DF = 2.20 X Load DF = 0.4545455 (LVf (mLs) 50, LVi (mLs) 110) X Bag DF = 1 (BVf (mLs), Bvi (mLs)) = FINAL DF 1.001426647

Date	Instr.	File #

Canister DF = 2.20 X Load DF = #DIV/0! (LVf (mLs), LVi (mLs)) X Bag DF = 1 (BVf (mLs), Bvi (mLs)) = FINAL DF #DIV/0!

Date	Instr.	File #

Canister DF = 2.20 X Load DF = #DIV/0! (LVf (mLs), LVi (mLs)) X Bag DF = 1 (BVf (mLs), Bvi (mLs)) = FINAL DF #DIV/0!

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CANISTER FIELD DATA RECORD

Sacramento

JOB # 320-11850
Sample # 3

Client/Project:		VFR ID:		
Canister Serial #:	34000934	Duration:		☐ Hrs ☐ Min
Cleaning Job:		Flow:		mL/min
Client ID:		Initials:		
Site Location:				

FIELD				
READING	TIME	PRESS.	DATE	INITIALS
INITIAL FIELD VACUUM				
FINAL FIELD READING				

LABORATORY			
READING	PRESS.	DATE	INITIALS
INITIAL VACUUM CHECK (INCHES Hg)	29.8		JMT
☐ Helium Pre-dilution - Final Pressure (INCHES Hg)			
INITIAL PRESSURE (PSIA)	12.39	03/03/15	EP
FINAL PRESSURE (PSIA)	25.27	03/03/15	EP
Pressurization Gas: ☐ N2 ☐ He	SCREENED ☐	SCRN DIL. VS 250mLs:	
Initial Canister Dilution Factor = 2.04			

CANISTER REPRESSURIZATION

Date	Pi (PSIA)	Pf (PSIA)	Initial DF	Initials	NEW DF
			2.04		#DIV/0!
			#DIV/0!		#DIV/0!
			#DIV/0!		#DIV/0!

Analytical Dilution Factors

Date	Instr.	File #
3/11/2015	ATMS2	

Canister DF = 2.04 X Load DF = 0.4901961 (LVf (mLs) 50, LVi (mLs) 102) X Bag DF = 1 (BVf (mLs), Bvi (mLs)) = FINAL DF 0.999778442

Date	Instr.	File #

Canister DF = 2.04 X Load DF = #DIV/0! (LVf (mLs), LVi (mLs)) X Bag DF = 1 (BVf (mLs), Bvi (mLs)) = FINAL DF #DIV/0!

Date	Instr.	File #

Canister DF = 2.04 X Load DF = #DIV/0! (LVf (mLs), LVi (mLs)) X Bag DF = 1 (BVf (mLs), Bvi (mLs)) = FINAL DF #DIV/0!

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

CANISTER FIELD DATA RECORD

Sacramento

JOB # 320-11850
Sample # 4

Client/Project:		VFR ID:		
Canister Serial #:	34000688	Duration:		☐ Hrs ☐ Min
Cleaning Job:		Flow:		mL/min
Client ID:		Initials:		
Site Location:				

FIELD				
READING	TIME	PRESS.	DATE	INITIALS
INITIAL FIELD VACUUM				
FINAL FIELD READING				

LABORATORY			
READING	PRESS.	DATE	INITIALS
INITIAL VACUUM CHECK (INCHES Hg)	29.8		JMT
☐ Helium Pre-dilution - Final Pressure (INCHES Hg)			
INITIAL PRESSURE (PSIA)	11.47	03/03/15	EP
FINAL PRESSURE (PSIA)	25.04	03/03/15	EP
Pressurization Gas: ☐ N2 ☐ He	SCREENED ☐	SCRN DIL. VS 250mLs:	
Initial Canister Dilution Factor = 2.18			

CANISTER REPRESSURIZATION

Date	Pi (PSIA)	Pf (PSIA)	Initial DF	Initials	NEW DF
			2.18		#DIV/0!
			#DIV/0!		#DIV/0!
			#DIV/0!		#DIV/0!

Analytical Dilution Factors

Date	Instr.	File #
3/11/2015	ATMS2	

Canister DF = 2.18 X Load DF = 0.4587156 (LVf (mLs) 50, LVi (mLs) 109) X Bag DF = 1 (BVf (mLs), Bvi (mLs)) = FINAL DF 1.00141574

Date	Instr.	File #

Canister DF = 2.18 X Load DF = #DIV/0! (LVf (mLs), LVi (mLs)) X Bag DF = 1 (BVf (mLs), Bvi (mLs)) = FINAL DF #DIV/0!

Date	Instr.	File #

Canister DF = 2.18 X Load DF = #DIV/0! (LVf (mLs), LVi (mLs)) X Bag DF = 1 (BVf (mLs), Bvi (mLs)) = FINAL DF #DIV/0!

Login Sample Receipt Checklist

Client: Broadbent & Associates, Inc.

Job Number: 320-11850-1

Login Number: 11850

List Source: TestAmerica Sacramento

List Number: 1

Creator: Nelson, Kym D

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.	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.	N/A	
Cooler Temperature is acceptable.	N/A	
Cooler Temperature is recorded.	N/A	
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.	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	

320-11444 Chain of Custody

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Canister QC Certification

Certification Type: TO-15 SCAN

Date Cleaned/Batch ID: 1/27/15 320-11444

Date of QC: 2/4/15

Data File Number: MS102041 9

CANISTER ID NUMBERS

34000688	3400186 1 *	
0809	1883	
0369	1810	
0681	1912	
0934		
1628		
0732		
1719		

The above canisters were cleaned as a batch. This certifies this batch contains no target analyte concentration greater than or equal to the method criteria for the "*Certification Type*" indicated above.

"*" INDICATES THE CAN OR CANS WHICH WERE SCREENED.

1st level Reviewed By: _____ Date: 2/5/15

2nd level Reviewed By: _____ Date: 2/9/15

Q:\FORMS\QA-814 CAN QC CERT 20130729.DOC
QA-814

ERS 7/29/2013

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-11444-1

SDG No.: 1L SCAN Batch

Client Sample ID: 34001861 Lab Sample ID: 320-11444-9

Matrix: Air Lab File ID: MS1020419.d

Analysis Method: TO-15 Date Collected: 01/27/2015 00:00

Sample wt/vol: 500(mL) Date Analyzed: 02/05/2015 09:41

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-Volatiles ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 64809 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	0.87	J	5.0	0.18
107-02-8	Acrolein	ND		2.0	0.22
107-13-1	Acrylonitrile	ND		2.0	0.19
107-05-1	Allyl chloride	ND		0.80	0.11
71-43-2	Benzene	ND		0.40	0.079
100-44-7	Benzyl chloride	ND		0.80	0.16
75-27-4	Bromodichloromethane	ND		0.30	0.066
75-25-2	Bromoform	ND		0.40	0.070
74-83-9	Bromomethane	ND		0.80	0.34
106-99-0	1,3-Butadiene	ND		0.80	0.15
106-97-8	n-Butane	ND		0.40	0.15
78-93-3	2-Butanone (MEK)	ND		0.80	0.20
75-65-0	tert-Butyl alcohol (TBA)	ND		2.0	0.11
104-51-8	n-Butylbenzene	ND		0.40	0.18
135-98-8	sec-Butylbenzene	ND		0.40	0.070
98-06-6	tert-Butylbenzene	ND		0.80	0.068
75-15-0	Carbon disulfide	ND		0.80	0.078
56-23-5	Carbon tetrachloride	ND		0.80	0.064
108-90-7	Chlorobenzene	ND		0.30	0.064
75-45-6	Chlorodifluoromethane	ND		0.80	0.11
75-00-3	Chloroethane	ND		0.80	0.31
67-66-3	Chloroform	ND		0.30	0.095
74-87-3	Chloromethane	ND		0.80	0.20
95-49-8	2-Chlorotoluene	ND		0.40	0.080
110-82-7	Cyclohexane	ND		0.40	0.084
124-48-1	Dibromochloromethane	ND		0.40	0.079
106-93-4	1,2-Dibromoethane (EDB)	ND		0.80	0.075
74-95-3	Dibromomethane	ND		0.40	0.057
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		0.40	0.16
95-50-1	1,2-Dichlorobenzene	ND		0.40	0.13
541-73-1	1,3-Dichlorobenzene	ND		0.40	0.11
106-46-7	1,4-Dichlorobenzene	ND		0.40	0.15
75-71-8	Dichlorodifluoromethane	ND		0.40	0.15
75-34-3	1,1-Dichloroethane	ND		0.30	0.072
107-06-2	1,2-Dichloroethane	ND		0.80	0.088

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-11444-1

SDG No.: 1L SCAN Batch

Client Sample ID: 34001861 Lab Sample ID: 320-11444-9

Matrix: Air Lab File ID: MS1020419.d

Analysis Method: TO-15 Date Collected: 01/27/2015 00:00

Sample wt/vol: 500(mL) Date Analyzed: 02/05/2015 09:41

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-Volatiles ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 64809 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-35-4	1,1-Dichloroethene	ND		0.80	0.13
156-59-2	cis-1,2-Dichloroethene	ND		0.40	0.089
156-60-5	trans-1,2-Dichloroethene	ND		0.40	0.10
78-87-5	1,2-Dichloropropane	ND		0.40	0.24
10061-01-5	cis-1,3-Dichloropropene	ND		0.40	0.10
10061-02-6	trans-1,3-Dichloropropene	ND		0.40	0.088
123-91-1	1,4-Dioxane	ND		0.80	0.10
141-78-6	Ethyl acetate	ND		0.30	0.18
100-41-4	Ethylbenzene	ND		0.40	0.063
622-96-8	4-Ethyltoluene	ND		0.40	0.19
142-82-5	n-Heptane	ND		0.80	0.063
87-68-3	Hexachlorobutadiene	ND		2.0	0.43
110-54-3	n-Hexane	ND		0.80	0.075
591-78-6	2-Hexanone	ND		0.40	0.087
98-82-8	Isopropylbenzene	ND		0.80	0.10
99-87-6	4-Isopropyltoluene	ND		0.80	0.12
1634-04-4	Methyl-t-Butyl Ether (MTBE)	ND		0.80	0.050
80-62-6	Methyl methacrylate	ND		0.80	0.16
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		0.40	0.14
75-09-2	Methylene Chloride	ND		0.40	0.072
98-83-9	alpha-Methylstyrene	ND		0.40	0.065
91-20-3	Naphthalene	ND		0.80	0.56
111-65-9	n-Octane	ND		0.40	0.055
109-66-0	n-Pentane	ND		0.80	0.26
115-07-1	Propylene	ND		0.40	0.099
103-65-1	N-Propylbenzene	ND		0.40	0.059
100-42-5	Styrene	ND		0.40	0.059
79-34-5	1,1,2,2-Tetrachloroethane	ND		0.40	0.069
127-18-4	Tetrachloroethene	ND		0.40	0.051
109-99-9	Tetrahydrofuran	ND		0.80	0.079
108-88-3	Toluene	0.10	J	0.40	0.051
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.40	0.16
120-82-1	1,2,4-Trichlorobenzene	ND		2.0	0.43
71-55-6	1,1,1-Trichloroethane	ND		0.30	0.065
79-00-5	1,1,2-Trichloroethane	ND		0.40	0.067

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-11444-1

SDG No.: 1L SCAN Batch

Client Sample ID: 34001861 Lab Sample ID: 320-11444-9

Matrix: Air Lab File ID: MS1020419.d

Analysis Method: TO-15 Date Collected: 01/27/2015 00:00

Sample wt/vol: 500(mL) Date Analyzed: 02/05/2015 09:41

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-Volatiles ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 64809 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-01-6	Trichloroethene	ND		0.40	0.11
75-69-4	Trichlorofluoromethane	ND		0.40	0.20
96-18-4	1,2,3-Trichloropropane	ND		0.40	0.17
95-63-6	1,2,4-Trimethylbenzene	ND		0.80	0.16
108-67-8	1,3,5-Trimethylbenzene	ND		0.40	0.13
540-84-1	2,2,4-Trimethylpentane	ND		0.40	0.071
108-05-4	Vinyl acetate	ND		0.80	0.15
593-60-2	Vinyl bromide	ND		0.80	0.26
75-01-4	Vinyl chloride	ND		0.40	0.12
179601-23-1	m,p-Xylene	ND		0.80	0.10
95-47-6	o-Xylene	ND		0.40	0.054

CAS NO.	SURROGATE	%REC	Q	LIMITS
460-00-4	4-Bromofluorobenzene (Surr)	103		70-130
17060-07-0	1,2-Dichloroethane-d4 (Surr)	118		70-130
2037-26-5	Toluene-d8 (Surr)	101		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\SACCHROM\ChromData\ATMS1\20150205-19231.b\MS1020419.d
Lims ID: 320-11444-A-9 Lab Sample ID: 320-11444-9
Client ID: 34001861
Sample Type: Client
Inject. Date: 05-Feb-2015 09:41:30 ALS Bottle#: 2 Worklist Smp#: 16
Purge Vol: 250.000 mL Dil. Factor: 1.0000
Sample Info: 320-11444-9
Operator ID: AO Instrument ID: ATMS1

Method: \\SACCHROM\ChromData\ATMS1\20150205-19231.b\TO15_ATMS1scan.m
Limit Group: MSA - TO15 - ICAL
Last Update: 05-Feb-2015 10:33:40 Calib Date: 04-Feb-2015 19:21:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\SACCHROM\ChromData\ATMS1\20150205-19231.b\MS1020405.d

Column 1 : RTX Volatiles (0.32 mm) Det: MS SCAN
Process Host: XAWRK052

First Level Reviewer: ortizam Date: 05-Feb-2015 10:34:52

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ppb v/v	Flags
* 1 Chlorobromomethane (IS)	130	11.796	11.790	0.006	92	14162	4.00	
* 2 1,4-Difluorobenzene	114	13.942	13.936	0.006	97	54696	4.00	
* 3 Chlorobenzene-d5 (IS)	117	20.618	20.618	0.000	93	50971	4.00	
$ 4 1,2-Dichloroethane-d4 (Sur	65	12.991	12.985	0.006	96	33796	4.72	
$ 5 Toluene-d8 (Surr)	100	17.344	17.338	0.006	97	35096	4.04	
$ 6 4-Bromofluorobenzene (Surr	174	23.172	23.166	0.006	89	30788	4.12	
31 Acetone	43	7.139	7.126	0.013	98	8653	0.8740	
54 2-Butanone (MEK)	43	10.809	10.796	0.013	29	1256	0.1123	
85 Toluene	91	17.509	17.515	-0.006	91	1550	0.0995	
97 Ethylbenzene	91	20.886	20.880	0.006	86	728	0.0333	
101 o-Xylene	91	21.953	21.959	-0.006	1	669	0.0431	

Reagents:

VASUISIM_00140 Amount Added: 50.00 Units: mL Run Reagent

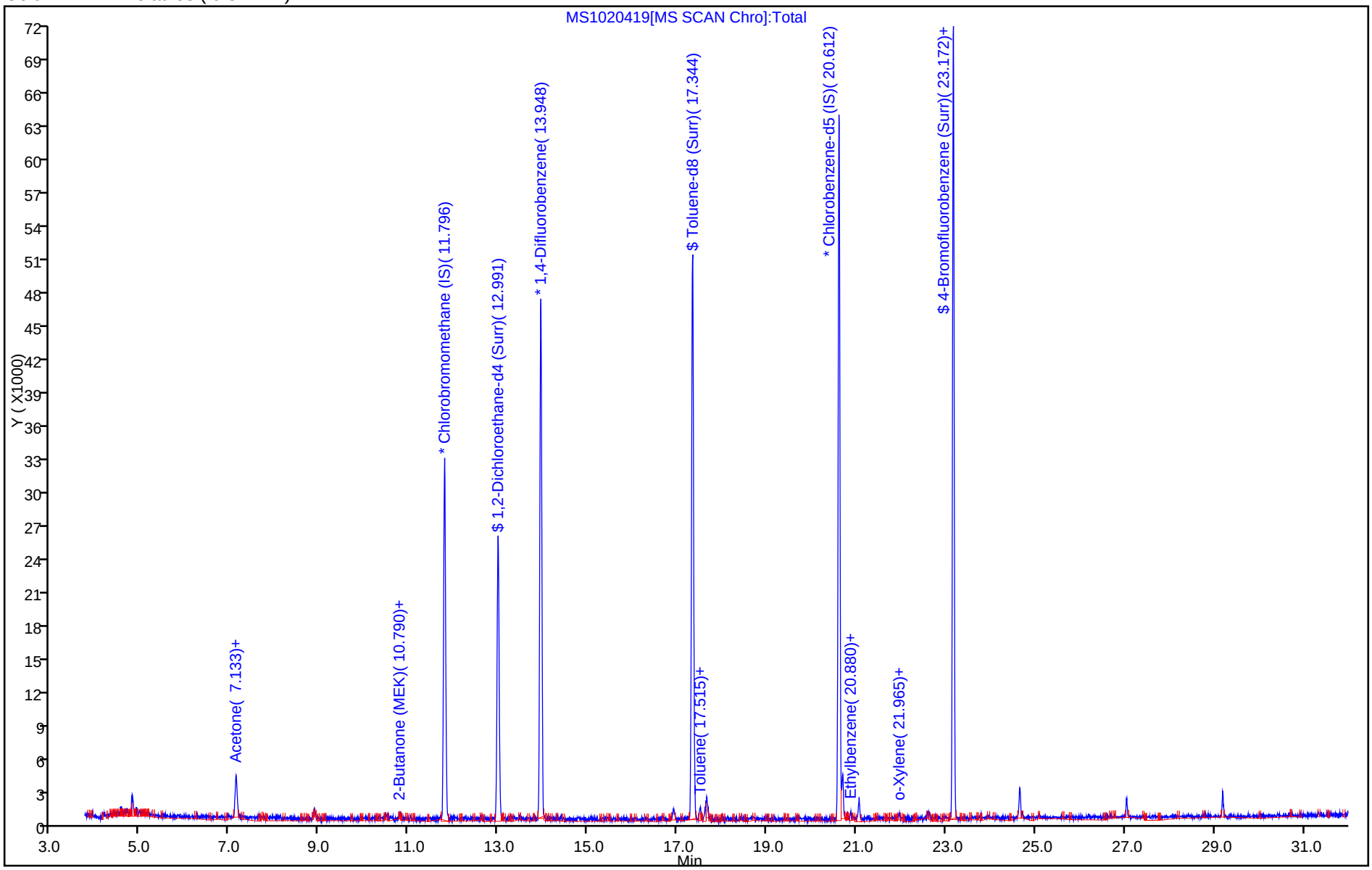
Report Date: 05-Feb-2015 10:34:53 Chrom Revision: 2.2 15-Jan-2015 13:05:58

TestAmerica Sacramento

Data File: \\SACCHROM\ChromData\ATMS1\20150205-19231.b\MS1020419.d

Injection Date:	05-Feb-2015 09:41:30	Instrument ID:	ATMS1	Operator ID:	AO
Lims ID:	320-11444-A-9	Lab Sample ID:	320-11444-9	Worklist Smp#:	16
Client ID:	34001861				
Purge Vol:	250.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	TO15_ATMS1scan	Limit Group:	MSA - TO15 - ICAL		

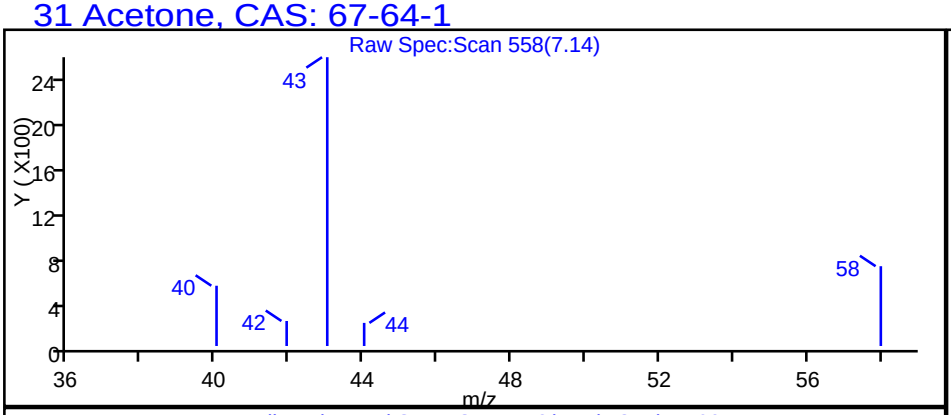
Column: RTX Volatiles (0.32 mm)

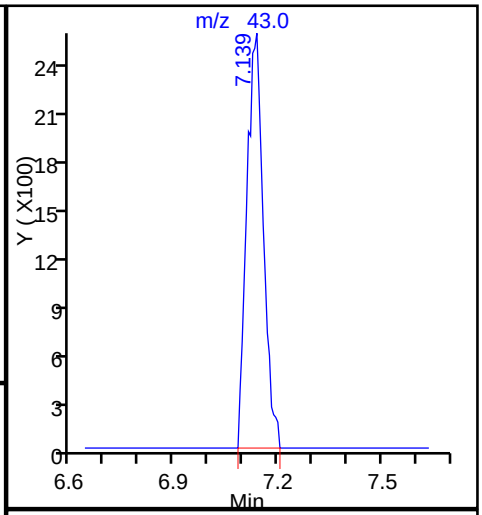


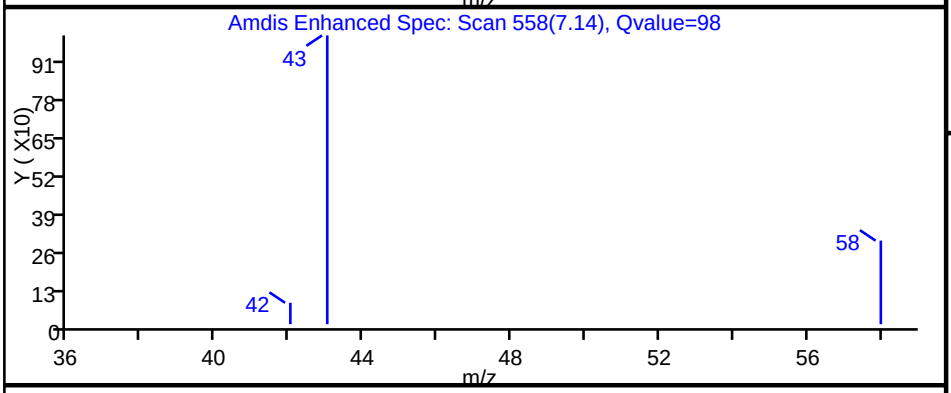
TestAmerica Sacramento

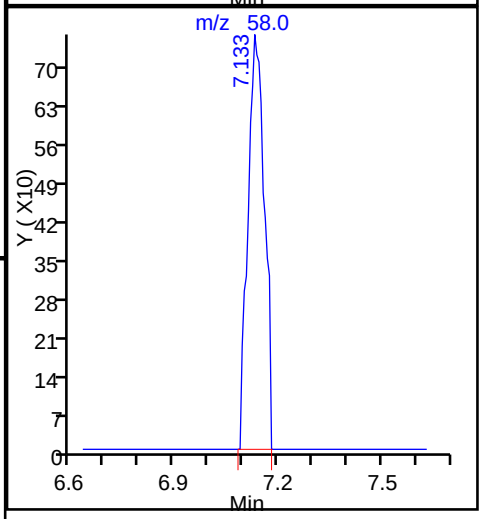
Data File:	\\SACCHROM\ChromData\ATMS1\20150205-19231.b\MS1020419.d				
Injection Date:	05-Feb-2015 09:41:30	Instrument ID:	ATMS1		
Lims ID:	320-11444-A-9	Lab Sample ID:	320-11444-9		
Client ID:	34001861				
Operator ID:	AO	ALS Bottle#:	2	Worklist Smp#:	16
Purge Vol:	250.000 mL	Dil. Factor:	1.0000		
Method:	TO15_ATMS1scan	Limit Group:	MSA - TO15 - ICAL		
Column:	RTX Volatiles (0.32 mm)	Detector	MS SCAN		

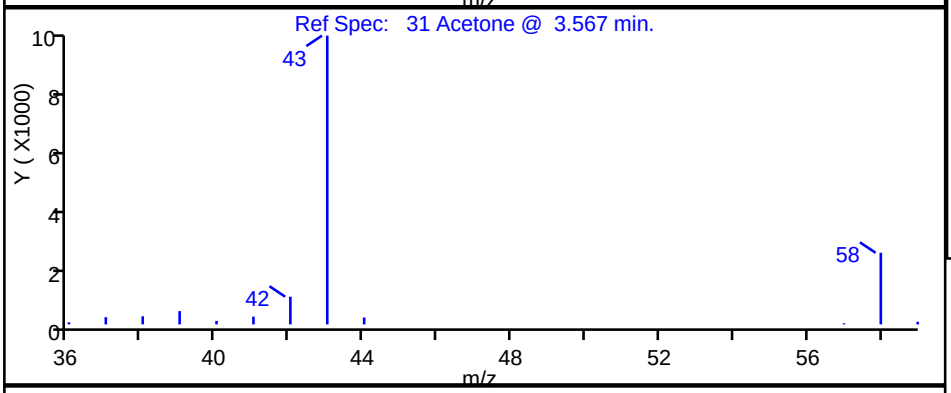
31 Acetone, CAS: 67-64-1

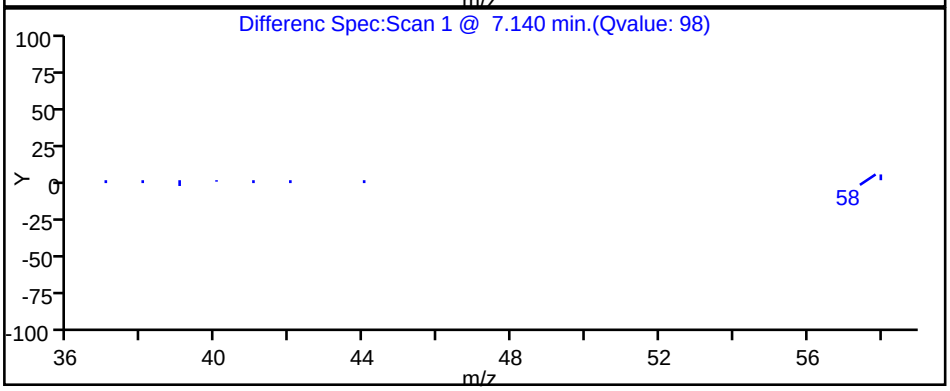








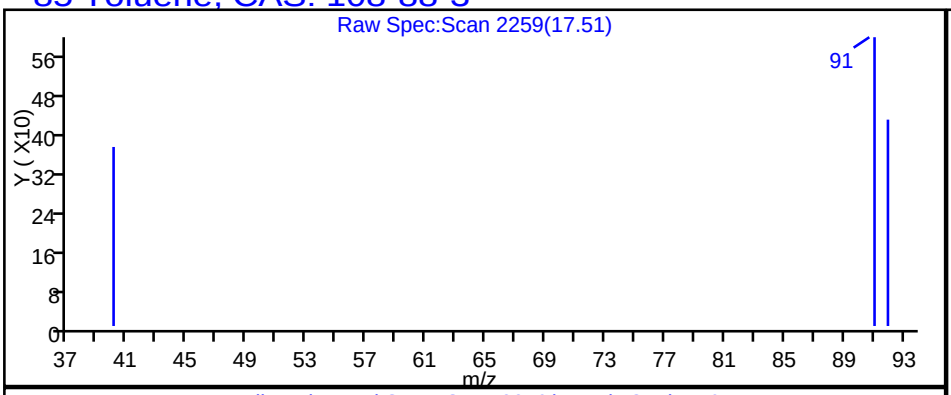


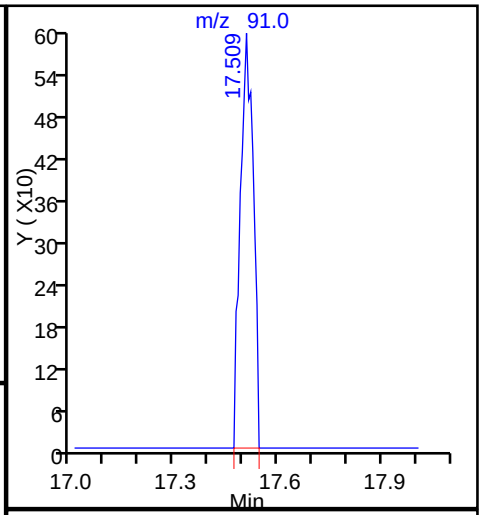


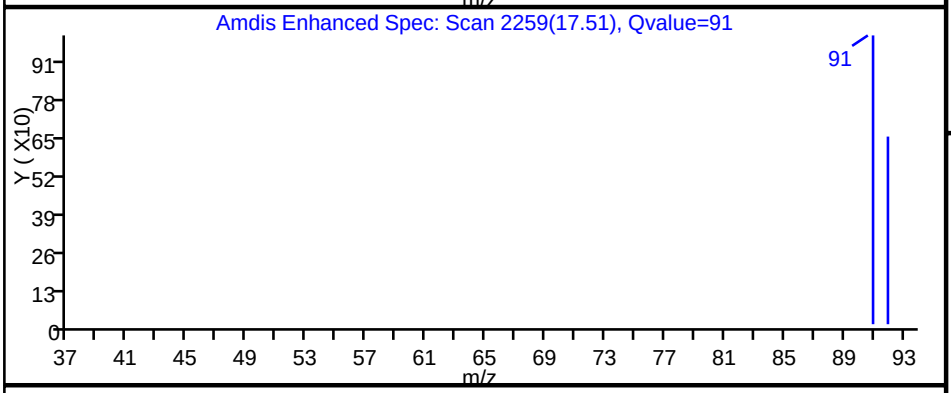
TestAmerica Sacramento

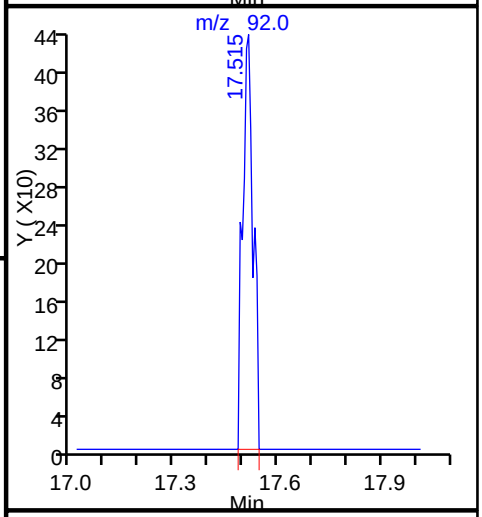
Data File:	\\SACCHROM\ChromData\ATMS1\20150205-19231.b\MS1020419.d				
Injection Date:	05-Feb-2015 09:41:30	Instrument ID:	ATMS1		
Lims ID:	320-11444-A-9	Lab Sample ID:	320-11444-9		
Client ID:	34001861				
Operator ID:	AO	ALS Bottle#:	2	Worklist Smp#:	16
Purge Vol:	250.000 mL	Dil. Factor:	1.0000		
Method:	TO15_ATMS1scan	Limit Group:	MSA - TO15 - ICAL		
Column:	RTX Volatiles (0.32 mm)	Detector	MS SCAN		

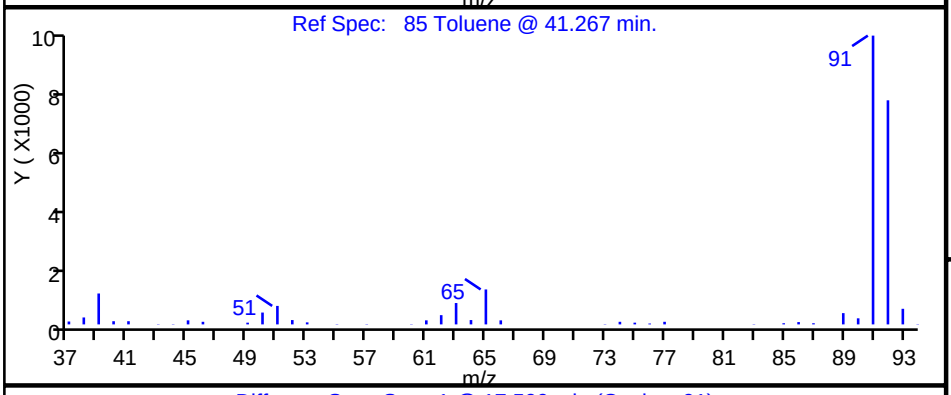
85 Toluene, CAS: 108-88-3

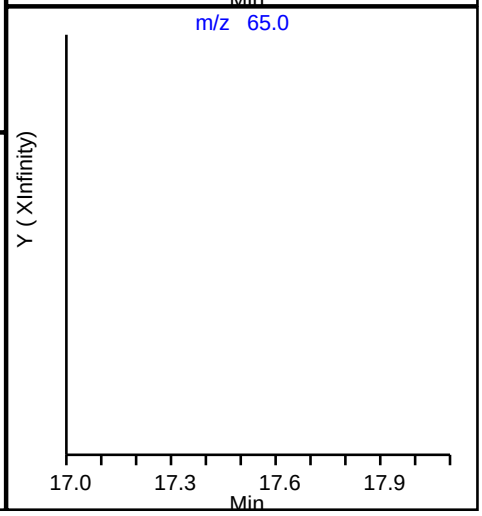


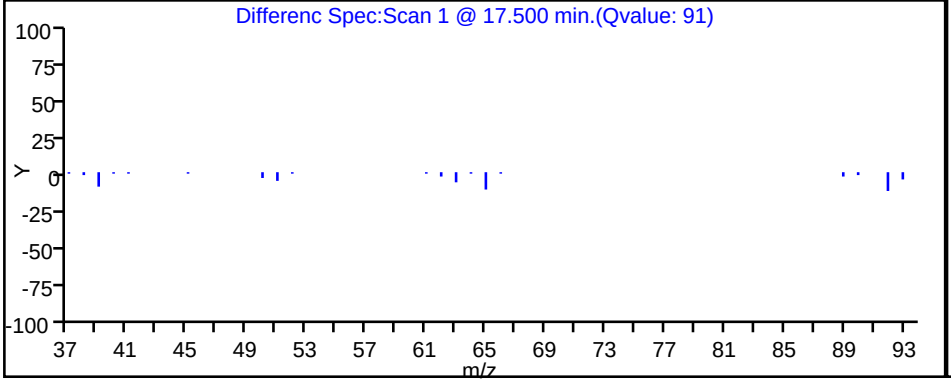












APPENDIX F

Field Sheets

BROADBENT

DAILY REPORT

Page ____ of ____

Project: BP 596-A Project No.: 14-90-103

Field Representative(s): James / Jessica Day: Wednesday Date: 2/25/15

Time Onsite: From: 850 To: 1130 ; From: _____ To: 0 ; From: _____ To: _____

X Signed HASP X Safety Glasses X Hard Hat X Steel Toe Boots X Safety Vest

N/A UST Emergency System Shut-off Switches Located X Proper Gloves

X Proper Level of Barricading ___ Other PPE (describe) _____

Weather: overcast / sunny

Equipment In Use: helium detector

Visitors: _____

TIME:	WORK DESCRIPTION:
845	Arrived onsite ; reviewed safety documents, TRA
900	Start set up @ SG-1A
940	sampled SG-1A and began set up @ SG-1B
1010	Start sampling SG-1B
1025	Start set up @ SG-2A
1040	Sampled SG-2A and began set up @ SG-2B
1100	Started sampling SG-2B
1110	Began loading equipment and supplies
1130	Left site

Signature: _____

Revision: 1/24/2012

BROADBENT

SOIL VAPOR SAMPLING DATA SHEET

Date: 2-25-15
Site Name: BP-596-A
Personnel: JR/JC
Project No.: 14-90-103
Weather: overcast/sunny

Well ID: SG-1A
Canister #: A6964
Flow Controller #: 7308

Time	Helium Concentration (%)	Summa Canister Pressure (in.Hg)	Comments
939	23.9	-30	. held @ 15 inches of Hg for 5 minutes
940	23.6	-26	-purged 3 casing volumes
941	23.7	-18	
942	24.2	-10	
943	26.1	-6	

BROADBENT

SOIL VAPOR SAMPLING DATA SHEET

Date: 2-25-15
Site Name: BP 596-A
Personnel: JRJC
Project No.: 14-90-103
Weather: overcast/sunny

Well ID: SG-1B
Canister #: A6734
Flow Controller #: 7697

Time	Helium Concentration (%)	Summa Canister Pressure (in.Hg)	Comments
1012	20.7	-26	- held for 5 minutes @15psi
1013	26.1	-20	- purged 3 casing volume
1014	28.2	-14	
1015	25.7	-8	
1016	25.2	-5	

BROADBENT

SOIL VAPOR SAMPLING DATA SHEET

Date: 2-25-15
Site Name: BP 596-A
Personnel: VRNC
Project No.: 14-90-103
Weather: overcast / sunny

Well ID: SG-2A
Canister #: 5049
Flow Controller #: 7326

Time	Helium Concentration (%)	Summa Canister Pressure (in.Hg)	Comments
1043	21.3	-29	held for 5 min @ 15 psi
1044	27.7	-26	purge 3 ces. vol
1045	27.8	-19	
1046	28.0	-12	
1047	28.3	-5	
~~1048~~			

BROADBENT

SOIL VAPOR SAMPLING DATA SHEET

Date: 2/25/15
Personnel: JR/JC
Weather: overcast/sunny

Site Name: BP 596-A
Project No.: 14-90-103

Well ID: SG-2B
Canister #: A6886

Flow Controller #: 7339

Time	Helium Concentration (%)	Summa Canister Pressure (in.Hg)	Comments
1104	24.6	-27	*held for 5min @ 15psi
1105	20.8	-20	-purged 3 casing volumes
1106	20.1	-14	
1107	20.4	~~-9~~ -5	
~~H08~~			

BROADBENT

SOIL VAPOR SAMPLING DATA SHEET

Date: 2-25-15
Site Name: BP-596-A
Personnel: JR/JC
Project No.: 14-90-103
Weather: overcast/sunny

Well ID: SG-1A
Canister #: A6964
Flow Controller #: 7308

Time	Helium Concentration (%)	Summa Canister Pressure (in.Hg)	Comments
939	23.9	-30	. held @ 15 inches of Hg for 5 minutes
940	23.6	-26	-purged 3 casing volumes
941	23.7	-18	
942	24.2	-10	
943	26.1	-6	

BROADBENT

SOIL VAPOR SAMPLING DATA SHEET

Date: 2-25-15
Site Name: BP 596-A
Personnel: JRJC
Project No.: 14-90-103
Weather: overcast/sunny

Well ID: SG-1B
Canister #: A6734
Flow Controller #: 7697

Time	Helium Concentration (%)	Summa Canister Pressure (in.Hg)	Comments
1012	20.7	-26	- held for 5 minutes @15psi
1013	26.1	-20	- purged 3 casing volume
1014	28.2	-14	
1015	25.7	-8	
1016	25.2	-5	

BROADBENT

SOIL VAPOR SAMPLING DATA SHEET

Date: 2-25-15
Site Name: BP 596-A
Personnel: VRNC
Project No.: 14-90-103
Weather: overcast / sunny

Well ID: SG-2A
Canister #: 5049
Flow Controller #: 7326

Time	Helium Concentration (%)	Summa Canister Pressure (in.Hg)	Comments
1043	21.3	-29	held for 5 min @ 15 psi
1044	27.7	-26	purge 3 ces. vol
1045	27.8	-19	
1046	28.0	-12	
1047	28.3	-5	
~~1048~~			

BROADBENT

SOIL VAPOR SAMPLING DATA SHEET

Date: 2/25/15
Personnel: JR/JC
Weather: overcast/sunny

Site Name: BP 596-A
Project No.: 14-90-103

Well ID: SG-2B
Canister #: A6886

Flow Controller #: 7339

Time	Helium Concentration (%)	Summa Canister Pressure (in.Hg)	Comments
1104	24.6	-27	*held for 5min @ 15psi
1105	20.8	-20	-purged 3 casing volumes
1106	20.1	-14	
1107	20.4	~~-9~~ -5	
~~H08~~			

APPENDIX G

Historic Site Soil and Groundwater Data

Table 1
Summary of Historical Borehole Soil Sample Analytical Results

Sample ID	Sample Date	Sample Depth (feet)	TPH-G	TPH-K	TPH-D	TPH-HO	TPH-MO	MTBE	Benzene	Toluene	Ethylbenzene	Total Xylenes
SB-1-16	7/20/2011	16.0	ND<1.0	NA	ND<1.0	NA	ND<5.0	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB-2-16	7/20/2011	16.0	ND<1.0	NA	7.7, c,d	NA	25, b,c	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB-2-18	7/20/2011	18.0	ND<1.0	NA	ND<1.0	NA	ND<5.0	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB-3-16	7/20/2011	16.0	8.3, a,b	NA	6.5, c	NA	ND<5.0	ND<0.05	ND<0.005	0.041	ND<0.005	0.04
SB-3-20	7/20/2011	20.0	42, a,b	NA	8.7, c,e	NA	ND<5.0	ND<0.50	ND<0.050	ND<0.050	0.06	0.12
B1-8'	8/22/2012	8.0	ND<1.0	6.0, c	5.0, c	ND<5.0	ND<5.0	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
B2-6'	8/22/2012	6.0	ND<1.0	1.9, c	1.8, c	ND<5.0	ND<5.0	ND<0.05	ND<0.005	ND<0.005	ND<0.005	0.012
LTCP[1]									0-5' = 1.9 5-10' = 2.8		0-5' = 21 5-10' = 32	
LTCP[2]									0-5' = 8.2 5-10' = 12 0-10' = 14		0-5' = 89 5-10' = 134 0-10' = 314	
ESL [1]			*100*	*100*	*100*	*100*	*100*	*0.023*	*0.044*	*2.9*	*3.3*	*2.3*
ESL [2]			*500*	*110*	*110*	*500*	*500*	*0.023*	*0.044*	*2.9*	*3.3*	*2.3*
ESL [3]			*500*	*110*	*110*	*500*	*500*	*0.023*	*0.044*	*2.9*	*3.3*	*2.3*
ESL [4]			*770*	*110*	*110*	*1,000*	*1,000*	*0.023*	*0.044*	*2.9*	*3.3*	*2.3*

NOTES:
TPH-G = Total Petroleum Hydrocarbons as Gasoline
TPH-K = Total Petroleum Hydrocarbons as Kerosene
TPH-D = Total Petroleum Hydrocarbons as Diesel
TPH-HO = Total Petroleum Hydrocarbons as Hydraulic Oil
TPH-MO = Total Petroleum Hydrocarbons as Motor Oil
MTBE = Methyl tertiary-butyl ether
ND = Not detected.
NA = Not analyzed.
a = Laboratory note: strongly aged gasoline or diesel range compounds are significant in the TPH-G chromatogram.
b = Laboratory note: no recognizable pattern.
c = Laboratory note: diesel range compounds are significant; no recognizable pattern.
d = Laboratory note: oil range compounds are significant.
e = Laboratory note: gasoline range compounds are significant.
LTCP[1] = Low Threat Closure Policy, by State Water Resources Control Board, effective August 17, 2012, from Table 1 - Concentrations of Petroleum Constituents in Soil That Will Have No Significant Risk of Adversely Affecting Human Health. Residential Land Use.
LTCP[2] = Low Threat Closure Policy, by State Water Resources Control Board, effective August 17, 2012, from Table 1 - Concentrations of Petroleum Constituents in Soil That Will Have No Significant Risk of Adversely Affecting Human Health. Commercial/Industrial Land Use and Utility Worker.
ESL[1] = Environmental Screening Level, by San Francisco Bay – Regional Water Quality Control Board, updated December 2013 from Table A-1 – Shallow Soil Screening Levels, Groundwater is a current or potential drinking water source. Residential Land Use.
ESL[2] = Environmental Screening Level, by San Francisco Bay – Regional Water Quality Control Board, updated December 2013 from Table A-2 – Shallow Soil Screening Levels, Groundwater is a current or potential drinking water source. Commercial/Industrial Land Use.
ESL[3] = Environmental Screening Level, by San Francisco Bay – Regional Water Quality Control Board, updated December 2013 from Table C-1 – Deep Soil Screening Levels, Groundwater is a current or potential drinking water source. Residential Land Use.
ESL[4] = Environmental Screening Level, by San Francisco Bay – Regional Water Quality Control Board, updated December 2013 from Table C-2 – Deep Soil Screening Levels, Groundwater is a current or potential drinking water source. Commercial/Industrial Land Use.
Results, LTCP criteria, and ESLs in milligrams per kilogram (mg/kg) unless otherwise specified.

Table 2
Summary of Historical Borehole Groundwater Sample Analytical Results

Sample ID	Sample Date	TPH-G	TPH-K	TPH-D	TPH-BO	TPH-HO	TPH-MO	MTBE	Benzene	Toluene	Ethylbenzene	Total Xylenes	VOCs by EPA Method 8260 Other Than MTBE and Benzene
B30W	8/28/2008	ND<50	NA	780, c,d	3,700, c,d	NA	2,900, c,d	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5	NA
SB-1-W	7/20/2011	ND<50	NA	ND<50	NA	NA	ND<250	ND<5.0	ND<0.5	0.50	ND<0.5	0.97	NA
SB-2-W	7/20/2011	ND<50	NA	ND<50	NA	NA	ND<250	ND<5.0	ND<0.5	ND<0.5	ND<0.5	1.0	NA
SB-3-W	7/20/2011	59,000, f	NA	200,000, e,f	NA	NA	ND<10,000	ND<250	*89*	82	*430*	1,600	NA
B1-18-W	8/22/2012	400	1,100, c,e	1,100, c,e	NA	ND<250	ND<250	NA	ND<0.5	ND<0.5	NA	NA	All ND, except Acetone = 21, MEK = 5.9, n-Butyl benzene = 10, 4-Isopropyl toluene = 1.2, 1,2,4-Trimethylbenzene = 9.7
B2-16.5-W	8/22/2012	6,000	4,900, e	3,800, e	NA	ND<250	ND<250	NA	ND<12	ND<12	NA	NA	All ND, except Naphthalene = *290*, n-Butyl benzene = 55, 1,2,4-Trimethylbenzene = 630
LTCP Groundwater-Specific Criteria	Scenario 2	No Value	No Value	No Value	No Value	No Value	No Value	1,000	3,000	No Value	No Value	No Value	No Value
	Scenario 4	No Value	No Value	No Value	No Value	No Value	No Value	1,000	1,000	No Value	No Value	No Value	No Value
ESL[1]		100	100	100	100	100	100	5.0	1.0	40	30	20	Acetone = 1,500, MEK=7,100, Naphthalene = 6.2
ESL[2]		No Value	No Value	No Value	No Value	No Value	No Value	9,900	27	No Value	310	No Value	MEK=23,000,000, Naphthalene = 160
ESL[3]		No Value	No Value	No Value	No Value	No Value	No Value	100,000	270	No Value	3,100	No Value	MEK=200,000,000, Naphthalene = 1,600

NOTES:
TPH-G = Total Petroleum Hydrocarbons as Gasoline
TPH-K = Total Petroleum Hydrocarbons as Kerosene
TPH-D = Total Petroleum Hydrocarbons as Diesel
TPH-BO = Total Petroleum Hydrocarbons as Bunker Oil
TPH-HO = Total Petroleum Hydrocarbons as Hydraulic Oil
TPH-MO = Total Petroleum Hydrocarbons as Motor Oil
MTBE = Methyl tertiary-butyl ether
VOCs = Volatile Organic Compounds
MEK = Methyl Ethyl Ketone (2-Butanone).
ND = Not detected.
NA = Not analyzed.
a = Laboratory note: strongly aged gasoline or diesel range compounds are significant in the TPH-G chromatogram.
b = Laboratory note: no recognizable pattern.
c = Laboratory note: diesel range compounds are significant; no recognizable pattern.
d = Laboratory note: oil range compounds are significant.
e = Laboratory note: gasoline range compounds are significant.
f = Laboratory note: lighter than water immiscible sheen/product present.
LTCP = Low Threat Closure Policy, developed by State Water Resources Control Board , effective August 17, 2012, from Groundwater Specific Criteria Scenarios 2 and 4.
ESL[1] = Environmental Screening Level, by San Francisco Bay – Regional Water Quality Control Board, updated December 2013, from Table F-1a – Groundwater Screening Levels, groundwater is a current or potential drinking water resource.
ESL[2] = Environmental Screening Level, by San Francisco Bay – Regional Water Quality Control Board, updated December 2013, from Table E-1 – Groundwater Screening Levels for Evaluation of Potential Vapor Intrusion Fine-Coarse Mix. Residential Land Use.
ESL[3] = Environmental Screening Level, by San Francisco Bay – Regional Water Quality Control Board, updated December 2013, from Table E-1 – Groundwater Screening Levels for Evaluation of Potential Vapor Intrusion Fine-Coarse Mix. Commercial/Industrial Land Use.
No ESL1 values for n-butlybenzene, 4-isopropyl toluene, and 1,2,4-Trimethylbenzene.
No ESL2 values for n-butlybenzene, 4-isopropyl toluene, 1,2,4-Trimethylbenzene, and Acetone.
No ESL3 values for n-butlybenzene, 4-isopropyl toluene, 1,2,4-Trimethylbenzene, and Acetone.
Values with underline exceed their respective ESL1 values.
Italicized values exceed their respective ESL2 values.
Results, LTCP criteria, and ESLs in micrograms per Liter (ug/L) unless otherwise specified.

Table 3
Summary of Current Investigation Borehole Soil Sample Analytical Results

Sample ID	Sample Date	Sample Depth (feet)	TPH-G	TPH-D	TPH-BO	TPH-MO	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Other VOCs by EPA Method 8260B	SVOCs by EPA Method 8270C	Total Lead
B4-4.5	8/28/2013	4.5	ND<1.0	1.9, c	5.7, c	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND	All ND	ND<5.0
B4-9.5	8/28/2013	9.5	ND<1.0	1.6, c,h	ND<5.0	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND	All ND	ND<5.0
B4-14.5	8/28/2013	14.5	ND<1.0	1.2, c,d	6.1, c,d	5.7, c,d	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND	NA	ND<5.0
B5-5.0	10/2/2013	5.0	ND<1.0	1.5, c,d	ND<5.0	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND	All ND	ND<5.0
B5-9.5	10/2/2013	9.5	ND<1.0	ND<4.0	ND<5.0	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND	All ND	ND<5.0
B5-14.5	10/2/2013	14.5	ND<1.0	ND<1.0	ND<5.0	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND, except Naphthalene = 0.015, n-Butyl benzene = 0.0066, 1,2,4-Trimethylbenzene = 0.0068	NA	ND<5.0
B6-5.0	10/2/2013	5.0	ND<1.0	ND<1.0	ND<5.0	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND	All ND	ND<5.0
B6-9.5	10/2/2013	9.5	ND<1.0	ND<1.0	ND<5.0	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND	All ND	ND<5.0
B6-14.5	10/2/2013	14.5	ND<1.0	ND<1.0	ND<5.0	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND	NA	5.1
B7-5.0	10/9/2013	5.0	ND<1.0	ND<1.0	ND<5.0	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND	All ND	ND<5.0
B7-9.5	10/9/2013	9.5	ND<1.0	ND<1.0	ND<5.0	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND	All ND	ND<5.0
B7-13.0	10/9/2013	13.0	500, g	*1,200, e*	1,200, e	ND<10	ND<2.0	ND<2.0	ND<2.0	*5.7*	*43*	All ND, except Naphthalene = *18*, n-Butyl benzene = 18, 1,2,4-Trimethylbenzene = 59, 1,3,5-Trimethylbenzene = 22, Isopropylbenzene = 2.2, 4-Isopropyl toluene = 3.8, n-Propyl benzene = 9.9	All ND, except Naphthalene = *21*, 2-Methylnaphthalene = *8.9*	11
B8-5.0	10/2/2013	5.0	ND<1.0	1.5, c,d	7.3, c,d	8.6, c,d	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND	All ND	ND<5.0
B8-9.5	10/2/2013	9.5	ND<1.0	ND<1.0	ND<5.0	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND	All ND	ND<5.0
B8-14.5	10/2/2013	14.5	ND<1.0	2.2, f	7.1, f	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND	NA	ND<5.0
B11-5.0	10/9/2013	5.0	ND<1.0	3.3, c,d	42, c,d	44, c,d	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND	All ND, except Butylbenzyl Phthalate = 10	ND<5.0
B11-9.5	10/9/2013	9.5	ND<1.0	ND<1.0	ND<5.0	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND	All ND	ND<5.0
B11-14.5	10/9/2013	14.5	ND<1.0	ND<1.0	ND<5.0	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND	All ND	ND<5.0
B13-5.0	10/2/2013	5.0	ND<1.0	1.6, f	24, f	30, f	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND	All ND, except Butylbenzyl Phthalate = 9.3	**180**
B13-9.5	10/2/2013	9.5	ND<1.0	ND<1.0	ND<5.0	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND	All ND	ND<5.0
B14-5.0	10/9/2013	5.0	ND<1.0	ND<1.0	ND<5.0	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND	All ND	ND<5.0
B14-9.5	10/9/2013	9.5	ND<1.0	ND<1.0	ND<5.0	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	All ND	All ND	ND<5.0
B14-14.5	10/9/2013	14.5	4.1, g	4.3, e	6.1, e	ND<5.0	ND<0.0050	ND<0.0050	ND<0.0050	0.024	0.14	All ND, except Naphthalene = 0.11, n-Butyl benzene = 0.023, 1,2,4-Trimethylbenzene = 0.21, 1,3,5-Trimethylbenzene = 0.064, 4-Isopropyl toluene = 0.0057, n-Propyl benzene = 0.024	All ND, except Naphthalene = 0.46, Butylbenzyl Phthalate = 0.32	6.2

Table 3
Summary of Current Investigation Borehole Soil Sample Analytical Results

Sample ID	Sample Date	Sample Depth (feet)	TPH-G	TPH-D	TPH-BO	TPH-MO	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Other VOCs by EPA Method 8260B	SVOCs by EPA Method 8270C	Total Lead
LTCP[1]								0-5' = 1.9 5-10' = 2.8		0-5' = 21 5-10' = 32		0-5' Naphthalene = 9.7 5-10' Naphthalene = 9.7	0-5' PAH = 0.063 based on BaP toxicity	
LTCP[2]								0-5' = 8.2 5-10' = 12 0-10' = 14		0-5' = 89 5-10' = 134 0-10' = 314		0-5' Naphthalene = 45 5-10' Naphthalene = 45 0-10' Naphthalene = 219	0-5' PAH = 0.68 0-10' PAH = 219	
ESL [1]			*100*	*100*	*100*	*100*	*0.023*	*0.044*	*2.9*	*3.3*	*2.3*	*Naphthalene = 1.2,*	*Naphthalene = 1.2, 2-Methylnaphthalene = 0.25,*	*80*
ESL [2]			*500*	*110*	*500*	*500*	*0.023*	*0.044*	*2.9*	*3.3*	*2.3*	*Naphthalene = 1.2,*	*Naphthalene = 1.2, 2-Methylnaphthalene = 0.25,*	*320*
ESL [3]			*500*	*110*	*500*	*500*	*0.023*	*0.044*	*2.9*	*3.3*	*2.3*	*Naphthalene = 1.2,*	*Naphthalene = 1.2, 2-Methylnaphthalene = 0.25,*	*80*
ESL [4]			*770*	*110*	*1,000*	*1,000*	*0.023*	*0.044*	*2.9*	*3.3*	*2.3*	*Naphthalene = 1.2,*	*Naphthalene = 1.2, 2-Methylnaphthalene = 0.25,*	*320*

NOTES
TPH-G = Total Petroleum Hydrocarbons as Gasoline.
TPH-D = Total Petroleum Hydrocarbons as Diesel.
TPH-BO = Total Petroleum Hydrocarbons as Bunker Oil.
TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.
MTBE = Methyl-tert-Butyl Ether
VOCs = Volatile Organic Compounds.
SVOCs = Semi-Volatile Organic Compounds.
ND = Not Detected.
NA = Not Analyzed.
a = Laboratory note: strongly aged gasoline or diesel range compounds are significant in the TPH-G chromatogram.
b = Laboratory note: no recognizable pattern.
c = Laboratory note: diesel range compounds are significant; no recognizable pattern.
d = Laboratory note: oil range compounds are significant.
e = Laboratory note: gasoline range compounds are significant.
f = Laboratory note: Stoddard solvent/mineral spirit (?).
g = Laboratory note: heavier gasoline range compounds are significant (aged gasoline?).
h = Laboratory note: one to a few isolated peaks present in the TPH-D/TPH-MO chromatogram..
LTCP[1] = Low Threat Closure Policy, by State Water Resources Control Board, effective August 17, 2012, from Table 1 - Concentrations of Petroleum Constituents in Soil That Will Have No Significant Risk of Adversely Affecting Human Health. Residential Land Use.
LTCP[2] = Low Threat Closure Policy, by State Water Resources Control Board, effective August 17, 2012, from Table 1 - Concentrations of Petroleum Constituents in Soil That Will Have No Significant Risk of Adversely Affecting Human Health. Commercial/Industrial Land Use and Utility Worker.
ESL [1] = Environmental Screening Level, by San Francisco Bay – Regional Water Quality Control Board, updated December 2013, from Table A-1 – Shallow Soil Screening Levels, Groundwater is a current or potential drinking water resource. Residential Land Use.
ESL [2] = Environmental Screening Level, by San Francisco Bay – Regional Water Quality Control Board, updated December 2013, from Table A-2 – Shallow Soil Screening Levels, Groundwater is a current or potential drinking water resource. Commercial/Industrial Land Use.
ESL [3] = Environmental Screening Level, by San Francisco Bay – Regional Water Quality Control Board, updated December 2013, from Table C-1 – Deep Soil Screening Levels, Groundwater is a current or potential drinking water resource. Residential Land Use.
ESL [4] = Environmental Screening Level, by San Francisco Bay – Regional Water Quality Control Board, updated December 2013, from Table C-2 – Deep Soil Screening Levels, Groundwater is a current or potential drinking water resource. Commercial/Industrial Land Use.
No ESL[1] values for n-butlybenzene, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, Isopropylbenzene, 4-isopropyl toluene, and n-Propyl benzene, or Butylbenzyl Phthalate.
No ESL[2] values for n-butlybenzene, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, Isopropylbenzene, 4-isopropyl toluene, and n-Propyl benzene, or Butylbenzyl Phthalate.
No ESL[3] values for n-butlybenzene, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, Isopropylbenzene, 4-isopropyl toluene, and n-Propyl benzene, or Butylbenzyl Phthalate.
Hi-lighted depths are less than 5.0 feet.
Results in bold indicate a concentration equal or exceeding the respective ESL[1] value.
Underlined results indicate a concentration equal or exceeding the respective ESL value.
Italicized results indicate a concentration equal or exceeding the respective ESL[4] value.
Results and ESLs reported in milligrams per kilogram (mg/kg) unless otherwise indicated.

Table 4
Summary of Current Investigation Borehole Groundwater Sample Analytical Results

Sample ID	Sample Date	TPH-G	TPH-D	TPH-BO	TPH-MO	MTBE	Benzene	Toluene	Ethylbenzene	Total Xylenes	Other VOCs by EPA 8260	Total Lead
B5-W	10/2/2013	650	550, f	620, f	ND<250	ND<0.50	ND<0.50	ND<0.50	14	19	ND, except Naphthalene = 11, Bromodichloromethane = 0.77, Chloroform = 23, n-Butyl benzene = 9.8 sec-Butyl benzene = 1.7, Isopropylbenzene = 1.7, n-Propyl benzene = 7.3, 1,2,4-Trimethylbenzene = 32, 1,3,5-Trimethylbenzene = 8.8	NR
B6-W	10/2/2013	ND<50	ND<50	ND<100	ND<250	ND<0.50	ND<0.50	0.56	ND<0.50	ND<0.50	ND, except PCE = 1.6	NR
B8-W	10/2/2013	ND<50	ND<50	ND<100	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	All ND	NR
LTCP Groundwater-Specific Criteria	Scenario 2	No Value	No Value	No Value	No Value	1,000	3,000	No Value	No Value	No Value	No Value	No Value
	Scenario 4	No Value	No Value	No Value	No Value	1,000	1,000	No Value	No Value	No Value	No Value	No Value
ESL[1]		100	100	100	100	5.0	1.0	40	30	20	Naphthalene = 6.2, Bromodichloromethane = 100, Chloroform = 70, PCE = 5.0,	2.5
ESL[2]		No Value	No Value	No Value	No Value	9,900	27	95,000	310	37,000	Naphthalene = 160, Chloroform = 170, PCE = 63,	No Value
ESL[3]		No Value	No Value	No Value	No Value	100,000	270	No Value	3,100	No Value	Naphthalene = 1,600, Chloroform = 1,700, PCE = 640,	No Value

NOTES:
TPH-G = Total Petroleum Hydrocarbons as Gasoline.
TPH-D = Total Petroleum Hydrocarbons as Diesel.
TPH-BO = Total Petroleum Hydrocarbons as Bunker Oil.
TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.
MTBE = Methyl-tert-Butyl Ether.
VOCs = Volatile Organic Compounds.
PCE = Tetrachloroethene.
ND = Not Detected.
NR = Not Representative. The samples were preserved at the laboratory prior to filtration, resulting in non-representative results that included metals solubilized from sediments in the samples.
f = Laboratory note: gasoline range compounds are significant.
LTCP = Low Threat Closure Policy, developed by State Water Resources Control Board , effective August 17, 2012, from Groundwater Specific Criteria Scenarios 2 and 4.
ESL [1] =Environmental Screening Level, by San Francisco Bay – Regional Water Quality Control Board, updated December 2013, from Table F-1a – Groundwater Screening Levels, groundwater is a current or potential drinking water resource.
ESL [2] = Environmental Screening Level, by San Francisco Bay – Regional Water Quality Control Board, updated December 2013, from Table E-1 – Groundwater Screening Levels for Evaluation of Potential Vapor Intrusion (Fine-Coarse Mix). Residential Land Use.
ESL [3] = Environmental Screening Level, by San Francisco Bay – Regional Water Quality Control Board, updated December 2013, from Table E-1 – Groundwater Screening Levels for Evaluation of Potential Vapor Intrusion (Fine-Coarse Mix). Commercial/Industrial Land Use.
No ESL1 values for n-butlybenzene, sec-Butyl benzene, Isopropylbenzene, n-Propyl benzene, 1,2,4-Trimethylbenzene, and 1,3,5-Trimethylbenzene.
No ESL2 values for Bromodichloromethane, Lead, n-butlybenzene, sec-Butyl benzene, Isopropylbenzene, n-Propyl benzene, 1,2,4-Trimethylbenzene, and 1,3,5-Trimethylbenzene.
No ESL3 values for Bromodichloromethane, Lead, n-butlybenzene, sec-Butyl benzene, Isopropylbenzene, n-Propyl benzene, 1,2,4-Trimethylbenzene, and 1,3,5-Trimethylbenzene.
Values with underline exceed their respective ESL1 values.
Results and ESLs reported in micrograms per liter (µg/L) unless otherwise indicated.

APPENDIX H

Historic Boring Logs

Project: Pacific Health Clinic
Project Location: 1900 Webster Street, Oakland, CA 94612
Project Number: 297305

Key to Log of Boring

Sheet 1 of 1

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	PID Reading, ppm	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	Well Log	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7	8	9	10

COLUMN DESCRIPTIONS

1. Elevation (feet): Elevation (MSL, feet).
2. Depth (feet): Depth in feet below the ground surface.
3. Sample Type: Type of soil sample collected at the depth interval shown.
4. Sample Number: Sample identification number.
5. PID Reading, ppm: The reading from a photo-ionization detector, in parts per million.
6. USCS Symbol: USCS symbol of the subsurface material.
7. Graphic Log: Graphic depiction of the subsurface material encountered.
8. MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
9. Well Log: Graphical representation of well installed upon completion of drilling and sampling.
10. REMARKS AND OTHER TESTS: Comments and observations regarding drilling or sampling made by driller or field personnel.

FIELD AND LABORATORY TEST ABBREVIATIONS

CHEM: Chemical tests to assess corrosivity
COMP: Compaction test
CONS: One-dimensional consolidation test
LL: Liquid Limit, percent
PI: Plasticity Index, percent
SA: Sieve analysis (percent passing No. 200 Sieve)
UC: Unconfined compressive strength test, Qu, in ksf
WA: Wash sieve (percent passing No. 200 Sieve)

TYPICAL MATERIAL GRAPHIC SYMBOLS

- Bentonite
- Bentonite chips
- Bentonite powder
- Fat CLAY, CLAY w/SAND, SANDY CLAY (CH)
- Fat CLAY/SILT (CH-MH)
- Lean CLAY, CLAY w/SAND, SANDY CLAY (CL)
- Claystone
- Lean-Fat CLAY, CLAY w/SAND, SANDY CLAY
- Cuttings
- Lean CLAY/PEAT (CL-OL)
- AF
- Clayey GRAVEL (GC)
- SILTY CLAY (CL-ML)
- Boulders
- Clayey GRAVEL to Gravelly CLAY (GC-CH)
- Clayey GRAVEL to Gravelly CLAY (GC-CL)
- Silty GRAVEL (GM)
- Silty GRAVEL to Clayey GRAVEL (GM-GC)
- Silty GRAVEL to Gravelly SILT (GM-MH)
- Silty GRAVEL to Gravelly SILT (GM-ML)
- Poorly graded GRAVEL with Silt (GP-GM)
- Granite
- Gravel
- Grout
- Well graded GRAVEL (GW)
- Well graded GRAVEL with Silt (GW-GM)
- Poorly to Well graded GRAVEL (GW-GP)
- Poorly graded GRAVEL (GP)
- Artificial Fill
- SILT, SILT w/SAND, SANDY SILT (MH)
- SILT, SILT with SAND, SANDY SILT (ML-MH)
- High plasticity PEAT (OH)
- Low plasticity PEAT (OL)
- Low to High plasticity PEAT (OL-OH)
- Sandstone
- Clayey SAND (SC)
- Clayey SAND to Sandy CLAY (SC-CH)
- Clayey SAND to Sandy CLAY (SC-CL)
- Shale
- Silt
- Siltstone
- Silty SAND (SM)
- Silty SAND to Sandy SILT (SM-MH)
- Silty SAND to Sandy SILT (SM-ML)
- Silty to Clayey SAND (SM-SC)
- Poorly graded SAND (SP)
- Poorly graded SAND with Clay (SP-SC)
- Well graded SAND (SW)
- Well graded SAND with Clay (SW-SC)
- Well graded SAND with Silt (SW-SM)
- SILT, SILT w/SAND, SANDY SILT (ML)
- Bentonite plug
- Asphaltic Concrete (AC)
- Poorly graded SAND with Silt (SP-SM)
- Black Rock - fine grained, exhibiting a bedding
- Gray rock, large grain size

TYPICAL SAMPLER GRAPHIC SYMBOLS

- Shelby Tube (Thin-walled, fixed head)
- Shelby Tube (Thin-walled, fixed head)
- Bulk Sample
- 3-inch-OD California w/ brass rings
- Other sampler now modified
- Auger sampler
- CME Sampler
- 2-inch-OD unlined split spoon (SPT)
- 2.5-inch-OD Modified California w/ brass liners
- Grab Sample
- Pitcher Sample

OTHER GRAPHIC SYMBOLS

- Water level (at time of drilling, ATD)
- Water level (after waiting a given time)
- Minor change in material properties within a stratum
- Inferred or gradational contact between strata
- ?—? Queried contact between strata

GENERAL NOTES

1: Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive, and actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.

2: Descriptions on these logs apply only at the specific boring locations and at the time the borings were advanced. They are not warranted to be representative of subsurface conditions at other locations or times.

Project: Pacific Health Clinic
Project Location: 1900 Webster Street, Oakland, CA 94612
Project Number: 297305

Log of Boring SB-1

Sheet 1 of 1

Date(s) Drilled July 20, 2011	**Logged By** Harmony TomSun	**Checked By** Peter McIntyre
Drilling Method Direct Push	**Drill Bit Size/Type**	**Total Depth of Borehole** 20 feet bgs
Drill Rig Type GeoProbe	**Drilling Contractor** RSI Drilling	**Approximate Surface Elevation**
Groundwater Level and Date Measured 15.93 feet ATD	**Sampling Method(s)** Tube	**Hammer Data**
Borehole Backfill Neat Cement	**Location**	

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	PID Reading, ppm	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	Well Log	REMARKS AND OTHER TESTS
	0				SM		Silty sand, dark brown 3/3 7.5YR, fine to medium grained sand, moderately loose, <10% fine grained gravel		
	5				SM		Sand, light yellowish brown 6/4 10YR, fine grained sand, <10% very fine grained gravel, moderately loose		
		☒	SB-1-7	2.7	SM		fine to medium grained sand		
	10				SC		Clayey sand, light brownish gray 6/2 10YR, fine grained sand, cohesive, moist		
		☒	SB-1-12	5.3			poorly graded medium grained sand		
	15				ML		Clayey silt, dark greenish gray 4/1 5G, cohesive, slight plasticity, moist to wet		
		☒	SB-1-16	122.1			▽		
	20	☒	SB-1-20	36.3			Bottom of Boring at 20 feet bgs		
	25								
	30								

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Project: Pacific Health Clinic
Project Location: 1900 Webster Street, Oakland, CA 94612
Project Number: 297305

Log of Boring SB-2

Sheet 1 of 1

Date(s) Drilled July 20, 2011	**Logged By** Harmony TomSun	**Checked By** Peter McIntyre
Drilling Method Direct Push	**Drill Bit Size/Type**	**Total Depth of Borehole** 20 feet bgs
Drill Rig Type GeoProbe	**Drilling Contractor** RSI Drilling	**Approximate Surface Elevation**
Groundwater Level and Date Measured 17.14 feet ATD	**Sampling Method(s)** Tube	**Hammer Data**
Borehole Backfill Neat Cement	**Location**	

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	PID Reading, ppm	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	Well Log	REMARKS AND OTHER TESTS
	0				SM		Silty sand, dark reddish brown 3/3 5YR, fine to medium grained sand, moderately loose, <10% fine grained gravel		
	5				SM		Sand, yellowish brown 5/8 10YR, fine grained sand, <10% very fine grained gravel, poorly graded sand and gravel, moderately loose		
			SB-2-8	<1	SM		Sand, yellowish brown 5/4 10YR, medium grained, <20% clay, friable		
	10		SB-2-11	<1	SM		Sand, reddish yellow 7/8 5YR, very fine to fine grained sand, <20% silt, poorly graded, hard, friable		
					SM		poorly graded medium grained sand		
	15		SB-2-16	83.4	ML		Clayey silt, light yellowish brown 6/4 10YR mottled dark greenish gray 4/1 5G, cohesive, slight plasticity, moist to wet		
			SB-2-18	245.3					
	20		SB-2-20	7.2			Bottom of Boring at 20 feet bgs		
	25								
	30								

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Project: Pacific Health Clinic
Project Location: 1900 Webster Street, Oakland, CA 94612
Project Number: 297305

Log of Boring SB-3

Sheet 1 of 1

Date(s) Drilled July 20, 2011	**Logged By** Harmony TomSun	**Checked By** Peter McIntyre
Drilling Method Direct Push	**Drill Bit Size/Type**	**Total Depth of Borehole** 24 feet bgs
Drill Rig Type GeoProbe	**Drilling Contractor** RSI Drilling	**Approximate Surface Elevation**
Groundwater Level and Date Measured 21.36 feet ATD	**Sampling Method(s)** Tube	**Hammer Data**
Borehole Backfill Neat Cement	**Location**	

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	PID Reading, ppm	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	Well Log	REMARKS AND OTHER TESTS
	0				SM		Silty sand, dark brown 3/3 7.5YR mottled yellowish red 5/8 5YR, fine to medium grained sand, <10% fine grained gravel, tight, no plasticity		
			SB-3-4	<1					
	5				SM		Sand, yellowish red 4/6 5YR, fine to medium grained sand, <10% very fine grained gravel, poorly graded sand and gravel, friable		
			SB-3-8	<1	SM		Silty sand, light brown 6/3 7.5YR, medium grained, friable		
	10								
			SB-3-12	9.4	SC		Clayey sand, light yellowish brown 6/4 10YR, very fine to fine grained sand, <10% silt, moderate plasticity		
	15				ML		Clayey silt, grayish green 5/2 5G, <10% fine grained sand, tight, slight platsicity, moist		
			SB-3-16	57.8					
					ML		Clayey silt, light yellowish brown 6/4 10YR mottled dark greenish gray 4/1 5G, cohesive, slight plasticity, moist to wet		
	20		SB-3-20	63.1					
			SB-3-24	3.2					
	25						Bottom of Boring at 24 feet bgs		
	30								

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P&D ENVIRONMENTAL, INC.

BORING NO.: B4	PROJECT NO.: 0590	PROJECT NAME: 1900 Webster Street, Oakland	
BORING LOCATION: Approximately 7 ft. west of east wall and 11 ft. south of north wall of dental office		ELEVATION AND DATUM: None	
DRILLING AGENCY: Vironex, Inc.	DRILLER: Scott	DATE & TIME STARTED: 8/28/13 0830	DATE & TIME FINISHED: 8/28/13 1530
DRILLING EQUIPMENT: Badger			
COMPLETION DEPTH: 20.0 Feet	BEDROCK DEPTH: Not Encountered	LOGGED BY: MLBD	CHECKED BY:
FIRST WATER DEPTH: 18.0 Feet	NO. OF SAMPLES: 4 Soil		

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	BLOW COUNT PER 6"	WELL CONSTRUCTION LOG	PID	REMARKS
	0.0 to 0.5 ft. Concrete and base rock.			No Well Constructed		Borehole hand augered from 0.0 to 4.0 ft. using a 3.5-inch O.D. hand auger. Borehole continuously cored from 4.0 to 20.0 ft. using a 3.0-foot long 2.0-inch O.D. Geoprobe Macrocore barrel sampler containing a 1.5-inch O.D. transparent PVC tube.
	0.5 to 2.5 ft. Dark brown silty sand (SM); medium dense, moist, with few coarse angular gravel to 0.25-inch diameter. No Petroleum Hydrocarbon (PHC) odor. (10,70,20)				0	
5	2.5 to 10.0 ft. Light brown silty sand (SM); medium dense, moist, with fine to medium sand, and orange mottling. No PHC odor. (0,80,20)	SM		B4-4.5	9.2	4.0 to 7.0 ft. 2.8 ft. recovery 7.0 to 10.0 ft. 2.8 ft. recovery 10.0 to 13.0 ft. 2.8 ft. recovery 13.0 to 14.5 ft. 1.3 ft. recovery 14.5 to 15.0 ft. 0.5 ft. recovery 15.0 to 18.0 ft. 2.8 ft. recovery 18.0 to 20.0 ft. 1.8 ft. recovery
					0	
					0	Expansive clays.
10				B4-9.5	0	Water encountered during drilling at 18.0 ft. at 1025 on 8/28/13. Temporary 1.0-inch diameter slotted PVC casing placed in borehole. Borehole was dry at 1105 and at 1630.
	10.0 to 14.5 ft. Light grayish-brown clayey fine sand (SC); medium dense, moist, with orange mottling. No PHC odor. (0,75,25)	SC			0	Borehole terminated at 20.0 ft. on 8/28/13. Borehole grouted on 8/28/13 using neat cement and a tremie pipe.
15	14.5 to 15.0 ft. Olive-gray clayey silt (ML); stiff, moist,with orange mottling. No PHC odor. (0,0,10)	ML		B4-14.5		Mr. Steve Miller with Alameda County Public Works Agency on site to observe and document grouting of the borehole.
	15.0 to 18.5 ft. Brown clayey fine sand (SC); dense, moist to wet, with orange mottling. Slight PHC odor. (0,80,20) Bluish-gray staining from 17.5 ft. to 18.5 ft. Wet at 17.5 ft. Saturated at 18.0 ft.	SC		▽	4.2	
	18.5 to 20.0 ft. Olive-gray clayey silt (ML); medium stiff, wet, with bluish-gray mottling. No PHC odor. (0,0,100)	ML				
20				B4-19.5	0	
25						Drilling Notes: 1) Field estimates of percent gravel, sand, and fines are shown in parentheses. 2) Density determinations are qualitative and are not based on quantitative evaluation.
30						

P&D ENVIRONMENTAL, INC.

BORING NO.: B5	PROJECT NO.: 0590	PROJECT NAME: 1900 Webster Street, Oakland	
BORING LOCATION: Approximately 11 ft. north and 9 ft. east of southwest corner of kitchen		ELEVATION AND DATUM: None	
DRILLING AGENCY: IMX, Inc. and Vironex, Inc.	DRILLER: Omar, Joel	DATE & TIME STARTED: 9/25/13 1045	DATE & TIME FINISHED: 10/02/13 1400
DRILLING EQUIPMENT: 3.5-inch O.D. hand auger and Badger			
COMPLETION DEPTH: 19.0 Feet	BEDROCK DEPTH: Not Encountered	LOGGED BY: MLBD	CHECKED BY: PMK
FIRST WATER DEPTH: 18.0 Feet	NO. OF SAMPLES: 4 Soil, 1 Water		

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	BLOW COUNT PER 6"	WELL CONSTRUCTION LOG	PID	REMARKS
	0.0 to 0.5 ft. Concrete and base rock.			No Well Constructed		On 9/25/13 borehole hand augered from 0.0 to 5.0 ft. using a 3.5-inch O.D. hand auger. On 10/2/13 borehole continuously cored from 5.0 to 19.0 ft. using a 3.0-foot long 2.0-inch O.D. Geoprobe Macrocore barrel sampler containing a 1.5-inch O.D. transparent PVC tube.
	0.5 to 9.0 ft. Dark brown silty sand (SM); medium dense, moist, with few coarse angular gravel to 0.25-inch diameter. No Petroleum Hydrocarbon (PHC) odor. (10,70,20)	SM			0	
5		X		B5-5.0	0	5.0 to 8.0 ft. 2.8 ft. recovery 8.0 to 11.0 ft. 2.8 ft. recovery 11.0 to 14.0 ft. 2.8 ft. recovery 14.0 to 17.0 ft. 2.8 ft. recovery 17.0 to 19.0 ft. 1.0 ft. recovery
					0	Expansive clays. Drilling refusal at 19.0 ft. depth.
	9.0 to 10.5 ft. Grayish-brown sandy clay (CL); medium stiff, moist, with fine sand, and orange mottling. No PHC odor. (0,20,80)	X CL		B5-9.5		Water encountered during drilling at 18.0 ft. at 1125 on 10/2/13. Temporary 1.0-inch diameter slotted PVC casing placed in borehole. Water level measured at 16.7 ft. at 1135, and at 16.7 ft. at 1145.
10	10.5 to 12.0 ft. Light grayish-brown clayey sand (SC); medium dense, moist, with orange mottling. No PHC odor. (0,75,25)	SC			0	
	12.0 to 13.0 ft. Olive-brown silty sand (SM); medium dense, moist, with fine sand and orange mottling. No PHC odor. (0,80,20)	SM				
	13.0 to 15.0 ft. Olive-gray clayey sand (SC); medium dense, moist, with orange mottling. No PHC odor. (0,80,20)	SC			0	Approximately 0.2-gallon purged from borehole prior to groundwater sample collection using new unused disposable polyethylene tubing attached to a peristaltic pump.
15		X		B5-14.5		
	15.0 to 15.5 ft. Grayish-brown fine sand (SP); medium dense, moist. No PHC odor. (0,95,5)	SP				
	15.5 to 18.0 ft. Grayish-brown clayey fine sand (SC); medium dense, moist to wet, with orange mottling. No PHC odor. (0,80,20) Wet at 17.5 ft. Saturated at 18.0 ft.	SC		▼	0.4	Water sample B5-W collected at 1200; moderate PHC odor and no sheen on sample.
	18.0 to 19.0 ft. Bluish-gray silty fine sand (SM); medium dense, saturated. Strong PHC odor. (0,85,15)	X SM		▽ B5-18.5	93	Water level subsequently measured at 17.9 ft.
20						Borehole terminated at 19.0 ft. on 10/2/13. Borehole grouted on 10/2/13 using neat cement and a tremie pipe. Mr. Steve Miller with Alameda County Public Works Agency gave verbal authorization to grout borehole without his presence.
25						Drilling Notes: 1) Field estimates of percent gravel, sand, and fines are shown in parentheses. 2) Density determinations are qualitative and are not based on quantitative evaluation.
30						

P&D ENVIRONMENTAL, INC.

BORING NO.: B6	PROJECT NO.: 0590	PROJECT NAME: 1900 Webster Street, Oakland	
BORING LOCATION: Approximately 5 ft. south and 3 ft. west of northeast corner of office		ELEVATION AND DATUM: None	
DRILLING AGENCY: IMX, Inc. and Vironex, Inc.	DRILLER: Omar, Joel	DATE & TIME STARTED: 9/25/13 1200	DATE & TIME FINISHED: 10/02/13 1400
DRILLING EQUIPMENT: 3.5-inch O.D. hand auger and Badger			
COMPLETION DEPTH: 20.0 Feet	BEDROCK DEPTH: Not Encountered	LOGGED BY: MLBD	CHECKED BY: TMK
FIRST WATER DEPTH: 17.5 Feet	NO. OF SAMPLES: 4 Soil, 1 Water		

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	BLOW COUNT PER 6"	WELL CONSTRUCTION LOG	PID	REMARKS
	0.0 to 0.5 ft. Concrete and base rock.			No Well Constructed		On 9/25/13 borehole hand augered from 0.0 to 5.0 ft. using a 3.5-inch O.D. hand auger. On 10/2/13 borehole continuously cored from 5.0 to 19.0 ft. using a 3.0-foot long 2.0-inch O.D. Geoprobe Macrocore barrel sampler containing a 1.5-inch O.D. transparent PVC tube.
	0.5 to 2.5 ft. Dark brown silty sand (SM); medium dense, dry, with few coarse angular gravel to 0.25-inch diameter. No Petroleum Hydrocarbon (PHC) odor. (10,70,20)				0	
5	2.5 to 9.5 ft. Light brown silty sand (SM); medium dense, moist, with fine to medium sand, and orange mottling. No PHC odor. (0,80,20) 7.0 to 9.5 ft. color change to light grayish brown.	X	SM	B6-5.0	0	5.0 to 8.0 ft. 2.8 ft. recovery 8.0 to 11.0 ft. 2.8 ft. recovery 11.0 to 14.0 ft. 2.8 ft. recovery 14.0 to 17.0 ft. 2.8 ft. recovery 17.0 to 20.0 ft. 2.8 ft. recovery
					0	Expansive clays.
10	9.5 to 13.5 ft. Light grayish-brown clayey fine sand (SC); medium dense, moist, with orange mottling. No PHC odor. (0,75,25)	X	SC	B6-9.5	0	Water encountered during drilling at 17.5 ft. at 0915 on 10/2/13. Temporary 1.0-inch diameter slotted PVC casing placed in borehole. Water level measured at 16.6 ft. at 0920, and at 16.6 ft. at 0930.
					0	Approximately 0.1-gallon purged from borehole prior to groundwater sample collection using new unused disposable polyethylene tubing attached to a peristaltic pump.
15	13.5 to 17.0 ft. Olive-gray silty fine sand (SM); medium dense, moist, with orange mottling. No PHC odor. (0,80,20)	X	SM	B6-14.5		Water sample B6-W collected at 1020; no odor or sheen on sample.
	17.0 to 19.5 ft. Grayish-brown fine sand (SP); medium dense, wet to saturated. No PHC odor. (0,95,5) Wet at 17.0 ft. Saturated at 17.5 ft.		SP	▼ ▽	0	Water level subsequently measured at 17.3 ft. at 1039.
20	19.5 to 20.0 ft. Olive-gray clayey silt (ML); medium stiff, moist. No PHC odor. (0,0,100)	X	ML	B6-19.5	0	
						Borehole terminated at 20.0 ft. on 10/2/13. Borehole grouted on 10/2/13 using neat cement and a tremie pipe.
25						Mr. Steve Miller with Alameda County Public Works Agency gave verbal authorization to grout borehole without his presence.
						Drilling Notes: 1) Field estimates of percent gravel, sand, and fines are shown in parentheses.
30						2) Density determinations are qualitative and are not based on quantitative evaluation.

P&D ENVIRONMENTAL, INC.

BORING NO.: B7	PROJECT NO.: 0590	PROJECT NAME: 1900 Webster Street, Oakland	
BORING LOCATION: Approximately 8 ft. south and 5 ft. east of northwest corner of reception desk		ELEVATION AND DATUM: None	
DRILLING AGENCY: IMX, Inc.	DRILLER: Omar	DATE & TIME STARTED: 10/09/13 1020	DATE & TIME FINISHED: 10/09/13 1630
DRILLING EQUIPMENT: 2.0-inch O.D.hand auger			
COMPLETION DEPTH: 13.0 Feet	BEDROCK DEPTH: Not Encountered	LOGGED BY: MLBD	CHECKED BY: PMK
FIRST WATER DEPTH: Not Encountered	NO. OF SAMPLES: 3 Soil		

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	BLOW COUNT PER 6"	WELL CONSTRUCTION LOG	PID	REMARKS
	0.0 to 0.5 ft. Concrete (5-inch) and base rock.			No Well Constructed		Borehole hand augered from 0.5 to 13.0 ft. using a 2.0-inch O.D. hand auger.
	0.5 to 1.0 ft. Dark brown silty sand (FILL); medium dense, moist, with concrete fragments.	FILL				
	1.0 to 4.0 ft. Brown clayey fine sand (SC); medium dense, moist, with orange mottling. No Petroleum Hydrocarbon (PHC) odor. (0,80,20)	SC			0	No water encountered during augering.
5	4.0 to 6.0 ft. Brown silty fine sand (SM); medium dense, moist, with orange mottling. No PHC odor. (0,85,15) X 5.5 to 6.0 ft. Color change to reddish-brown.	SM		B7-5.0	0	Borehole terminated at 13.0 ft. on 10/09/13. Borehole grouted on 10/09/13 using neat cement grout.
	6.0 to 7.0 ft. Grayish-brown clayey fine sand (SC); medium dense, moist, with orange mottling. No PHC odor. (0,80,20)	SC				Mr. Steve Miller with Alameda County Public Works Agency gave verbal authorization to grout borehole without his presence.
	7.0 to 9.0 ft. Grayish-brown silty fine sand (SM); medium dense, moist, with orange mottling. No PHC odor. (0,80,20)	SM			0	
	9.0 to 9.5 ft. Gray sandy clay (CL); medium stiff, moist, with fine sand. No PHC odor. (0,20,80) X	CL		B7-9.5	0	
10	9.5 to 12.5 ft. Gray clayey fine sand (SC); medium dense, moist, with orange mottling. No PHC odor. (0,80,20)	SC				
	12.5 to 13.0 ft. Brown silty fine sand (SM); medium dense, moist, with orange and gray mottling. Strong PHC odor. (0,85,15)	SM			123 1,022	
	X			B7-13.0		Drilling Notes: 1) Field estimates of percent gravel, sand, and fines are shown in parentheses. 2) Density determinations are qualitative and are not based on quantitative evaluation.
15						
20						
25						
30						

P&D ENVIRONMENTAL, INC.

BORING NO.: B8	PROJECT NO.: 0590	PROJECT NAME: 1900 Webster Street, Oakland	
BORING LOCATION: Approximately 7 ft. east of entrance door			ELEVATION AND DATUM: None
DRILLING AGENCY: IMX, Inc. and Vironex, Inc.		DRILLER: Omar, Joel	DATE & TIME STARTED: 9/25/13 1530 / DATE & TIME FINISHED: 10/02/13 1700
DRILLING EQUIPMENT: 3.5-inch O.D. hand auger and Badger			
COMPLETION DEPTH: 18.0 Feet	BEDROCK DEPTH: Not Encountered		LOGGED BY: MLBD / CHECKED BY: PMK
FIRST WATER DEPTH: 17.0 Feet	NO. OF SAMPLES: 4 Soil, 1 Water		

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	BLOW COUNT PER 6"	WELL CONSTRUCTION LOG	PID	REMARKS
	0.0 to 0.5 ft. Concrete and base rock.			No Well Constructed		On 9/25/13 borehole hand augered from 0.0 to 5.0 ft. using a 3.5-inch O.D. hand auger. On 10/2/13 borehole continuously cored from 5.0 to 18.0 ft. using a 3.0-foot long 2.0-inch O.D. Geoprobe Macrocore barrel sampler containing a 1.5-inch O.D. transparent PVC tube.
	0.5 to 9.0 ft. Brown silty fine sand (SM); medium dense, moist, with fine to medium sand, and orange and brown mottling. No Petroleum Hydrocarbon (PHC) odor. (0,80,20)	X SM		B8-5.0	0	5.0 to 8.0 ft. 2.8 ft. recovery 8.0 to 11.0 ft. 2.8 ft. recovery 11.0 to 14.0 ft. 2.8 ft. recovery 14.0 to 17.0 ft. 2.8 ft. recovery 17.0 to 18.0 ft. 1.0 ft. recovery
5					0	
					0.4	Expansive clays. Drilling refusal at 18.0 ft. depth.
	9.0 to 10.5 ft. Light grayish-brown clayey fine sand (SC); medium dense, moist, with orange mottling. No PHC odor. (0,80,20)	X SC		B8-9.5		Water encountered during drilling at 17.0 ft. at 1422 on 10/2/13. Temporary 1.0-inch diameter slotted PVC casing placed in borehole. Water level measured at 15.9 ft. at 1428, and at 15.6 ft. at 1438.
10	10.5 to 13.0 ft. Grayish-brown silty fine sand (SM); medium dense, moist, with orange mottling. Slight PHC odor. (0,80,20)	SM			23	
	13.0 to 13.5 ft. Grayish-brown sandy clay (CL); medium stiff, moist, with fine sand. No PHC odor. (0,20,80)	CL				Approximately 0.1-gallon purged from borehole prior to groundwater sample collection using new unused disposable polyethylene tubing attached to a peristaltic pump.
	13.5 to 18.0 ft. Grayish-brown silty fine sand (SM); medium dense to soft, wet to saturated, with orange mottling. No PHC odor. (0,80,20) Wet at 16.5 ft. Saturated at 17.0 ft. 17.0 to 18.0 ft. color change to bluish-gray.	X SM X		B8-14.5 ▼ ▽ B8-17.5	0.7	Water sample B8-W collected at 1440; slight PHC and no sheen on sample.Water level subsequently measured at 16.9 ft.
15						
20						Borehole terminated at 18.0 ft. on 10/2/13. Borehole grouted on 10/2/13 using neat cement and a tremie pipe. Mr. Steve Miller with Alameda County Public Works Agency gave verbal authorization to grout borehole without his presence. <u>Drilling Notes:</u> 1) Field estimates of percent gravel, sand, and fines are shown in parentheses. 2) Density determinations are qualitative and are not based on quantitative evaluation.
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P&D ENVIRONMENTAL, INC.

BORING NO.: B11	PROJECT NO.: 0590	PROJECT NAME: 1900 Webster Street, Oakland	
BORING LOCATION: Approximately 12 ft. north and 20 ft. west of southeast corner of building		ELEVATION AND DATUM: None	
DRILLING AGENCY: IMX, Inc.	DRILLER: Omar	DATE & TIME STARTED: 9/25/13 1415	DATE & TIME FINISHED: 10/09/13 1630
DRILLING EQUIPMENT: 2.0-inch O.D.hand auger			
COMPLETION DEPTH: 15.0 Feet	BEDROCK DEPTH: Not Encountered	LOGGED BY: MLBD	CHECKED BY: PMK
FIRST WATER DEPTH: Not Encountered	NO. OF SAMPLES: 3 Soil		

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	BLOW COUNT PER 6"	WELL CONSTRUCTION LOG	PID	REMARKS
	0.0 to 0.5 ft. Concrete (5-inch) and base rock.			No Well Constructed		Borehole hand augered from 0.5 to 5.0 ft. on 9/25/13 using a 3.0-inch O.D. hand auger. Borehole capped with concrete.
	0.5 to 6.5 ft. Brown silty fine sand (SM); medium dense, moist, with fine to medium sand, and orange mottling. No Petroleum Hydrocarbon (PHC) odor. (0,80,20)	SM			0	
5		X		B11-5.0	0	Borehole hand augered from 5.0 to 15.0 ft. on 10/09/13 using a 2.0-inch O.D. hand auger. No water encountered during augering.
	6.5 to 10.0 ft. Grayish-brown clayey fine sand (SC); medium dense, moist, with orange mottling. No PHC odor. (0,75,25)	SC			0	Borehole terminated at 15.0 ft. on 10/09/13. Borehole grouted on 10/09/13 using neat cement grout. Mr. Steve Miller with Alameda County Public Works Agency onsite to observe and document grouting of the borehole.
10		X		B11-9.5		
	10.0 to 13.0 ft. Grayish-brown silty fine sand (SM); medium dense, moist, with orange mottling. No PHC odor. (0,80,20)	SM			0	
	13.0 to 13.5 ft. Grayish-brown sandy clay (CL); medium stiff, moist, with fine sand. No PHC odor. (0,25,75)	CL				
	13.5 to 15.0 ft. Grayish-brown silty fine sand (SM); medium dense, moist, with orange mottling. No PHC odor. (0,85,15)	SM			0	
15		X		B11-14.5		
20						Drilling Notes: 1) Field estimates of percent gravel, sand, and fines are shown in parentheses. 2) Density determinations are qualitative and are not based on quantitative evaluation.
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P&D ENVIRONMENTAL, INC.

BORING NO.: B12	PROJECT NO.: 0590	PROJECT NAME: 1900 Webster Street, Oakland	
BORING LOCATION: Approximately 20 ft. north and 33 ft. west of southeast corner of building		ELEVATION AND DATUM: None	
DRILLING AGENCY: IMX, Inc.	DRILLER: Omar	DATE & TIME STARTED: 9/25/13 1430	DATE & TIME FINISHED: 9/25/13 1700
DRILLING EQUIPMENT: 3.5-inch O.D.hand auger			
COMPLETION DEPTH: 2.0 Feet	BEDROCK DEPTH: Not Encountered	LOGGED BY: MLBD	CHECKED BY:
FIRST WATER DEPTH: Not Encountered	NO. OF SAMPLES: None		

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	BLOW COUNT PER 6"	WELL CONSTRUCTION LOG	PID	REMARKS
	0.0 to 0.5 ft. Concrete (5-inch) and base rock.			No Well Constructed	0	Borehole hand augered from 0.5 to 2.0 ft. on 9/25/13 using a 3.5-inch O.D. hand auger.
	0.5 to 2.0 ft. Brown gravelly silty sand (FILL); medium dense, moist, with some coarse angular gravel to 0.25-inch diameter, concrete and brick fragments. No Petroleum Hydrocarbon (PHC) odor. Refusal at concrete slab at 2.0 ft. depth	FILL				Refusal at 2.0 ft. on concrete slab. At a location approximately 5 ft. north of proposed B12 location, a second borehole was hand augered from 0.0 to 2.0 ft and refusal again encountered on concrete slab. At a location approximately 5 ft. east of proposed B12 location, a third borehole was hand augered from 0.0 to 2.0 ft and refusal again encountered on concrete slab. Boreholes grouted on 9/25/13 using neat cement grout. Mr. Steve Miller with Alameda County Public Works Agency gave verbal authorization to grout borehole without his presence.
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P&D ENVIRONMENTAL, INC.

BORING NO.: B13	PROJECT NO.: 0590	PROJECT NAME: 1900 Webster Street, Oakland	
BORING LOCATION:	Approximately 37 ft. north and 17 ft. west of southeast corner of building	ELEVATION AND DATUM:	None
DRILLING AGENCY:	IMX, Inc., Vironex, Inc.	DRILLER: Omar, Joel	DATE & TIME STARTED: 9/25/13 1400 / DATE & TIME FINISHED: 10/09/13 1630
DRILLING EQUIPMENT:	3.5-inch O.D.hand auger, Badger		
COMPLETION DEPTH:	13.0 Feet	BEDROCK DEPTH: Not Encountered	LOGGED BY: MLBD / CHECKED BY:
FIRST WATER DEPTH:	Not Encountered	NO. OF SAMPLES: 2 Soil	

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	BLOW COUNT PER 6"	WELL CONSTRUCTION LOG	PID	REMARKS
	0.0 to 0.5 ft. Concrete (5-inch) and base rock.			No Well Constructed		Borehole hand augered from 0.5 to 5.0 ft. on 9/25/13 using a 3.5-inch O.D. hand auger.
	0.5 to 2.0 ft. Dark brown silty sand (FILL); medium dense, dry, with brick, concrete, and glass fragments, and charred lumber. No Petroleum Hydrocarbon (PHC) odor.				0	
5	2.0 to 9.0 ft. Brown silty sand (FILL); medium dense, moist, with fine to medium sand. No PHC odor. (0,80,20) X	FILL		B13-5.0	0	Borehole continuously cored from 5.0 to 13.0 on 10/02/13 ft. using a 3.0-foot long 2.0-inch O.D. Geoprobe Macrocore barrel sampler containing a 1.5-inch O.D. transparent PVC tube. 5.0 to 8.0 ft. 2.8 ft. recovery 8.0 to 11.0 ft. 2.8 ft. recovery 11.0 to 13.0 ft. 2.0 ft. recovery
	9.0 to 10.0 ft. Grayish-brown sandy clay (FILL); medium stiff, moist, with fine sand, and orange mottling. No PHC odor. (0,20,80) X				0	Borehole temporarily capped with concrete on 10/02/13.
10	10.0 to 13.0 ft. Grayish-brown clayey sand (FILL); dense, moist, with fine sand, and orange mottling. No PHC odor. (0,80,20) Refusal at 13.0 ft. depth on concrete slab.			B13-9.5	0	Borehole hand augered from 12.0 to 13.0 ft. on 10/09/13 using a 2.0-inch O.D. hand auger where refusal was encountered on concrete slab. No water encountered during augering.
15						Borehole terminated at 13.0 ft. on 10/09/13. Borehole grouted on 10/09/13 using neat cement grout. Mr. Steve Miller with Alameda County Public Works Agency onsite to observe and document grouting of the borehole.
20						Drilling Notes: 1) Field estimates of percent gravel, sand, and fines are shown in parentheses. 2) Density determinations are qualitative and are not based on quantitative evaluation.
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P&D ENVIRONMENTAL, INC.

BORING NO.: B14	PROJECT NO.: 0590	PROJECT NAME: 1900 Webster Street, Oakland	
BORING LOCATION: Approximately 6 ft. north and 5 ft. west of southeast corner of dental station		ELEVATION AND DATUM: None	
DRILLING AGENCY: IMX, Inc.	DRILLER: Omar	DATE & TIME STARTED: 10/09/13 1355	DATE & TIME FINISHED: 10/09/13 1630
DRILLING EQUIPMENT: 2.0-inch O.D.hand auger			
COMPLETION DEPTH: 15.0 Feet	BEDROCK DEPTH: Not Encountered	LOGGED BY: MLBD	CHECKED BY:
FIRST WATER DEPTH: Not Encountered	NO. OF SAMPLES: 3 Soil		

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	BLOW COUNT PER 6"	WELL CONSTRUCTION LOG	PID	REMARKS
	0.0 to 0.5 ft. Concrete (5-inch) and base rock.			No Well Constructed		Borehole hand augered from 0.5 to 15.0 ft. on 10/09/13 using a 2.0-inch O.D. hand auger.
	0.5 to 2.5 ft. Dark brown silty sand (FILL); medium dense, moist, with concrete and brick fragments. No Petroleum Hydrocarbon (PHC) odor.	FILL			0	
	2.5 to 6.0 ft. Light brown silty fine sand (SM); medium dense, moist, with orange mottling. No PHC odor. (0,80,20)	SM				No water encountered during augering.
5		X		B14-5.0	0	Borehole terminated at 15.0 ft. on 10/09/13. Borehole grouted on 10/09/13 using neat cement grout.
	6.0 to 9.0 ft. Olive-gray fine sand (SP); medium dense, moist. No PHC odor. (0,95,5)	SP				Mr. Steve Miller with Alameda County Public Works Agency gave verbal authorization to grout borehole without his presence.
	9.0 to 10.0 ft. Grayish-brown clayey fine sand (SC); medium dense, moist, with reddish-orange mottling. No PHC odor. (0,80,20)	SC			0	
10		X		B14-9.5		Drilling Notes:
	10.0 to 13.0 ft. Gray sandy clay (CL); medium stiff, moist, with fine sand. No PHC odor. (0,20,80)	CL			0	1) Field estimates of percent gravel, sand, and fines are shown in parentheses.
	13.0 to 15.0 ft. Gray clayey fine sand (SC); medium dense, moist, with orange mottling. Moderate PHC odor. (0,65,35)	SC			9	2) Density determinations are qualitative and are not based on quantitative evaluation.
15		X		B14-14.5	34	
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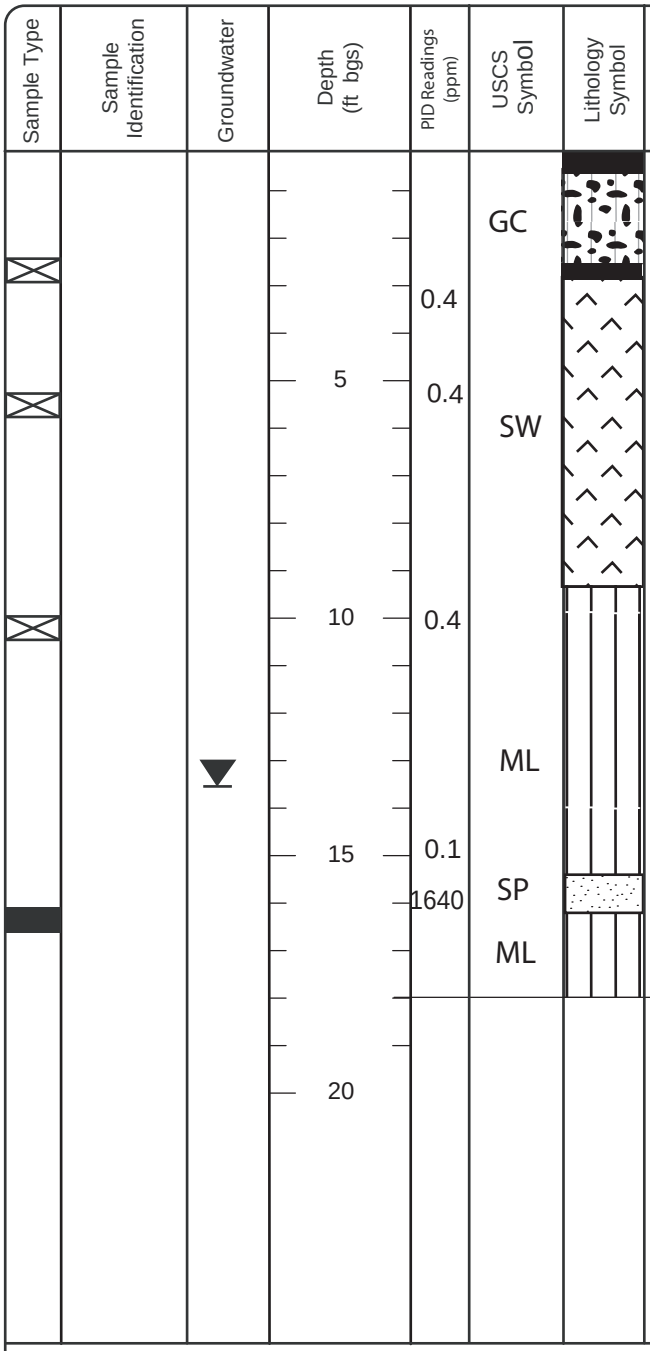
SOIL BORING LOG

Driller/Rig: ECA/Direct Push	Date Drilled: 8/22/2012	Logged by: JS
Diameter: 2" Boring	Boring Number: B1	



Boring Log
1900 Webster Street
Oakland, California

Notes: Groundwater confined depth to groundwater ~13.5 ft bgs subsequent to sampling;
Backfilled with portland neat cement using a tremie pipe, capped surface with quick-drying cement;
Highest PID reading: 1640 ppm;
No visual contamination, strong gasoline smell.

groundwater sample ▼ first encountered water (ft bgs)

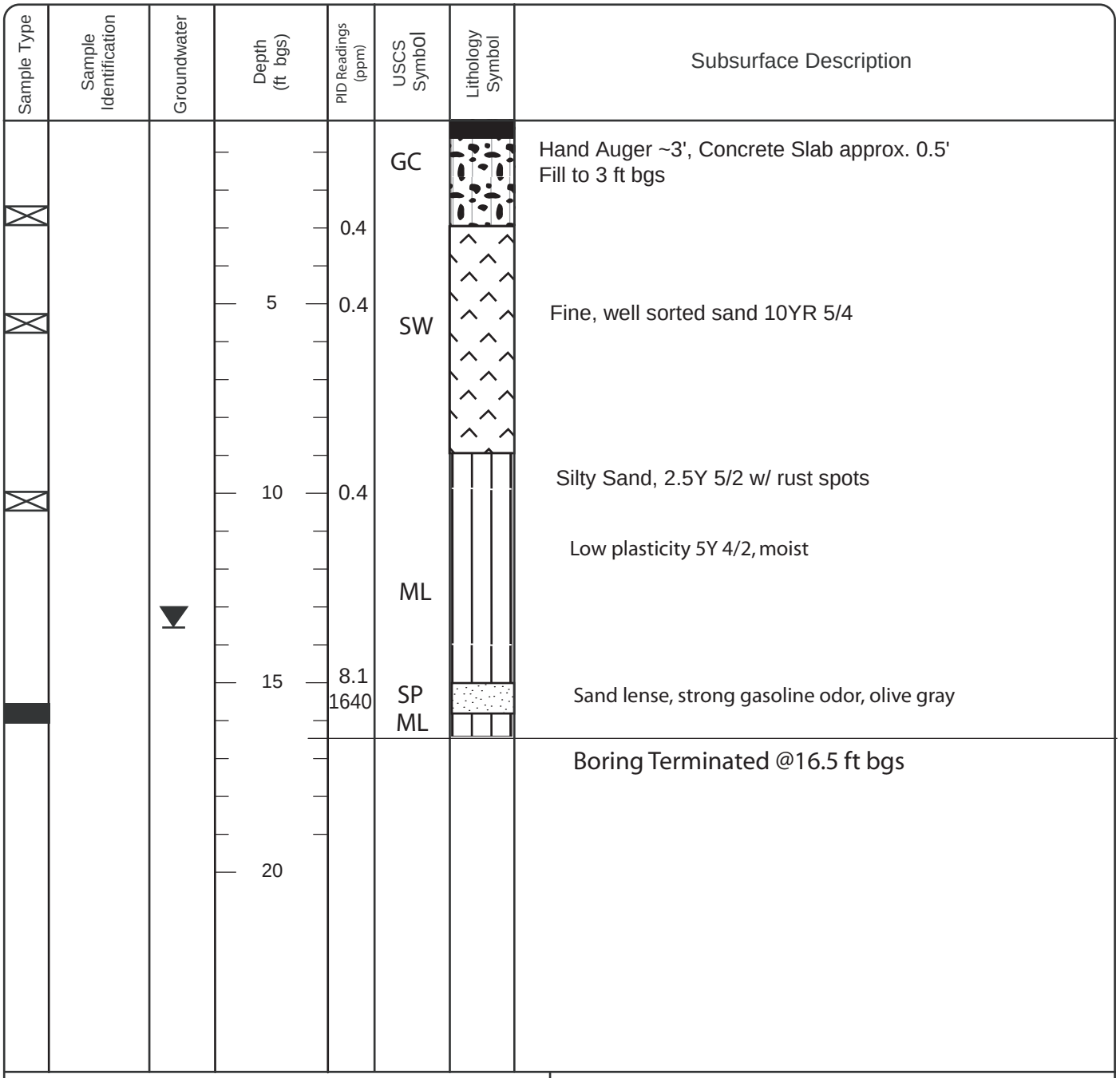
soil sample ft bgs = feet below ground surface

SCHUTZE & Associates, Inc. Project No. SCS448

SCHUTZE & Associates

SOIL BORING LOG

Driller/Rig: ECA/Direct Push	Date Drilled: 8/22/2012	Logged by: JS
Diameter: 2" Boring	Boring Number: B2	



Boring Log
1900 Webster Street
Oakland, California

Notes: Groundwater confined, depth to groundwater ~13.5 ft bgs subsequent to sampling;
Backfilled with portland neat cement using a tremie pipe, capped surface with quick-drying cement;
Highest PID reading: 1640 ppm;
No visual contamination, strong gasoline smell.

groundwater sample | first encountered water (ft bgs)
soil sample | ft bgs = feet below ground surface

SCHUTZE & Associates, Inc. Project No. SCS448