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Atlantic Richfield Company

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March 28, 2014

Re: Soil Vapor Investigation Report, Updated Conceptual Site Model and Case Closure Request
Atlantic Richfield Company Station #374
6407 Telegraph Avenue, Oakland, California
ACEH Case #RO0000078

"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

SOIL VAPOR INVESTIGATION REPORT, UPDATED CONCEPTUAL SITE MODEL AND CASE CLOSURE REQUEST

Atlantic Richfield Company Station No.374
6407 Telegraph Avenue
Oakland, California

Prepared for

Mr. Chuck Carmel
Environmental Business Manager
Atlantic Richfield Company
P.O. Box 1257
San Ramon, California 94583

Prepared by

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March 28, 2014

Project No. 06-88-602

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March 28, 2014

Project No. 06-88-602

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

Attn.: Mr. Chuck Carmel

Re: Soil Vapor Investigation Report, Updated Conceptual Site Model and Case Closure Request, Atlantic Richfield Company Station No.374, 6407 Telegraph Avenue, Oakland, California; ACEH Case No. RO0000078

Dear Mr. Carmel:

Broadbent & Associates, Inc. (Broadbent) is pleased to submit this *Soil Vapor Investigation Report, Updated Conceptual Site Model, and Case Closure Request* (Report and CCR) for Atlantic Richfield Company Station No.374 located at 6407 Telegraph Avenue, San Leandro, California (Site). This Report and CCR was prepared in accordance with the *Soil Gas Investigation Work Plan* dated November 20, 2013 and *Conceptual Site Model and Revised Soil Gas Investigation Work Plan* dated June 19, 2013.

Should you have questions or require additional information, please do not hesitate to contact us at (707) 455-7290.

Sincerely,
BROADBENT & ASSOCIATES, INC.

James Ramos, EIT
Senior Staff Engineer

PROFESSIONAL GEOLOGIST
KRISTENE TIDWELL
No. 969
CERTIFIED HYDRO GEOLOGIST
Exp 12/31/14
STATE OF CALIFORNIA

Kristene Tidwell, P.G., C.HG.
Senior Geologist

Enclosures

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

SOIL VAPOR INVESTIGATION REPORT, UPDATED CONCEPTUAL SITE MODEL, AND CASE CLOSURE REQUEST
Atlantic Richfield Company Station No.374
6407 Telegraph Avenue, Oakland, California
Fuel Leak Case No. RO0000078

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1.0 INTRODUCTION

On behalf of the Atlantic Richfield Company– (ARC, a BP affiliated company) Broadbent & Associates, Inc. (Broadbent) has prepared this *Soil Vapor Investigation Report, Updated Conceptual Site Model, and Case Closure Request* (Report and CCR) for the Atlantic Richfield Company (ARCO) Station No.374 (herein referred to as Station No.374), located at 6407 Telegraph Avenue, Oakland, California (Site). This report documents the activities performed in order to assess potenital soil vapor impacts at the Site resulting from residual groundwater hydrocarbon concentrations in onsite monitoring well MW-4. Other wells at the Site contain comparatively low to non-detect hydrocarbon concentrations, and it appears that this Site may be eligible to be closed under the California State Water Resources Control Board's (CSWRCB) *Low Threat Underground Storage Tank Case Closure Policy* (LTCP; CSRWCB, 2012). This Report includes discussions on the Site background, soil vapor assessment activites, conclusions and recommendations, and an evaluation for case closure under the LTCP. An updated Conceptual Site Model (CSM) is presented as Table 1.

2.0 BACKGROUND INFORMATION

The Site is located at the northwest corner of Telegraph and Alcatraz Avenue in an area of mixed residential and commercial land use. The elevation of the Site is approximately 164 feet above mean sea level with local topography sloping gently to the southwest (United States Geological Survey [USGS], Oakland West Quadrangle, California). Surrounding land use is primarily single- and multi- family residences with commercial buildings located east and southeast of the Site.

The adjacent property to the west is a, multi-story apartment complex. The adjacent property to the north is a restaurant/store. Across Alcatraz Avenue to the south of the Site is a dry cleaner. Across Telegraph to the east of the Site is a pawn shop and window decorations shop. A Site Location Map is provided as Drawing 1.

A summary of previous environmental investigations with Site Characterization, local and area geology and hydrogeology, remediation status and Site conceptual exposure model can be found in the Conceptual Site Model and Revised Soil Vapor Investigation Work Plan (Broadbent, 2013). The CSM has been updated to reflect the recently conducted additional soil vapor, preferential pathway, and well survey assesment (Table 1).

3.0 SOIL VAPOR ASSESSMENT

Soil vapor sampling was proposed to evaluate potential petroleum compounds present in soil vapor at the Site near the former hydrocarbon releases (Table 1). Gasoline range organics (GRO) and benzene concentrations in monitoring well MW-4 indicated residual impacts. Benzene concentrations in well MW-4 are currently present at approximately 1,000 micrograms per liter (µg/L), and indicated the need to evaluate potential unacceptable human health risks to offsite residents of the adjacent apartment complex.

A sensitive receptor survey and preferential pathway study was also conducted to assist with the soil vapor intrusion assessment and to fill in the data gaps of the CSM associated for case closure. Results of these activities are presented below.

3.1 Pre-Mobilization Activities

Prior to initiating field activities, Broadbent obtained necessary permits from Alameda County Public Works Agency (ACPWA) , prepared a Site-Specific Health & Safety Plan (HASP) for the proposed work, cleared the Site for subsurface utilities, and provided 72-hour advance written notification to Alameda County Environmental Health Agency (ACEH). Underground Services Alert (USA-North) was notified two business days prior to initiating the subsurface field investigation. In addition, the services of Norcal, a private underground utility locator, were utilized to identify and mark any subsurface utilities. The Site-Specific HASP was prepared for use by personnel implementing the work and was made available to all field personnel including the subcontractor. Drilling permits are located in Appendix A.

3.2 Soil Boring

Soil borings for soil vapor sampling location SG-1A was advanced on November 25, 2013 by Gregg Drilling of Martinez, California using a hand auger. SG-1A was originally located adjacent to MW-4 but due to encountered surface water influx from nearby landscaping at 2.5 feet (ft) below ground surface (bgs), it was relocated approximately 5 feet to the east of the original location. The boring was advanced to a total depth of 2.5 ft bgs instead of 3.5 ft bgs due to an influx of surface water. SG-1B was not installed due to this influx. SG-2A, SG-2B, SG-3A, and SG-3B were not installed due to not obtaining access from the offsite property owner. ACEH concurred with only advancing the one location in an e-mail dated October 8, 2013 (Appendix B). Soils were not classified during boring installation activities due to the shallow nature of the borings. Field notes are provided in Appendix B. A GEO_MAP depicting the boring locations was uploaded to the GeoTrack “AB2886” database. A copy of the upload confirmation receipt is provided in Appendix C.

3.3 Soil Vapor Probe Construction

The soil vapor sampling probe was constructed by placing a 6-inch long soil vapor probe at the bottom of the boring attached to a 0.125-inch diameter nylon tubing extending to the surface. The probe was constructed of double-woven stainless steel wire screen with a pore diameter of 0.057 inch, equipped with stainless steel end fittings. The soil vapor probe was embedded within the middle of a one-foot thick sand filter pack of No. 2/12 sorted sand from 2.5 ft bgs to 1.5 ft bgs. The sand was overlain with dry granular Bentonite to 1.0 ft bgs and then filled to 0.5 ft bgs with hydrated granular Bentonite. The well was then filled with neat cement grout to surface and completed with flush, traffic –rated well boxes, with a concrete surface seal to match the existing grade. The cement grout was allowed to cure for approximately 2 weeks prior to sampling. Residual solids and liquids generated during well construction activities were stored temporarily onsite in a Department of Transportation-approved 55-gallon drum. Belshire Environmental Service transported the excess soil produced to an Atlantic Richfield Company-approved facility for treatment or disposal.

3.4 Soil Vapor Sampling Procedures

Soil vapor sampling was completed on December 18, 2013 by Broadbent personnel. A six-liter Summa canister was used to collect the sample for analysis. The Summa canister was shipped by the laboratory under high vacuum, leak checked, and batch certified to be free of contaminants. The initial canister

vacuum was measured to be approximately 29 inches of Mercury (in. Hg). The sampling train, as described in the *Soil Vapor Investigation work Plan* submitted on November 20, 2012, was assembled and a leak test was performed by applying a 15 in. Hg vacuum for five minutes. The inline pressure gauge did not change during the leak test indicating that the sampling train contained no leaks and was properly sealed.

Once the leak test was complete, the valve to the soil vapor monitoring probe was opened and the sampling train was purged three calculated purge volumes using a calibrated syringe. Following the completion of purging, a clear plastic shroud was placed over the train and the valve connecting the inline from the syringe to the train was closed. Helium gas, the chemical tracer/leak-check compound used, was released into the shroud until it measured, using a Helium Detector, approximately 20 percent Helium within the shroud. When the positive-pressure of Helium was achieved, the valve to the Summa canister was opened and the sample was collected. During sampling, Broadbent personnel made attempts to maintain Helium concentrations within the shroud at 20 percent. Helium concentrations were recorded on the field notes at two-minute intervals.

The sampling rates into the Summa canister were fixed by the laboratory-supplied critical orifice assemblies (flow regulator) with 0.0060 inch orifice allowing approximately 200 standard cc per minute (cc/min). The sample was considered collected when the vacuum on the Summa canister dropped to approximately -5 in. Hg. Sample start time, end time, starting vacuum, ending vacuum were also recorded on the field notes, which is located in Appendix A.

3.5 Laboratory Analysis of Soil Vapor Samples

Collected sample was submitted under chain-of-custody protocol to TestAmerica Laboratories, Inc. in Sacramento, California. At the laboratory, the soil vapor sample was analyzed for GRO by EPA Method TO-3, and for benzene, toulene, ethylbenzene, xylenes (BTEX), methyl tert-butyl ether (MTBE) and Naphthalene by EPA Method TO-15. The soil vapor sample was also analyzed for Oxygen (O_2), Carbon Dioxide (CO_2), Methane (CH_4), and Helium (Tracer/leak-check compound) by Modified Method ASTM D-1946. Laboratory analyses for the soil vapor sample was performed in accordance with EPA standard holding times for Summa canisters. The laboratory analytical report for the soil vapor sample, including chain-of-custody documentation, is provided in Appendix D.

3.6 Discussion of Soil Vapor Results

No petroleum compounds analyzed were detected in the soil vapor sample collected. Carbon Dioxide and Oxygen were detected at concentrations of 3.1 % and 18%, respectively. No significant irregularities were reported during laboratory analysis of the soil gas samples. Soil vapor laboratory analytical results along with Environmental Screening Levels (ESLs) for shallow soil gas (residential land use) established by the California Regional Water Quality Control Board San Francisco Bay Region (SFRWQCB) are summarized in Table 2 (CRWQCB, 2013). The laboratory result for the soil vapor sample analysis was uploaded to the GeoTracker AB2886 database. A copy of the GeoTracker upload confirmation receipt (EDF) is provided in Appendix C.

3.7 Sensitive Receptor Survey

A sensitive survey was conducted to fill in data gaps of the Site CSM. A well search request along with the required signatures of ACEH to conduct the search was submitted to Steve Miller of ACPWA to

locate any wells within a 2000 ft radius of the Site. A 2000 ft radius search around the Site to identify any potential receptors that would be possibly impacted by the Site was also conducted using Google Earth. The well search request form and a map depicting the search radius on Google Earth and the results are provided in Appendix E.

3.8 Preferential Pathway Study

A preferential pathway study was conducted on November 21, 2013. Broadbent personnel oversaw utility locating within the area of concern at the intersection of Alcatraz Avenue and Irwin Court to assist in the assessment of potential soil vapor intrusion downgradient to the site. A map depicting the auxiliary study area and the results of the utility locate can be found in Appendix F. An updated utilities map of the Site and downgradient vicinity is provided in Drawing 3.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Although SG-1A was installed approximately 15 ft to the east of MW-4, it is near the highest residual concentration of GRO and benzene in groundwater. According to the analytical results, Carbon Dioxide and Oxygen were detected at 3.1% and 18% respectively, indicating the possibility that bioattenuation is occurring. Since the hydrocarbon constituents resulted in non-detect concentrations, soil vapor is not a human health risk at this location or further away from this source area near the offsite building.

Based on the well survey conducted by Steve Miller on March 13, 2014, no irrigation or domestic wells were located within 2000 ft of the Site. Three potential receptors were identified within the 2000 ft radius during the Google Earth search. First potential receptor is a Bay Surgery Center which is approximately 850 ft to the north of the site. The next potential receptor is Colby Park which is located approximately 1350 ft to the southeast of the site. The last potential receptor is Washington Elementary School which is located approximately 1500 ft southwest of the site. The Bay Surgery Center and Colby Park are upgradient and crossgradient to the Site respectively which poses no risk of potential soil vapor intrusion. Washington Elementary School is downgradient to the Site however, the plume is localized around MW-4 and MW-5 has non-detect concentrations. With these results along with the soil lithology of the Site being primarily clay, it is very unlikely that Washington Elementary School is at risk for potential vapor intrusion.

Based on the utilities identified by Norcal, there is slight a potential that the natural gas line running east to west along Alcatraz Avenue (Drawing 3) could act as a potential pathway. However, based on the soil lithology of the Site containing primarily clay which impedes the migration of the plume and the absence of utilities in proximity to the source area, it is unlikely the identified utilities can act as a preferential pathway for the plume to migrate.

5.0 JUSTIFICATION FOR SITE CLOSURE

The Site was evaluated for Closure based on a comparison of the data presented in the CSM (Table 1) against the LTCP. As noted above, the CSM that was initially submitted with the June 19, 2013 *Conceptual Site Model and Revised Soil Vapor Investigation Work Plan* (Broadbent, 2013) and has been updated to reflect data collected during this current Site investigation.

Closure Criteria in the Low Threat UST Closure Policy are organized into the following categories:

- General Criteria
- Media-Specific Criteria-Groundwater
- Media-Specific Criteria – Petroleum Vapor Intrusion to Indoor Air
- Media-Specific Criteria – Direct Contact and Outdoor Air Exposure
- Additional Criteria

The following sections present the details of the evaluation.

5.1 General Criteria

The general criteria related 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 sufficiently good understanding of Site conditions, on- and offsite receptors and Site history has been established. These general criteria and a discussion of 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 solely of petroleum
Based on review of historical data, the release at the Site occurred in the areas of the former UST and waste oil tanks; and former product lines and dispensers. Additionally, all analytical data collected to date have shown no indication of any other contaminant releases from the Site other than petroleum (Appendices G and H). The Site has been a retail service station, and there is no evidence that any other activities have occurred at the Site, which may have caused non-petroleum releases.

The unauthorized release has been stopped
The USTs and pipelines where the releases occurred have been removed and/or replaced, and the waste oil tank has been removed; thereby, removing the primary sources of releases (Table 1). No measurable free product has ever been observed in Site groundwater monitoring wells. Therefore, LNAPL has been removed to the extent possible.

A conceptual site model that assesses the nature, extent, and mobility of the release has been Developed
A CSM has been prepared and updated with recent data for this Site and is presented as Table 1.

Secondary source has been removed to the extent practical

Secondary source soil around the former UST complex, former product pipelines and former waste oil tank has been overexcavated during previous investigations (Broadbent, 2013). Additional, remedial activities including groundwater extraction and Oxygen Releasing Compound (ORC) socks further reduced the secondary hydrocarbon source. Therefore, the secondary source has been removed to the extent practical.

Site soil and groundwater have been tested for MTBE and results reported in accordance with Health and Safety Code 25296.15.

Soil and groundwater samples collected have been analyzed for GRO, benzene and MTBE. Based on recent and historical data, the hydrocarbon plume has been fully delineated. The maximum concentration of MTBE was detected in a sample collected in March 2001 from well MW-1 at concentrations 2,710 µg/L (Table 3). MTBE is detected currently (3Q13) at a concentration of 91 µg/L, indicating a strong decreasing overall trend for MTBE. General isoconcentration maps based on recent data (1Q13) 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 section 13050 does not exist at this Site.

5.2 Media-Specific Criteria – Groundwater

The Low Threat UST Closure Policy lists four scenarios for groundwater plumes. Recent groundwater monitoring indicates that the petroleum hydrocarbon concentrations only exceed cleanup levels in three sampling locations, wells MW-4, and MW-7 through MW-9. Isoconcentration maps based on the recent (1Q13) data are included in Appendix G. These drawings show a plume length of more than 100 feet, but less than 250 feet in length. No measurable free product has ever been observed in Site groundwater monitoring wells. No benzene in excess of 3,000 µg/L and MTBE in excess of 1,000 µg/L is currently detected in groundwater at the Site. Furthermore, the nearest water supply well and surface water are over 1,000 feet away, as presented in the CSM (Table 1). The combination of these factors indicates that Criteria 2 of the Low Threat UST Closure Policy are met, and a very low to no threat to possible drinking or surface water from the petroleum plume exists at the Site.

5.3 Media-Specific Criteria – Petroleum Vapor Intrusion to Indoor Air

The Site is an active service station, therefore the Low Threat UST Closure Policy considers that petroleum vapors from onsite fueling activities are a far greater risk than those associated with exposure to vapors from historic petroleum releases; therefore, this Site meets these criteria for closure according to the Low Threat UST Closure Policy. However, since the highest current hydrocarbon concentrations in groundwater are currently in well MW-4, which is adjacent to a residential apartment building, additional soil vapor investigation activities were recently performed to evaluate potential risks to the adjacent receptor. The results are discussed above. To summarize, no petroleum compounds were detected in onsite soil vapor. Offsite samples near the apartment building were not collected, but the onsite sampling is more conservative and would have identified any risks to the offsite receptor. Therefore, vapor intrusion to indoor air is not considered a risk to the adjacent, offsite apartment building.

5.4 Media-Specific Criteria – Direct Contact and Outdoor Air Exposure

Soil analytical results from historical Site investigations are included in Appendix H. For the direct contact and outdoor air exposure, only current soil data was considered. Soil samples from 0 to 10 feet bgs were historically collected from 1988 to 2008, but remedial activities (UST removal and overexcavation and product line removal and soil excavation; Appendix A) were performed after those samples were collected. In 2010, soil borings B-13 through B-15 were advanced near areas where soil impacts had previously been noted in dispenser and product line confirmation sampling. Soil samples were collected from 0 to 10 feet bgs at each of these locations. From 0 to 5 feet bgs, the highest concentrations of benzene and ethylbenzene reported were 0.87 mg/kg and 4.3 mg/kg, respectively. From 5 to 10 feet bgs, the highest concentrations were 8.2 mg/kg and 32 mg/kg, respectively. The maximum allowable concentration for benzene and ethylbenzene for a commercial/industrial scenario are well above these concentrations for benzene and ethylbenzene per the LTCP criteria.

No historic soil samples have been analyzed for naphthalene. The recent soil vapor investigation included sampling for naphthalene and none was reported. Although no soil samples have been analyzed for naphthalene, the relative concentration of naphthalene in soil can be conservatively estimated using the published relative concentrations of naphthalene and benzene in gasoline. Gasoline mixtures contain approximately 2% benzene and 0.25% naphthalene (Potter and Simmons; 1998). Therefore, benzene concentrations were substituted for naphthalene concentrations with a safety factor of eight. Using this estimation, naphthalene does not exceed LTCP values for the Site under a commercial/industrial exposure scenario.

Based on the above analysis of historic soil concentrations from 0 to 10 feet bgs, the Site meets the LTCP criteria for direct contact and outdoor air exposure.

5.5 Recommendation for Case Closure

As presented above and in the attached CSM (Table 1), this Site appears to meet all applicable criteria for case closure under the Low Threat Closure Policy. Over 20 years of groundwater monitoring history has shown petroleum compounds at the Site have been effectively remediated by previous overexcavation activities, groundwater remediation efforts, and natural attenuation. Vapor intrusion risks are not present to offsite building occupants. The closest surface water and potential offsite drinking water well both over 2,000 feet from the Site. Characterization both on- and offsite conditions, evaluation of receptors, description of Site history and technical analysis have been performed. We hereby recommend that a determination of No Further Action be made for this Site. Upon concurrence of this recommendation from the ACEH, closure activities including well decommissioning should be implemented.

6.0 REFERENCES

Applied Geosystems, 1988. Report – Environmental Investigation Related to Underground Tank Removal. Atlantic Richfield Company Station #374, 6407 Telegraph Ave., Oakland, CA. August 1.

Broadbent, 2009. On-site Soil and Groundwater Investigation Report. Atlantic Richfield Company Station #374, 6407 Telegraph Ave., Oakland, CA, ACEH Case #RO0000078. November 11

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Potter, T.L., and Simmons, K.E., 1998, Composition of petroleum mixtures: Amherst, Mass., Amherst Scientific Publishers, Total petroleum hydrocarbon criteria working group series, v. 2, 102 p

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USGS 1997. Quaternary Geology of Alameda County, and parts of Contra Costa, Santa Clara, San Mateo, San Francisco, Stanislaus, and San Joaquin Counties, California: a digital database
By E.J. Helley and R.W. Graymer

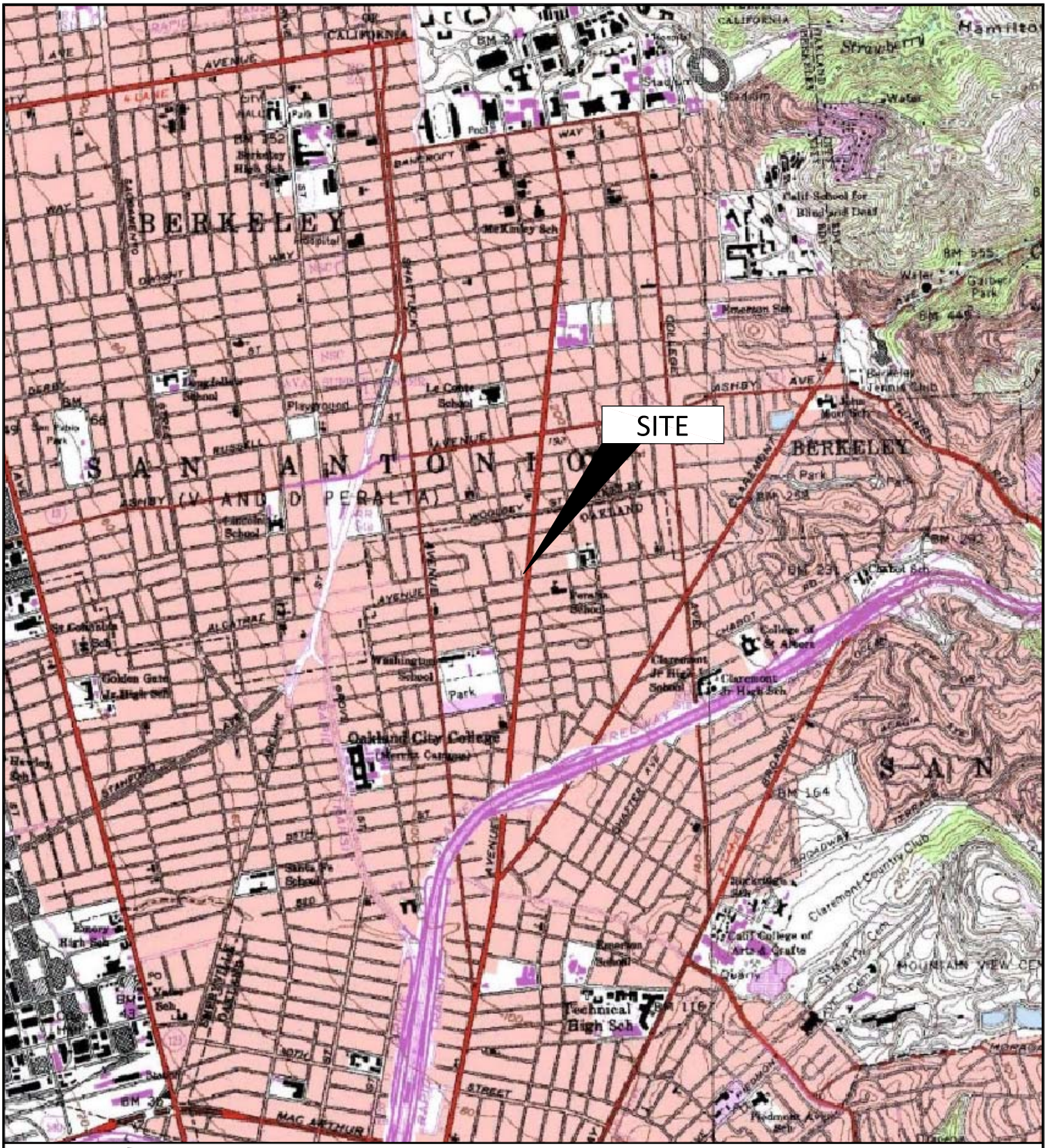
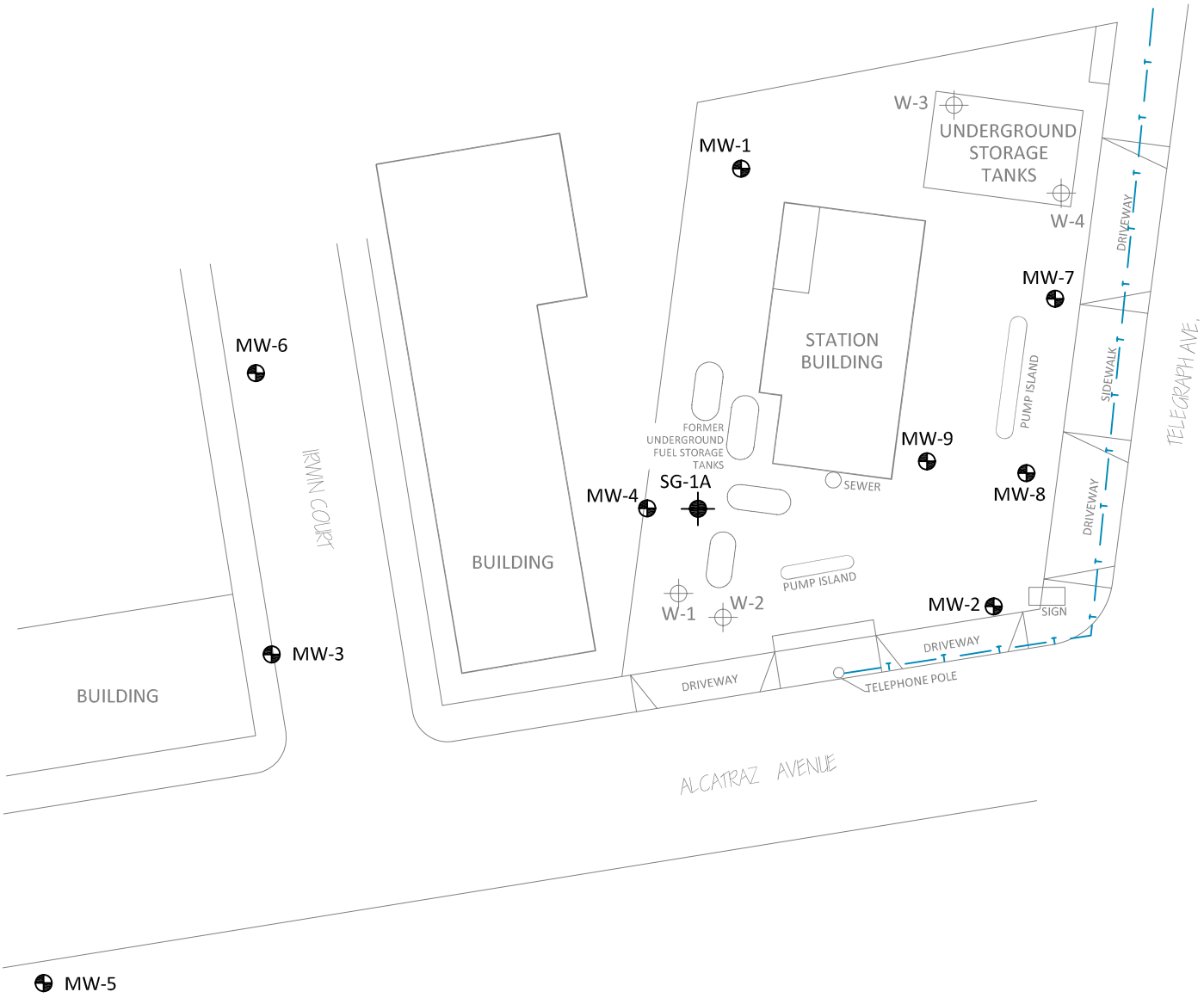


IMAGE SOURCE: USGS

BROADBENT 875 Cotting Lane, Suite G Vacaville, California 95688 Project No.: 06-88-602 Date: 3/8/2013	Station #374 6407 Telegraph Ave. Oakland, California	Site Location Map	Drawing 1



N

0 40 80

SCALE (ft)

LEGEND

- Monitoring Well Location
- Tank Pit Monitoring Well Location
- Soil Vapor Probe Location

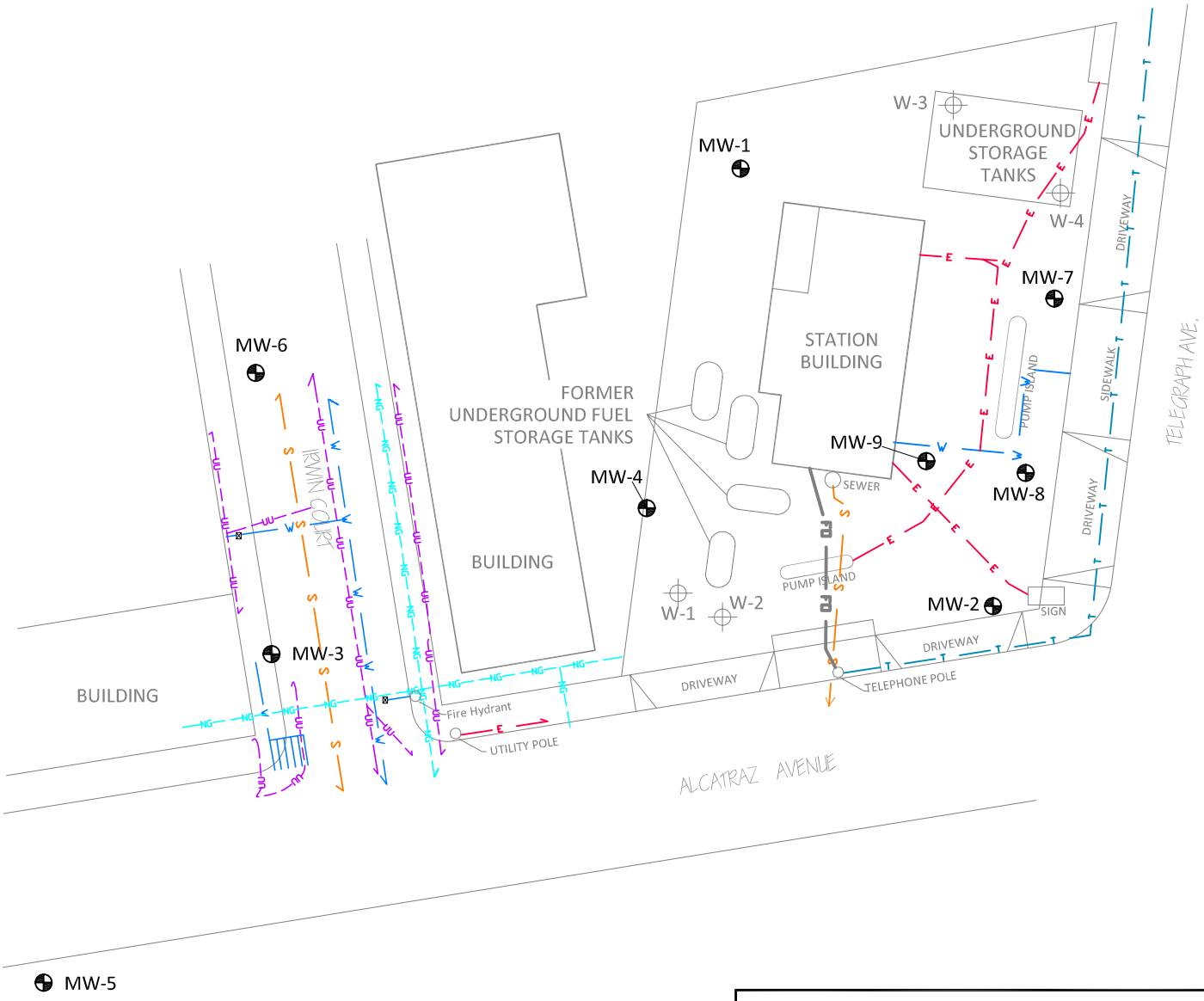
NOTE: SITE MAP ADAPTED FROM IT CORPORATION FIGURES.
SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.

BROADBENT
875 Cotting Lane, Suite G
Vacaville, California 95688
Project No.: 06-88-602 Date: 3/21/2014

Station No. 374
6407 Telegraph Ave.
Oakland, California

Site Map With
Soil Vapor Probe Location

Drawing
2



LEGEND

- Monitoring Well Location
- Tank Pit Monitoring Well Location
- Electrical Line
- Natural Gas Line
- Sanitary Sewer Line
- Undifferentiated Utility Line
- Water Line
- Telephone Line
- Communication Line

N

0 40 80

SCALE (ft)

NOTE: SITE MAP ADAPTED FROM IT CORPORATION FIGURES.
SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.

BROADBENT
875 Cotting Lane, Suite G
Vacaville, California 95688
Project No.: 06-88-602 Date: 3/21/2014

Station No. 374
6407 Telegraph Ave.
Oakland, California

Site Vicinity and Underground Utility Infrastructure

Drawing
3

TABLE 1

CONCEPTUAL SITE MODEL
Atlantic Richfield Company Station 374
6407 Telegraph Ave
Oakland, California

CSM Element	CSM Sub-Element	Description	Data Gap	How to Address
Geology and Hydrogeology	Regional	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 fans. The alluvial fill thickness ranges from 300 to 700 ft in depth. There are no well-defined aquitards such as estuarine muds. The largest and deepest wells in this sub-area historically pumped one to two million gallons per day at depths greater than 200 ft. 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 ft), 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	The Site elevation is approximately 163 ft above sea level. The water table fluctuates seasonally and over time. Historically, depth-to-water measurements have ranged from approximately 5 to 11 ft bgs). During First Quarter 2013, the average depth to groundwater in onsite wells MW-1, MW-2, MW-4, and MW-7 through MW-9 was approximately 5.5 ft. Groundwater flow direction during the First Quarter 2013 monitoring event on February 14, 2013 was to the southwest at a gradient of approximately 0.04 ft/ft.	None	NA

TABLE 1

CONCEPTUAL SITE MODEL
Atlantic Richfield Company Station 374
6407 Telegraph Ave
Oakland, California

CSM Element	CSM Sub-Element	Description	Data Gap	How to Address
Geology and Hydrogeology (continued)	Site (continued)	The Site is typically underlain by silty and sandy clays with intervals consisting of sands and gravels to a maximum explored depth of approximately 28 ft bgs. The boring log for MW-7 indicates that intermittent layers of silty clay and sandy clay are present throughout the entire boring with gravels appearing at approximately eight ft bgs and sand appearing at approximately 18 ft bgs. The boring log for MW-2 indicates that intermittent layers of silty clay and sandy clay are present throughout the entire boring with gravels appearing at approximately eight ft bgs. The boring log for MW-3 indicates that silty clay is present throughout the entire boring with minor gravel appearing at approximately 18.5 ft bgs and sand appearing at approximately 27 ft bgs. The boring log for MW-4 indicates that silty clay is present from approximately ground surface to 13 ft bgs. Sandy gravel with some silt appears at 13 ft bgs and transitions into silty clay with some sand and gravel at approximately 22 ft bgs. A cross-section of the Site is provided in Appendix G.		
Surface Water Bodies		The nearest surface water body is an unnamed creek that terminates 3,400 ft east of the Site (Closure Solutions, 2012). The nearest natural drainage is Claremont Creek, located approximately 1.2 miles west-northwest of the Site. Claremont Creek flows generally east to west near the Site vicinity. The San Francisco Bay is located approximately 2 miles west of the Site.	None	NA
Nearby Wells		A Sensitive Receptor Survey was carried out in February 2011 by Closure Solutions to identify the presence of water wells within a ½-mile radius of the Site. According to Closure Solutions' report, 2 wells were identified within a ½-mile radius in the downgradient and crossgradient groundwater flow direction and its intended use is unknown. A Sensitive Receptor Survey was conducted by Broadbent to verify the water wells found by Closure Solutions. A well search request form was submitted to	None	NA

TABLE 1

CONCEPTUAL SITE MODEL
Atlantic Richfield Company Station 374
6407 Telegraph Ave
Oakland, California

CSM Element	CSM Sub-Element	Description	Data Gap	How to Address
Nearby Wells (continued)		Steve Miller of ACPWA in February 2014. On March 14, 2014, Broadbent received the results and an irrigation well located west from the Site on Adeline Street was identified as a potential risk to soil vapor intrusion. However, the irrigation well is located approximately 2700 ft to the west of the Site which is out of the 2000 ft search radius. Broadbent also conducted a 2000 ft radius search around the Site to identify potential receptors that could be impacted by Site. Broadbent has identified the following receptors: 850 ft to the north of the Site is a Bay Surgery Center; 1350 ft to the southeast of the Site is Colby Park; and 1500 ft southwest of the Site is Washington Elementary School. The Bay Surgery Center is upgradient from the Site and Colby Park is crossgradient from the Site making both receptors unlikely to be impacted by the Site. Washington Elementary School is downgradient to the Site making it a potential candidate to be impacted by the Site. However, due to the plume being localized around MW-4, MW-5 containing non-detect concentrations, and the site lithology of the Site is primarily clay, Broadbent has concluded that Washington Elementary School is unlikely at risk for potential vapor intrusion. A map depicting the location of the identified potential receptors and the well search request and results form can be found in Appendix E.		
Constituents of Concern	Light-Non Aqueous Phase Liquids (LNAPL)	LNAPL has not been observed at this Site in monitoring wells. However, LNAPL was observed during the soil investigation conducted by Applied Geosystems (AGS) in 1988. One inch of LNAPL was observed in a grab groundwater sample collected from boring B-1. Additionally, product sheen was also observed in grab groundwater samples from borings B-2 and B-4. Product sheen was also encountered in observation wells W-1 and W-2 in the former UST pit during the UST removal and excavation in June 1988 (AGS, 1988).	None	NA

TABLE 1

CONCEPTUAL SITE MODEL
Atlantic Richfield Company Station 374
6407 Telegraph Ave
Oakland, California

CSM Element	CSM Sub-Element	Description	Data Gap	How to Address
Constituents of Concern (continued)	Gasoline Range Organics (GRO)	Concentrations of GRO have historically been detected in four of the nine Site monitoring wells (MW-4 and MW-7 through MW-9). In wells MW-7 and MW-9, only low and intermittent concentrations of GRO have been historically detected. The historical concentration of GRO was reported in well MW-4 at 20,000 µg/L in 2000, which was the initial sampling following installation. The maximum GRO recently detected onsite is in well MW-4 at 7,200 µg/L (Appendix G). No GRO has been detected in offsite wells MW-3, MW-5, and MW-6. Onsite wells MW-1 and MW-2 have historically have had detections of GRO concentrations but within the last three years it has been reported as non-detect. These wells define the GRO plume: well MW-7 to the northeast, well MW-2 to the southeast, and wells MW-3 and MW-6 to the west. Concentrations of GRO in well MW-4 are stable to decreasing. GRO isoconcentration contours are included in Appendix G.	None	NA
	Benzene	Benzene has historically been detected in all wells except for MW-1, MW-3, MW-5, and MW-6. However, well MW-2 had sporadic detections at low concentrations of less than 3 µg/L. The highest onsite concentration of benzene was detected in well MW-4 at 5,100 µg/L in June 2000. Currently, maximum benzene concentrations are detected in well MW-4 with concentrations at approximately 1,000 µg/L. A benzene isoconcentration contour map for recent groundwater monitoring can be found in Appendix G. This map shows the benzene plume is defined similarly to the GRO plume and concentrations in well MW-4 are stable.	None	NA

TABLE 1

CONCEPTUAL SITE MODEL
Atlantic Richfield Company Station 374
6407 Telegraph Ave
Oakland, California

CSM Element	CSM Sub-Element	Description	Data Gap	How to Address
Constituents of Concern (continued)	MTBE	Methyl tert butyl ether (MTBE) has been historically detected in all wells except for MW-5. However, in wells MW-3, MW-6, MW-7 only low concentrations have been detected. The highest historic concentration of MTBE was reported in well MW-1 in March 2001 at a concentration of 2,710 µg/L. Wells MW-1 and MW-8 contain the current highest concentrations at approximately 100 to 200 µg/L. Isoconcentration contours of MTBE in groundwater for recent groundwater monitoring be found in Appendix G. This map shows that the plume is defined by downgradient wells MW-3 and MW-6 to below cleanup levels. Additionally, the MTBE at the Site exhibits an overall decreasing trend over time, indicating a shrinking plume.	None	NA
Potential Sources	Onsite	The main sources of contamination onsite were from the former UST's and pump islands located in the southeastern area of the site. In February 1988, a leak was detected in the vapor/vent line of the unleaded system during annual tank testing. The results of a April 1988 limited environmental site assessment conducted by AGS which included four soil borings near the USTs indicated soil and groundwater contamination with LNAPL and sheen being observed in the groundwater grab sample collected from the soil boring locations. Between June 7 and 10, 1988, the four gasoline USTs were removed from the Site and on September 21, 1996, two pump islands along with its associated underground product lines were removed. Removal of UST's and pump islands was to control and mitigate the spread of contamination. Subsequent soil remediation and soil investigations determined residual hydrocarbon contamination still exists around the former UST and pump islands locations. A decreasing trend in hydrocarbon residuals in the groundwater can be seen in all wells however MW-4 still contains the highest concentration of GRO.	None	NA

TABLE 1

CONCEPTUAL SITE MODEL
Atlantic Richfield Company Station 374
6407 Telegraph Ave
Oakland, California

CSM Element	CSM Sub-Element	Description	Data Gap	How to Address
Potential Sources (continued)	Onsite (continued)	The Site is an active service station. Current USTs and dispensers are present. Data presented herein does not indicate that an ongoing hydrocarbon release is occurring, since hydrocarbon concentrations have steadily been decreasing since the removal of the former UST's and associated pump islands. The Site monitoring and sampling history indicate that hydrocarbon releases occurred from the former UST location and pump islands, with no additional releases having occurred.		
	Offsite	Diagonally across Telegraph and Alcatraz Avenue to the Southeast is a former Mobil service station that ceased operation in 1983. A petroleum leak was reported in March 1986 and the four USTs were removed in May 1986. Confirmation soil and groundwater samples were taken during the removal and excavation of the UST's. The site is approximately 120 feet southeast and cross-gradient to ARCO 374. (Resna, 1992). Currently there is a notice of violation from SWRCB which the responsible party has not responded to and is missing the laboratory report of the groundwater sampling that took place. No further work has been conducted since the notice of violation was first issued in 2009. This site may be a potential secondary source of contamination but due to the groundwater direction of the Site and its crossgradient proximity to Arco 374, it is unlikely impacting the Site.	None	NA

TABLE 1

CONCEPTUAL SITE MODEL
Atlantic Richfield Company Station 374
6407 Telegraph Ave
Oakland, California

Nature and Extent of Environmental Impacts	Extent in Soil	Soil appears defined at the Site. Upon completion of an offsite soil boring investigation conducted by Broadbent in November 2010, moderate concentrations of GRO, benzene, toluene, ethylbenzene, and total xylenes are present within the soil at 8.0 to 9.5 ft bgs in the east pump island investigation area. Hydrocarbon concentrations diminish in concentration with depth and horizontal distance from this east pump island. One exception to this observation is the MW-8 soil sample at 11 ft bgs where the GRO concentration was 1,400 mg/kg. The soil analytical data demonstrates that the soil petroleum hydrocarbon impact around the east pump island is defined vertically at 12.5 ft bgs, to levels below residential Regional Water Quality Control board ESLs for shallow soil scenarios where the groundwater is a potential drinking water resource. The soil analytical data also demonstrates that the petroleum hydrocarbon impact in soil around the east pump island is sufficiently defined laterally. The soil data from this investigation are consistent with the elevated GRO concentrations in soil samples collected during Broadbent's November 11, 2009 *Soil and Groundwater Investigation* where soil boring B-15 contained 1,400 mg/kg at 4.5 ft bgs and B-13 contained 1,800 mg/kg at 8.5 ft bgs. These observed concentrations are indicative of a point release from the former product piping that spreads outward when encountering a more permeable (sandy, gravelly) layer. The data also is consistent with the previous high concentration of 6,500 mg/kg GRO detected in product line sample PL-3 5' collected on December 4, 2008 during product line replacement and fuel dispenser upgrades (Broadbent, 2009). Low concentrations of MTBE were detected in shallow soil samples collected from MW-8 and MW-9. Six of the 18 soil samples detected MTBE concentrations and none of the 18 detected TBA concentrations exceeded the residential ESLs for shallow soil scenarios where the groundwater is a potential drinking water resource. Two of the six	None	NA

TABLE 1

CONCEPTUAL SITE MODEL
Atlantic Richfield Company Station 374
6407 Telegraph Ave
Oakland, California

Nature and Extent of Environmental Impacts (continued)	Extent in Soil (continued)	MTBE samples (MW-8-14.5 and MW-9-15.5) were collected within the capillary fringe and MTBE concentrations are likely from a groundwater source. Neither MTBE nor TBA concentrations in soil exceeded the residential ESLs for shallow soil where the ground water is not a potential drinking water resource.		
	Extent in Shallow Groundwater	The groundwater monitoring network at the Site include nine wells (MW-1 thru MW-9); upgradient wells (MW-1, MW-2, MW-7 thru MW-9); and downgradient wells (MW-3 thru MW-6). Isoconcentration maps for GRO, benzene, and MTBE based on recent data are included in Appendix G. Based on these drawing s and the *On-site Soil and Groundwater Investigation Report* (Broadbent, 2011), the extent of petroleum compounds is well defined, and is predominately limited around the former UST's and southern pump island area with the exception of MTBE plume which encompasses a larger area. Additionally, free product is not present at this Site, and dissolved petroleum concentrations are decreasing. The data is adequate for understanding the CSM.	None	NA
	Extent in Deeper	Soil Borings B-1 through B-5 (MW-1 through MW-5) were all advanced to 27 ft bgs and borings B-16 to B-18 (MW-6 through MW-9) and soil boring B-19 were advanced to 20 ft bgs. Based on the results of these boring logs and the *On-site Soil and Groundwater Investigation Report (Broadbent, 2011)*, petroleum compounds in groundwater are vertically defined within the first-encountered groundwater between 7 to 12 ft bgs. The deeper groundwater zone was not encountered nor was petroleum constituents were detected or observed deeper than 15 ft bgs (Appendix H).	None	NA
	Extent in Soil Vapor	A soil vapor well, SG-1A, was installed on November 25, 2013 and was sampled on December 18, 2013. The soil vapor sample was analyzed for Gasoline Range Organics (GRO) by EPA Method TO-3, and for Benzene, Toulene, Ethylbenzene, Xylenes (BTEX), MTBE and Naphthalene by EPA Method TO-15. The soil vapor sample was also	None	NA

TABLE 1

CONCEPTUAL SITE MODEL
Atlantic Richfield Company Station 374
6407 Telegraph Ave
Oakland, California

Nature and Extent of Environmental Impacts (continued)	Extent in Soil Vapor (continued)	analyzed for Oxygen (O_2) and Argon, Carbon Dioxide (CO_2), Methane (CH_4), and Helium (Tracer/leak-check compound) by Modified Method ASTM D-1946. The analytes resulted in non-detect concentrations with the exception of Carbon Dioxide and Oxygen which were detected at concentrations of 3.1% and 18% respectively. The analytical results for SG-1A are located in Appendix C. The installation of SG-1A within the highest concentration of the plume and results of the hydrocarbon constituents were non-detect concentrations, Broadbent believes soil vapor gas is not a potential risk associated with the Site. The presence of Carbon Dioxide and Oxygen in the soil vapor sample suggests that possible bioattenuation is occurring at the site.		
Migration Pathways	Potential Conduits	On November 21, 2013, Norcal conducted a utility locate within the area of the intersection of Irwin Court and Alcatraz Avenue. A map of the identified utilities can be found in Appendix F and Drawing 3. The majority of the mapped underground utilities are believed to be relatively shallow (less than three feet bgs). Exception is the mapped sewer pipeline that is located within the area where the release occurred. There is a potential that the deeper sewer system conduits may be acting as preferential pathways for contaminant migration due to the groundwater depths is typically measure as high as 6 feet bgs. However, based on the findings from the utility survey conducted and topography of Irwin Court, the sewer pipeline is sloping to the south along Irwin Court towards Alcatraz Avenue. The location of this utility being outside the Site plume boundary makes it unlikey the sewer pipeline can act as a preferential pathway for the contaminant migration. Additionally, no utility lines were noted near the well with remaining higher residual hydrocarbon concentrations (well MW-4), making migration from this location through utility conduits unlikely.	None	NA

TABLE 1

CONCEPTUAL SITE MODEL
Atlantic Richfield Company Station 374
6407 Telegraph Ave
Oakland, California

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. However, the exposure from current fueling operations represents a greater risk than any associated with potential groundwater or soil vapor exposure (SWRCB, 2012).	None	NA
	Offsite	As discussed above, Broadbent conducted a soil vapor assessment to evaluate vapor intrusion risks to the adjacent apartments. The resulting concentrations of the GRO, Benzene, BTEX, MTBE and Naphthalene were non-detect near the former source area and the area with highest residual impacts (well MW-4). Broadbent believes that there is no potential vapor intrusion risk to the downgradient apartment building complex adjacent to the Site. As mentioned above, a Sensitive Receptor Survey was conducted by Broadbent which identified three potential receptors: Bay Surgery Center, Colby Park, and Washington Elementary School. Bay Surgery Center and Colby Park are upgradient and crossgradient to the Site respectively deeming them unlikely to be impacted by the Site. Washington Elementary School was considered to be a potential candidate to be impacted by the Site but due to the plume being localized around MW-4, MW-5 containing non-detect concentrations, and the Site lithology containing primarily clay, Broadbent determined that Washington Elementary School is unlikely to be impacted by the Site.	None	NA

TABLE 1

CONCEPTUAL SITE MODEL
Atlantic Richfield Company Station 374
6407 Telegraph Ave
Oakland, California

Notes:
bgs = below ground surface
BTEX = benzene, toluene, ethylbenzene, xylenes
DRO = Diesel Range Organics
ESL = Environmental Screen Levels
ft = foot
ft/ft = foot per foot
GRO = Gasoline Range Organics
LNAPL = Light-Non Aqueous Phase Liquid
mg/kg = milligrams per kilogram
MTBE = Methyl tert-butyl Ether
NA = Not Applicable
UST = Underground Storage Tank
µg/L = micrograms per liter

All references are noted in Section 7.0 of the preceding report document

Table 2
Soil Vapor Analytical Results
December 18, 2013
ARC Station No. 374
6407 Telegraph Avenue, Oakland, California

Soil Vapor Probe Identification	Probe Sample Depth (feet bgs)	Date Collected	GRO ($\mu g/m^3$)	Benzene ($\mu g/m^3$)	Toluene ($\mu g/m^3$)	Ethylbenzene ($\mu g/m3$)	Total Xylenes* ($\mu g/m^3$)	MTBE ($\mu g/m^3$)	Naphthalene ($\mu g/m^3$)	Carbon Dioxide (%)	Methane (%)	Oxygen (%)
SG-1A	2.5-3.0	12/18/2013	ND<8,500	ND<13	ND<15	ND<17	ND<17	ND<14	ND<21	3.1	<0.00021	18.0
ESLs			**2,500,000**	**420.0**	**1,300,000**	**4,900**	**440,000**	**47,000**	**360**	NA	NA	NA

Notes:

feet bgs = feet below ground surface
$\mu g/m^3$= 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 $\mu g/m^3$
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

APPENDIX A

Field Notes / Drilling Permits

BROADBENT

DAILY REPORT

Page ____ of ____

Project: BP 374 Project No.: 06-88-602

Field Representative(s): JR Day: Wednesday Date: 11/20/2013

Time Onsite: From: 0900 To: 1145 ; From: ____ To: ____ ; From: ____ To: ____

Y Signed HASP E Safety Glasses N Hard Hat Y Steel Toe Boots X Safety Vest

Y UST Emergency System Shut-off Switches Located X Proper Gloves

Y Proper Level of Barricading X Other PPE (describe) rain coat

Weather: rainy; 60°F

Equipment In Use: ____

Visitors: ____

TIME:	WORK DESCRIPTION:
0900	Arrived onsite
0930	Norcal Arrives onsite; proceeded w/ safety meeting & paper work
1000	Finished safety meeting; proceeded to setup at SVI-A/B
1115	Called Kristene regarding ~~conditions~~ whether conditions - subcontractor is not able to perform work with the given rain intensity due to equipment possibly not performing properly or may potentially become damage - subcontractor suggested we return tomorrow when storm passes & since they (norcal) will be within this area again for different job. We stated mobilization costs will ~~not~~ be incurred and that it should potentially go faster w/ two people - information was relayed to kristene & ken; they both came to an agreement
1145	Signed at & left site

Signature: [signature]

BROADBENT

DAILY REPORT

Page ____ of ____

Project: BP 374 Project No.: 06-82602

Field Representative(s): JR Day: Thursday Date: 11/21/2013

Time Onsite: From: 1030 To: 1430 ; From: _____ To: _____ ; From: _____ To: _____

- [x] Signed HASP
- [x] Safety Glasses
- [x] Hard Hat
- [x] Steel Toe Boots
- [ ] Safety Vest
- [x] UST Emergency System Shut-off Switches Located
- [x] Proper Gloves
- [x] Proper Level of Barricading
- [ ] Other PPE (describe) _____

Weather: Sunny; 70°F

Equipment In Use: _____

Visitors: _____

TIME:	WORK DESCRIPTION:
1030	Arrived at site & parked off-site at intersection of Irwin & Alcatraz
1106	Norval arrives onsite; proceeded w/ tail gate meeting
1126	Finished tail gate; signed in & proceeded to mark within designated area of interest
1325	Proceeded to ~~cross~~ locate utilities along 525 alcatraz ave(sidewalk aross Irwin St;
1430	Finished Mapping; signed out & left site

Signature: _____

Revision: 1/24/2012

Alameda County Public Works Agency - Water Resources Well Permit

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

Application Approved on: 10/16/2013 By jamesy

Permit Numbers: W2013-0848
Permits Valid from 10/21/2013 to 12/31/2013

Application Id:	1379010397846	**City of Project Site:** Oakland
Site Location:	6407 Telegraph Avenue Oakland, CA	
Project Start Date:	10/21/2013	**Completion Date:** 12/31/2013
Assigned Inspector:	Contact Steve Miller at (510) 670-5517 or stevem@acpwa.org	
Applicant:	Broadbent & Associates, Inc. - Alejandra Hernandez 875 Cotting Lane, Suite G, Vacaville, CA 95688	**Phone:** 707-455-7290 x207
Property Owner:	Chuck Carmel P.O. Box 1257, San Ramon, CA 94583	**Phone:** --
Client:	** same as Property Owner **	
Contact:	Kristene Tidwell	**Phone:** 707-455-7290 x204 **Cell:** 707-430-7133

Receipt Number: WR2013-0393
Payer Name : Broadbent & Associates, Inc.

Total Due:	$265.00
Total Amount Paid:	$265.00
Paid By: CHECK	**PAID IN FULL**

Works Requesting Permits:

Well Construction-Vapor monitoring well-Vapor monitoring well - 3 Wells
Driller: Gregg Drilling & Testing, Inc. - 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
W2013-0848	10/16/2013	01/19/2014	SV-1A/1B	2.00 in.	0.13 in.	1.00 ft	5.50 ft
W2013-0848	10/16/2013	01/19/2014	SV-2A/2B	2.00 in.	0.13 in.	1.00 ft	5.50 ft
W2013-0848	10/16/2013	01/19/2014	SV-3A/3B	2.00 in.	0.13 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 contact Steve Miller for an inspection time at (510) 670-5517 or email to stevem@acpwa.org 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.

8. 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.

9. 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.

10. 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.

Message Number: 0461963 Received by USAN at 11:04 on 11/20/13 by MED

Work Begins: 11/25/13 at 07:30 Notice: 026 hrs Priority: 2
Night Work: N Weekend Work: N

Expires: 12/18/13 at 23:59 Update By: 12/16/13 at 16:59

Caller: MORRIS RUUD
Company: GREGG DRILLING & TESTING
Address: 950 HOWE RD
City: MARTINEZ State: CA Zip: 94553
Business Tel: 925-313-5800 Fax: 925-313-0302
Email Address: MRUUD@GREGGDRILLING.COM

Nature of Work: VERTICAL BORING FOR WELL
Done for: BROADBENT ASSOCIATES Explosives: N
Foreman: JAMES
Field Tel: Cell Tel: 707-342-5669
Area Premarked: Y Premark Method: WHITE PAINT
Permit Type: COUNTY Number: PENDING
Vac / Pwr Equip Use In The Approx Location Of Member Facilities Requested: N
Excavation Enters Into Street Or Sidewalk Area: N

Location:
Street Address: 6407 TELEGRAPH AVE
Cross Street: ALCATRAZ AVE

WRK BK/O PROP EXT APP 100' IN

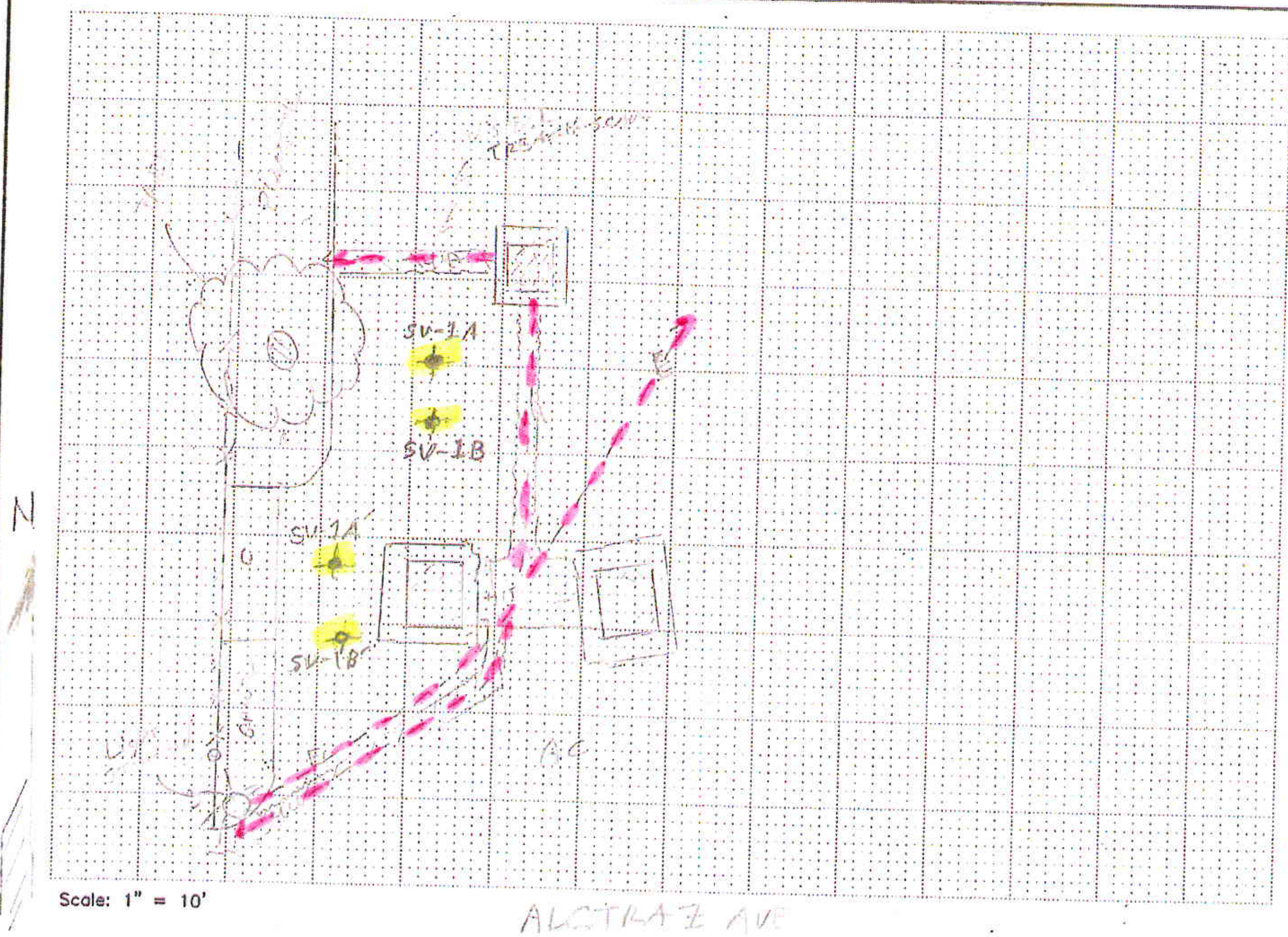
Place: OAKLAND County: ALAMEDA State: CA

Long/Lat Long: -122.261015 Lat: 37.850213 Long: -122.26062 Lat: 37.85064

Sent to:
CTYBER = CITY BERKELEY
COMOAK = COMCAST-OAKLAND
PACBEL = PACIFIC BELL
CTYOAK = CITY OAKLAND CONST DEPT
EBWCMS = EAST BAY WATER
PGEOAK = PGE DISTR OAKLAND

Member Utility	Main Contact#	Vacuum Contact#	Emergency Contact#	After Hours Contact#
CITY BERKELEY	(510) 981 - 6408		(510) 981 - 6620	(510) 981 - 6620
CITY OAKLAND CONST DEPT	(510) 238 - 7262 (510) 238 - 7288			
COMCAST-OAKLAND	(925) 424 - 0181			
EAST BAY WATER	(510) 287 - 0600		(510) 287 - 0600	
PACIFIC BELL	(510) 645 - 2929	(510) 645 - 2929	(510) 645 - 2929	(800) 332 - 1321 x8
PGE DISTR OAKLAND	(800) 743 - 5000 x00	(800) 743 - 5000	(800) 743 - 5000 24 HRS	(800) 743 - 5000

PERSONNEL: D. Bissiri	CLIENT: Broadbent Associates
JOB: 13-1034.16 DATE: Nov. 20[illegible], '13	LOCATION: BP-Arco [illegible] 6407 Telegraph [illegible] Oakland
NORCAL GEOPHYSICAL CONSULTANTS INC.	BORING: SV-1A; SV-1B; SV-1A'; & SV-1B'



Scale: 1" = 10'

EXPLANATION

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

Utilities

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

Surface

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

NOTES

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

REMARKS

REMEDIATION SYSTEM VAULTS ?

Jason Duda

From: David Hagin <dhagin@norcalgeophysical.com>
Sent: Friday, March 08, 2013 11:23 AM
To: Jason Duda
Cc: kblom@norcalgeophysical.com
Subject: 286 S. Livermore site
Attachments: 20130308105935792.pdf; 20130308105851722.pdf; 20130308105903941.pdf; 20130308105915014.pdf; 20130308105924374.pdf

Hi Jason,

Here are the maps for the 286 S. Livermore site. Let me know if you have any questions regarding the maps.

Regarding training / certification - our CA Professional Geophysical Licenses can be looked up at this site:

http://www2.dca.ca.gov/pls/wllpub/wllqryna$lcev2.startup?p_qte_code=GEO&p_qte_pgm_code=5100

Regarding your request about our instrumentation - the term calibration is not accurate because we are not measuring in any units, but tuning may be required.

The EMLL needs no tuning - just a battery and function check that we perform prior to use. This unit does not record data - just gives us visual and auditory feedback.

After a battery check the MD is tuned to each site by turning a screw that adjusts the coil position so that background noise is minimized. The unit gives auditory feedback only.

After a battery check the GPR is tuned to each site by adjusting the scan settings and gain values so that they are appropriate for the given site. The GPR is the only unit that records data.

Let me know if you need anything further.

Have a great weekend.

David

David Hagin PGp PG CEG HG
NORCAL Geophysical Consultants, Inc.
321A Blodgett Street
Cotati, CA 94931
T: 707-796-7170
F: 707-796-7175
dhagin@norcalgeophysical.com

License Search for Professional Geologists and Geophysicists

Licensee Name:	BISSIRI DAVID J.
License Type:	GEOPHYSICIST
License Number:	1009
License Status:	**CLEAR** Definition
Expiration Date:	December 31, 2015
Issue Date:	December 27, 1995
Address:	321A BLODQET STREET
City:	COTATI
State:	CA
Zip:	94931
County:	SONOMA
Actions:	No

Related Licenses/Registrations/Permits

No records returned

Public Record Action(s)

This information is updated Monday through Friday - Last updated: NOV-22-2013

Back

BROADBENT

DAILY REPORT

Page ____ of ____

Project: BP 374 Project No.: 06-88-602

Field Representative(s): LD / JR Day: Monday Date: 11-25-13

Time Onsite: From: 0700 To: 1215 ; From: ____ To: ____ ; From: ____ To: ____

- [x] Signed HASP
- [x] Safety Glasses
- [x] Hard Hat
- [x] Steel Toe Boots
- [x] Safety Vest
- [x] UST Emergency System Shut-off Switches Located
- [ ] Proper Gloves
- [x] Proper Level of Barricading
- [ ] Other PPE (describe) ____

Weather: Clear

Equipment In Use: MARL M550

Visitors: ____

TIME:	WORK DESCRIPTION:
0700	Broadbent arrived onsite. Prepared TSEA, Tailgate, Ht + Ground Disturbance permit forms.
	Gregg Drilling (German Garcia) arrived onsite. Performed tailgate meeting.
	made walkover of soil vapor probe work area.
0945	Gregg begin hand auger of SV1A (attempted) at 3' bgs. DTW ≅ 3'.
	Water seeping in hole ~ 2½' bgs. James phoned Kristen Tidwell (PM) to advise: KT - move to alternate location.
1015	Gregg sets up to hand auger at alt. loc. (adjacent to well immediately east of MW-4). DTW ≅ 3'. KT: Set probe at 2½'.
	German set probe & well box at final loc. of SV1A.
	James collected composite samples of drummed cuttings.
	German backfilled abandoned borehole and patched surface.
1200	German departed site.
	Broadbent picked up safety equipment, cleaned up and verified traffic concrete surface patches were adequately set up.
	Broadbent departed site.

Signature: Darrell

Revision: 1/24/2012

BROADBENT

DAILY REPORT

Page ____ of ____

Project: BP 374 Project No.: 06-88-602

Field Representative(s): JR Day: Wednesday Date: 12-18-13

Time Onsite: From: 1030 To: 1215 ; From: ____ To: ____ ; From: ____ To: ____

Y Signed HASP Y Safety Glasses Y Hard Hat Y Steel Toe Boots Y Safety Vest

Y UST Emergency System Shut-off Switches Located Y Proper Gloves

Y Proper Level of Barricading ___ Other PPE (describe) ____

Weather: Sunny, 55° F

Equipment In Use: helium, SV train

Visitors: ____

TIME:	WORK DESCRIPTION:
1030	Arrived onsite; proceeded w/paperwork
1100	Finished paperwork, setup on SG-1A
1128	Started sampling SG-1A
1215	Packed up/signed out & left site

Signature: ____

BROADBENT

SOIL VAPOR SAMPLING DATA SHEET

Date: 12/18/13 Site Name: BP 374

Personnel: JR Project No.: 06-88-602

Weather: sunny, 50°F

Well ID: SG-1A

Canister #: 34001154 Flow Controller #: 7680

Time	Helium Concentration (%)	Summa Canister Pressure (in.Hg)	Comments
1128	23	-29	* held 15 in. Hg for 5 mins
1130	17	-27	
1132	26	-23	
1134	27	-20	
1136	25	-19	
1138	27	-17	
1140	21	-15	
1142	23	-13	
1144	18	-11	
1146	20	-10	
1148	19	-8	
1150	19	-7	
1152	23	-5	

APPENDIX B

Regulatory Email

Tori Malone

From: Kristene Tidwell
Sent: Friday, March 28, 2014 3:14 PM
To: Tori Malone
Subject: FW: ACEH Case No. 78/ ARC Site No. 374, 6407 Telegraph Avenue, Oakland

From: Roe, Dilan, Env. Health [mailto:Dilan.Roe@acgov.org]
Sent: Tuesday, October 08, 2013 1:51 PM
To: Kristene Tidwell
Cc: Rob Miller; charles.carmel@bp.com
Subject: RE: ACEH Case No. 78/ ARC Site No. 374, 6407 Telegraph Avenue, Oakland

Hi Krsitine:

Thank you for the update. Ideally we would like to have the samples collected immediately adjacent to the apartment building , however in order to expedite collection of data to assess the risk of vapor intrusion to building occupants ACEH concurs with the proposed approach. The need for off-site access can be evaluated based on the results of the on-site soil vapor sampling.

Dilan Roe, P.E.
Program Manager - Land Use & Local Oversight Program
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502
510.567.6767; Ext. 36767
QIC: 30440
dilan.roe@acgov.org

PDF copies of case files can be reviewed/downloaded at:

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

From: Kristene Tidwell [mailto:Ktidwell@broadbentinc.com]
Sent: Tuesday, October 08, 2013 12:11 PM
To: Roe, Dilan, Env. Health
Cc: Rob Miller; charles.carmel@bp.com
Subject: ACEH Case No. 78/ ARC Site No. 374, 6407 Telegraph Avenue, Oakland

Hi Dilan-
Last week, I spoke with the owner of the adjacent apartment complex to which we need access for the soil vapor investigation at ACEH Case No. 78/ ARC Site No. 374 at 6407 Telegraph Avenue, Oakland, California. The offsite property owner expressed to me that he would like to see the results of the onsite soil vapor investigation prior to giving BP access to his property to perform additional sampling. Per the conversation between myself and you this morning, BP/Broadbent will be moving forward with the onsite soil vapor investigation and evaluating the data collected during that investigation prior to further attempting to gain offsite access.

Please let me know if you have any questions. Thanks.

Kristene Tidwell, PG, CHG
Senior Geologist

875 Cotting Lane, Suite G, Vacaville, CA 95688
[T] 707-455-7290 • [F] 707-455-7295
ktidwell @ broadbentinc.com

APPENDIX C

Geotracker Upload Confirmation Receipts

STATE WATER RESOURCES CONTROL BOARD

GEOTRACKER ESI

UPLOADING A EDF FILE

SUCCESS

Processing is complete. No errors were found!
Your file has been successfully submitted!

Submittal Type:	**EDF**
Report Title:	**Soil Vapor Investigation Report, Updated CSM, and Case Closure Request**
Report Type:	**Request for Closure**
Facility Global ID:	**T0600100106**
Facility Name:	**ARCO #0374**
File Name:	**320-5438.zip**
Organization Name:	**Broadbent & Associates, Inc.**
Username:	**BROADBENT-C**
IP Address:	**69.170.11.178**
Submittal Date/Time:	**3/28/2014 3:03:27 PM**
Confirmation Number:	**6051286220**

VIEW QC REPORT

VIEW DETECTIONS REPORT

APPENDIX D

Laboratory Analytical Report

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: 320-5438-1
Client Project/Site: ARCO 0374, Oakland
Revision: 1

For:
Broadbent & Associates, Inc.
875 Cotting Lane
Suite G
Vacaville, California 95688

Attn: Kristene Tidwell

Beth Riley

Authorized for release by:
2/18/2014 11:04:26 AM

Beth Riley, Project Manager II
(714)258-8610
beth.riley@testamericainc.com

Table of Contents

Qualifiers

Air - GC VOA

Qualifier	Qualifier Description
LW	Quantitated against gasoline

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
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: 320-5438-1

Laboratory: TestAmerica Sacramento

Narrative

Job Narrative
320-5438-1

This report was revised on 2/18/2014 to add the second unit of ug/m3 to the TO-15 and TO-3 results. No other data was changed.

Receipt
The sample was received on 12/21/2013 12:00 PM; the sample arrived in good condition.

Air - GC VOA
Argon was requested by ASTM D1946 but TestAmerica does not analyze for argon. The client was notified upon receipt of the samples.
No analytical or quality issues were noted.

Air - GC/MS VOA
No analytical or quality issues were noted.

Detection Summary

Client: Broadbent & Associates, Inc.
Project/Site: ARCO 0374, Oakland

TestAmerica Job ID: 320-5438-1

Client Sample ID: SG-1A

Lab Sample ID: 320-5438-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Carbon Dioxide (TCD)	3.1		1.0		% v/v	2.09		D1946	Total/NA
Oxygen	18		0.42		% v/v	2.09		D1946	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Broadbent & Associates, Inc.
Project/Site: ARCO 0374, Oakland

TestAmerica Job ID: 320-5438-1

Client Sample ID: SG-1A
Date Collected: 12/18/13 11:25
Date Received: 12/21/13 12:00
Sample Container: Summa Canister 6L

Lab Sample ID: 320-5438-1
Matrix: Air

Method: TO-15 MOD - Volatile Organic Compounds in Ambient Air

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0040		ppm v/v			01/07/14 23:13	1
Ethylbenzene	ND		0.0040		ppm v/v			01/07/14 23:13	1
Methyl-t-Butyl Ether (MTBE)	ND		0.0040		ppm v/v			01/07/14 23:13	1
Toluene	ND		0.0040		ppm v/v			01/07/14 23:13	1
m,p-Xylene	ND		0.0080		ppm v/v			01/07/14 23:13	1
o-Xylene	ND		0.0040		ppm v/v			01/07/14 23:13	1
Xylenes, Total	ND		0.0040		ppm v/v			01/07/14 23:13	1
Naphthalene	ND		0.0040		ppm v/v			01/07/14 23:13	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		13		ug/m3			01/07/14 23:13	1
Ethylbenzene	ND		17		ug/m3			01/07/14 23:13	1
Methyl-t-Butyl Ether (MTBE)	ND		14		ug/m3			01/07/14 23:13	1
Toluene	ND		15		ug/m3			01/07/14 23:13	1
m,p-Xylene	ND		35		ug/m3			01/07/14 23:13	1
o-Xylene	ND		17		ug/m3			01/07/14 23:13	1
Xylenes, Total	ND		17		ug/m3			01/07/14 23:13	1
Naphthalene	ND		21		ug/m3			01/07/14 23:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*		*01/07/14 23:13*	*1*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 130*		*01/07/14 23:13*	*1*
Toluene-d8 (Surr)	*99*		*70 - 130*		*01/07/14 23:13*	*1*

Method: D1946 - Fixed Gases in Air (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon Dioxide (TCD)	**3.1**		1.0		% v/v			12/26/13 09:28	2.09
Helium	ND		0.21		% v/v			12/26/13 09:28	2.09
Methane (FID)	ND		0.00021		% v/v			12/26/13 09:42	2.09
Oxygen	**18**		0.42		% v/v			12/26/13 09:28	2.09

Method: TO3 - Volatile Organic Compounds in Ambient Air, Cryogenic Pre-Conc Techniques (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND	LW	2.1		ppm v/v			12/23/13 15:08	2.09

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND	LW	8500		ug/m3			12/23/13 15:08	2.09

Surrogate Summary

Client: Broadbent & Associates, Inc.
Project/Site: ARCO 0374, Oakland

TestAmerica Job ID: 320-5438-1

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)
320-5438-1	SG-1A	96	94	99
LCS 320-33329/4	Lab Control Sample	95	97	99
LCSD 320-33329/5	Lab Control Sample Dup	93	96	101
MB 320-33329/9	Method Blank	95	92	100

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 320-33329/9
Matrix: Air
Analysis Batch: 33329

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00080		ppm v/v			01/07/14 18:20	1
Ethylbenzene	ND		0.00080		ppm v/v			01/07/14 18:20	1
Methyl-t-Butyl Ether (MTBE)	ND		0.00080		ppm v/v			01/07/14 18:20	1
Toluene	ND		0.00080		ppm v/v			01/07/14 18:20	1
m,p-Xylene	ND		0.0016		ppm v/v			01/07/14 18:20	1
o-Xylene	ND		0.00080		ppm v/v			01/07/14 18:20	1
Xylenes, Total	ND		0.00080		ppm v/v			01/07/14 18:20	1
Naphthalene	ND		0.00080		ppm v/v			01/07/14 18:20	1

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.6		ug/m3			01/07/14 18:20	1
Ethylbenzene	ND		3.5		ug/m3			01/07/14 18:20	1
Methyl-t-Butyl Ether (MTBE)	ND		2.9		ug/m3			01/07/14 18:20	1
Toluene	ND		3.0		ug/m3			01/07/14 18:20	1
m,p-Xylene	ND		6.9		ug/m3			01/07/14 18:20	1
o-Xylene	ND		3.5		ug/m3			01/07/14 18:20	1
Xylenes, Total	ND		3.5		ug/m3			01/07/14 18:20	1
Naphthalene	ND		4.2		ug/m3			01/07/14 18:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*		*01/07/14 18:20*	*1*
1,2-Dichloroethane-d4 (Surr)	*92*		*70 - 130*		*01/07/14 18:20*	*1*
Toluene-d8 (Surr)	*100*		*70 - 130*		*01/07/14 18:20*	*1*

Lab Sample ID: LCS 320-33329/4
Matrix: Air
Analysis Batch: 33329

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.103	0.114		ppm v/v		111	70 - 130
Ethylbenzene	0.102	0.108		ppm v/v		106	70 - 130
Methyl-t-Butyl Ether (MTBE)	0.103	0.102		ppm v/v		99	70 - 130
Toluene	0.104	0.112		ppm v/v		108	70 - 130
m,p-Xylene	0.198	0.209		ppm v/v		106	70 - 130
o-Xylene	0.101	0.105		ppm v/v		104	70 - 130
Xylenes, Total	0.306	0.315		ppm v/v		103	70 - 130
Naphthalene	0.105	0.0875		ppm v/v		83	70 - 130

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	330	364		ug/m3		111	70 - 130
Ethylbenzene	440	470		ug/m3		106	70 - 130
Methyl-t-Butyl Ether (MTBE)	370	369		ug/m3		99	70 - 130
Toluene	390	422		ug/m3		108	70 - 130
m,p-Xylene	860	909		ug/m3		106	70 - 130
o-Xylene	440	457		ug/m3		104	70 - 130
Xylenes, Total	1300	1370		ug/m3		103	70 - 130
Naphthalene	550	458		ug/m3		83	70 - 130

Method: TO-15 MOD - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: LCS 320-33329/4
Matrix: Air
Analysis Batch: 33329

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*97*		*70 - 130*
Toluene-d8 (Surr)	*99*		*70 - 130*

Lab Sample ID: LCSD 320-33329/5
Matrix: Air
Analysis Batch: 33329

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	0.103	0.110		ppm v/v		107	70 - 130	4	25
Ethylbenzene	0.102	0.103		ppm v/v		101	70 - 130	5	25
Methyl-t-Butyl Ether (MTBE)	0.103	0.101		ppm v/v		98	70 - 130	1	25
Toluene	0.104	0.108		ppm v/v		104	70 - 130	3	25
m,p-Xylene	0.198	0.199		ppm v/v		101	70 - 130	5	25
o-Xylene	0.101	0.0997		ppm v/v		99	70 - 130	5	25
Xylenes, Total	0.306	0.299		ppm v/v		98	70 - 130	5	25
Naphthalene	0.105	0.0898		ppm v/v		85	70 - 130	3	25

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	330	351		ug/m3		107	70 - 130	4	25
Ethylbenzene	440	446		ug/m3		101	70 - 130	5	25
Methyl-t-Butyl Ether (MTBE)	370	365		ug/m3		98	70 - 130	1	25
Toluene	390	408		ug/m3		104	70 - 130	3	25
m,p-Xylene	860	865		ug/m3		101	70 - 130	5	25
o-Xylene	440	433		ug/m3		99	70 - 130	5	25
Xylenes, Total	1300	1300		ug/m3		98	70 - 130	5	25
Naphthalene	550	471		ug/m3		85	70 - 130	3	25

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*
Toluene-d8 (Surr)	*101*		*70 - 130*

Method: D1946 - Fixed Gases in Air (GC)

Lab Sample ID: MB 320-32592/3
Matrix: Air
Analysis Batch: 32592

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (FID)	ND		0.00010		% v/v			12/26/13 07:26	1

Lab Sample ID: LCS 320-32592/2
Matrix: Air
Analysis Batch: 32592

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane (FID)	0.0502	0.0444		% v/v		88	80 - 120

Method: D1946 - Fixed Gases in Air (GC) (Continued)

Lab Sample ID: MB 320-32593/8
Matrix: Air
Analysis Batch: 32593

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon Dioxide (TCD)	ND		0.50		% v/v			12/26/13 08:56	1
Methane (TCD)	ND		0.50		% v/v			12/26/13 08:56	1
Oxygen	ND		0.20		% v/v			12/26/13 08:56	1

Lab Sample ID: MB 320-32593/9
Matrix: Air
Analysis Batch: 32593

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Helium	ND		0.10		% v/v			12/26/13 09:17	1

Lab Sample ID: LCS 320-32593/5
Matrix: Air
Analysis Batch: 32593

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)	25.5	24.0		% v/v		94	80 - 120
Methane (TCD)	24.6	23.7		% v/v		97	80 - 120

Lab Sample ID: LCS 320-32593/6
Matrix: Air
Analysis Batch: 32593

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Helium	15.7	16.4		% v/v		105	80 - 120
Oxygen	15.5	14.7		% v/v		95	80 - 120

Method: TO3 - Volatile Organic Compounds in Ambient Air, Cryogenic Pre-Conc Techniques (GC)

Lab Sample ID: MB 320-32444/6
Matrix: Air
Analysis Batch: 32444

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND	LW	1.0		ppm v/v			12/23/13 11:28	1

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C12)	ND	LW	4100		ug/m3			12/23/13 11:28	1

Lab Sample ID: LCS 320-32444/3
Matrix: Air
Analysis Batch: 32444

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)	100	110		ppm v/v		110	80 - 131

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
TPH (as Gasoline)	410000	448000		ug/m3		110	80 - 131

Method: TO3 - Volatile Organic Compounds in Ambient Air, Cryogenic Pre-Conc Techniques (GC) (Continued)

Lab Sample ID: LCSD 320-32444/4
Matrix: Air
Analysis Batch: 32444

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)			100	108		ppm v/v		108	80 - 131	1	20

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
TPH (as Gasoline)			410000	442000		ug/m3		108	80 - 131	1	20

Air - GC/MS VOA

Analysis Batch: 33329

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-5438-1	SG-1A	Total/NA	Air	TO-15 MOD	
LCS 320-33329/4	Lab Control Sample	Total/NA	Air	TO-15 MOD	
LCSD 320-33329/5	Lab Control Sample Dup	Total/NA	Air	TO-15 MOD	
MB 320-33329/9	Method Blank	Total/NA	Air	TO-15 MOD	

Air - GC VOA

Analysis Batch: 32444

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-5438-1	SG-1A	Total/NA	Air	TO3	
LCS 320-32444/3	Lab Control Sample	Total/NA	Air	TO3	
LCSD 320-32444/4	Lab Control Sample Dup	Total/NA	Air	TO3	
MB 320-32444/6	Method Blank	Total/NA	Air	TO3	

Analysis Batch: 32592

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-5438-1	SG-1A	Total/NA	Air	D1946	
LCS 320-32592/2	Lab Control Sample	Total/NA	Air	D1946	
MB 320-32592/3	Method Blank	Total/NA	Air	D1946	

Analysis Batch: 32593

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-5438-1	SG-1A	Total/NA	Air	D1946	
LCS 320-32593/5	Lab Control Sample	Total/NA	Air	D1946	
LCS 320-32593/6	Lab Control Sample	Total/NA	Air	D1946	
MB 320-32593/8	Method Blank	Total/NA	Air	D1946	
MB 320-32593/9	Method Blank	Total/NA	Air	D1946	

Lab Chronicle

Client: Broadbent & Associates, Inc.
Project/Site: ARCO 0374, Oakland

TestAmerica Job ID: 320-5438-1

Client Sample ID: SG-1A
Date Collected: 12/18/13 11:25
Date Received: 12/21/13 12:00

Lab Sample ID: 320-5438-1
Matrix: Air

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	33329	01/07/14 23:13	TAD	TAL SAC
Total/NA	Analysis	TO3		2.09	1 mL	1 mL	32444	12/23/13 15:08	TAD	TAL SAC
Total/NA	Analysis	D1946		2.09	50 mL	50 mL	32592	12/26/13 09:42	TAD	TAL SAC
Total/NA	Analysis	D1946		2.09	50 mL	50 mL	32593	12/26/13 09:28	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 0374, Oakland

TestAmerica Job ID: 320-5438-1

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	A2LA		NE-OS-22-13	01-31-14
A2LA	DoD ELAP		2928-01	03-31-14
Alaska (UST)	State Program	10	UST-055	02-28-14 *
Arizona	State Program	9	AZ0708	08-11-14
Arkansas DEQ	State Program	6	88-0691	06-17-14
California	State Program	9	2897	01-31-15
Colorado	State Program	8	N/A	08-31-14
Connecticut	State Program	1	PH-0691	06-30-15
Florida	NELAP	4	E87570	06-30-14
Guam	State Program	9	N/A	08-31-14
Hawaii	State Program	9	N/A	01-29-15
Illinois	NELAP	5	200060	03-17-15
Kansas	NELAP	7	E-10375	10-31-14
Louisiana	NELAP	6	30612	06-30-14
Michigan	State Program	5	9947	02-28-14 *
Nebraska	State Program	7	NE-OS-22-13	02-28-14 *
Nevada	State Program	9	CA44	07-31-14
New Jersey	NELAP	2	CA005	06-30-14
New York	NELAP	2	11666	03-31-14
Northern Mariana Islands	State Program	9	MP0007	02-28-14 *
Oregon	NELAP	10	CA200005	01-29-15
Pennsylvania	NELAP	3	68-01272	03-31-14
South Carolina	State Program	4	87014	06-30-14
Texas	NELAP	6	T104704399-08-TX	05-31-14
US Fish & Wildlife	Federal		LE148388-0	12-31-14
USDA	Federal		P330-11-00436	12-30-14
USEPA UCMR	Federal	1	CA00044	11-06-14
Utah	NELAP	8	QUAN1	02-28-15
Washington	State Program	10	C581	05-05-14
Wyoming	State Program	8	8TMS-Q	02-28-14 *

* Expired certification is currently pending renewal and is considered valid.

Method Summary

Client: Broadbent & Associates, Inc.
Project/Site: ARCO 0374, Oakland

TestAmerica Job ID: 320-5438-1

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
TO3	Volatile Organic Compounds in Ambient Air, Cryogenic Pre-Conc Techniques (GC)	EPA	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 0374, Oakland

TestAmerica Job ID: 320-5438-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-5438-1	SG-1A	Air	12/18/13 11:25	12/21/13 12:00

bp rm — *Laboratory Management Program LaMP* Chain of Custody Record

BP Site Node Path: 06-88-602 **Req Due Date (mm/dd/yy):** _____ **Rush TAT:** Yes ____ No X

BP Facility No: 374 **Lab Work Order Number:** _____

Lab Name: Test America	Facility Address: 6407 Telegraph Avenue	Consultant/Contractor: Broadbent and Associates, Inc
Lab Address: 880 Riverside Parkway, Sacramento, Ca	City, State, ZIP Code: Oakland, CA	Consultant/Contractor Project No: 06-88-602
Lab PM: Beth Riley	Lead Regulatory Agency: ACEH	Address: 875 Cotting Lane, Suite G, Vacaville, CA
Lab Phone: 916-373-5600	California Global ID No.: T0600100106	Consultant/Contractor PM: Kristene Tidwell
Lab Shipping Acct: 1103-6633-7	Enfos Proposal No. 00851-004	Phone: 707-455-7290 Fax: 707-455-7295
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
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 Start	Time Stop	Canister Vacuum in Field, 'Hg (start)'	Canister Vacuum in Field, 'Hg (Stop)'	Flow Controller ID	Canister ID	GRO by TO-3	BTEX & MTBE by TO-15	Naphthalene by TO-15	Oxygen & Argon 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
	SG-1A	12-18-13	1126	1152	-29	-5	7680	1154	x	x	x	x	x	x	

Note: If sample not collected, indicate "No Sample" in comments and single-strike out and initial any preprinted sample description.

320-5438 Chain of Custody

Sampler's Name: James Ramos / Alex Martinez	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date / Time
Sampler's Company: Broadbent and Associates	[signature] / Broadbent	12/20/13		A-O-A-G	12/21/13 12:00
Shipment Method: Fed Ex Ship Date: 12/20/2013					
Shipment Tracking No.					

Special Instructions:

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
THE LEADER IN ENVIRONMENTAL TESTING

CANISTER FIELD DATA RECORD

Sacramento

JOB # 320-5438
Sample # 1

Client/Project:	Broadbent and Associates/32005073	VFR ID:		
Canister Serial #:	34001154	Duration:		☐ Hrs ☐ Min
Cleaning Job:	320-4945	Flow:		mL/min
Client ID:		Initials:		
Site Location:				

FIELD

READING	TIME	PRESS.	DATE	INITIALS
INITIAL FIELD VACUUM	11:28	29	12/18/13	
FINAL FIELD READING	11:52	5	12/18/13	

LABORATORY

READING		PRESS.	DATE	INITIALS
INITIAL VACUUM CHECK (INCHES Hg)		29.8	12/04/13	JMT
☐ Helium Pre-dilution - Final Pressure (INCHES Hg)				
INITIAL PRESSURE (PSIA)		11.32	12/21/13	AO
FINAL PRESSURE (PSIA)		23.70	12/21/13	AO
Pressurization Gas: ☐ N2 ☐ He		SCREENED ☐	SCRN DIL. VS 250mLs:	
Initial Canister Dilution Factor =	2.09			

CANISTER REPRESSURIZATION

Date	Pi (PSIA)	Pf (PSIA)	Initial DF	Initials	NEW DF
					#DIV/0!
					#DIV/0!
					#DIV/0!

Analytical Dilution Factors

							Date	Instr.	File #		
							1/7/2014	MS2			FINAL DF
Canister DF =	2.09	X	Load DF =	0.4807692	X	Bag DF =	1	=	1.004807692		
			LVf (mLs)	50		BVf (mLs)					
			LVi (mLs)	104		Bvi (mLs)					
							Date	Instr.	File #		
											FINAL DF
Canister DF =		X	Load DF =	#DIV/0!	X	Bag DF =	1	=	#DIV/0!		
			LVf (mLs)			BVf (mLs)					
			LVi (mLs)			Bvi (mLs)					
							Date	Instr.	File #		
											FINAL DF
Canister DF =		X	Load DF =	#DIV/0!	X	Bag DF =	1	=	#DIV/0!		
			LVf (mLs)			BVf (mLs)					
			LVi (mLs)			Bvi (mLs)					

Login Sample Receipt Checklist

Client: Broadbent & Associates, Inc.

Job Number: 320-5438-1

Login Number: 5438

List Source: TestAmerica Sacramento

List Number: 1

Creator: Ortiz, Ana 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.	N/A	
Cooler Temperature is acceptable.	True	
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	

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sacramento
Canister QC Certification
Individual Certification

Certification Type: TO-15

Date Cleaned/Batch ID: C111113 320-4945

Date of QC: 11/12/13

320-4945 Chain of Custody

Canister ID	Filename	Canister ID	Filename
34000164	MS111215		
0191	MS111209		
0215	MS111217		
0349	MS111211		
0422	MS111210		
0820	MS111216		
0921	MS111214		
1155	MS111213		
1154	MS111218		
1333	MS111212		
1426	MS111208		
1516			

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.

1st level Reviewed By: [signature] Date: 11/13/13

2nd level Reviewed By: [signature] Date: 11/13/2013

Q:\FORMS\QA-821 IND CAN QC 20130729.DOC
QA-821

ERS 7/29/2013

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-4945-1

SDG No.:

Client Sample ID: 34000164 Lab Sample ID: 320-4945-1

Matrix: Air Lab File ID: MS111215.D

Analysis Method: TO-15 Date Collected: 11/12/2013 00:00

Sample wt/vol: 500(mL) Date Analyzed: 11/12/2013 22:10

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: See SOP ID:

% Moisture: Level: (low/med) Low

Analysis Batch No.: 29645 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL
67-64-1	Acetone	ND		5.0
107-02-8	Acrolein	ND		2.0
107-13-1	Acrylonitrile	ND		2.0
107-05-1	Allyl chloride	ND		0.80
71-43-2	Benzene	ND		0.40
100-44-7	Benzyl chloride	ND		0.80
75-27-4	Bromodichloromethane	ND		0.30
75-25-2	Bromoform	ND		0.40
74-83-9	Bromomethane	ND		0.80
106-99-0	1,3-Butadiene	ND		0.80
106-97-8	n-Butane	ND		0.40
78-93-3	2-Butanone (MEK)	ND		0.80
75-65-0	tert-Butyl alcohol (TBA)	ND		2.0
104-51-8	n-Butylbenzene	ND		0.40
135-98-8	sec-Butylbenzene	ND		0.40
98-06-6	tert-Butylbenzene	ND		0.80
75-15-0	Carbon disulfide	ND		0.80
56-23-5	Carbon tetrachloride	ND		0.80
108-90-7	Chlorobenzene	ND		0.30
75-45-6	Chlorodifluoromethane	ND		0.80
75-00-3	Chloroethane	ND		0.80
67-66-3	Chloroform	ND		0.30
74-87-3	Chloromethane	ND		0.80
95-49-8	2-Chlorotoluene	ND		0.40
110-82-7	Cyclohexane	ND		0.40
124-48-1	Dibromochloromethane	ND		0.40
106-93-4	1,2-Dibromoethane (EDB)	ND		0.80
74-95-3	Dibromomethane	ND		0.40
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		0.40
95-50-1	1,2-Dichlorobenzene	ND		0.40
541-73-1	1,3-Dichlorobenzene	ND		0.40
106-46-7	1,4-Dichlorobenzene	ND		0.40
75-71-8	Dichlorodifluoromethane	ND		0.40
75-34-3	1,1-Dichloroethane	ND		0.30
107-06-2	1,2-Dichloroethane	ND		0.80
75-35-4	1,1-Dichloroethene	ND		0.80

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-4945-1

SDG No.:

Client Sample ID: 34000164 Lab Sample ID: 320-4945-1

Matrix: Air Lab File ID: MS111215.D

Analysis Method: TO-15 Date Collected: 11/12/2013 00:00

Sample wt/vol: 500(mL) Date Analyzed: 11/12/2013 22:10

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: See SOP ID:

% Moisture: Level: (low/med) Low

Analysis Batch No.: 29645 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL
156-59-2	cis-1,2-Dichloroethene	ND		0.40
156-60-5	trans-1,2-Dichloroethene	ND		0.40
78-87-5	1,2-Dichloropropane	ND		0.40
10061-01-5	cis-1,3-Dichloropropene	ND		0.40
10061-02-6	trans-1,3-Dichloropropene	ND		0.40
123-91-1	1,4-Dioxane	ND		0.80
141-78-6	Ethyl acetate	ND		0.30
100-41-4	Ethylbenzene	ND		0.40
622-96-8	4-Ethyltoluene	ND		0.40
142-82-5	n-Heptane	ND		0.80
87-68-3	Hexachlorobutadiene	ND		2.0
110-54-3	n-Hexane	ND		0.80
591-78-6	2-Hexanone	ND		0.40
98-82-8	Isopropylbenzene	ND		0.80
99-87-6	4-Isopropyltoluene	ND		0.80
1634-04-4	Methyl-t-Butyl Ether (MTBE)	ND		0.80
80-62-6	Methyl methacrylate	ND		0.80
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		0.40
75-09-2	Methylene Chloride	ND		0.40
98-83-9	alpha-Methylstyrene	ND		0.40
91-20-3	Naphthalene	ND		0.80
111-65-9	n-Octane	ND		0.40
109-66-0	n-Pentane	ND		0.80
115-07-1	Propylene	ND		0.40
103-65-1	N-Propylbenzene	ND		0.40
100-42-5	Styrene	ND		0.40
79-34-5	1,1,2,2-Tetrachloroethane	ND		0.40
127-18-4	Tetrachloroethene	ND		0.40
109-99-9	Tetrahydrofuran	ND		0.80
108-88-3	Toluene	ND		0.40
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.40
120-82-1	1,2,4-Trichlorobenzene	ND		2.0
71-55-6	1,1,1-Trichloroethane	ND		0.30
79-00-5	1,1,2-Trichloroethane	ND		0.40
79-01-6	Trichloroethene	ND		0.40
75-69-4	Trichlorofluoromethane	ND		0.40

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-4945-1

SDG No.:

Client Sample ID: 34000164 Lab Sample ID: 320-4945-1

Matrix: Air Lab File ID: MS111215.D

Analysis Method: TO-15 Date Collected: 11/12/2013 00:00

Sample wt/vol: 500(mL) Date Analyzed: 11/12/2013 22:10

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: See SOP ID:

% Moisture: Level: (low/med) Low

Analysis Batch No.: 29645 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL
96-18-4	1,2,3-Trichloropropane	ND		0.40
95-63-6	1,2,4-Trimethylbenzene	ND		0.80
108-67-8	1,3,5-Trimethylbenzene	ND		0.40
540-84-1	2,2,4-Trimethylpentane	ND		0.40
108-05-4	Vinyl acetate	ND		0.80
593-60-2	Vinyl bromide	ND		0.80
75-01-4	Vinyl chloride	ND		0.40
179601-23-1	m,p-Xylene	ND		0.80
95-47-6	o-Xylene	ND		0.40

CAS NO.	SURROGATE	%REC	Q	LIMITS
460-00-4	4-Bromofluorobenzene (Surr)	89		70-130
17060-07-0	1,2-Dichloroethane-d4 (Surr)	99		70-130
2037-26-5	Toluene-d8 (Surr)	99		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\MS111215.D
Lims ID: 320-4945-A-1 Lab Sample ID: 320-4945-1
Client ID: 34000164
Sample Type: Client
Inject. Date: 12-Nov-2013 22:10:30 ALS Bottle#: 10 Worklist Smp#: 16
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 320-4945-
Misc. Info.: 34000164
Operator ID: AO Instrument ID: ATMS5

Method: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\TO15_ATMS5.m
Limit Group: MSA - TO15 - ICAL
Last Update: 13-Nov-2013 12:08:27 Calib Date: 12-Nov-2013 11:19:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\MS111204.D

Column 1 : Detector MS SCAN
Process Host: XAWRK010

First Level Reviewer: ortizam Date: 13-Nov-2013 12:08:27

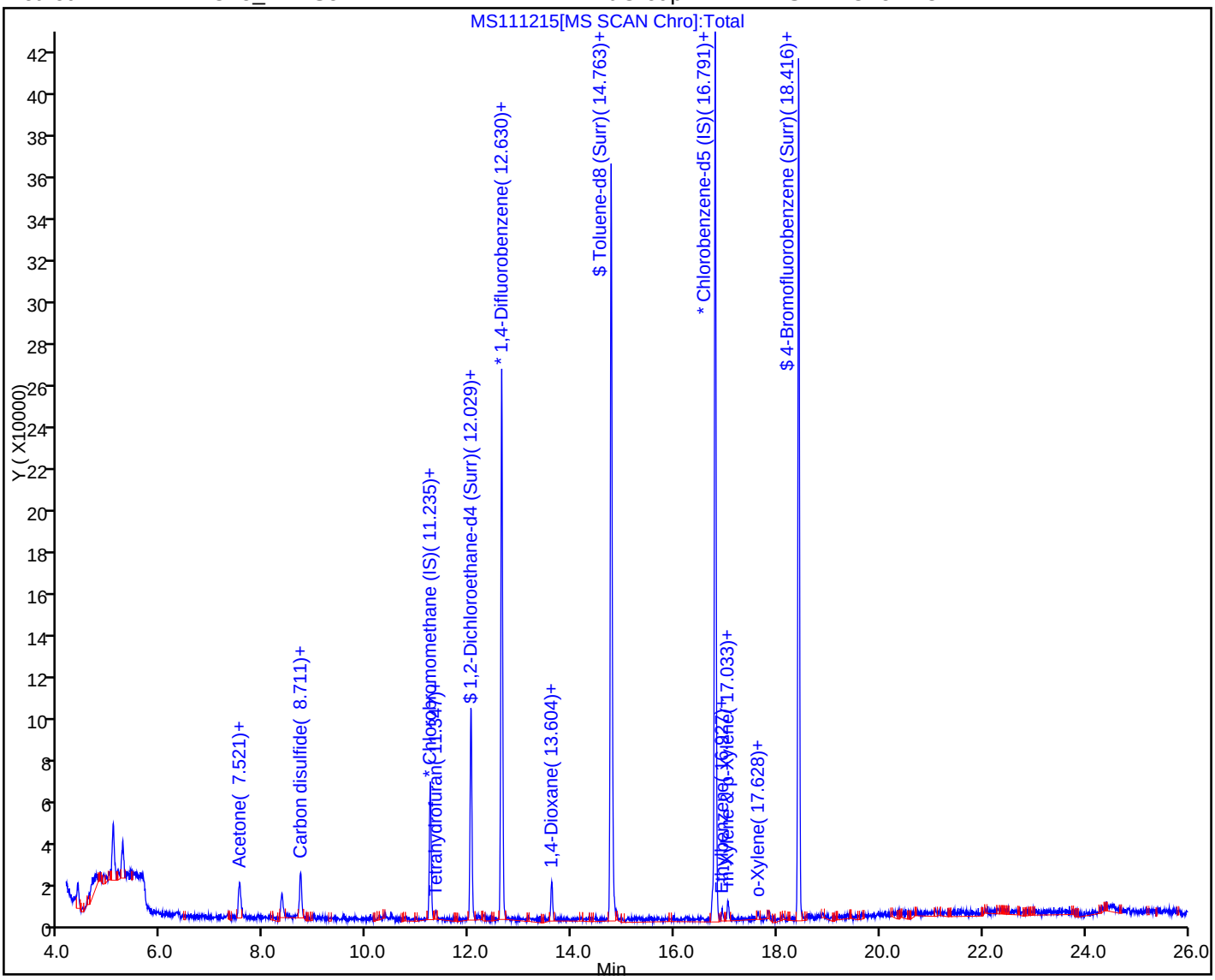
Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	On-Col Amt ppb v/v	Flags
* 1 Chlorobromomethane (IS)	130	11.235	11.241	-0.006	97	29967	3.88	
* 2 1,4-Difluorobenzene	114	12.630	12.630	0.0	94	275913	4.00	
* 3 Chlorobenzene-d5 (IS)	117	16.791	16.791	0.0	85	317031	4.00	
$ 4 1,2-Dichloroethane-d4 (Surr)	65	12.035	12.029	0.006	13	68013	3.84	
$ 5 Toluene-d8 (Surr)	100	14.763	14.764	-0.001	94	203534	3.98	
$ 6 4-Bromofluorobenzene (Surr)	95	18.416	18.416	0.0	94	171586	3.56	
11 Propene	41	4.321	4.321	0.0	92	2220	0.0607	
32 Acrolein	56	7.397	7.397	0.0	5	632	0.0498	
33 Acetone	43	7.515	7.521	-0.007	95	34351	0.2899	
41 Carbon disulfide	76	8.711	8.711	0.0	99	42391	0.3970	
49 2-Butanone (MEK)	72	10.491	10.479	0.012	76	1065	0.0614	
55 Tetrahydrofuran	42	11.340	11.341	-0.001	46	2575	0.0578	
69 1,4-Dioxane	88	13.598	13.604	-0.006	97	13134	0.5907	
86 Ethylbenzene	91	16.927	16.928	-0.001	37	3326	0.0193	
88 m-Xylene & p-Xylene	91	17.045	17.039	0.006	71	6933	0.0524	
89 o-Xylene	91	17.616	17.628	-0.012	1	2650	0.0193	

Report Date: 13-Nov-2013 12:08:28 Chrom Revision: 2.1 15-Oct-2013 07:52:24

TestAmerica Sacramento

Data File: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\MS111215.D

Injection Date:	12-Nov-2013 22:10:30	Instrument ID:	ATMS5		
Lims ID:	320-4945-A-1	Lab Sample ID:	320-4945-1		
Client ID:	34000164				
Operator ID:	AO	ALS Bottle#:	10	Worklist Smp#:	16
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	TO15_ATMS5	Limit Group:	MSA - TO15 - ICAL		



FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-4945-1

SDG No.:

Client Sample ID: 34000191 Lab Sample ID: 320-4945-2

Matrix: Air Lab File ID: MS111209.D

Analysis Method: TO-15 Date Collected: 11/12/2013 00:00

Sample wt/vol: 500(mL) Date Analyzed: 11/12/2013 17:42

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: See SOP ID:

% Moisture: Level: (low/med) Low

Analysis Batch No.: 29645 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL
67-64-1	Acetone	ND		5.0
107-02-8	Acrolein	ND		2.0
107-13-1	Acrylonitrile	ND		2.0
107-05-1	Allyl chloride	ND		0.80
71-43-2	Benzene	ND		0.40
100-44-7	Benzyl chloride	ND		0.80
75-27-4	Bromodichloromethane	ND		0.30
75-25-2	Bromoform	ND		0.40
74-83-9	Bromomethane	ND		0.80
106-99-0	1,3-Butadiene	ND		0.80
106-97-8	n-Butane	ND		0.40
78-93-3	2-Butanone (MEK)	ND		0.80
75-65-0	tert-Butyl alcohol (TBA)	ND		2.0
104-51-8	n-Butylbenzene	ND		0.40
135-98-8	sec-Butylbenzene	ND		0.40
98-06-6	tert-Butylbenzene	ND		0.80
75-15-0	Carbon disulfide	ND		0.80
56-23-5	Carbon tetrachloride	ND		0.80
108-90-7	Chlorobenzene	ND		0.30
75-45-6	Chlorodifluoromethane	ND		0.80
75-00-3	Chloroethane	ND		0.80
67-66-3	Chloroform	ND		0.30
74-87-3	Chloromethane	ND		0.80
95-49-8	2-Chlorotoluene	ND		0.40
110-82-7	Cyclohexane	ND		0.40
124-48-1	Dibromochloromethane	ND		0.40
106-93-4	1,2-Dibromoethane (EDB)	ND		0.80
74-95-3	Dibromomethane	ND		0.40
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		0.40
95-50-1	1,2-Dichlorobenzene	ND		0.40
541-73-1	1,3-Dichlorobenzene	ND		0.40
106-46-7	1,4-Dichlorobenzene	ND		0.40
75-71-8	Dichlorodifluoromethane	ND		0.40
75-34-3	1,1-Dichloroethane	ND		0.30
107-06-2	1,2-Dichloroethane	ND		0.80
75-35-4	1,1-Dichloroethene	ND		0.80

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-4945-1

SDG No.:

Client Sample ID: 34000191 Lab Sample ID: 320-4945-2

Matrix: Air Lab File ID: MS111209.D

Analysis Method: TO-15 Date Collected: 11/12/2013 00:00

Sample wt/vol: 500(mL) Date Analyzed: 11/12/2013 17:42

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: See SOP ID:

% Moisture: Level: (low/med) Low

Analysis Batch No.: 29645 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL
156-59-2	cis-1,2-Dichloroethene	ND		0.40
156-60-5	trans-1,2-Dichloroethene	ND		0.40
78-87-5	1,2-Dichloropropane	ND		0.40
10061-01-5	cis-1,3-Dichloropropene	ND		0.40
10061-02-6	trans-1,3-Dichloropropene	ND		0.40
123-91-1	1,4-Dioxane	ND		0.80
141-78-6	Ethyl acetate	ND		0.30
100-41-4	Ethylbenzene	ND		0.40
622-96-8	4-Ethyltoluene	ND		0.40
142-82-5	n-Heptane	ND		0.80
87-68-3	Hexachlorobutadiene	ND		2.0
110-54-3	n-Hexane	ND		0.80
591-78-6	2-Hexanone	ND		0.40
98-82-8	Isopropylbenzene	ND		0.80
99-87-6	4-Isopropyltoluene	ND		0.80
1634-04-4	Methyl-t-Butyl Ether (MTBE)	ND		0.80
80-62-6	Methyl methacrylate	ND		0.80
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		0.40
75-09-2	Methylene Chloride	ND		0.40
98-83-9	alpha-Methylstyrene	ND		0.40
91-20-3	Naphthalene	ND		0.80
111-65-9	n-Octane	ND		0.40
109-66-0	n-Pentane	ND		0.80
115-07-1	Propylene	ND		0.40
103-65-1	N-Propylbenzene	ND		0.40
100-42-5	Styrene	ND		0.40
79-34-5	1,1,2,2-Tetrachloroethane	ND		0.40
127-18-4	Tetrachloroethene	ND		0.40
109-99-9	Tetrahydrofuran	ND		0.80
108-88-3	Toluene	ND		0.40
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.40
120-82-1	1,2,4-Trichlorobenzene	ND		2.0
71-55-6	1,1,1-Trichloroethane	ND		0.30
79-00-5	1,1,2-Trichloroethane	ND		0.40
79-01-6	Trichloroethene	ND		0.40
75-69-4	Trichlorofluoromethane	ND		0.40

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-4945-1

SDG No.:

Client Sample ID: 34000191 Lab Sample ID: 320-4945-2

Matrix: Air Lab File ID: MS111209.D

Analysis Method: TO-15 Date Collected: 11/12/2013 00:00

Sample wt/vol: 500(mL) Date Analyzed: 11/12/2013 17:42

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: See SOP ID:

% Moisture: Level: (low/med) Low

Analysis Batch No.: 29645 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL
96-18-4	1,2,3-Trichloropropane	ND		0.40
95-63-6	1,2,4-Trimethylbenzene	ND		0.80
108-67-8	1,3,5-Trimethylbenzene	ND		0.40
540-84-1	2,2,4-Trimethylpentane	ND		0.40
108-05-4	Vinyl acetate	ND		0.80
593-60-2	Vinyl bromide	ND		0.80
75-01-4	Vinyl chloride	ND		0.40
179601-23-1	m,p-Xylene	ND		0.80
95-47-6	o-Xylene	ND		0.40

CAS NO.	SURROGATE	%REC	Q	LIMITS
460-00-4	4-Bromofluorobenzene (Surr)	86		70-130
17060-07-0	1,2-Dichloroethane-d4 (Surr)	96		70-130
2037-26-5	Toluene-d8 (Surr)	98		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\MS111209.D
Lims ID: 320-4945-A-2 Lab Sample ID: 320-4945-2
Client ID: 34000191
Sample Type: Client
Inject. Date: 12-Nov-2013 17:42:30 ALS Bottle#: 4 Worklist Smp#: 10
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 320-4945-
Misc. Info.: 34000191
Operator ID: AO Instrument ID: ATMS5

Method: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\TO15_ATMS5.m
Limit Group: MSA - TO15 - ICAL
Last Update: 13-Nov-2013 11:49:34 Calib Date: 12-Nov-2013 11:19:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\MS111204.D

Column 1 : Detector MS SCAN
Process Host: XAWRK010

First Level Reviewer: ortizam Date: 13-Nov-2013 11:49:34

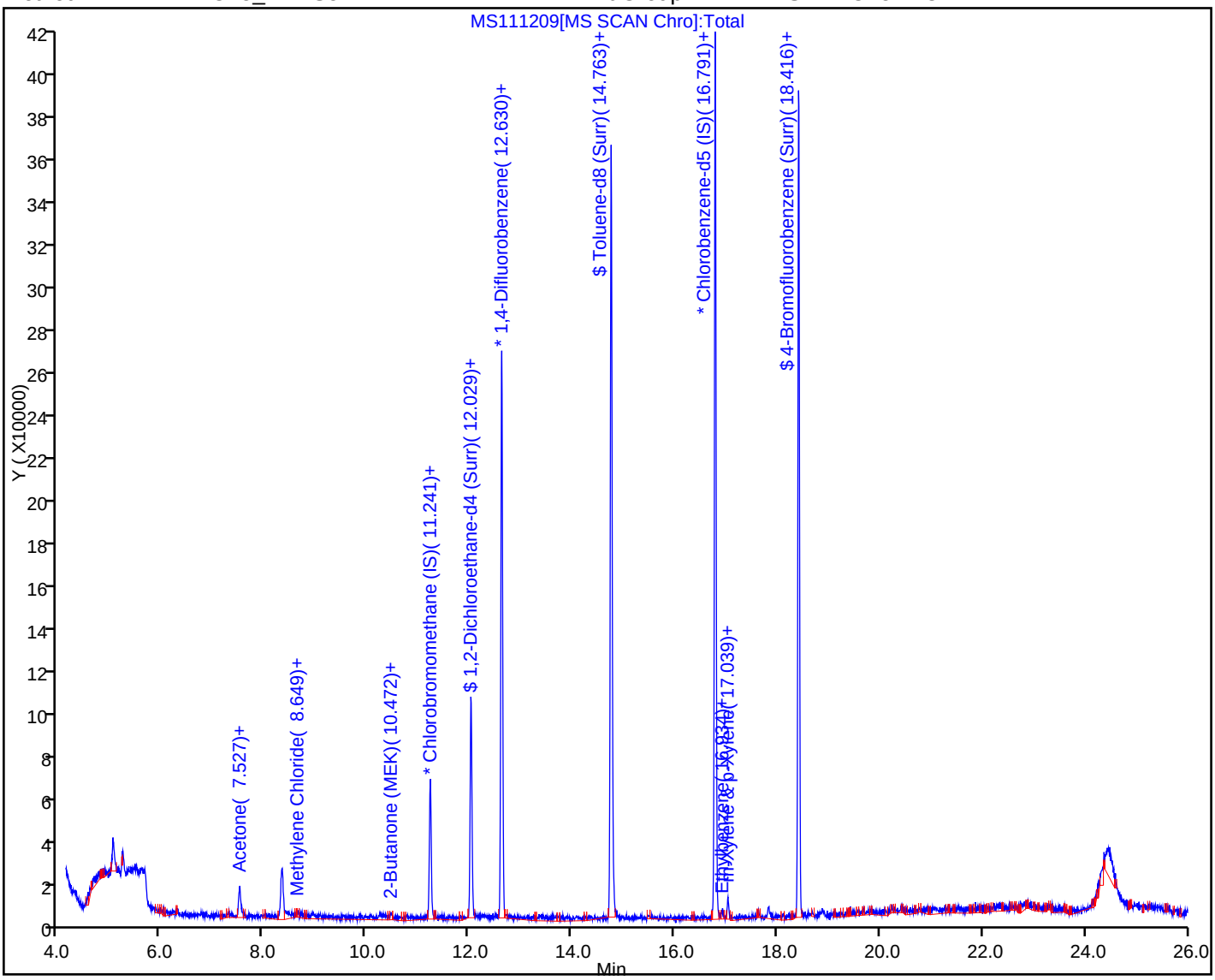
Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	On-Col Amt ppb v/v	Flags
* 1 Chlorobromomethane (IS)	130	11.241	11.241	0.0	93	29651	3.88	
* 2 1,4-Difluorobenzene	114	12.630	12.630	0.0	94	283629	4.00	
* 3 Chlorobenzene-d5 (IS)	117	16.791	16.791	0.0	84	314148	4.00	
$ 4 1,2-Dichloroethane-d4 (Surr)	65	12.029	12.029	0.0	13	68002	3.74	
$ 5 Toluene-d8 (Surr)	100	14.763	14.764	-0.001	93	205781	3.91	
$ 6 4-Bromofluorobenzene (Surr)	95	18.416	18.416	0.0	93	164516	3.45	
33 Acetone	43	7.521	7.521	0.0	90	26703	0.2278	
40 Methylene Chloride	49	8.649	8.643	0.006	53	1505	0.0296	
49 2-Butanone (MEK)	72	10.472	10.479	-0.007	58	425	0.0248	
74 n-Octane	43	14.720	14.733	-0.012	24	2544	0.0244	
75 Toluene	91	14.856	14.869	-0.013	28	1763	0.0117	
86 Ethylbenzene	91	16.934	16.928	0.006	2	2710	0.0159	
88 m-Xylene & p-Xylene	91	17.045	17.039	0.006	67	6576	0.0501	

Report Date: 13-Nov-2013 11:49:34 Chrom Revision: 2.1 15-Oct-2013 07:52:24

TestAmerica Sacramento

Data File: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\MS111209.D

Injection Date:	12-Nov-2013 17:42:30	Instrument ID:	ATMS5		
Lims ID:	320-4945-A-2	Lab Sample ID:	320-4945-2		
Client ID:	34000191				
Operator ID:	AO	ALS Bottle#:	4	Worklist Smp#:	10
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	TO15_ATMS5	Limit Group:	MSA - TO15 - ICAL		



FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-4945-1

SDG No.:

Client Sample ID: 34000215 Lab Sample ID: 320-4945-3

Matrix: Air Lab File ID: MS111217.D

Analysis Method: TO-15 Date Collected: 11/12/2013 00:00

Sample wt/vol: 500(mL) Date Analyzed: 11/12/2013 23:40

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: See SOP ID:

% Moisture: Level: (low/med) Low

Analysis Batch No.: 29645 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL
67-64-1	Acetone	ND		5.0
107-02-8	Acrolein	ND		2.0
107-13-1	Acrylonitrile	ND		2.0
107-05-1	Allyl chloride	ND		0.80
71-43-2	Benzene	ND		0.40
100-44-7	Benzyl chloride	ND		0.80
75-27-4	Bromodichloromethane	ND		0.30
75-25-2	Bromoform	ND		0.40
74-83-9	Bromomethane	ND		0.80
106-99-0	1,3-Butadiene	ND		0.80
106-97-8	n-Butane	ND		0.40
78-93-3	2-Butanone (MEK)	ND		0.80
75-65-0	tert-Butyl alcohol (TBA)	ND		2.0
104-51-8	n-Butylbenzene	ND		0.40
135-98-8	sec-Butylbenzene	ND		0.40
98-06-6	tert-Butylbenzene	ND		0.80
75-15-0	Carbon disulfide	ND		0.80
56-23-5	Carbon tetrachloride	ND		0.80
108-90-7	Chlorobenzene	ND		0.30
75-45-6	Chlorodifluoromethane	ND		0.80
75-00-3	Chloroethane	ND		0.80
67-66-3	Chloroform	ND		0.30
74-87-3	Chloromethane	ND		0.80
95-49-8	2-Chlorotoluene	ND		0.40
110-82-7	Cyclohexane	ND		0.40
124-48-1	Dibromochloromethane	ND		0.40
106-93-4	1,2-Dibromoethane (EDB)	ND		0.80
74-95-3	Dibromomethane	ND		0.40
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		0.40
95-50-1	1,2-Dichlorobenzene	ND		0.40
541-73-1	1,3-Dichlorobenzene	ND		0.40
106-46-7	1,4-Dichlorobenzene	ND		0.40
75-71-8	Dichlorodifluoromethane	ND		0.40
75-34-3	1,1-Dichloroethane	ND		0.30
107-06-2	1,2-Dichloroethane	ND		0.80
75-35-4	1,1-Dichloroethene	ND		0.80

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-4945-1

SDG No.:

Client Sample ID: 34000215 Lab Sample ID: 320-4945-3

Matrix: Air Lab File ID: MS111217.D

Analysis Method: TO-15 Date Collected: 11/12/2013 00:00

Sample wt/vol: 500(mL) Date Analyzed: 11/12/2013 23:40

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: See SOP ID:

% Moisture: Level: (low/med) Low

Analysis Batch No.: 29645 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL
156-59-2	cis-1,2-Dichloroethene	ND		0.40
156-60-5	trans-1,2-Dichloroethene	ND		0.40
78-87-5	1,2-Dichloropropane	ND		0.40
10061-01-5	cis-1,3-Dichloropropene	ND		0.40
10061-02-6	trans-1,3-Dichloropropene	ND		0.40
123-91-1	1,4-Dioxane	ND		0.80
141-78-6	Ethyl acetate	ND		0.30
100-41-4	Ethylbenzene	ND		0.40
622-96-8	4-Ethyltoluene	ND		0.40
142-82-5	n-Heptane	ND		0.80
87-68-3	Hexachlorobutadiene	ND		2.0
110-54-3	n-Hexane	ND		0.80
591-78-6	2-Hexanone	ND		0.40
98-82-8	Isopropylbenzene	ND		0.80
99-87-6	4-Isopropyltoluene	ND		0.80
1634-04-4	Methyl-t-Butyl Ether (MTBE)	ND		0.80
80-62-6	Methyl methacrylate	ND		0.80
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		0.40
75-09-2	Methylene Chloride	ND		0.40
98-83-9	alpha-Methylstyrene	ND		0.40
91-20-3	Naphthalene	ND		0.80
111-65-9	n-Octane	ND		0.40
109-66-0	n-Pentane	ND		0.80
115-07-1	Propylene	ND		0.40
103-65-1	N-Propylbenzene	ND		0.40
100-42-5	Styrene	ND		0.40
79-34-5	1,1,2,2-Tetrachloroethane	ND		0.40
127-18-4	Tetrachloroethene	ND		0.40
109-99-9	Tetrahydrofuran	ND		0.80
108-88-3	Toluene	ND		0.40
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.40
120-82-1	1,2,4-Trichlorobenzene	ND		2.0
71-55-6	1,1,1-Trichloroethane	ND		0.30
79-00-5	1,1,2-Trichloroethane	ND		0.40
79-01-6	Trichloroethene	ND		0.40
75-69-4	Trichlorofluoromethane	ND		0.40

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-4945-1

SDG No.:

Client Sample ID: 34000215 Lab Sample ID: 320-4945-3

Matrix: Air Lab File ID: MS111217.D

Analysis Method: TO-15 Date Collected: 11/12/2013 00:00

Sample wt/vol: 500(mL) Date Analyzed: 11/12/2013 23:40

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: See SOP ID:

% Moisture: Level: (low/med) Low

Analysis Batch No.: 29645 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL
96-18-4	1,2,3-Trichloropropane	ND		0.40
95-63-6	1,2,4-Trimethylbenzene	ND		0.80
108-67-8	1,3,5-Trimethylbenzene	ND		0.40
540-84-1	2,2,4-Trimethylpentane	ND		0.40
108-05-4	Vinyl acetate	ND		0.80
593-60-2	Vinyl bromide	ND		0.80
75-01-4	Vinyl chloride	ND		0.40
179601-23-1	m,p-Xylene	ND		0.80
95-47-6	o-Xylene	ND		0.40

CAS NO.	SURROGATE	%REC	Q	LIMITS
460-00-4	4-Bromofluorobenzene (Surr)	85		70-130
17060-07-0	1,2-Dichloroethane-d4 (Surr)	100		70-130
2037-26-5	Toluene-d8 (Surr)	98		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\MS111217.D
Lims ID: 320-4945-A-3 Lab Sample ID: 320-4945-3
Client ID: 34000215
Sample Type: Client
Inject. Date: 12-Nov-2013 23:40:30 ALS Bottle#: 12 Worklist Smp#: 18
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 320-4945-
Misc. Info.: 34000215
Operator ID: AO Instrument ID: ATMS5

Method: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\TO15_ATMS5.m
Limit Group: MSA - TO15 - ICAL
Last Update: 13-Nov-2013 12:11:28 Calib Date: 12-Nov-2013 11:19:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\MS111204.D

Column 1 : Detector MS SCAN
Process Host: XAWRK010

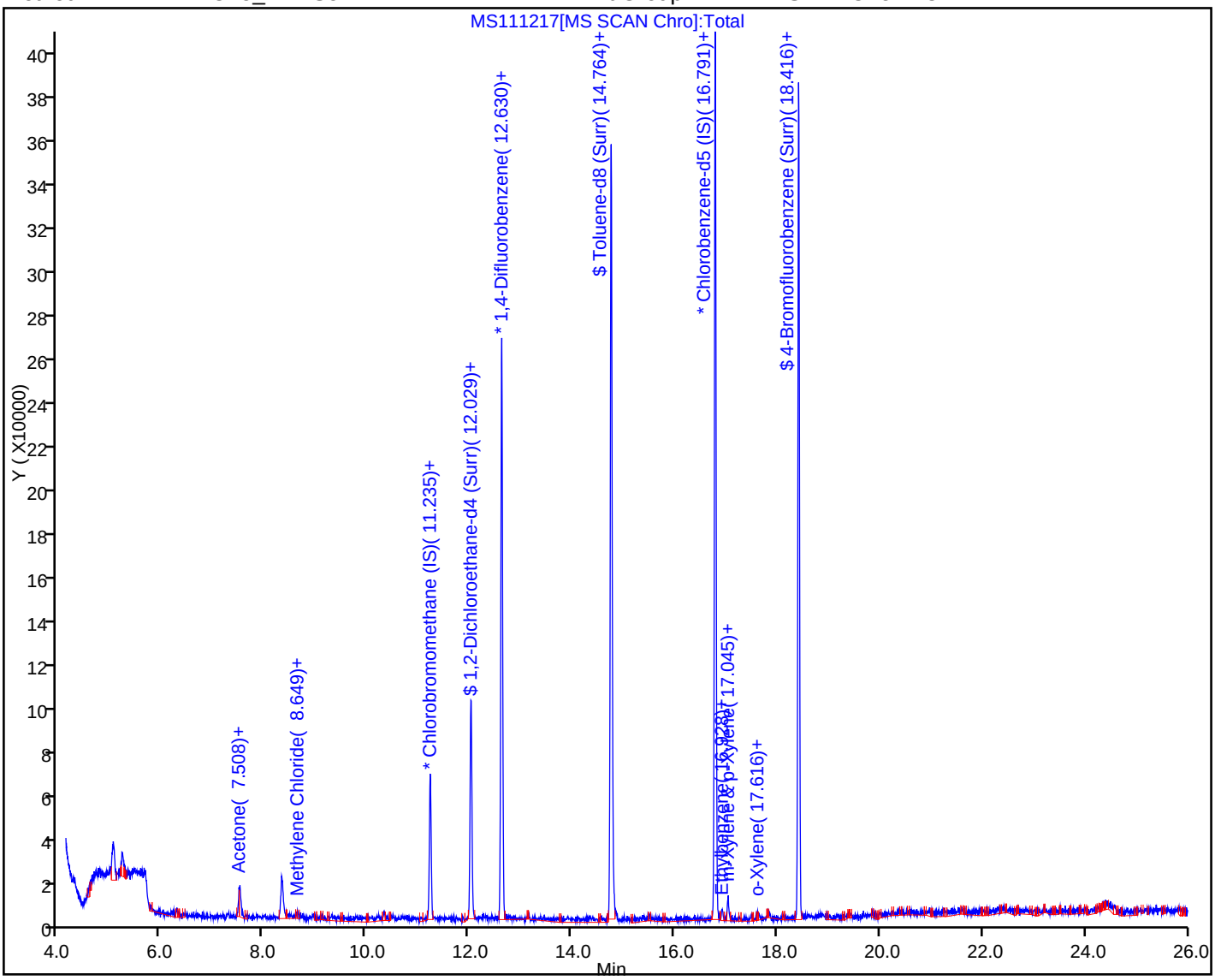
First Level Reviewer: ortizam Date: 13-Nov-2013 12:11:28

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	On-Col Amt ppb v/v	Flags
* 1 Chlorobromomethane (IS)	130	11.235	11.241	-0.006	97	28700	3.88	
* 2 1,4-Difluorobenzene	114	12.630	12.630	0.0	94	279897	4.00	
* 3 Chlorobenzene-d5 (IS)	117	16.791	16.791	0.0	84	307164	4.00	
$ 4 1,2-Dichloroethane-d4 (Surr)	65	12.029	12.029	0.0	15	69831	3.89	
$ 5 Toluene-d8 (Surr)	100	14.764	14.764	0.0	94	204210	3.94	
$ 6 4-Bromofluorobenzene (Surr)	95	18.416	18.416	0.0	94	158994	3.41	
11 Propene	41	4.315	4.321	-0.006	68	1806	0.0515	
33 Acetone	43	7.527	7.521	0.006	96	28691	0.2529	
40 Methylene Chloride	49	8.656	8.643	0.013	56	1722	0.0350	
41 Carbon disulfide	76	8.724	8.711	0.013	62	1191	0.0116	
75 Toluene	91	14.863	14.869	-0.006	0	1824	0.0122	
86 Ethylbenzene	91	16.934	16.934	0.006	1	3264	0.0195	M
88 m-Xylene & p-Xylene	91	17.033	17.039	-0.006	81	7275	0.0567	
89 o-Xylene	91	17.628	17.628	0.0	1	2910	0.0219	

QC Flag Legend

Review Flags
M - Manually Integrated

Data File:	\\SACCHROM\ChromData\ATMS5\20131112-8600.b\MS111217.D				
Injection Date:	12-Nov-2013 23:40:30	Instrument ID:	ATMS5		
Lims ID:	320-4945-A-3	Lab Sample ID:	320-4945-3		
Client ID:	34000215				
Operator ID:	AO	ALS Bottle#:	12	Worklist Smp#:	18
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	TO15_ATMS5	Limit Group:	MSA - TO15 - ICAL		



Manual Integration/User Assign Peak Report

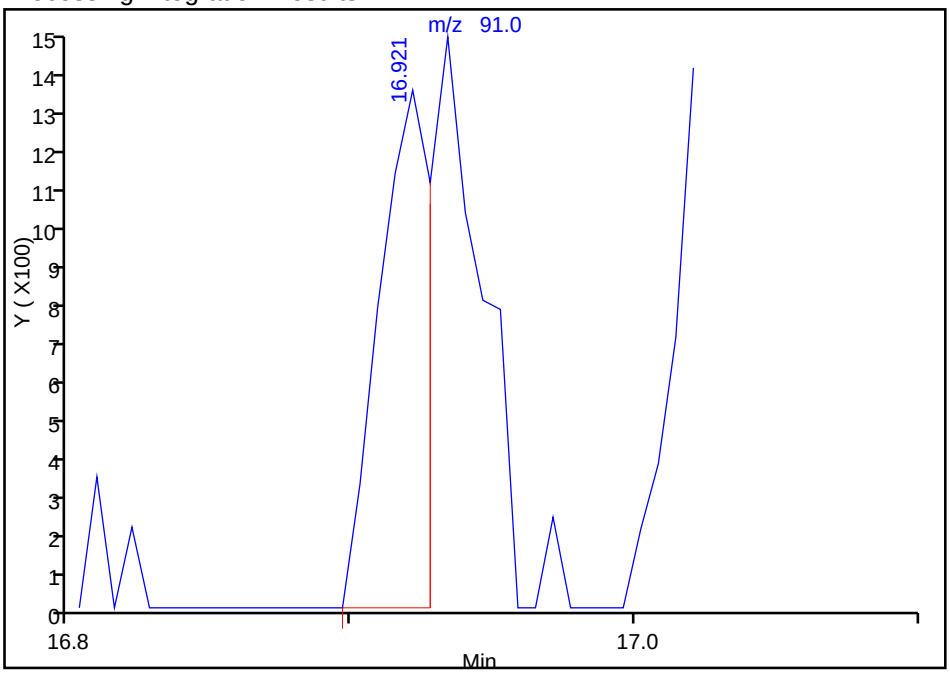
TestAmerica Sacramento

Data File:	\\SACCHROM\ChromData\ATMS5\20131112-8600.b\MS111217.D				
Injection Date:	12-Nov-2013 23:40:30	Instrument ID:	ATMS5		
Lims ID:	320-4945-A-3	Lab Sample ID:	320-4945-3		
Client ID:	34000215				
Operator ID:	AO	ALS Bottle#:	12	Worklist Smp#:	18
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	TO15_ATMS5	Limit Group:	MSA - TO15 - ICAL		
Column:		Detector	MS SCAN		

86 Ethylbenzene, CAS: 100-41-4

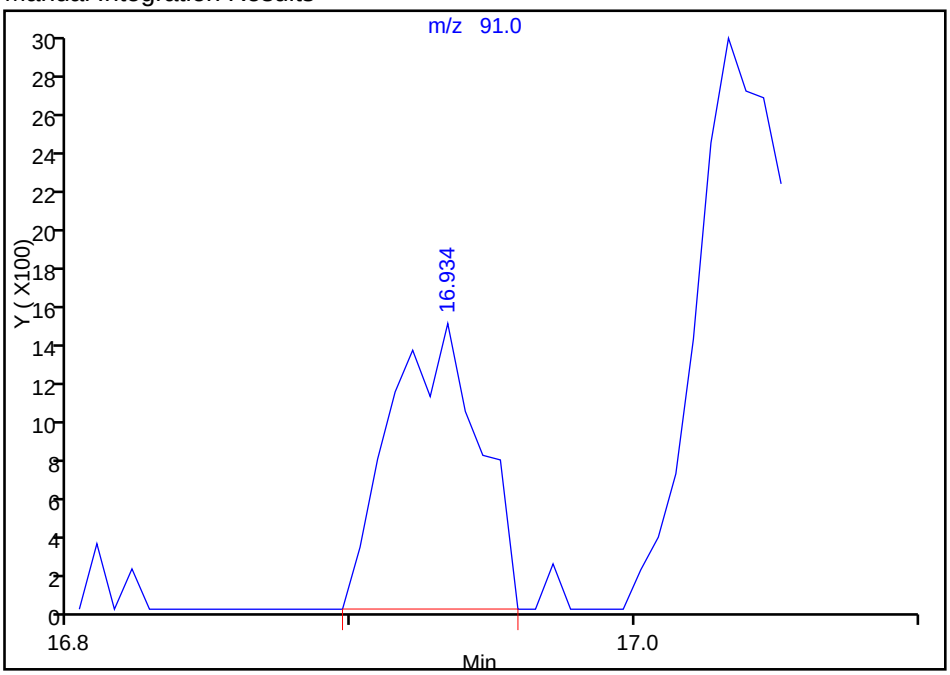
Processing Integration Results

RT: 16.92
Response: 1745
Amount: 0.010446



Manual Integration Results

RT: 16.93
Response: 3264
Amount: 0.019540



Reviewer: ortizam, 13-Nov-2013 12:11:28
Audit Action: Manually Integrated
Audit Reason: Split Peak

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-4945-1

SDG No.:

Client Sample ID: 34000349 Lab Sample ID: 320-4945-4

Matrix: Air Lab File ID: MS111211.D

Analysis Method: TO-15 Date Collected: 11/12/2013 00:00

Sample wt/vol: 500(mL) Date Analyzed: 11/12/2013 19:09

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: See SOP ID:

% Moisture: Level: (low/med) Low

Analysis Batch No.: 29645 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL
67-64-1	Acetone	ND		5.0
107-02-8	Acrolein	ND		2.0
107-13-1	Acrylonitrile	ND		2.0
107-05-1	Allyl chloride	ND		0.80
71-43-2	Benzene	ND		0.40
100-44-7	Benzyl chloride	ND		0.80
75-27-4	Bromodichloromethane	ND		0.30
75-25-2	Bromoform	ND		0.40
74-83-9	Bromomethane	ND		0.80
106-99-0	1,3-Butadiene	ND		0.80
106-97-8	n-Butane	ND		0.40
78-93-3	2-Butanone (MEK)	ND		0.80
75-65-0	tert-Butyl alcohol (TBA)	ND		2.0
104-51-8	n-Butylbenzene	ND		0.40
135-98-8	sec-Butylbenzene	ND		0.40
98-06-6	tert-Butylbenzene	ND		0.80
75-15-0	Carbon disulfide	ND		0.80
56-23-5	Carbon tetrachloride	ND		0.80
108-90-7	Chlorobenzene	ND		0.30
75-45-6	Chlorodifluoromethane	ND		0.80
75-00-3	Chloroethane	ND		0.80
67-66-3	Chloroform	ND		0.30
74-87-3	Chloromethane	ND		0.80
95-49-8	2-Chlorotoluene	ND		0.40
110-82-7	Cyclohexane	ND		0.40
124-48-1	Dibromochloromethane	ND		0.40
106-93-4	1,2-Dibromoethane (EDB)	ND		0.80
74-95-3	Dibromomethane	ND		0.40
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		0.40
95-50-1	1,2-Dichlorobenzene	ND		0.40
541-73-1	1,3-Dichlorobenzene	ND		0.40
106-46-7	1,4-Dichlorobenzene	ND		0.40
75-71-8	Dichlorodifluoromethane	ND		0.40
75-34-3	1,1-Dichloroethane	ND		0.30
107-06-2	1,2-Dichloroethane	ND		0.80
75-35-4	1,1-Dichloroethene	ND		0.80

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-4945-1

SDG No.:

Client Sample ID: 34000349 Lab Sample ID: 320-4945-4

Matrix: Air Lab File ID: MS111211.D

Analysis Method: TO-15 Date Collected: 11/12/2013 00:00

Sample wt/vol: 500(mL) Date Analyzed: 11/12/2013 19:09

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: See SOP ID:

% Moisture: Level: (low/med) Low

Analysis Batch No.: 29645 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL
156-59-2	cis-1,2-Dichloroethene	ND		0.40
156-60-5	trans-1,2-Dichloroethene	ND		0.40
78-87-5	1,2-Dichloropropane	ND		0.40
10061-01-5	cis-1,3-Dichloropropene	ND		0.40
10061-02-6	trans-1,3-Dichloropropene	ND		0.40
123-91-1	1,4-Dioxane	ND		0.80
141-78-6	Ethyl acetate	ND		0.30
100-41-4	Ethylbenzene	ND		0.40
622-96-8	4-Ethyltoluene	ND		0.40
142-82-5	n-Heptane	ND		0.80
87-68-3	Hexachlorobutadiene	ND		2.0
110-54-3	n-Hexane	ND		0.80
591-78-6	2-Hexanone	ND		0.40
98-82-8	Isopropylbenzene	ND		0.80
99-87-6	4-Isopropyltoluene	ND		0.80
1634-04-4	Methyl-t-Butyl Ether (MTBE)	ND		0.80
80-62-6	Methyl methacrylate	ND		0.80
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		0.40
75-09-2	Methylene Chloride	ND		0.40
98-83-9	alpha-Methylstyrene	ND		0.40
91-20-3	Naphthalene	ND		0.80
111-65-9	n-Octane	ND		0.40
109-66-0	n-Pentane	ND		0.80
115-07-1	Propylene	ND		0.40
103-65-1	N-Propylbenzene	ND		0.40
100-42-5	Styrene	ND		0.40
79-34-5	1,1,2,2-Tetrachloroethane	ND		0.40
127-18-4	Tetrachloroethene	ND		0.40
109-99-9	Tetrahydrofuran	ND		0.80
108-88-3	Toluene	ND		0.40
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.40
120-82-1	1,2,4-Trichlorobenzene	ND		2.0
71-55-6	1,1,1-Trichloroethane	ND		0.30
79-00-5	1,1,2-Trichloroethane	ND		0.40
79-01-6	Trichloroethene	ND		0.40
75-69-4	Trichlorofluoromethane	ND		0.40

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-4945-1

SDG No.:

Client Sample ID: 34000349 Lab Sample ID: 320-4945-4

Matrix: Air Lab File ID: MS111211.D

Analysis Method: TO-15 Date Collected: 11/12/2013 00:00

Sample wt/vol: 500(mL) Date Analyzed: 11/12/2013 19:09

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: See SOP ID:

% Moisture: Level: (low/med) Low

Analysis Batch No.: 29645 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL
96-18-4	1,2,3-Trichloropropane	ND		0.40
95-63-6	1,2,4-Trimethylbenzene	ND		0.80
108-67-8	1,3,5-Trimethylbenzene	ND		0.40
540-84-1	2,2,4-Trimethylpentane	ND		0.40
108-05-4	Vinyl acetate	ND		0.80
593-60-2	Vinyl bromide	ND		0.80
75-01-4	Vinyl chloride	ND		0.40
179601-23-1	m,p-Xylene	ND		0.80
95-47-6	o-Xylene	ND		0.40

CAS NO.	SURROGATE	%REC	Q	LIMITS
460-00-4	4-Bromofluorobenzene (Surr)	78		70-130
17060-07-0	1,2-Dichloroethane-d4 (Surr)	99		70-130
2037-26-5	Toluene-d8 (Surr)	99		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\MS111211.D
Lims ID: 320-4945-A-4 Lab Sample ID: 320-4945-4
Client ID: 34000349
Sample Type: Client
Inject. Date: 12-Nov-2013 19:09:30 ALS Bottle#: 6 Worklist Smp#: 12
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 320-4945-
Misc. Info.: 34000349
Operator ID: AO Instrument ID: ATMS5

Method: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\TO15_ATMS5.m
Limit Group: MSA - TO15 - ICAL
Last Update: 13-Nov-2013 11:58:06 Calib Date: 12-Nov-2013 11:19:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\MS111204.D

Column 1 : Detector MS SCAN
Process Host: XAWRK010

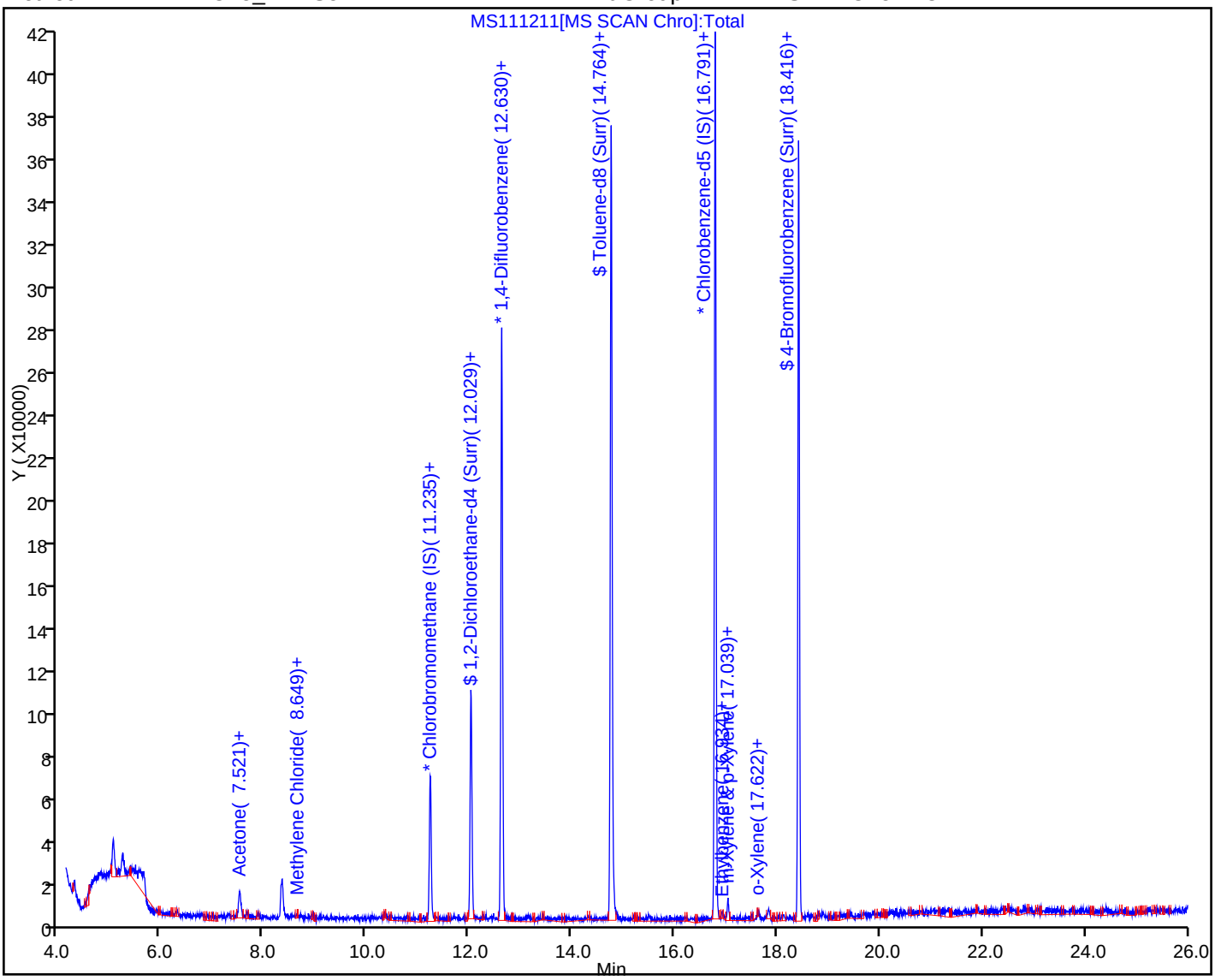
First Level Reviewer: ortizam Date: 13-Nov-2013 11:58:06

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	On-Col Amt ppb v/v	Flags
* 1 Chlorobromomethane (IS)	130	11.235	11.241	-0.006	96	29899	3.88	
* 2 1,4-Difluorobenzene	114	12.630	12.630	0.0	94	290277	4.00	
* 3 Chlorobenzene-d5 (IS)	117	16.791	16.791	0.0	85	314407	4.00	
$ 4 1,2-Dichloroethane-d4 (Surr)	65	12.029	12.029	0.0	15	71607	3.85	
$ 5 Toluene-d8 (Surr)	100	14.764	14.764	0.0	93	213314	3.96	
$ 6 4-Bromofluorobenzene (Surr)	95	18.416	18.416	0.0	94	148766	3.12	
33 Acetone	43	7.521	7.521	0.0	92	24984	0.2114	
40 Methylene Chloride	49	8.649	8.643	0.006	2	2032	0.0397	
75 Toluene	91	14.869	14.869	0.0	41	2238	0.0145	
86 Ethylbenzene	91	16.921	16.928	-0.007	30	2540	0.0149	
88 m-Xylene & p-Xylene	91	17.039	17.039	0.0	78	7238	0.0551	
89 o-Xylene	91	17.635	17.628	0.007	24	2918	0.0214	

Report Date: 13-Nov-2013 11:58:06 Chrom Revision: 2.1 15-Oct-2013 07:52:24

TestAmerica Sacramento

Data File:	\\SACCHROM\ChromData\ATMS5\20131112-8600.b\MS111211.D				
Injection Date:	12-Nov-2013 19:09:30	Instrument ID:	ATMS5		
Lims ID:	320-4945-A-4	Lab Sample ID:	320-4945-4		
Client ID:	34000349				
Operator ID:	AO	ALS Bottle#:	6	Worklist Smp#:	12
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	TO15_ATMS5	Limit Group:	MSA - TO15 - ICAL		



FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-4945-1

SDG No.:

Client Sample ID: 34000422 Lab Sample ID: 320-4945-5

Matrix: Air Lab File ID: MS111210.D

Analysis Method: TO-15 Date Collected: 11/12/2013 00:00

Sample wt/vol: 500(mL) Date Analyzed: 11/12/2013 18:26

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: See SOP ID:

% Moisture: Level: (low/med) Low

Analysis Batch No.: 29645 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL
67-64-1	Acetone	ND		5.0
107-02-8	Acrolein	ND		2.0
107-13-1	Acrylonitrile	ND		2.0
107-05-1	Allyl chloride	ND		0.80
71-43-2	Benzene	ND		0.40
100-44-7	Benzyl chloride	ND		0.80
75-27-4	Bromodichloromethane	ND		0.30
75-25-2	Bromoform	ND		0.40
74-83-9	Bromomethane	ND		0.80
106-99-0	1,3-Butadiene	ND		0.80
106-97-8	n-Butane	ND		0.40
78-93-3	2-Butanone (MEK)	ND		0.80
75-65-0	tert-Butyl alcohol (TBA)	ND		2.0
104-51-8	n-Butylbenzene	ND		0.40
135-98-8	sec-Butylbenzene	ND		0.40
98-06-6	tert-Butylbenzene	ND		0.80
75-15-0	Carbon disulfide	ND		0.80
56-23-5	Carbon tetrachloride	ND		0.80
108-90-7	Chlorobenzene	ND		0.30
75-45-6	Chlorodifluoromethane	ND		0.80
75-00-3	Chloroethane	ND		0.80
67-66-3	Chloroform	ND		0.30
74-87-3	Chloromethane	ND		0.80
95-49-8	2-Chlorotoluene	ND		0.40
110-82-7	Cyclohexane	ND		0.40
124-48-1	Dibromochloromethane	ND		0.40
106-93-4	1,2-Dibromoethane (EDB)	ND		0.80
74-95-3	Dibromomethane	ND		0.40
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		0.40
95-50-1	1,2-Dichlorobenzene	ND		0.40
541-73-1	1,3-Dichlorobenzene	ND		0.40
106-46-7	1,4-Dichlorobenzene	ND		0.40
75-71-8	Dichlorodifluoromethane	ND		0.40
75-34-3	1,1-Dichloroethane	ND		0.30
107-06-2	1,2-Dichloroethane	ND		0.80
75-35-4	1,1-Dichloroethene	ND		0.80

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-4945-1

SDG No.:

Client Sample ID: 34000422 Lab Sample ID: 320-4945-5

Matrix: Air Lab File ID: MS111210.D

Analysis Method: TO-15 Date Collected: 11/12/2013 00:00

Sample wt/vol: 500(mL) Date Analyzed: 11/12/2013 18:26

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: See SOP ID:

% Moisture: Level: (low/med) Low

Analysis Batch No.: 29645 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL
156-59-2	cis-1,2-Dichloroethene	ND		0.40
156-60-5	trans-1,2-Dichloroethene	ND		0.40
78-87-5	1,2-Dichloropropane	ND		0.40
10061-01-5	cis-1,3-Dichloropropene	ND		0.40
10061-02-6	trans-1,3-Dichloropropene	ND		0.40
123-91-1	1,4-Dioxane	ND		0.80
141-78-6	Ethyl acetate	ND		0.30
100-41-4	Ethylbenzene	ND		0.40
622-96-8	4-Ethyltoluene	ND		0.40
142-82-5	n-Heptane	ND		0.80
87-68-3	Hexachlorobutadiene	ND		2.0
110-54-3	n-Hexane	ND		0.80
591-78-6	2-Hexanone	ND		0.40
98-82-8	Isopropylbenzene	ND		0.80
99-87-6	4-Isopropyltoluene	ND		0.80
1634-04-4	Methyl-t-Butyl Ether (MTBE)	ND		0.80
80-62-6	Methyl methacrylate	ND		0.80
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		0.40
75-09-2	Methylene Chloride	ND		0.40
98-83-9	alpha-Methylstyrene	ND		0.40
91-20-3	Naphthalene	ND		0.80
111-65-9	n-Octane	ND		0.40
109-66-0	n-Pentane	ND		0.80
115-07-1	Propylene	ND		0.40
103-65-1	N-Propylbenzene	ND		0.40
100-42-5	Styrene	ND		0.40
79-34-5	1,1,2,2-Tetrachloroethane	ND		0.40
127-18-4	Tetrachloroethene	ND		0.40
109-99-9	Tetrahydrofuran	ND		0.80
108-88-3	Toluene	ND		0.40
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.40
120-82-1	1,2,4-Trichlorobenzene	ND		2.0
71-55-6	1,1,1-Trichloroethane	ND		0.30
79-00-5	1,1,2-Trichloroethane	ND		0.40
79-01-6	Trichloroethene	ND		0.40
75-69-4	Trichlorofluoromethane	ND		0.40

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-4945-1

SDG No.:

Client Sample ID: 34000422 Lab Sample ID: 320-4945-5

Matrix: Air Lab File ID: MS111210.D

Analysis Method: TO-15 Date Collected: 11/12/2013 00:00

Sample wt/vol: 500(mL) Date Analyzed: 11/12/2013 18:26

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: See SOP ID:

% Moisture: Level: (low/med) Low

Analysis Batch No.: 29645 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL
96-18-4	1,2,3-Trichloropropane	ND		0.40
95-63-6	1,2,4-Trimethylbenzene	ND		0.80
108-67-8	1,3,5-Trimethylbenzene	ND		0.40
540-84-1	2,2,4-Trimethylpentane	ND		0.40
108-05-4	Vinyl acetate	ND		0.80
593-60-2	Vinyl bromide	ND		0.80
75-01-4	Vinyl chloride	ND		0.40
179601-23-1	m,p-Xylene	ND		0.80
95-47-6	o-Xylene	ND		0.40

CAS NO.	SURROGATE	%REC	Q	LIMITS
460-00-4	4-Bromofluorobenzene (Surr)	83		70-130
17060-07-0	1,2-Dichloroethane-d4 (Surr)	99		70-130
2037-26-5	Toluene-d8 (Surr)	98		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\MS111210.D
Lims ID: 320-4945-A-5 Lab Sample ID: 320-4945-5
Client ID: 34000422
Sample Type: Client
Inject. Date: 12-Nov-2013 18:26:30 ALS Bottle#: 5 Worklist Smp#: 11
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 320-4945-
Misc. Info.: 34000422
Operator ID: AO Instrument ID: ATMS5

Method: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\TO15_ATMS5.m
Limit Group: MSA - TO15 - ICAL
Last Update: 13-Nov-2013 11:50:42 Calib Date: 12-Nov-2013 11:19:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\MS111204.D

Column 1 : Detector MS SCAN
Process Host: XAWRK010

First Level Reviewer: ortizam Date: 13-Nov-2013 11:50:42

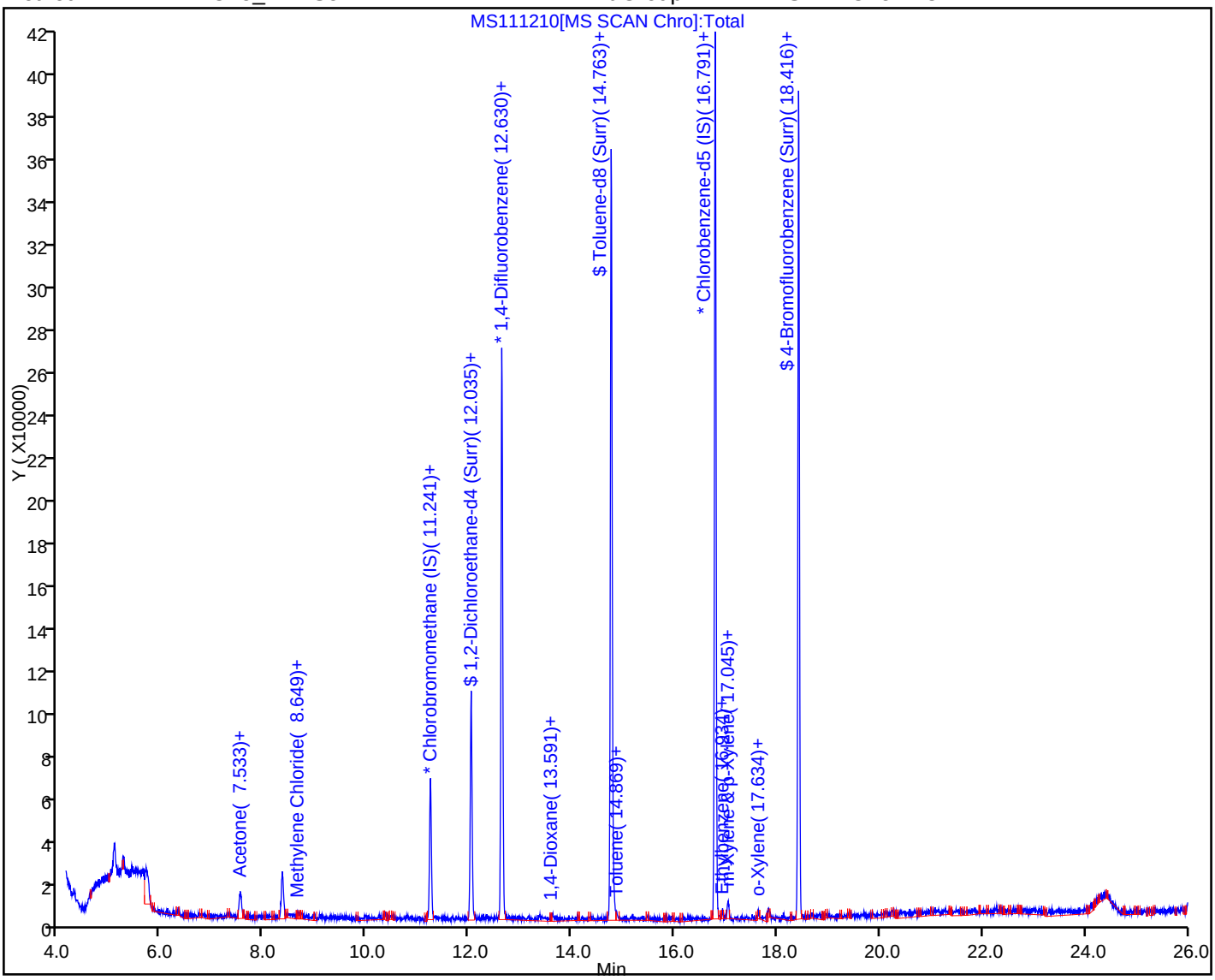
Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	On-Col Amt ppb v/v	Flags
* 1 Chlorobromomethane (IS)	130	11.241	11.241	0.0	96	29976	3.88	
* 2 1,4-Difluorobenzene	114	12.630	12.630	0.0	94	280056	4.00	
* 3 Chlorobenzene-d5 (IS)	117	16.791	16.791	0.0	85	315541	4.00	
$ 4 1,2-Dichloroethane-d4 (Surr)	65	12.035	12.029	0.006	13	68788	3.83	
$ 5 Toluene-d8 (Surr)	100	14.763	14.764	-0.001	94	204084	3.93	
$ 6 4-Bromofluorobenzene (Surr)	95	18.416	18.416	0.0	92	159222	3.32	
33 Acetone	43	7.527	7.521	0.006	94	22848	0.1928	
40 Methylene Chloride	49	8.649	8.643	0.006	38	1277	0.0249	
69 1,4-Dioxane	88	13.604	13.604	0.0	21	1418	0.0628	
74 n-Octane	43	14.726	14.733	-0.006	1	981	0.009358	
75 Toluene	91	14.875	14.869	0.006	6	1956	0.0131	
86 Ethylbenzene	91	16.934	16.928	0.006	30	3246	0.0189	
88 m-Xylene & p-Xylene	91	17.045	17.039	0.006	69	7076	0.0537	
89 o-Xylene	91	17.628	17.628	0.0	17	2655	0.0194	

Report Date: 13-Nov-2013 11:50:42 Chrom Revision: 2.1 15-Oct-2013 07:52:24

TestAmerica Sacramento

Data File: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\MS111210.D

Injection Date:	12-Nov-2013 18:26:30	Instrument ID:	ATMS5		
Lims ID:	320-4945-A-5	Lab Sample ID:	320-4945-5		
Client ID:	34000422				
Operator ID:	AO	ALS Bottle#:	5	Worklist Smp#:	11
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	TO15_ATMS5	Limit Group:	MSA - TO15 - ICAL		



FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-4945-1

SDG No.:

Client Sample ID: 34000820 Lab Sample ID: 320-4945-6

Matrix: Air Lab File ID: MS111216.D

Analysis Method: TO-15 Date Collected: 11/12/2013 00:00

Sample wt/vol: 500(mL) Date Analyzed: 11/12/2013 22:55

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: See SOP ID:

% Moisture: Level: (low/med) Low

Analysis Batch No.: 29645 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL
67-64-1	Acetone	ND		5.0
107-02-8	Acrolein	ND		2.0
107-13-1	Acrylonitrile	ND		2.0
107-05-1	Allyl chloride	ND		0.80
71-43-2	Benzene	ND		0.40
100-44-7	Benzyl chloride	ND		0.80
75-27-4	Bromodichloromethane	ND		0.30
75-25-2	Bromoform	ND		0.40
74-83-9	Bromomethane	ND		0.80
106-99-0	1,3-Butadiene	ND		0.80
106-97-8	n-Butane	ND		0.40
78-93-3	2-Butanone (MEK)	ND		0.80
75-65-0	tert-Butyl alcohol (TBA)	ND		2.0
104-51-8	n-Butylbenzene	ND		0.40
135-98-8	sec-Butylbenzene	ND		0.40
98-06-6	tert-Butylbenzene	ND		0.80
75-15-0	Carbon disulfide	ND		0.80
56-23-5	Carbon tetrachloride	ND		0.80
108-90-7	Chlorobenzene	ND		0.30
75-45-6	Chlorodifluoromethane	ND		0.80
75-00-3	Chloroethane	ND		0.80
67-66-3	Chloroform	ND		0.30
74-87-3	Chloromethane	ND		0.80
95-49-8	2-Chlorotoluene	ND		0.40
110-82-7	Cyclohexane	ND		0.40
124-48-1	Dibromochloromethane	ND		0.40
106-93-4	1,2-Dibromoethane (EDB)	ND		0.80
74-95-3	Dibromomethane	ND		0.40
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		0.40
95-50-1	1,2-Dichlorobenzene	ND		0.40
541-73-1	1,3-Dichlorobenzene	ND		0.40
106-46-7	1,4-Dichlorobenzene	ND		0.40
75-71-8	Dichlorodifluoromethane	ND		0.40
75-34-3	1,1-Dichloroethane	ND		0.30
107-06-2	1,2-Dichloroethane	ND		0.80
75-35-4	1,1-Dichloroethene	ND		0.80

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-4945-1

SDG No.:

Client Sample ID: 34000820 Lab Sample ID: 320-4945-6

Matrix: Air Lab File ID: MS111216.D

Analysis Method: TO-15 Date Collected: 11/12/2013 00:00

Sample wt/vol: 500(mL) Date Analyzed: 11/12/2013 22:55

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: See SOP ID:

% Moisture: Level: (low/med) Low

Analysis Batch No.: 29645 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL
156-59-2	cis-1,2-Dichloroethene	ND		0.40
156-60-5	trans-1,2-Dichloroethene	ND		0.40
78-87-5	1,2-Dichloropropane	ND		0.40
10061-01-5	cis-1,3-Dichloropropene	ND		0.40
10061-02-6	trans-1,3-Dichloropropene	ND		0.40
123-91-1	1,4-Dioxane	ND		0.80
141-78-6	Ethyl acetate	ND		0.30
100-41-4	Ethylbenzene	ND		0.40
622-96-8	4-Ethyltoluene	ND		0.40
142-82-5	n-Heptane	ND		0.80
87-68-3	Hexachlorobutadiene	ND		2.0
110-54-3	n-Hexane	ND		0.80
591-78-6	2-Hexanone	ND		0.40
98-82-8	Isopropylbenzene	ND		0.80
99-87-6	4-Isopropyltoluene	ND		0.80
1634-04-4	Methyl-t-Butyl Ether (MTBE)	ND		0.80
80-62-6	Methyl methacrylate	ND		0.80
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		0.40
75-09-2	Methylene Chloride	ND		0.40
98-83-9	alpha-Methylstyrene	ND		0.40
91-20-3	Naphthalene	ND		0.80
111-65-9	n-Octane	ND		0.40
109-66-0	n-Pentane	ND		0.80
115-07-1	Propylene	ND		0.40
103-65-1	N-Propylbenzene	ND		0.40
100-42-5	Styrene	ND		0.40
79-34-5	1,1,2,2-Tetrachloroethane	ND		0.40
127-18-4	Tetrachloroethene	ND		0.40
109-99-9	Tetrahydrofuran	ND		0.80
108-88-3	Toluene	ND		0.40
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.40
120-82-1	1,2,4-Trichlorobenzene	ND		2.0
71-55-6	1,1,1-Trichloroethane	ND		0.30
79-00-5	1,1,2-Trichloroethane	ND		0.40
79-01-6	Trichloroethene	ND		0.40
75-69-4	Trichlorofluoromethane	ND		0.40

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-4945-1

SDG No.:

Client Sample ID: 34000820 Lab Sample ID: 320-4945-6

Matrix: Air Lab File ID: MS111216.D

Analysis Method: TO-15 Date Collected: 11/12/2013 00:00

Sample wt/vol: 500(mL) Date Analyzed: 11/12/2013 22:55

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: See SOP ID:

% Moisture: Level: (low/med) Low

Analysis Batch No.: 29645 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL
96-18-4	1,2,3-Trichloropropane	ND		0.40
95-63-6	1,2,4-Trimethylbenzene	ND		0.80
108-67-8	1,3,5-Trimethylbenzene	ND		0.40
540-84-1	2,2,4-Trimethylpentane	ND		0.40
108-05-4	Vinyl acetate	ND		0.80
593-60-2	Vinyl bromide	ND		0.80
75-01-4	Vinyl chloride	ND		0.40
179601-23-1	m,p-Xylene	ND		0.80
95-47-6	o-Xylene	ND		0.40

CAS NO.	SURROGATE	%REC	Q	LIMITS
460-00-4	4-Bromofluorobenzene (Surr)	86		70-130
17060-07-0	1,2-Dichloroethane-d4 (Surr)	102		70-130
2037-26-5	Toluene-d8 (Surr)	101		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\MS111216.D
Lims ID: 320-4945-A-6 Lab Sample ID: 320-4945-6
Client ID: 34000820
Sample Type: Client
Inject. Date: 12-Nov-2013 22:55:30 ALS Bottle#: 11 Worklist Smp#: 17
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 320-4945-
Misc. Info.: 34000820
Operator ID: AO Instrument ID: ATMS5

Method: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\TO15_ATMS5.m
Limit Group: MSA - TO15 - ICAL
Last Update: 13-Nov-2013 12:09:47 Calib Date: 12-Nov-2013 11:19:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\MS111204.D

Column 1 : Detector MS SCAN
Process Host: XAWRK010

First Level Reviewer: ortizam Date: 13-Nov-2013 12:09:47

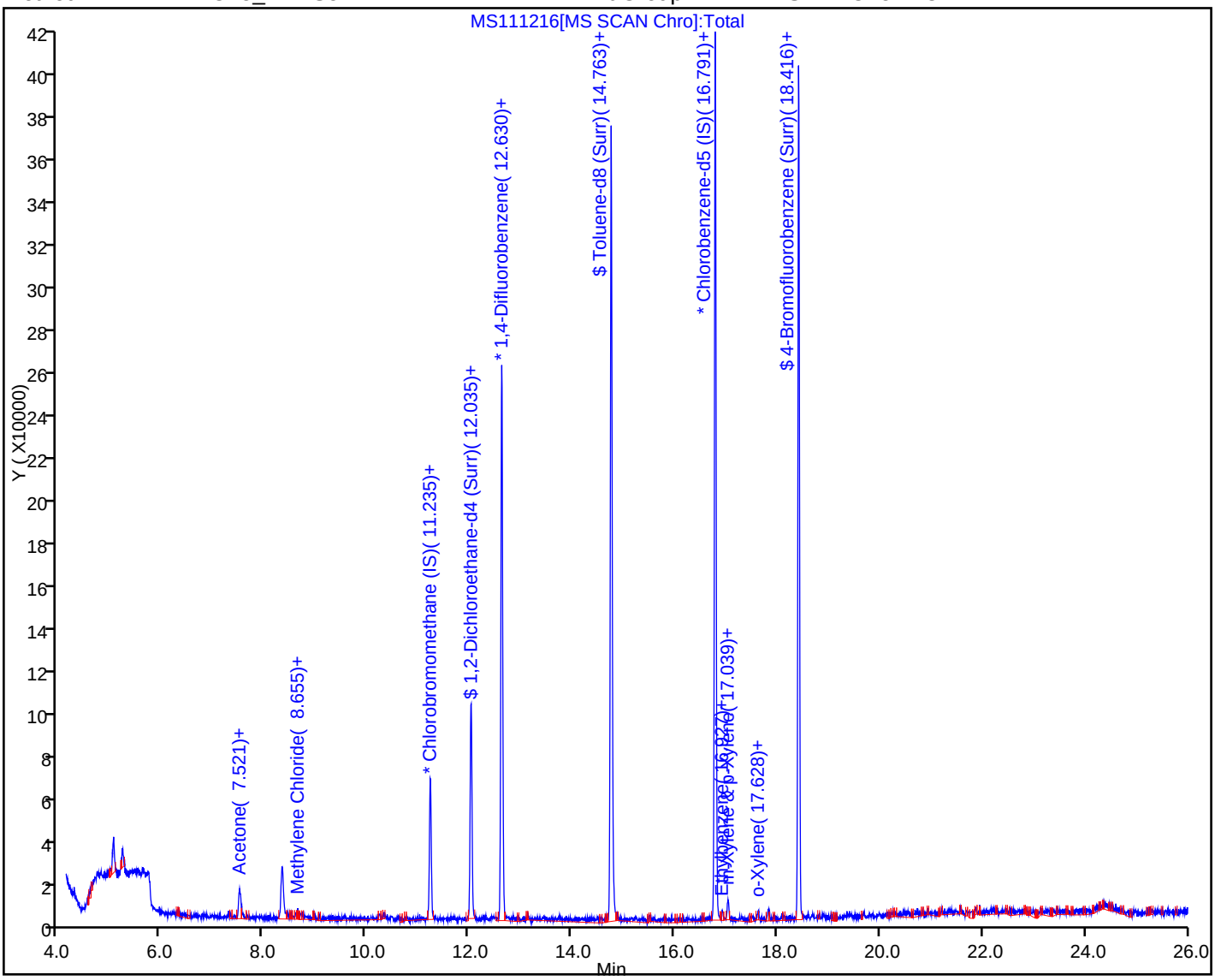
Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	On-Col Amt ppb v/v	Flags
* 1 Chlorobromomethane (IS)	130	11.247	11.241	0.006	94	30449	3.88	
* 2 1,4-Difluorobenzene	114	12.630	12.630	0.0	94	274823	4.00	
* 3 Chlorobenzene-d5 (IS)	117	16.791	16.791	0.0	85	312235	4.00	
$ 4 1,2-Dichloroethane-d4 (Surr)	65	12.029	12.029	0.0	10	69738	3.96	
$ 5 Toluene-d8 (Surr)	100	14.763	14.764	-0.001	93	204993	4.02	
$ 6 4-Bromofluorobenzene (Surr)	95	18.416	18.416	0.0	93	163848	3.46	
11 Propene	41	4.290	4.321	-0.031	72	2417	0.0650	
33 Acetone	43	7.521	7.521	0.0	99	26102	0.2168	
40 Methylene Chloride	49	8.655	8.643	0.012	34	1868	0.0358	
86 Ethylbenzene	91	16.921	16.928	-0.007	10	3308	0.0195	
88 m-Xylene & p-Xylene	91	17.039	17.039	0.0	78	6795	0.0521	
89 o-Xylene	91	17.628	17.628	0.0	9	2702	0.0200	

Report Date: 13-Nov-2013 12:09:48 Chrom Revision: 2.1 15-Oct-2013 07:52:24

TestAmerica Sacramento

Data File: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\MS111216.D

Injection Date:	12-Nov-2013 22:55:30	Instrument ID:	ATMS5		
Lims ID:	320-4945-A-6	Lab Sample ID:	320-4945-6		
Client ID:	34000820				
Operator ID:	AO	ALS Bottle#:	11	Worklist Smp#:	17
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	TO15_ATMS5	Limit Group:	MSA - TO15 - ICAL		



FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-4945-1

SDG No.:

Client Sample ID: 34000921 Lab Sample ID: 320-4945-7

Matrix: Air Lab File ID: MS111214.D

Analysis Method: TO-15 Date Collected: 11/12/2013 00:00

Sample wt/vol: 500(mL) Date Analyzed: 11/12/2013 21:24

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: See SOP ID:

% Moisture: Level: (low/med) Low

Analysis Batch No.: 29645 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL
67-64-1	Acetone	ND		5.0
107-02-8	Acrolein	ND		2.0
107-13-1	Acrylonitrile	ND		2.0
107-05-1	Allyl chloride	ND		0.80
71-43-2	Benzene	ND		0.40
100-44-7	Benzyl chloride	ND		0.80
75-27-4	Bromodichloromethane	ND		0.30
75-25-2	Bromoform	ND		0.40
74-83-9	Bromomethane	ND		0.80
106-99-0	1,3-Butadiene	ND		0.80
106-97-8	n-Butane	ND		0.40
78-93-3	2-Butanone (MEK)	ND		0.80
75-65-0	tert-Butyl alcohol (TBA)	ND		2.0
104-51-8	n-Butylbenzene	ND		0.40
135-98-8	sec-Butylbenzene	ND		0.40
98-06-6	tert-Butylbenzene	ND		0.80
75-15-0	Carbon disulfide	ND		0.80
56-23-5	Carbon tetrachloride	ND		0.80
108-90-7	Chlorobenzene	ND		0.30
75-45-6	Chlorodifluoromethane	ND		0.80
75-00-3	Chloroethane	ND		0.80
67-66-3	Chloroform	ND		0.30
74-87-3	Chloromethane	ND		0.80
95-49-8	2-Chlorotoluene	ND		0.40
110-82-7	Cyclohexane	ND		0.40
124-48-1	Dibromochloromethane	ND		0.40
106-93-4	1,2-Dibromoethane (EDB)	ND		0.80
74-95-3	Dibromomethane	ND		0.40
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		0.40
95-50-1	1,2-Dichlorobenzene	ND		0.40
541-73-1	1,3-Dichlorobenzene	ND		0.40
106-46-7	1,4-Dichlorobenzene	ND		0.40
75-71-8	Dichlorodifluoromethane	ND		0.40
75-34-3	1,1-Dichloroethane	ND		0.30
107-06-2	1,2-Dichloroethane	ND		0.80
75-35-4	1,1-Dichloroethene	ND		0.80

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-4945-1

SDG No.:

Client Sample ID: 34000921 Lab Sample ID: 320-4945-7

Matrix: Air Lab File ID: MS111214.D

Analysis Method: TO-15 Date Collected: 11/12/2013 00:00

Sample wt/vol: 500(mL) Date Analyzed: 11/12/2013 21:24

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: See SOP ID:

% Moisture: Level: (low/med) Low

Analysis Batch No.: 29645 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL
156-59-2	cis-1,2-Dichloroethene	ND		0.40
156-60-5	trans-1,2-Dichloroethene	ND		0.40
78-87-5	1,2-Dichloropropane	ND		0.40
10061-01-5	cis-1,3-Dichloropropene	ND		0.40
10061-02-6	trans-1,3-Dichloropropene	ND		0.40
123-91-1	1,4-Dioxane	ND		0.80
141-78-6	Ethyl acetate	ND		0.30
100-41-4	Ethylbenzene	ND		0.40
622-96-8	4-Ethyltoluene	ND		0.40
142-82-5	n-Heptane	ND		0.80
87-68-3	Hexachlorobutadiene	ND		2.0
110-54-3	n-Hexane	ND		0.80
591-78-6	2-Hexanone	ND		0.40
98-82-8	Isopropylbenzene	ND		0.80
99-87-6	4-Isopropyltoluene	ND		0.80
1634-04-4	Methyl-t-Butyl Ether (MTBE)	ND		0.80
80-62-6	Methyl methacrylate	ND		0.80
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		0.40
75-09-2	Methylene Chloride	ND		0.40
98-83-9	alpha-Methylstyrene	ND		0.40
91-20-3	Naphthalene	ND		0.80
111-65-9	n-Octane	ND		0.40
109-66-0	n-Pentane	ND		0.80
115-07-1	Propylene	ND		0.40
103-65-1	N-Propylbenzene	ND		0.40
100-42-5	Styrene	ND		0.40
79-34-5	1,1,2,2-Tetrachloroethane	ND		0.40
127-18-4	Tetrachloroethene	ND		0.40
109-99-9	Tetrahydrofuran	ND		0.80
108-88-3	Toluene	ND		0.40
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.40
120-82-1	1,2,4-Trichlorobenzene	ND		2.0
71-55-6	1,1,1-Trichloroethane	ND		0.30
79-00-5	1,1,2-Trichloroethane	ND		0.40
79-01-6	Trichloroethene	ND		0.40
75-69-4	Trichlorofluoromethane	ND		0.40

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-4945-1

SDG No.:

Client Sample ID: 34000921 Lab Sample ID: 320-4945-7

Matrix: Air Lab File ID: MS111214.D

Analysis Method: TO-15 Date Collected: 11/12/2013 00:00

Sample wt/vol: 500(mL) Date Analyzed: 11/12/2013 21:24

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: See SOP ID:

% Moisture: Level: (low/med) Low

Analysis Batch No.: 29645 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL
96-18-4	1,2,3-Trichloropropane	ND		0.40
95-63-6	1,2,4-Trimethylbenzene	ND		0.80
108-67-8	1,3,5-Trimethylbenzene	ND		0.40
540-84-1	2,2,4-Trimethylpentane	ND		0.40
108-05-4	Vinyl acetate	ND		0.80
593-60-2	Vinyl bromide	ND		0.80
75-01-4	Vinyl chloride	ND		0.40
179601-23-1	m,p-Xylene	ND		0.80
95-47-6	o-Xylene	ND		0.40

CAS NO.	SURROGATE	%REC	Q	LIMITS
460-00-4	4-Bromofluorobenzene (Surr)	83		70-130
17060-07-0	1,2-Dichloroethane-d4 (Surr)	98		70-130
2037-26-5	Toluene-d8 (Surr)	98		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\MS111214.D
Lims ID: 320-4945-A-7 Lab Sample ID: 320-4945-7
Client ID: 34000921
Sample Type: Client
Inject. Date: 12-Nov-2013 21:24:30 ALS Bottle#: 9 Worklist Smp#: 15
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 320-4945-
Misc. Info.: 34000921
Operator ID: AO Instrument ID: ATMS5

Method: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\TO15_ATMS5.m
Limit Group: MSA - TO15 - ICAL
Last Update: 13-Nov-2013 12:07:13 Calib Date: 12-Nov-2013 11:19:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\MS111204.D

Column 1 : Detector MS SCAN
Process Host: XAWRK010

First Level Reviewer: ortizam Date: 13-Nov-2013 12:07:13

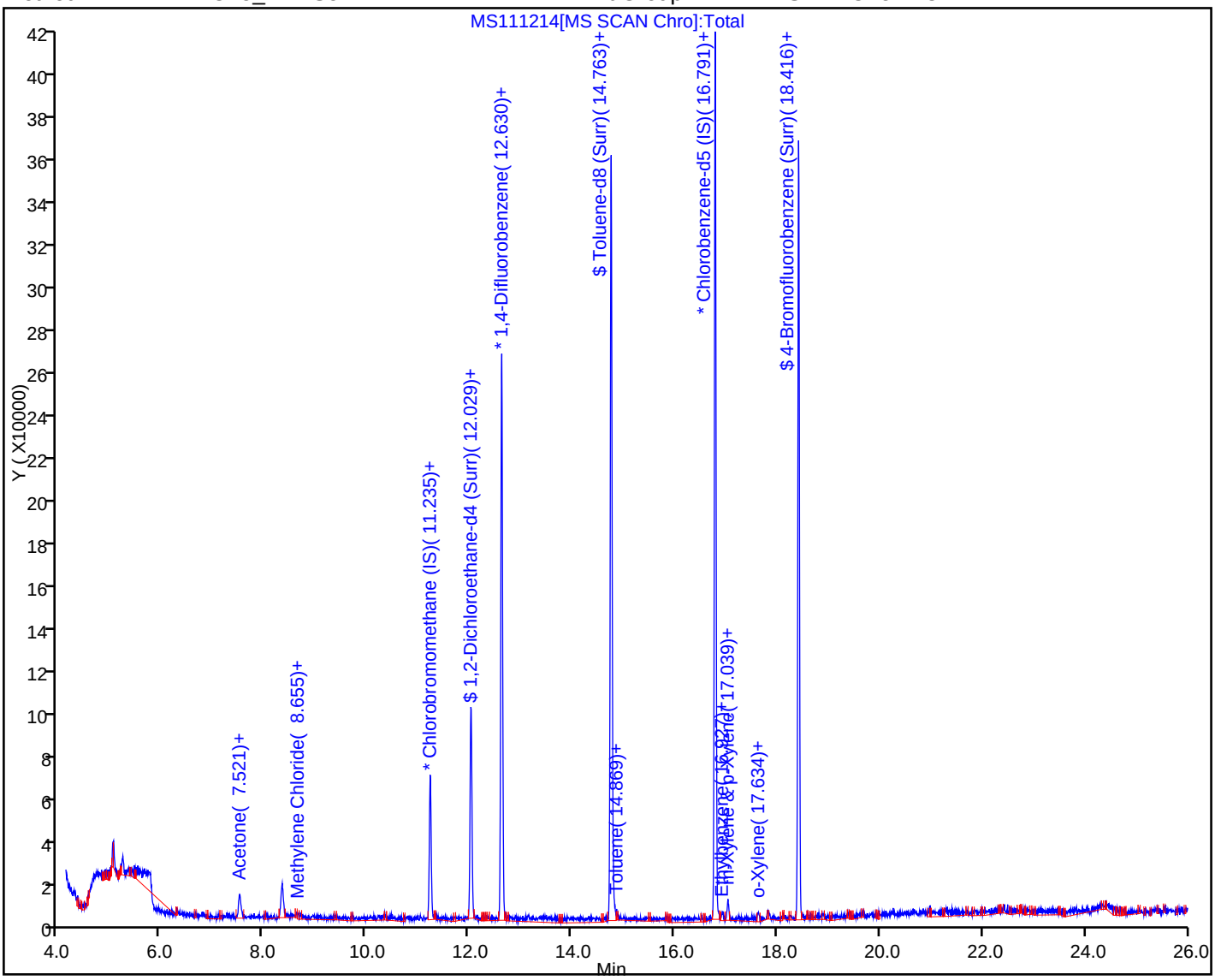
Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	On-Col Amt ppb v/v	Flags
* 1 Chlorobromomethane (IS)	130	11.241	11.241	0.0	96	30813	3.88	
* 2 1,4-Difluorobenzene	114	12.630	12.630	0.0	94	282643	4.00	
* 3 Chlorobenzene-d5 (IS)	117	16.791	16.791	0.0	84	311625	4.00	
$ 4 1,2-Dichloroethane-d4 (Surr)	65	12.035	12.029	0.006	12	68787	3.79	
$ 5 Toluene-d8 (Surr)	100	14.763	14.764	-0.001	93	204532	3.90	
$ 6 4-Bromofluorobenzene (Surr)	95	18.416	18.416	0.0	92	156788	3.31	
11 Propene	41	4.309	4.321	-0.012	79	2052	0.0545	
33 Acetone	43	7.515	7.521	-0.007	94	21320	0.1750	
40 Methylene Chloride	49	8.655	8.643	0.012	43	1806	0.0342	
75 Toluene	91	14.869	14.869	0.0	41	2340	0.0155	
86 Ethylbenzene	91	16.934	16.928	0.006	17	3168	0.0187	
88 m-Xylene & p-Xylene	91	17.039	17.039	0.0	64	6905	0.0531	
89 o-Xylene	91	17.628	17.628	0.0	7	2318	0.0172	

Report Date: 13-Nov-2013 12:07:13 Chrom Revision: 2.1 15-Oct-2013 07:52:24

TestAmerica Sacramento

Data File: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\MS111214.D

Injection Date:	12-Nov-2013 21:24:30	Instrument ID:	ATMS5		
Lims ID:	320-4945-A-7	Lab Sample ID:	320-4945-7		
Client ID:	34000921				
Operator ID:	AO	ALS Bottle#:	9	Worklist Smp#:	15
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	TO15_ATMS5	Limit Group:	MSA - TO15 - ICAL		



FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-4945-1

SDG No.:

Client Sample ID: 34001155 Lab Sample ID: 320-4945-8

Matrix: Air Lab File ID: MS111213.D

Analysis Method: TO-15 Date Collected: 11/12/2013 00:00

Sample wt/vol: 500(mL) Date Analyzed: 11/12/2013 20:39

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: See SOP ID:

% Moisture: Level: (low/med) Low

Analysis Batch No.: 29645 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL
67-64-1	Acetone	ND		5.0
107-02-8	Acrolein	ND		2.0
107-13-1	Acrylonitrile	ND		2.0
107-05-1	Allyl chloride	ND		0.80
71-43-2	Benzene	ND		0.40
100-44-7	Benzyl chloride	ND		0.80
75-27-4	Bromodichloromethane	ND		0.30
75-25-2	Bromoform	ND		0.40
74-83-9	Bromomethane	ND		0.80
106-99-0	1,3-Butadiene	ND		0.80
106-97-8	n-Butane	ND		0.40
78-93-3	2-Butanone (MEK)	ND		0.80
75-65-0	tert-Butyl alcohol (TBA)	ND		2.0
104-51-8	n-Butylbenzene	ND		0.40
135-98-8	sec-Butylbenzene	ND		0.40
98-06-6	tert-Butylbenzene	ND		0.80
75-15-0	Carbon disulfide	ND		0.80
56-23-5	Carbon tetrachloride	ND		0.80
108-90-7	Chlorobenzene	ND		0.30
75-45-6	Chlorodifluoromethane	ND		0.80
75-00-3	Chloroethane	ND		0.80
67-66-3	Chloroform	ND		0.30
74-87-3	Chloromethane	ND		0.80
95-49-8	2-Chlorotoluene	ND		0.40
110-82-7	Cyclohexane	ND		0.40
124-48-1	Dibromochloromethane	ND		0.40
106-93-4	1,2-Dibromoethane (EDB)	ND		0.80
74-95-3	Dibromomethane	ND		0.40
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		0.40
95-50-1	1,2-Dichlorobenzene	ND		0.40
541-73-1	1,3-Dichlorobenzene	ND		0.40
106-46-7	1,4-Dichlorobenzene	ND		0.40
75-71-8	Dichlorodifluoromethane	ND		0.40
75-34-3	1,1-Dichloroethane	ND		0.30
107-06-2	1,2-Dichloroethane	ND		0.80
75-35-4	1,1-Dichloroethene	ND		0.80

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-4945-1

SDG No.:

Client Sample ID: 34001155 Lab Sample ID: 320-4945-8

Matrix: Air Lab File ID: MS111213.D

Analysis Method: TO-15 Date Collected: 11/12/2013 00:00

Sample wt/vol: 500(mL) Date Analyzed: 11/12/2013 20:39

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: See SOP ID:

% Moisture: Level: (low/med) Low

Analysis Batch No.: 29645 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL
156-59-2	cis-1,2-Dichloroethene	ND		0.40
156-60-5	trans-1,2-Dichloroethene	ND		0.40
78-87-5	1,2-Dichloropropane	ND		0.40
10061-01-5	cis-1,3-Dichloropropene	ND		0.40
10061-02-6	trans-1,3-Dichloropropene	ND		0.40
123-91-1	1,4-Dioxane	ND		0.80
141-78-6	Ethyl acetate	ND		0.30
100-41-4	Ethylbenzene	ND		0.40
622-96-8	4-Ethyltoluene	ND		0.40
142-82-5	n-Heptane	ND		0.80
87-68-3	Hexachlorobutadiene	ND		2.0
110-54-3	n-Hexane	ND		0.80
591-78-6	2-Hexanone	ND		0.40
98-82-8	Isopropylbenzene	ND		0.80
99-87-6	4-Isopropyltoluene	ND		0.80
1634-04-4	Methyl-t-Butyl Ether (MTBE)	ND		0.80
80-62-6	Methyl methacrylate	ND		0.80
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		0.40
75-09-2	Methylene Chloride	ND		0.40
98-83-9	alpha-Methylstyrene	ND		0.40
91-20-3	Naphthalene	ND		0.80
111-65-9	n-Octane	ND		0.40
109-66-0	n-Pentane	ND		0.80
115-07-1	Propylene	ND		0.40
103-65-1	N-Propylbenzene	ND		0.40
100-42-5	Styrene	ND		0.40
79-34-5	1,1,2,2-Tetrachloroethane	ND		0.40
127-18-4	Tetrachloroethene	ND		0.40
109-99-9	Tetrahydrofuran	ND		0.80
108-88-3	Toluene	ND		0.40
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.40
120-82-1	1,2,4-Trichlorobenzene	ND		2.0
71-55-6	1,1,1-Trichloroethane	ND		0.30
79-00-5	1,1,2-Trichloroethane	ND		0.40
79-01-6	Trichloroethene	ND		0.40
75-69-4	Trichlorofluoromethane	ND		0.40

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-4945-1

SDG No.:

Client Sample ID: 34001155 Lab Sample ID: 320-4945-8

Matrix: Air Lab File ID: MS111213.D

Analysis Method: TO-15 Date Collected: 11/12/2013 00:00

Sample wt/vol: 500(mL) Date Analyzed: 11/12/2013 20:39

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: See SOP ID:

% Moisture: Level: (low/med) Low

Analysis Batch No.: 29645 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL
96-18-4	1,2,3-Trichloropropane	ND		0.40
95-63-6	1,2,4-Trimethylbenzene	ND		0.80
108-67-8	1,3,5-Trimethylbenzene	ND		0.40
540-84-1	2,2,4-Trimethylpentane	ND		0.40
108-05-4	Vinyl acetate	ND		0.80
593-60-2	Vinyl bromide	ND		0.80
75-01-4	Vinyl chloride	ND		0.40
179601-23-1	m,p-Xylene	ND		0.80
95-47-6	o-Xylene	ND		0.40

CAS NO.	SURROGATE	%REC	Q	LIMITS
460-00-4	4-Bromofluorobenzene (Surr)	81		70-130
17060-07-0	1,2-Dichloroethane-d4 (Surr)	99		70-130
2037-26-5	Toluene-d8 (Surr)	97		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\MS111213.D
Lims ID: 320-4945-A-8 Lab Sample ID: 320-4945-8
Client ID: 34001155
Sample Type: Client
Inject. Date: 12-Nov-2013 20:39:30 ALS Bottle#: 8 Worklist Smp#: 14
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 320-4945-
Misc. Info.: 34001155
Operator ID: AO Instrument ID: ATMS5

Method: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\TO15_ATMS5.m
Limit Group: MSA - TO15 - ICAL
Last Update: 13-Nov-2013 12:05:01 Calib Date: 12-Nov-2013 11:19:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\MS111204.D

Column 1 : Detector MS SCAN
Process Host: XAWRK010

First Level Reviewer: ortizam Date: 13-Nov-2013 12:05:01

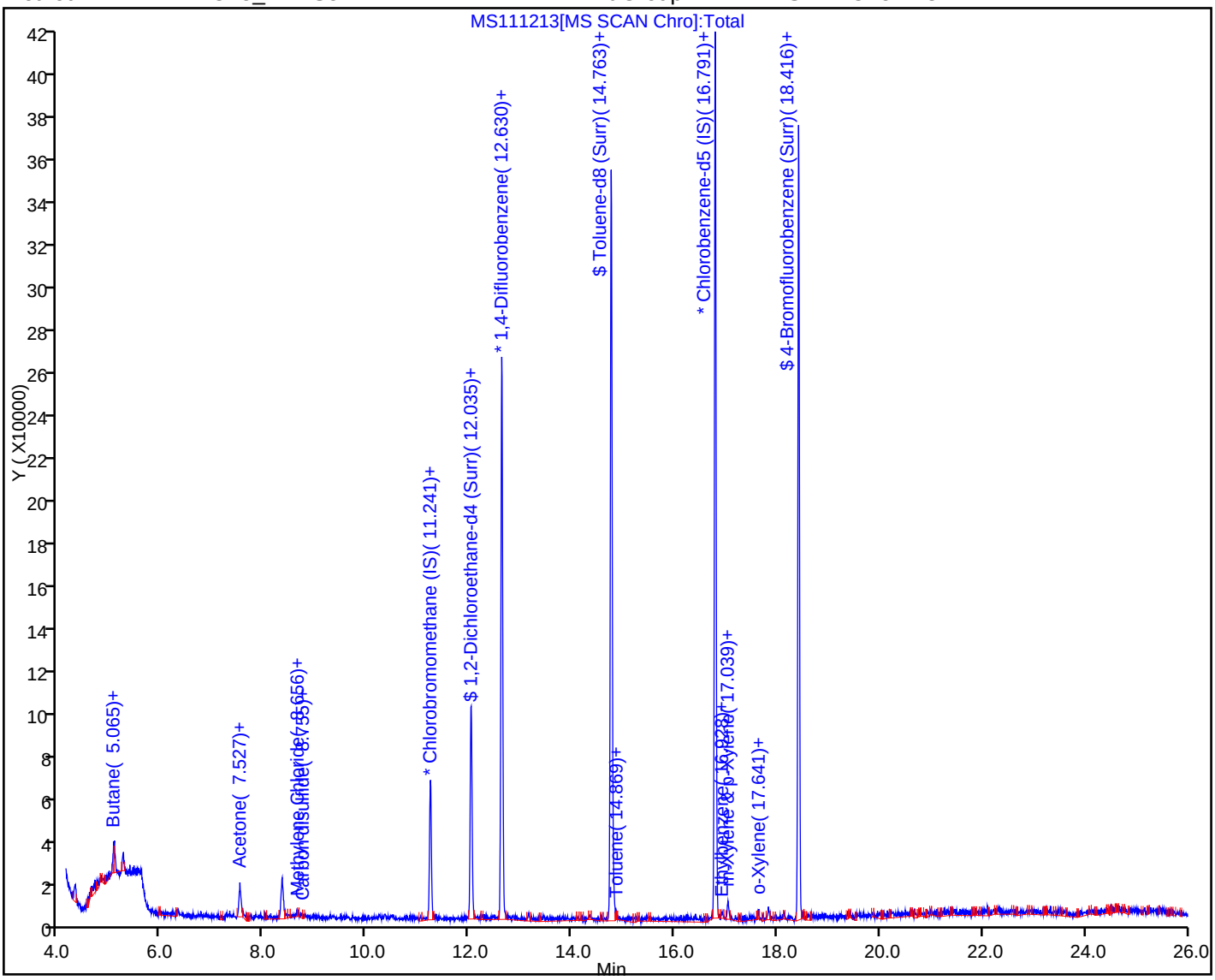
Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	On-Col Amt ppb v/v	Flags
* 1 Chlorobromomethane (IS)	130	11.241	11.241	0.0	95	29299	3.88	
* 2 1,4-Difluorobenzene	114	12.630	12.630	0.0	94	283160	4.00	
* 3 Chlorobenzene-d5 (IS)	117	16.791	16.791	0.0	85	313515	4.00	
$ 4 1,2-Dichloroethane-d4 (Surr)	65	12.029	12.029	0.0	19	69852	3.85	
$ 5 Toluene-d8 (Surr)	100	14.763	14.764	-0.001	94	204357	3.89	
$ 6 4-Bromofluorobenzene (Surr)	95	18.416	18.416	0.0	92	155009	3.26	
18 Butane	43	5.040	5.040	0.0	38	2513	0.0369	
33 Acetone	43	7.527	7.521	0.006	93	28660	0.2474	
40 Methylene Chloride	49	8.643	8.643	0.0	52	1901	0.0379	
41 Carbon disulfide	76	8.711	8.711	0.0	6	1115	0.0107	
74 n-Octane	43	14.757	14.733	0.025	9	2731	0.0262	
75 Toluene	91	14.863	14.869	-0.006	39	1760	0.0117	
86 Ethylbenzene	91	16.928	16.928	0.0	1	3105	0.0182	
88 m-Xylene & p-Xylene	91	17.039	17.039	0.0	67	6742	0.0515	
89 o-Xylene	91	17.634	17.628	0.006	7	2638	0.0194	

Report Date: 13-Nov-2013 12:05:01 Chrom Revision: 2.1 15-Oct-2013 07:52:24

TestAmerica Sacramento

Data File: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\MS111213.D

Injection Date:	12-Nov-2013 20:39:30	Instrument ID:	ATMS5		
Lims ID:	320-4945-A-8	Lab Sample ID:	320-4945-8		
Client ID:	34001155				
Operator ID:	AO	ALS Bottle#:	8	Worklist Smp#:	14
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	TO15_ATMS5	Limit Group:	MSA - TO15 - ICAL		



FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-4945-1

SDG No.:

Client Sample ID: 34001154 Lab Sample ID: 320-4945-9

Matrix: Air Lab File ID: MS111218.D

Analysis Method: TO-15 Date Collected: 11/12/2013 00:00

Sample wt/vol: 500(mL) Date Analyzed: 11/13/2013 00:27

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: See SOP ID:

% Moisture: Level: (low/med) Low

Analysis Batch No.: 29645 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL
67-64-1	Acetone	ND		5.0
107-02-8	Acrolein	ND		2.0
107-13-1	Acrylonitrile	ND		2.0
107-05-1	Allyl chloride	ND		0.80
71-43-2	Benzene	ND		0.40
100-44-7	Benzyl chloride	ND		0.80
75-27-4	Bromodichloromethane	ND		0.30
75-25-2	Bromoform	ND		0.40
74-83-9	Bromomethane	ND		0.80
106-99-0	1,3-Butadiene	ND		0.80
106-97-8	n-Butane	ND		0.40
78-93-3	2-Butanone (MEK)	ND		0.80
75-65-0	tert-Butyl alcohol (TBA)	ND		2.0
104-51-8	n-Butylbenzene	ND		0.40
135-98-8	sec-Butylbenzene	ND		0.40
98-06-6	tert-Butylbenzene	ND		0.80
75-15-0	Carbon disulfide	ND		0.80
56-23-5	Carbon tetrachloride	ND		0.80
108-90-7	Chlorobenzene	ND		0.30
75-45-6	Chlorodifluoromethane	ND		0.80
75-00-3	Chloroethane	ND		0.80
67-66-3	Chloroform	ND		0.30
74-87-3	Chloromethane	ND		0.80
95-49-8	2-Chlorotoluene	ND		0.40
110-82-7	Cyclohexane	ND		0.40
124-48-1	Dibromochloromethane	ND		0.40
106-93-4	1,2-Dibromoethane (EDB)	ND		0.80
74-95-3	Dibromomethane	ND		0.40
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		0.40
95-50-1	1,2-Dichlorobenzene	ND		0.40
541-73-1	1,3-Dichlorobenzene	ND		0.40
106-46-7	1,4-Dichlorobenzene	ND		0.40
75-71-8	Dichlorodifluoromethane	ND		0.40
75-34-3	1,1-Dichloroethane	ND		0.30
107-06-2	1,2-Dichloroethane	ND		0.80
75-35-4	1,1-Dichloroethene	ND		0.80

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-4945-1

SDG No.:

Client Sample ID: 34001154 Lab Sample ID: 320-4945-9

Matrix: Air Lab File ID: MS111218.D

Analysis Method: TO-15 Date Collected: 11/12/2013 00:00

Sample wt/vol: 500(mL) Date Analyzed: 11/13/2013 00:27

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: See SOP ID:

% Moisture: Level: (low/med) Low

Analysis Batch No.: 29645 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL
156-59-2	cis-1,2-Dichloroethene	ND		0.40
156-60-5	trans-1,2-Dichloroethene	ND		0.40
78-87-5	1,2-Dichloropropane	ND		0.40
10061-01-5	cis-1,3-Dichloropropene	ND		0.40
10061-02-6	trans-1,3-Dichloropropene	ND		0.40
123-91-1	1,4-Dioxane	ND		0.80
141-78-6	Ethyl acetate	ND		0.30
100-41-4	Ethylbenzene	ND		0.40
622-96-8	4-Ethyltoluene	ND		0.40
142-82-5	n-Heptane	ND		0.80
87-68-3	Hexachlorobutadiene	ND		2.0
110-54-3	n-Hexane	ND		0.80
591-78-6	2-Hexanone	ND		0.40
98-82-8	Isopropylbenzene	ND		0.80
99-87-6	4-Isopropyltoluene	ND		0.80
1634-04-4	Methyl-t-Butyl Ether (MTBE)	ND		0.80
80-62-6	Methyl methacrylate	ND		0.80
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		0.40
75-09-2	Methylene Chloride	ND		0.40
98-83-9	alpha-Methylstyrene	ND		0.40
91-20-3	Naphthalene	ND		0.80
111-65-9	n-Octane	ND		0.40
109-66-0	n-Pentane	ND		0.80
115-07-1	Propylene	ND		0.40
103-65-1	N-Propylbenzene	ND		0.40
100-42-5	Styrene	ND		0.40
79-34-5	1,1,2,2-Tetrachloroethane	ND		0.40
127-18-4	Tetrachloroethene	ND		0.40
109-99-9	Tetrahydrofuran	ND		0.80
108-88-3	Toluene	ND		0.40
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.40
120-82-1	1,2,4-Trichlorobenzene	ND		2.0
71-55-6	1,1,1-Trichloroethane	ND		0.30
79-00-5	1,1,2-Trichloroethane	ND		0.40
79-01-6	Trichloroethene	ND		0.40
75-69-4	Trichlorofluoromethane	ND		0.40

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-4945-1

SDG No.:

Client Sample ID: 34001154 Lab Sample ID: 320-4945-9

Matrix: Air Lab File ID: MS111218.D

Analysis Method: TO-15 Date Collected: 11/12/2013 00:00

Sample wt/vol: 500(mL) Date Analyzed: 11/13/2013 00:27

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: See SOP ID:

% Moisture: Level: (low/med) Low

Analysis Batch No.: 29645 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL
96-18-4	1,2,3-Trichloropropane	ND		0.40
95-63-6	1,2,4-Trimethylbenzene	ND		0.80
108-67-8	1,3,5-Trimethylbenzene	ND		0.40
540-84-1	2,2,4-Trimethylpentane	ND		0.40
108-05-4	Vinyl acetate	ND		0.80
593-60-2	Vinyl bromide	ND		0.80
75-01-4	Vinyl chloride	ND		0.40
179601-23-1	m,p-Xylene	ND		0.80
95-47-6	o-Xylene	ND		0.40

CAS NO.	SURROGATE	%REC	Q	LIMITS
460-00-4	4-Bromofluorobenzene (Surr)	86		70-130
17060-07-0	1,2-Dichloroethane-d4 (Surr)	95		70-130
2037-26-5	Toluene-d8 (Surr)	99		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\MS111218.D
Lims ID: 320-4945-A-9 Lab Sample ID: 320-4945-9
Client ID: 34001154
Sample Type: Client
Inject. Date: 13-Nov-2013 00:27:30 ALS Bottle#: 13 Worklist Smp#: 19
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 320-4945-
Misc. Info.: 34001154
Operator ID: AO Instrument ID: ATMS5

Method: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\TO15_ATMS5.m
Limit Group: MSA - TO15 - ICAL
Last Update: 13-Nov-2013 12:50:48 Calib Date: 12-Nov-2013 11:19:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\MS111204.D

Column 1 : Detector MS SCAN
Process Host: XAWRK010

First Level Reviewer: ortizam Date: 13-Nov-2013 12:50:48

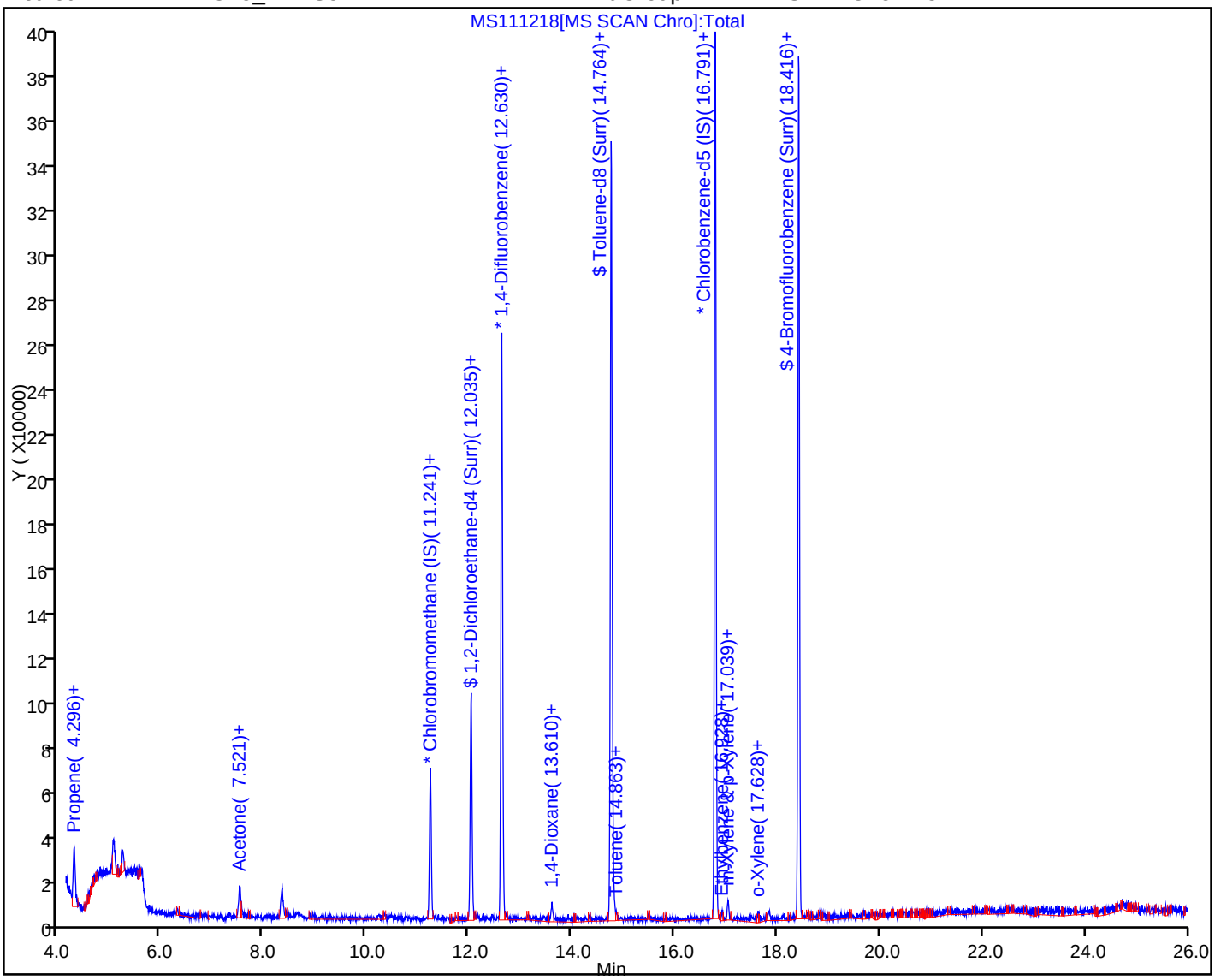
Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	On-Col Amt ppb v/v	Flags
* 1 Chlorobromomethane (IS)	130	11.241	11.241	0.0	96	28708	3.88	
* 2 1,4-Difluorobenzene	114	12.630	12.630	0.0	94	268482	4.00	
* 3 Chlorobenzene-d5 (IS)	117	16.791	16.791	0.0	85	301830	4.00	
$ 4 1,2-Dichloroethane-d4 (Surr)	65	12.035	12.029	0.006	13	63775	3.70	
$ 5 Toluene-d8 (Surr)	100	14.764	14.764	0.0	93	197067	3.96	
$ 6 4-Bromofluorobenzene (Surr)	95	18.416	18.416	0.0	93	158047	3.45	
11 Propene	41	4.315	4.321	-0.006	77	1845	0.0526	
33 Acetone	43	7.527	7.521	0.006	95	27424	0.2416	
40 Methylene Chloride	49	8.643	8.643	0.0	39	1636	0.0333	
69 1,4-Dioxane	88	13.610	13.604	0.006	80	4124	0.1906	
74 n-Octane	43	14.770	14.733	0.038	19	2674	0.0267	
75 Toluene	91	14.875	14.869	0.006	31	1652	0.0116	
86 Ethylbenzene	91	16.928	16.928	0.0	1	3021	0.0184	
88 m-Xylene & p-Xylene	91	17.039	17.039	0.0	67	7078	0.0562	
89 o-Xylene	91	17.628	17.628	0.0	15	2379	0.0182	

Report Date: 13-Nov-2013 12:50:48 Chrom Revision: 2.1 15-Oct-2013 07:52:24

TestAmerica Sacramento

Data File: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\MS111218.D

Injection Date:	13-Nov-2013 00:27:30	Instrument ID:	ATMS5		
Lims ID:	320-4945-A-9	Lab Sample ID:	320-4945-9		
Client ID:	34001154				
Operator ID:	AO	ALS Bottle#:	13	Worklist Smp#:	19
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	TO15_ATMS5	Limit Group:	MSA - TO15 - ICAL		



FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-4945-1

SDG No.:

Client Sample ID: 34001333 Lab Sample ID: 320-4945-10

Matrix: Air Lab File ID: MS111212.D

Analysis Method: TO-15 Date Collected: 11/12/2013 00:00

Sample wt/vol: 500(mL) Date Analyzed: 11/12/2013 19:54

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: See SOP ID:

% Moisture: Level: (low/med) Low

Analysis Batch No.: 29645 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL
67-64-1	Acetone	ND		5.0
107-02-8	Acrolein	ND		2.0
107-13-1	Acrylonitrile	ND		2.0
107-05-1	Allyl chloride	ND		0.80
71-43-2	Benzene	ND		0.40
100-44-7	Benzyl chloride	ND		0.80
75-27-4	Bromodichloromethane	ND		0.30
75-25-2	Bromoform	ND		0.40
74-83-9	Bromomethane	ND		0.80
106-99-0	1,3-Butadiene	ND		0.80
106-97-8	n-Butane	ND		0.40
78-93-3	2-Butanone (MEK)	ND		0.80
75-65-0	tert-Butyl alcohol (TBA)	ND		2.0
104-51-8	n-Butylbenzene	ND		0.40
135-98-8	sec-Butylbenzene	ND		0.40
98-06-6	tert-Butylbenzene	ND		0.80
75-15-0	Carbon disulfide	ND		0.80
56-23-5	Carbon tetrachloride	ND		0.80
108-90-7	Chlorobenzene	ND		0.30
75-45-6	Chlorodifluoromethane	ND		0.80
75-00-3	Chloroethane	ND		0.80
67-66-3	Chloroform	ND		0.30
74-87-3	Chloromethane	ND		0.80
95-49-8	2-Chlorotoluene	ND		0.40
110-82-7	Cyclohexane	ND		0.40
124-48-1	Dibromochloromethane	ND		0.40
106-93-4	1,2-Dibromoethane (EDB)	ND		0.80
74-95-3	Dibromomethane	ND		0.40
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		0.40
95-50-1	1,2-Dichlorobenzene	ND		0.40
541-73-1	1,3-Dichlorobenzene	ND		0.40
106-46-7	1,4-Dichlorobenzene	ND		0.40
75-71-8	Dichlorodifluoromethane	ND		0.40
75-34-3	1,1-Dichloroethane	ND		0.30
107-06-2	1,2-Dichloroethane	ND		0.80
75-35-4	1,1-Dichloroethene	ND		0.80

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-4945-1

SDG No.:

Client Sample ID: 34001333 Lab Sample ID: 320-4945-10

Matrix: Air Lab File ID: MS111212.D

Analysis Method: TO-15 Date Collected: 11/12/2013 00:00

Sample wt/vol: 500(mL) Date Analyzed: 11/12/2013 19:54

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: See SOP ID:

% Moisture: Level: (low/med) Low

Analysis Batch No.: 29645 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL
156-59-2	cis-1,2-Dichloroethene	ND		0.40
156-60-5	trans-1,2-Dichloroethene	ND		0.40
78-87-5	1,2-Dichloropropane	ND		0.40
10061-01-5	cis-1,3-Dichloropropene	ND		0.40
10061-02-6	trans-1,3-Dichloropropene	ND		0.40
123-91-1	1,4-Dioxane	ND		0.80
141-78-6	Ethyl acetate	ND		0.30
100-41-4	Ethylbenzene	ND		0.40
622-96-8	4-Ethyltoluene	ND		0.40
142-82-5	n-Heptane	ND		0.80
87-68-3	Hexachlorobutadiene	ND		2.0
110-54-3	n-Hexane	ND		0.80
591-78-6	2-Hexanone	ND		0.40
98-82-8	Isopropylbenzene	ND		0.80
99-87-6	4-Isopropyltoluene	ND		0.80
1634-04-4	Methyl-t-Butyl Ether (MTBE)	ND		0.80
80-62-6	Methyl methacrylate	ND		0.80
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		0.40
75-09-2	Methylene Chloride	ND		0.40
98-83-9	alpha-Methylstyrene	ND		0.40
91-20-3	Naphthalene	ND		0.80
111-65-9	n-Octane	ND		0.40
109-66-0	n-Pentane	ND		0.80
115-07-1	Propylene	ND		0.40
103-65-1	N-Propylbenzene	ND		0.40
100-42-5	Styrene	ND		0.40
79-34-5	1,1,2,2-Tetrachloroethane	ND		0.40
127-18-4	Tetrachloroethene	ND		0.40
109-99-9	Tetrahydrofuran	ND		0.80
108-88-3	Toluene	ND		0.40
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.40
120-82-1	1,2,4-Trichlorobenzene	ND		2.0
71-55-6	1,1,1-Trichloroethane	ND		0.30
79-00-5	1,1,2-Trichloroethane	ND		0.40
79-01-6	Trichloroethene	ND		0.40
75-69-4	Trichlorofluoromethane	ND		0.40

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-4945-1

SDG No.:

Client Sample ID: 34001333 Lab Sample ID: 320-4945-10

Matrix: Air Lab File ID: MS111212.D

Analysis Method: TO-15 Date Collected: 11/12/2013 00:00

Sample wt/vol: 500(mL) Date Analyzed: 11/12/2013 19:54

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: See SOP ID:

% Moisture: Level: (low/med) Low

Analysis Batch No.: 29645 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL
96-18-4	1,2,3-Trichloropropane	ND		0.40
95-63-6	1,2,4-Trimethylbenzene	ND		0.80
108-67-8	1,3,5-Trimethylbenzene	ND		0.40
540-84-1	2,2,4-Trimethylpentane	ND		0.40
108-05-4	Vinyl acetate	ND		0.80
593-60-2	Vinyl bromide	ND		0.80
75-01-4	Vinyl chloride	ND		0.40
179601-23-1	m,p-Xylene	ND		0.80
95-47-6	o-Xylene	ND		0.40

CAS NO.	SURROGATE	%REC	Q	LIMITS
460-00-4	4-Bromofluorobenzene (Surr)	85		70-130
17060-07-0	1,2-Dichloroethane-d4 (Surr)	98		70-130
2037-26-5	Toluene-d8 (Surr)	97		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\MS111212.D
Lims ID: 320-4945-A-10 Lab Sample ID: 320-4945-10
Client ID: 34001333
Sample Type: Client
Inject. Date: 12-Nov-2013 19:54:30 ALS Bottle#: 7 Worklist Smp#: 13
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 320-4945-
Misc. Info.: 34001333
Operator ID: AO Instrument ID: ATMS5

Method: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\TO15_ATMS5.m
Limit Group: MSA - TO15 - ICAL
Last Update: 13-Nov-2013 12:04:05 Calib Date: 12-Nov-2013 11:19:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\MS111204.D

Column 1 : Detector MS SCAN
Process Host: XAWRK010

First Level Reviewer: ortizam Date: 13-Nov-2013 12:04:05

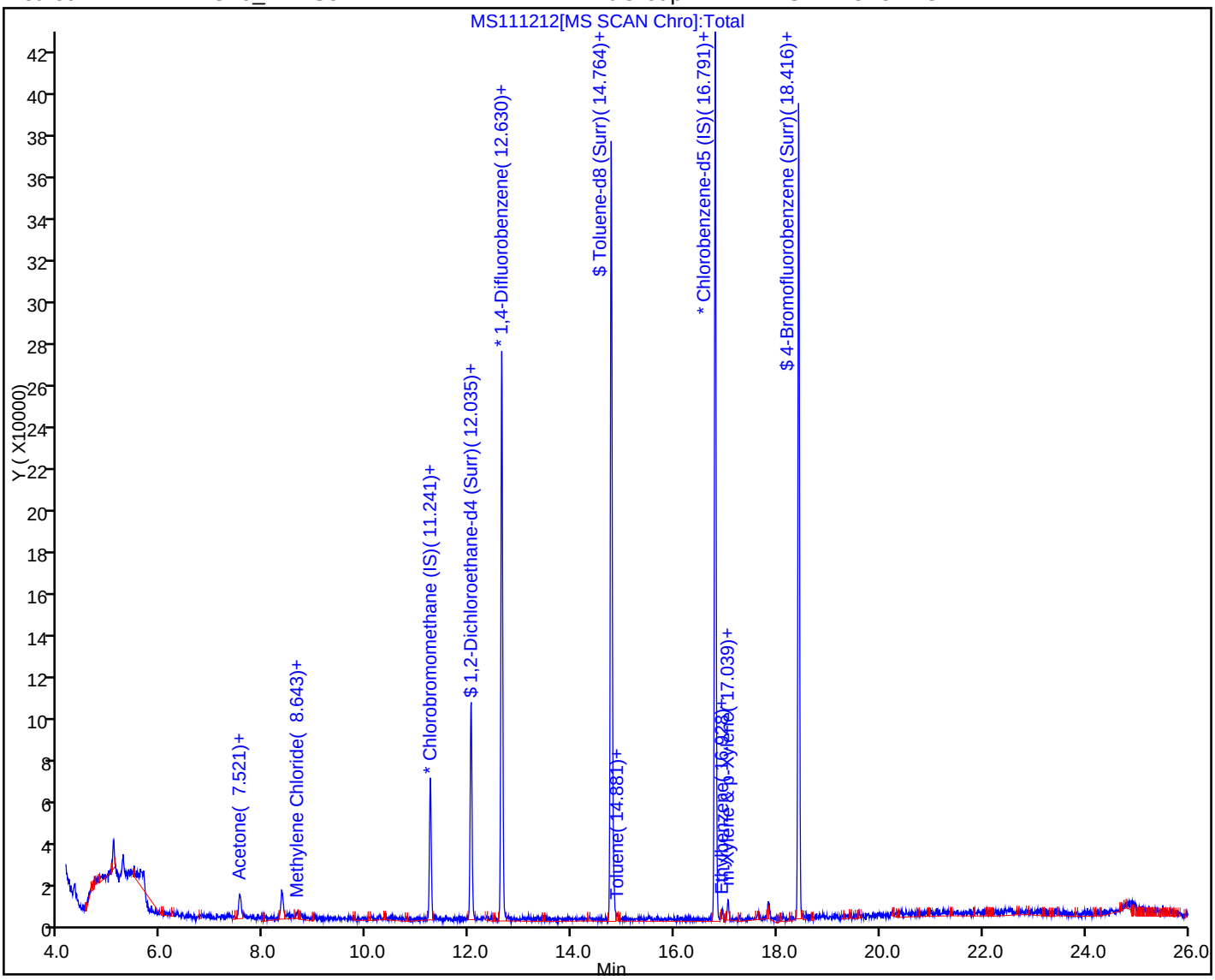
Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	On-Col Amt ppb v/v	Flags
* 1 Chlorobromomethane (IS)	130	11.241	11.241	0.0	95	30359	3.88	
* 2 1,4-Difluorobenzene	114	12.630	12.630	0.0	94	290131	4.00	
* 3 Chlorobenzene-d5 (IS)	117	16.791	16.791	0.0	85	318650	4.00	
$ 4 1,2-Dichloroethane-d4 (Surr)	65	12.029	12.029	0.0	5	70573	3.79	
$ 5 Toluene-d8 (Surr)	100	14.764	14.764	0.0	93	208300	3.87	
$ 6 4-Bromofluorobenzene (Surr)	95	18.416	18.416	0.0	93	164242	3.40	
33 Acetone	43	7.527	7.521	0.006	94	24935	0.2077	
40 Methylene Chloride	49	8.643	8.643	0.0	33	1838	0.0354	
74 n-Octane	43	14.770	14.733	0.038	19	2742	0.0259	
75 Toluene	91	14.869	14.869	0.0	26	1734	0.0112	
86 Ethylbenzene	91	16.928	16.928	0.0	16	3549	0.0205	
88 m-Xylene & p-Xylene	91	17.039	17.039	0.0	82	7241	0.0544	

Report Date: 13-Nov-2013 12:04:05 Chrom Revision: 2.1 15-Oct-2013 07:52:24

TestAmerica Sacramento

Data File: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\MS111212.D

Injection Date:	12-Nov-2013 19:54:30	Instrument ID:	ATMS5		
Lims ID:	320-4945-A-10	Lab Sample ID:	320-4945-10		
Client ID:	34001333				
Operator ID:	AO	ALS Bottle#:	7	Worklist Smp#:	13
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	TO15_ATMS5	Limit Group:	MSA - TO15 - ICAL		



FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-4945-1

SDG No.:

Client Sample ID: 34001426 Lab Sample ID: 320-4945-11

Matrix: Air Lab File ID: MS111208.D

Analysis Method: TO-15 Date Collected: 11/12/2013 00:00

Sample wt/vol: 500(mL) Date Analyzed: 11/12/2013 16:57

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: See SOP ID:

% Moisture: Level: (low/med) Low

Analysis Batch No.: 29645 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL
67-64-1	Acetone	ND		5.0
107-02-8	Acrolein	ND		2.0
107-13-1	Acrylonitrile	ND		2.0
107-05-1	Allyl chloride	ND		0.80
71-43-2	Benzene	ND		0.40
100-44-7	Benzyl chloride	ND		0.80
75-27-4	Bromodichloromethane	ND		0.30
75-25-2	Bromoform	ND		0.40
74-83-9	Bromomethane	ND		0.80
106-99-0	1,3-Butadiene	ND		0.80
106-97-8	n-Butane	ND		0.40
78-93-3	2-Butanone (MEK)	ND		0.80
75-65-0	tert-Butyl alcohol (TBA)	ND		2.0
104-51-8	n-Butylbenzene	ND		0.40
135-98-8	sec-Butylbenzene	ND		0.40
98-06-6	tert-Butylbenzene	ND		0.80
75-15-0	Carbon disulfide	ND		0.80
56-23-5	Carbon tetrachloride	ND		0.80
108-90-7	Chlorobenzene	ND		0.30
75-45-6	Chlorodifluoromethane	ND		0.80
75-00-3	Chloroethane	ND		0.80
67-66-3	Chloroform	ND		0.30
74-87-3	Chloromethane	ND		0.80
95-49-8	2-Chlorotoluene	ND		0.40
110-82-7	Cyclohexane	ND		0.40
124-48-1	Dibromochloromethane	ND		0.40
106-93-4	1,2-Dibromoethane (EDB)	ND		0.80
74-95-3	Dibromomethane	ND		0.40
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		0.40
95-50-1	1,2-Dichlorobenzene	ND		0.40
541-73-1	1,3-Dichlorobenzene	ND		0.40
106-46-7	1,4-Dichlorobenzene	ND		0.40
75-71-8	Dichlorodifluoromethane	ND		0.40
75-34-3	1,1-Dichloroethane	ND		0.30
107-06-2	1,2-Dichloroethane	ND		0.80
75-35-4	1,1-Dichloroethene	ND		0.80

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-4945-1

SDG No.:

Client Sample ID: 34001426 Lab Sample ID: 320-4945-11

Matrix: Air Lab File ID: MS111208.D

Analysis Method: TO-15 Date Collected: 11/12/2013 00:00

Sample wt/vol: 500(mL) Date Analyzed: 11/12/2013 16:57

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: See SOP ID:

% Moisture: Level: (low/med) Low

Analysis Batch No.: 29645 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL
156-59-2	cis-1,2-Dichloroethene	ND		0.40
156-60-5	trans-1,2-Dichloroethene	ND		0.40
78-87-5	1,2-Dichloropropane	ND		0.40
10061-01-5	cis-1,3-Dichloropropene	ND		0.40
10061-02-6	trans-1,3-Dichloropropene	ND		0.40
123-91-1	1,4-Dioxane	ND		0.80
141-78-6	Ethyl acetate	ND		0.30
100-41-4	Ethylbenzene	ND		0.40
622-96-8	4-Ethyltoluene	ND		0.40
142-82-5	n-Heptane	ND		0.80
87-68-3	Hexachlorobutadiene	ND		2.0
110-54-3	n-Hexane	ND		0.80
591-78-6	2-Hexanone	ND		0.40
98-82-8	Isopropylbenzene	ND		0.80
99-87-6	4-Isopropyltoluene	ND		0.80
1634-04-4	Methyl-t-Butyl Ether (MTBE)	ND		0.80
80-62-6	Methyl methacrylate	ND		0.80
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		0.40
75-09-2	Methylene Chloride	ND		0.40
98-83-9	alpha-Methylstyrene	ND		0.40
91-20-3	Naphthalene	ND		0.80
111-65-9	n-Octane	ND		0.40
109-66-0	n-Pentane	ND		0.80
115-07-1	Propylene	ND		0.40
103-65-1	N-Propylbenzene	ND		0.40
100-42-5	Styrene	ND		0.40
79-34-5	1,1,2,2-Tetrachloroethane	ND		0.40
127-18-4	Tetrachloroethene	ND		0.40
109-99-9	Tetrahydrofuran	ND		0.80
108-88-3	Toluene	ND		0.40
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.40
120-82-1	1,2,4-Trichlorobenzene	ND		2.0
71-55-6	1,1,1-Trichloroethane	ND		0.30
79-00-5	1,1,2-Trichloroethane	ND		0.40
79-01-6	Trichloroethene	ND		0.40
75-69-4	Trichlorofluoromethane	ND		0.40

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-4945-1

SDG No.:

Client Sample ID: 34001426 Lab Sample ID: 320-4945-11

Matrix: Air Lab File ID: MS111208.D

Analysis Method: TO-15 Date Collected: 11/12/2013 00:00

Sample wt/vol: 500(mL) Date Analyzed: 11/12/2013 16:57

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: See SOP ID:

% Moisture: Level: (low/med) Low

Analysis Batch No.: 29645 Units: ppb v/v

CAS NO.	COMPOUND NAME	RESULT	Q	RL
96-18-4	1,2,3-Trichloropropane	ND		0.40
95-63-6	1,2,4-Trimethylbenzene	ND		0.80
108-67-8	1,3,5-Trimethylbenzene	ND		0.40
540-84-1	2,2,4-Trimethylpentane	ND		0.40
108-05-4	Vinyl acetate	ND		0.80
593-60-2	Vinyl bromide	ND		0.80
75-01-4	Vinyl chloride	ND		0.40
179601-23-1	m,p-Xylene	ND		0.80
95-47-6	o-Xylene	ND		0.40

CAS NO.	SURROGATE	%REC	Q	LIMITS
460-00-4	4-Bromofluorobenzene (Surr)	90		70-130
17060-07-0	1,2-Dichloroethane-d4 (Surr)	99		70-130
2037-26-5	Toluene-d8 (Surr)	99		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\MS111208.D
Lims ID: 320-4945-A-11 Lab Sample ID: 320-4945-11
Client ID: 34001426
Sample Type: Client
Inject. Date: 12-Nov-2013 16:57:30 ALS Bottle#: 2 Worklist Smp#: 9
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 320-4945-
Misc. Info.: 34001426
Operator ID: AO Instrument ID: ATMS5

Method: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\TO15_ATMS5.m
Limit Group: MSA - TO15 - ICAL
Last Update: 13-Nov-2013 11:48:10 Calib Date: 12-Nov-2013 11:19:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\MS111204.D

Column 1 : Detector MS SCAN
Process Host: XAWRK010

First Level Reviewer: ortizam Date: 13-Nov-2013 11:48:10

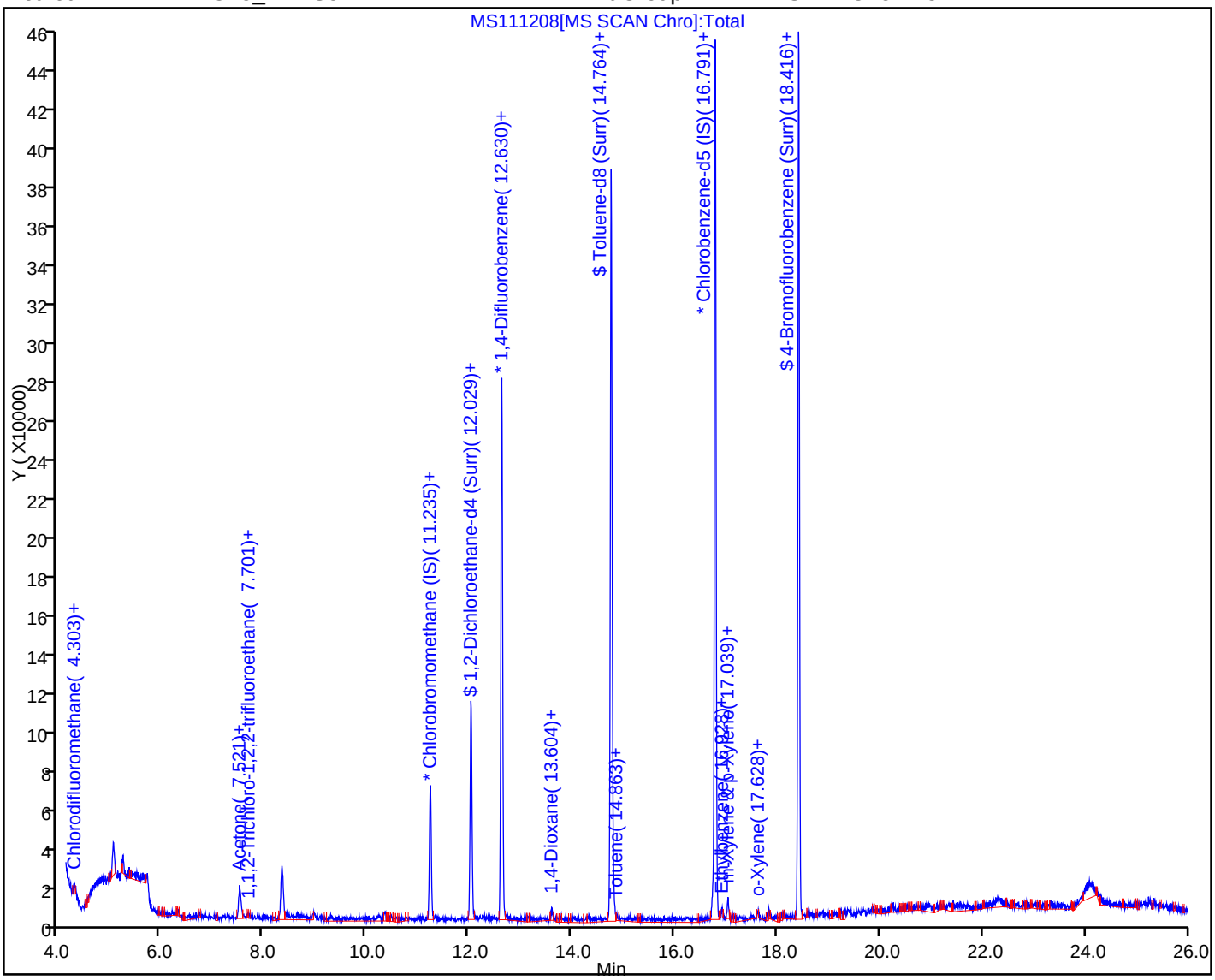
Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	On-Col Amt ppb v/v	Flags
* 1 Chlorobromomethane (IS)	130	11.235	11.241	-0.006	95	31883	3.88	
* 2 1,4-Difluorobenzene	114	12.630	12.630	0.0	94	293519	4.00	
* 3 Chlorobenzene-d5 (IS)	117	16.791	16.791	0.0	83	341259	4.00	
$ 4 1,2-Dichloroethane-d4 (Surr)	65	12.029	12.029	0.0	22	72421	3.85	
$ 5 Toluene-d8 (Surr)	100	14.764	14.764	0.0	93	215915	3.97	
$ 6 4-Bromofluorobenzene (Surr)	95	18.416	18.416	0.0	93	186630	3.60	
11 Propene	41	4.315	4.321	-0.006	74	2023	0.0520	
12 Chlorodifluoromethane	51	4.327	4.334	-0.007	34	3686	0.0500	
33 Acetone	43	7.521	7.521	0.0	95	30976	0.2457	
34 1,1,2-Trichloro-1,2,2-trifluoroe	101	7.694	7.688	0.006	1	1487	0.0169	
69 1,4-Dioxane	88	13.610	13.604	0.006	67	3511	0.1484	
75 Toluene	91	14.869	14.869	0.0	24	2419	0.0155	
86 Ethylbenzene	91	16.928	16.928	0.0	33	2978	0.0160	
88 m-Xylene & p-Xylene	91	17.045	17.039	0.006	74	7170	0.0503	
89 o-Xylene	91	17.628	17.628	0.0	12	2833	0.0192	

Report Date: 13-Nov-2013 11:48:11 Chrom Revision: 2.1 15-Oct-2013 07:52:24

TestAmerica Sacramento

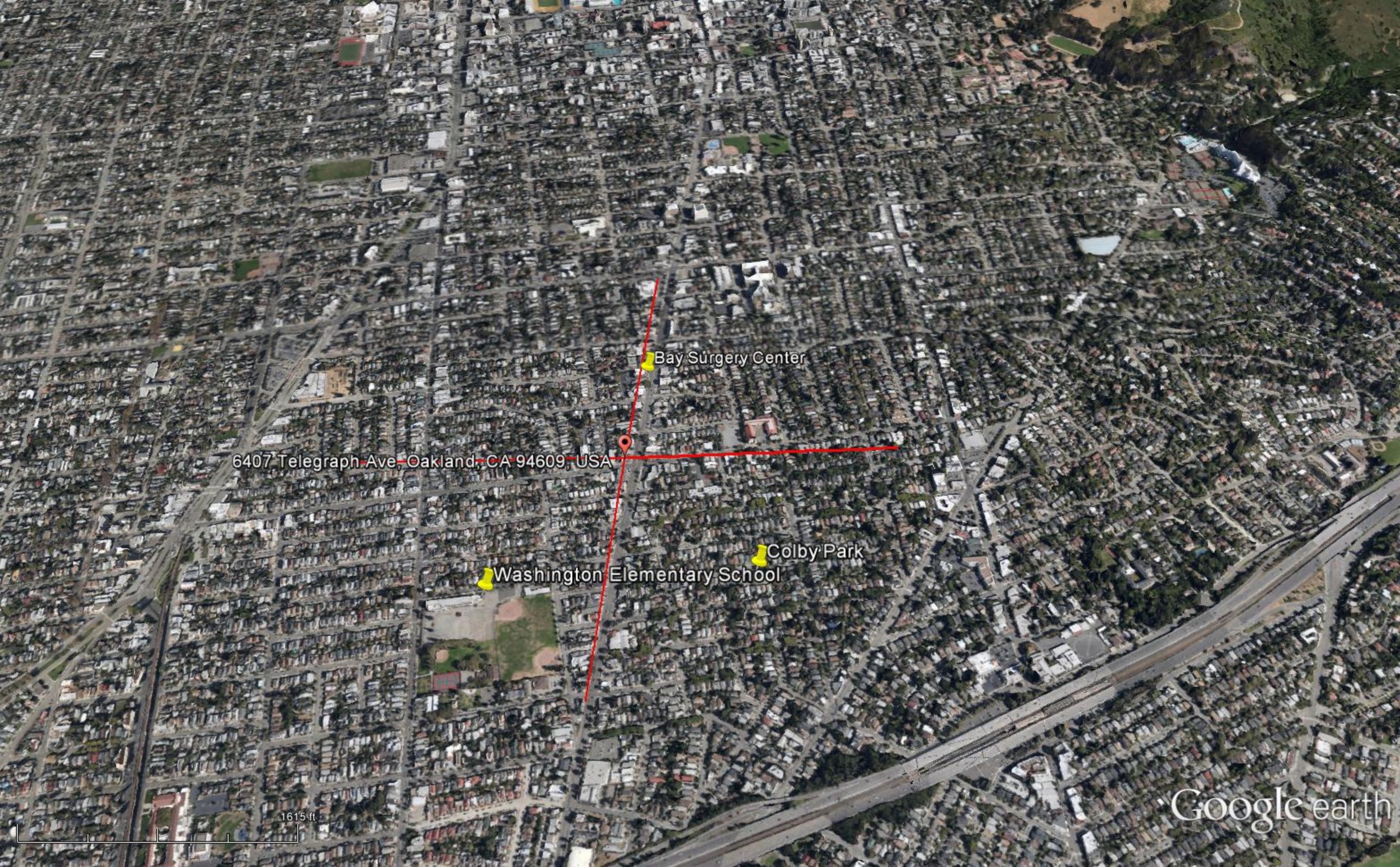
Data File: \\SACCHROM\ChromData\ATMS5\20131112-8600.b\MS111208.D

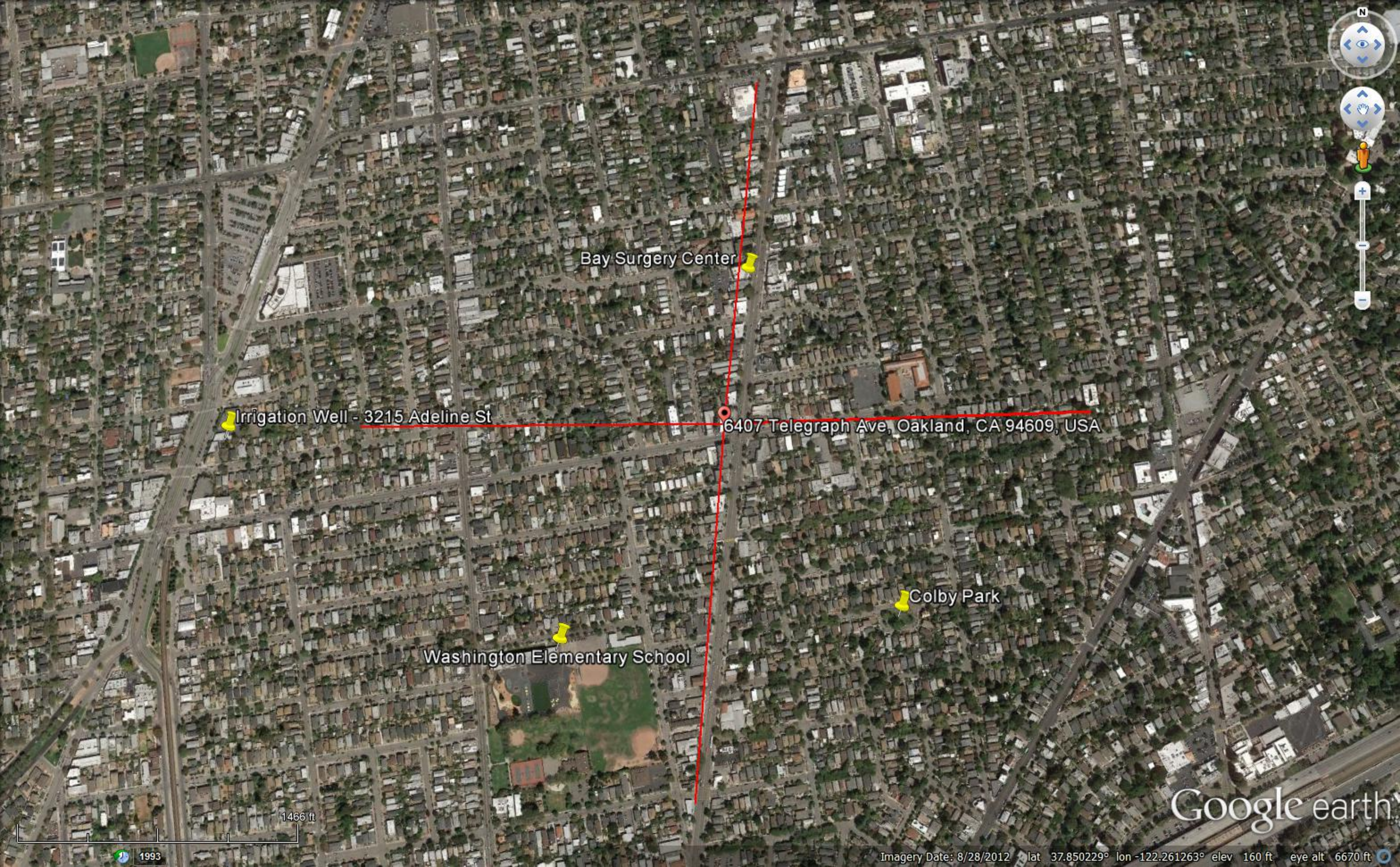
Injection Date:	12-Nov-2013 16:57:30	Instrument ID:	ATMS5		
Lims ID:	320-4945-A-11	Lab Sample ID:	320-4945-11		
Client ID:	34001426				
Operator ID:	AO	ALS Bottle#:	2	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	TO15_ATMS5	Limit Group:	MSA - TO15 - ICAL		



APPENDIX E

Sensitive Receptor Survey


Bay Surgery Center
6407 Telegraph Ave, Oakland, CA 94609, USA
Washington Elementary School
Colby Park
1615 ft
Google earth


Bay Surgery Center
Irrigation Well - 3215 Adeline St
6407 Telegraph Ave, Oakland, CA 94609, USA
Colby Park
Washington Elementary School
1466 ft
1993
Google earth
Imagery Date: 8/28/2012 lat 37.850229° lon -122.261263° elev 160 ft eye alt 6670 ft

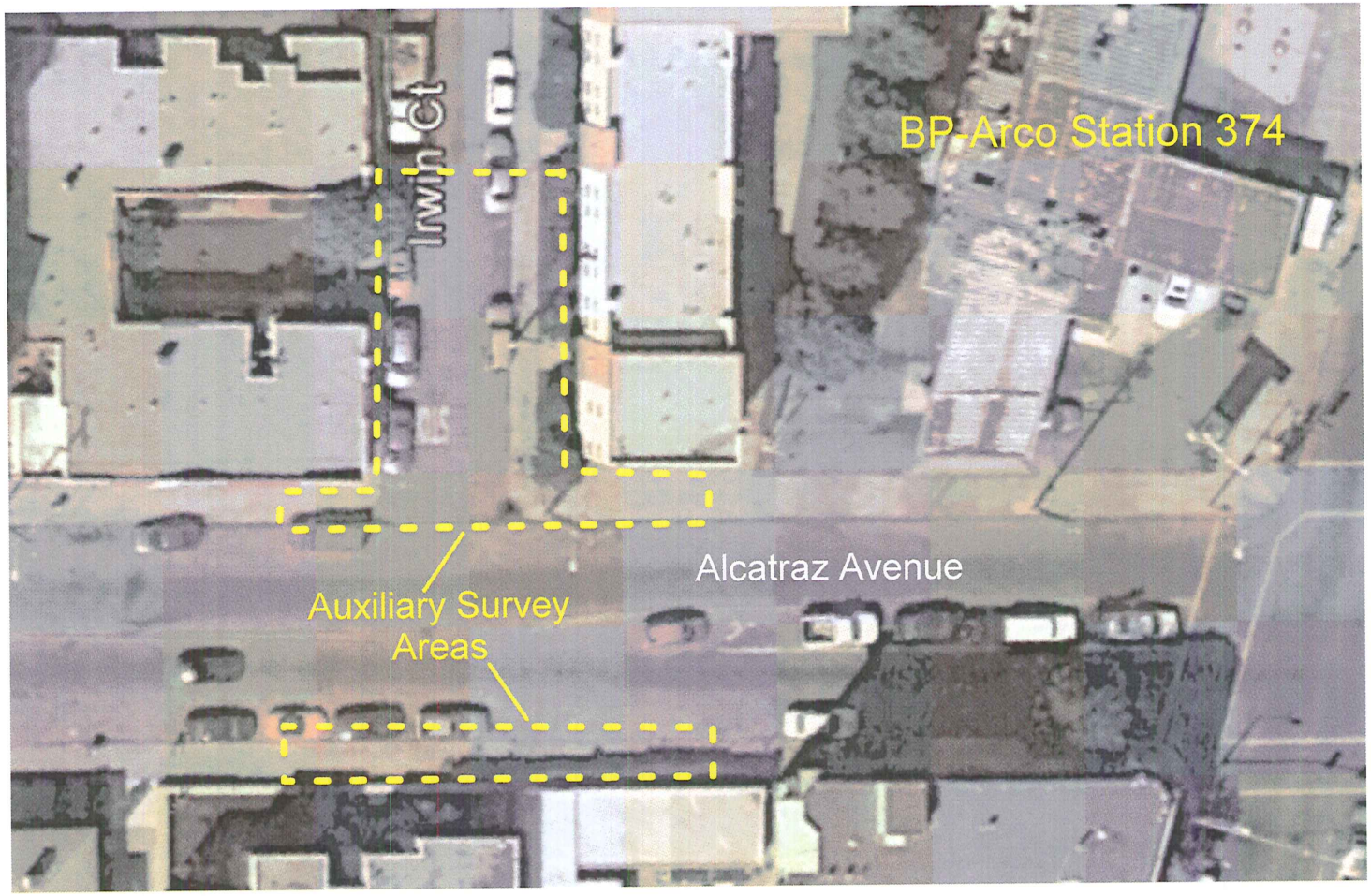
APPENDIX F

Preferential Pathway Study

DRAFT

Broadbent and Associates
BP-Arco Station 374
6407 Telegraph Avenue, Oakland, California

Auxiliary Underground Utility
Survey Areas Vicinity Map



NORCAL Geophysical Consultants, Inc.
Project No. 13-1034.18
November 21, 2013

1"=10'

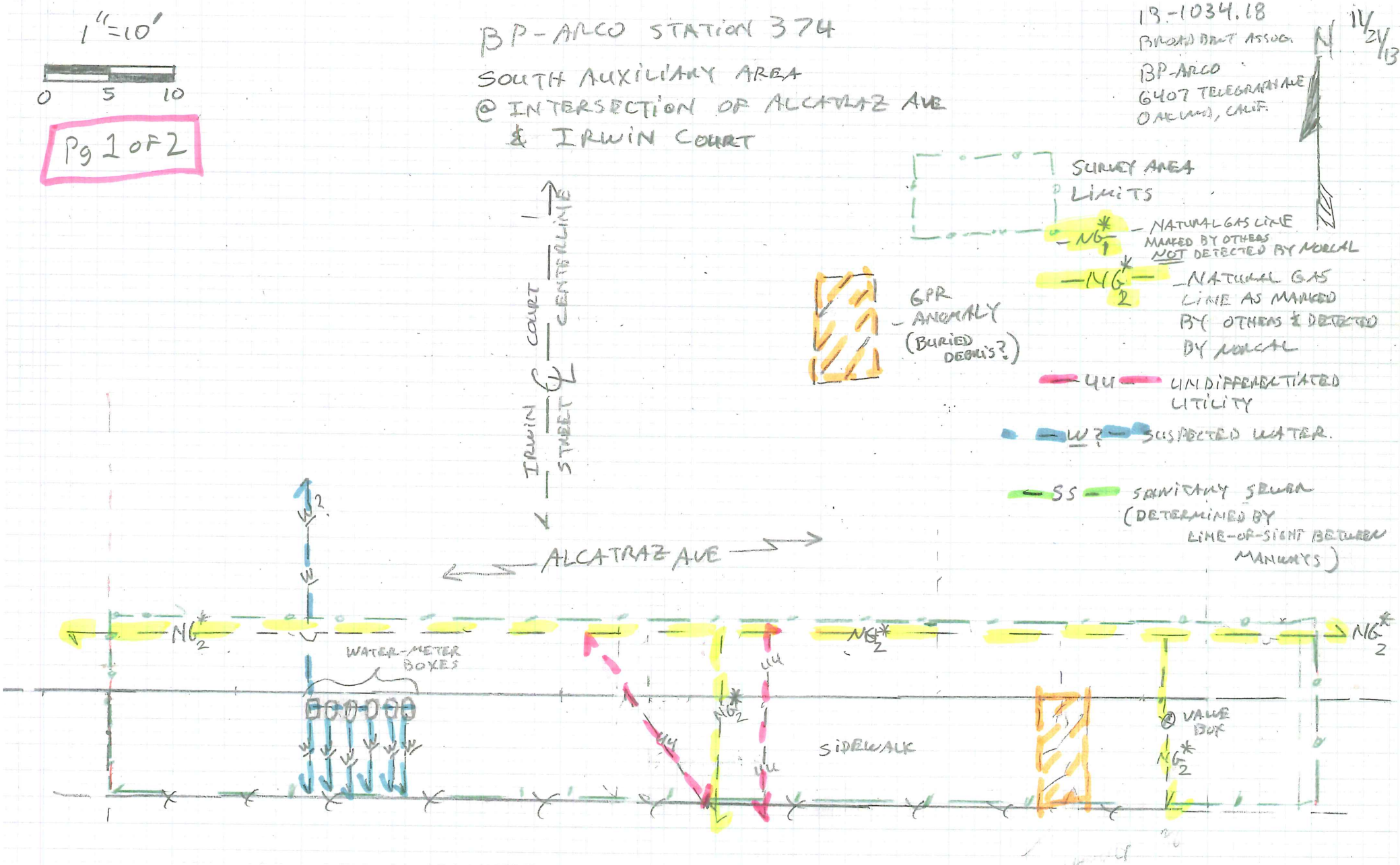
0 5 10

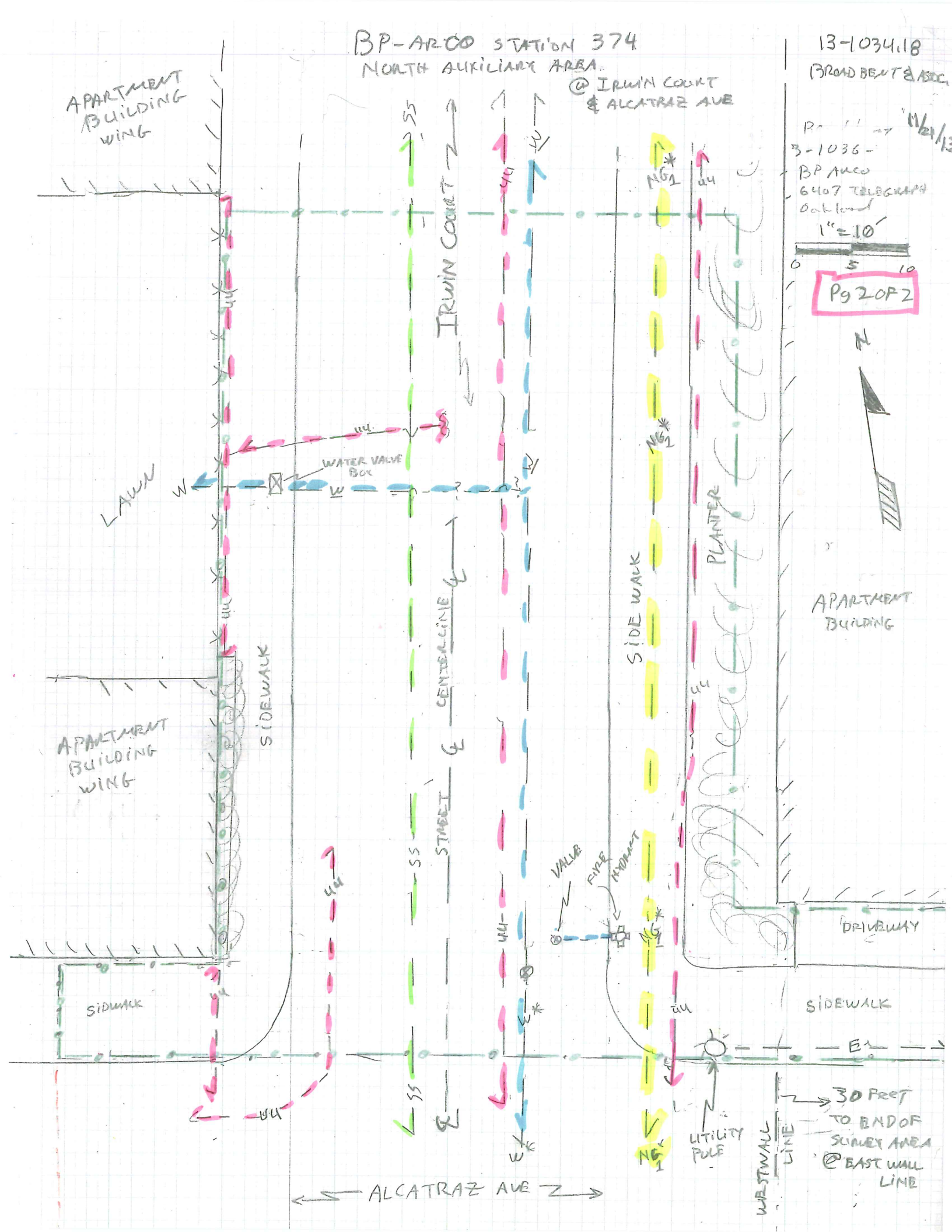
Pg 1 of 2

BP-ARCO STATION 374

SOUTH AUXILIARY AREA
@ INTERSECTION OF ALCATRAZ AVE
& IRWIN COURT

13-1034.18
BROADBENT ASSOC.
BP-ARCO
6407 TELEGRAPH AVE
OAKLAND, CALIF.




BP-ARCO STATION 374
NORTH AUXILIARY AREA
@ IRWIN COURT & ALCATRAZ AVE
13-1034.18
BROADBENT & ASSOC.
3-1036 -
BP ARCO
6407 TELEGRAPH
Oakland
1" = 10'
0 5 10
Pg 2 OF 2
N
APARTMENT BUILDING WING
IRWIN COURT
LAWN
WATER VALVE BOX
SIDEWALK
CENTERLINE
STREET
SIDE WALK
PLANTER
APARTMENT BUILDING
APARTMENT BUILDING WING
VALVE
FIRE HYDRANT
DRIVEWAY
SIDEWALK
SIDEWALK
UTILITY POLE
30 FEET TO END OF SURVEY AREA @ EAST WALL LINE
WESTWALL LINE
ALCATRAZ AVE

APPENDIX G

Previous CSM Maps and Supporting Tables

Table 1. Summary of Groundwater Monitoring Data: Relative Water Elevations and Laboratory Analyses

ARCO Service Station #0374, 6407 Telegraph Ave., Oakland, CA

Well ID and Date Monitored	P/NP	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in µg/L						DO (mg/L)	pH	Footnote
							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
ESL - DW							100	1.0	40	30	20	5.0			
ESL - NDW							210	46	130	43	100	1,800			
MW-1															
6/20/2000	--	158.91	7.00	27.00	6.86	152.05	--	--	--	--	--	--	--	--	
9/28/2000	--		7.00	27.00	7.50	151.41	--	--	--	--	--	--	--	--	
12/17/2000	--		7.00	27.00	7.49	151.42	--	--	--	--	--	--	--	--	
3/23/2001	--		7.00	27.00	5.90	153.01	<50	<0.5	<0.5	<0.5	<0.5	***2,710***	--	--	
6/21/2001	--		7.00	27.00	7.45	151.46	--	--	--	--	--	--	--	--	
9/23/2001	--		7.00	27.00	8.46	150.45	--	--	--	--	--	--	--	--	
12/31/2001	--		7.00	27.00	5.50	153.41	--	--	--	--	--	--	--	--	
3/21/2002	--		7.00	27.00	4.71	154.20	***<5,000***	***<50***	*<50*	***<50***	*<50*	***2,000***	--	--	
4/17/2002	--		7.00	27.00	5.54	153.37	--	--	--	--	--	--	--	--	
8/12/2002	--		7.00	27.00	7.77	151.14	--	--	--	--	--	--	--	--	
12/6/2002	--		7.00	27.00	7.65	151.26	--	--	--	--	--	--	--	--	
1/29/2003	--		7.00	27.00	5.88	153.03	--	--	--	--	--	--	--	--	b
5/23/2003	--		7.00	27.00	5.62	153.29	***<10,000***	***<100***	*<100*	***<100***	*<100*	*1,600*	1.3	7.1	
9/4/2003	--		7.00	27.00	7.85	151.06	--	--	--	--	--	--	--	--	
11/20/2003	P		7.00	27.00	8.17	150.74	***1,600***	*<10*	<10	<10	<10	*1,500*	1.7	6.7	
2/2/2004	P	164.57	7.00	27.00	6.71	157.86	--	--	--	--	--	--	1.0	--	f
5/14/2004	P		7.00	27.00	7.08	157.49	***<2,500***	*<25*	<25	<25	*<25*	*1,200*	1.4	6.6	
9/2/2004	P		7.00	27.00	8.12	156.45	***580***	*<5.0*	<5.0	<5.0	<5.0	*660*	3.8	6.7	
11/4/2004	P		7.00	27.00	7.38	157.19	***1,700***	*<10*	<10	<10	<10	*580*	6.0	6.5	
2/8/2005	P		7.00	27.00	6.60	157.97	***<1,000***	*<10*	<10	<10	<10	*610*	0.71	6.5	
5/9/2005	P		7.00	27.00	6.84	157.73	***540***	*<5.0*	<5.0	<5.0	5.5	*620*	3.12	6.6	e
8/11/2005	P		7.00	27.00	7.36	157.21	***540***	*<2.5*	<2.5	<2.5	4.0	*390*	0.8	6.6	
11/18/2005	P		7.00	27.00	8.02	156.55	***350***	*<2.5*	<2.5	<2.5	<2.5	*340*	2.6	6.7	e
2/16/2006	P		7.00	27.00	6.44	158.13	***350***	*<2.5*	<2.5	<2.5	<2.5	*340*	1.6	6.7	e
5/30/2006	P		7.00	27.00	6.87	157.70	***270***	*<2.5*	<2.5	<2.5	<2.5	*420*	4.73	6.4	
8/24/2006	P		7.00	27.00	7.75	156.82	95	*<5.0*	<5.0	<5.0	<5.0	*180*	0.65	6.9	

Table 1. Summary of Groundwater Monitoring Data: Relative Water Elevations and Laboratory Analyses

ARCO Service Station #0374, 6407 Telegraph Ave., Oakland, CA

Well ID and Date Monitored	P/NP	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in µg/L						DO (mg/L)	pH	Footnote
							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
ESL - DW							100	1.0	40	30	20	5.0			
ESL - NDW							210	46	130	43	100	1,800			
MW-1 Cont.															
11/1/2006	P	164.57	7.00	27.00	8.28	156.29	*120*	*<5.0*	<5.0	<5.0	<5.0	*220*	1.65	7.07	
2/7/2007	NP		7.00	27.00	7.40	157.17	*120*	*<5.0*	<5.0	<5.0	<5.0	*190*	1.88	7.45	e
5/8/2007	P		7.00	27.00	6.50	158.07	***<500***	*<5.0*	<5.0	<5.0	<5.0	*420*	1.21	6.94	
8/8/2007	NP		7.00	27.00	8.17	156.40	82	<0.50	<0.50	<0.50	<0.50	*110*	1.16	7.00	e
11/14/2007	NP		7.00	27.00	8.01	156.56	*170*	*<2.5*	<2.5	<2.5	<2.5	*210*	1.92	6.49	
2/22/2008	P		7.00	27.00	6.00	158.57	<50	<0.50	<0.50	<0.50	<0.50	*250*	2.57	6.65	
5/24/2008	NP		7.00	27.00	7.58	156.99	<50	*<5.0*	<5.0	<5.0	<5.0	*380*	2.28	6.81	
8/21/2008	NP		7.00	27.00	8.60	155.97	<50	*<2.5*	<2.5	<2.5	<2.5	*170*	2.16	6.98	
11/19/2008	NP		7.00	27.00	8.88	155.69	<50	<0.50	<0.50	<0.50	<0.50	*30*	2.12	7.27	
2/23/2009	P		7.00	27.00	6.40	158.17	78	*<2.5*	<2.5	<2.5	<2.5	*240*	2.19	6.03	
5/14/2009	P		7.00	27.00	6.67	157.90	53	<0.50	<0.50	<0.50	<0.50	*200*	1.75	6.69	
8/20/2009	NP		7.00	27.00	8.25	156.32	*150*	*<2.0*	<2.0	<2.0	<2.0	*170*	2.14	6.25	i (GRO)
2/19/2010	P		7.00	27.00	6.07	158.50	<50	<0.50	<0.50	<0.50	<0.50	*170*	0.92	6.66	
8/10/2010	NP		7.00	27.00	7.58	156.99	<50	*<2.5*	<2.5	<2.5	<2.5	*230*	3.86	7.1	
12/16/2010	P	164.45	7.00	27.00	6.64	157.81	<50	*<2.0*	<2.0	<2.0	<2.0	*140*	1.20	6.86	j
2/14/2011	NP		7.00	27.00	7.10	157.35	<50	*<2.5*	<2.5	<2.5	<2.5	*170*	1.18	6.7	
5/20/2011	--		7.00	27.00	6.38	158.07	--	--	--	--	--	--	--	--	
8/15/2011	NP		7.00	27.00	7.24	157.21	<50	*<2.5*	<2.5	<2.5	<2.5	*130*	2.54	6.9	
2/2/2012	P		7.00	27.00	7.32	157.13	<50	<1.0	<1.0	<1.0	<1.0	*66*	1.01	7.1	
8/9/2012	P		7.00	27.00	6.69	157.76	<50	<0.50	<0.50	<0.50	<1.0	*170*	1.65	6.99	
2/14/2013	P		7.00	27.00	5.97	158.48	<50	<0.50	<0.50	<0.50	<1.0	*140*	1.74	7.20	
8/22/2013	P		7.00	27.00	7.87	156.58	<50	<0.50	<0.50	<0.50	<1.0	*91*	5.69	7.21	
MW-2															
6/20/2000	--	157.92	7.00	27.00	7.67	150.25	--	--	--	--	--	--	--	--	
9/28/2000	--		7.00	27.00	8.51	149.41	--	--	--	--	--	--	--	--	

Table 1. Summary of Groundwater Monitoring Data: Relative Water Elevations and Laboratory Analyses

ARCO Service Station #0374, 6407 Telegraph Ave., Oakland, CA

Well ID and Date Monitored	P/NP	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in µg/L						DO (mg/L)	pH	Footnote
							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
ESL - DW							100	1.0	40	30	20	5.0			
ESL - NDW							210	46	130	43	100	1,800			
MW-2 Cont.															
12/17/2000	--	157.92	7.00	27.00	8.14	149.78	--	--	--	--	--	--	--	--	
3/23/2001	--		7.00	27.00	7.21	150.71	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	
6/21/2001	--		7.00	27.00	7.99	149.93	--	--	--	--	--	--	--	--	
9/23/2001	--		7.00	27.00	8.52	149.40	--	--	--	--	--	--	--	--	
12/31/2001	--		7.00	27.00	6.01	151.91	--	--	--	--	--	--	--	--	
3/21/2002	--		7.00	27.00	5.95	151.97	<50	<0.5	<0.5	<0.5	<0.5	*45*	--	--	
4/17/2002	--		7.00	27.00	6.45	151.47	--	--	--	--	--	--	--	--	
8/12/2002	--		7.00	27.00	8.08	149.84	--	--	--	--	--	--	--	--	
12/6/2002	--		7.00	27.00	8.29	149.63	--	--	--	--	--	--	--	--	
1/29/2003	--		7.00	27.00	7.22	150.70	--	--	--	--	--	--	--	--	b
5/23/2003	--		7.00	27.00	6.85	151.07	<50	<0.50	<0.50	<0.50	<0.50	*55*	1.4	7.2	
9/4/2003	--		7.00	27.00	7.94	149.98	--	--	--	--	--	--	--	--	
11/20/2003	--		7.00	27.00	8.05	149.87	--	--	--	--	--	--	--	--	
2/2/2004	P	163.46	7.00	27.00	7.00	156.46	74	<0.50	<0.50	<0.50	<0.50	*37*	1.1	8.9	f
5/14/2004	--		7.00	27.00	7.97	155.49	--	--	--	--	--	--	--	--	
9/2/2004	P		7.00	27.00	8.19	155.27	***<250***	*<2.5*	<2.5	<2.5	<2.5	*67*	2.7	6.9	
11/4/2004	--		7.00	27.00	7.54	155.92	--	--	--	--	--	--	--	--	
2/8/2005	P		7.00	27.00	6.72	156.74	<50	<0.50	<0.50	<0.50	<0.50	*30*	0.86	6.7	
5/9/2005	--		7.00	27.00	7.16	156.30	--	--	--	--	--	--	--	--	
8/11/2005	P		7.00	27.00	7.85	155.61	<50	<0.50	<0.50	<0.50	<0.50	*35*	1.0	6.6	
11/18/2005	--		7.00	27.00	8.23	155.23	--	--	--	--	--	--	--	--	
2/16/2006	P		7.00	27.00	6.82	156.64	<50	<0.50	<0.50	<0.50	<0.50	*39*	1.3	7.0	
5/30/2006	--		7.00	27.00	7.23	156.23	--	--	--	--	--	--	--	--	
8/24/2006	P		7.00	27.00	8.00	155.46	60	<0.50	<0.50	<0.50	<0.50	*25*	0.90	6.8	
11/1/2006	--		7.00	27.00	8.38	155.08	--	--	--	--	--	--	--	--	
2/7/2007	NP		7.00	27.00	7.88	155.58	<50	0.50	<0.50	<0.50	<0.50	*7.2*	0.94	7.39	

Table 1. Summary of Groundwater Monitoring Data: Relative Water Elevations and Laboratory Analyses

ARCO Service Station #0374, 6407 Telegraph Ave., Oakland, CA

Well ID and Date Monitored	P/NP	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in µg/L						DO (mg/L)	pH	Footnote
							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
ESL - DW							100	1.0	40	30	20	5.0			
ESL - NDW							210	46	130	43	100	1,800			
MW-2 Cont.															
5/8/2007	--	163.46	7.00	27.00	7.28	156.18	--	--	--	--	--	--	--	--	
8/8/2007	NP		7.00	27.00	8.38	155.08	88	*3.2*	<0.50	<0.50	<0.50	*7.2*	0.94	7.75	
11/14/2007	--		7.00	27.00	8.10	155.36	--	--	--	--	--	--	--	--	
2/22/2008	P		7.00	27.00	6.75	156.71	<50	<0.50	<0.50	<0.50	<0.50	*24*	2.18	7.02	
5/24/2008	--		7.00	27.00	7.98	155.48	--	--	--	--	--	--	--	--	
8/21/2008	NP		7.00	27.00	8.58	154.88	<50	*2.6*	<0.50	<0.50	<0.50	4.9	2.20	7.11	
11/19/2008	--		7.00	27.00	8.66	154.80	--	--	--	--	--	--	--	--	
2/23/2009	P		7.00	27.00	6.67	156.79	74	1.0	<0.50	<0.50	<0.50	*24*	2.25	6.16	
5/14/2009	--		7.00	27.00	7.02	156.44	--	--	--	--	--	--	--	--	
8/20/2009	NP		7.00	27.00	8.41	155.05	82	*2.4*	<0.50	<0.50	<0.50	*8.4*	2.19	6.37	
2/19/2010	NP		7.00	27.00	7.36	156.10	<50	<0.50	<0.50	<0.50	<0.50	*22*	0.81	6.90	
8/10/2010	NP		7.00	27.00	7.69	155.77	<50	<0.50	<0.50	<0.50	<0.50	*23*	2.40	7.67	
12/16/2010	P	163.49	7.00	27.00	7.12	156.37	<50	<0.50	<0.50	<0.50	<0.50	*17*	0.69	7.06	j
2/14/2011	NP		7.00	27.00	7.35	156.14	<50	<0.50	<0.50	<0.50	<0.50	*11*	0.87	7.0	
5/20/2011	--		7.00	27.00	7.02	156.47	--	--	--	--	--	--	--	--	
8/15/2011	NP		7.00	27.00	7.62	155.87	<50	<0.50	<0.50	<0.50	<0.50	1.7	1.45	7.1	
2/2/2012	P		7.00	27.00	7.56	155.93	<50	<0.50	<0.50	<0.50	<0.50	1.8	0.85	7.3	
8/9/2012	P		7.00	27.00	6.31	157.18	<50	<0.50	<0.50	<0.50	<1.0	*73*	1.28	7.15	
2/14/2013	P		7.00	27.00	6.03	157.46	<50	<0.50	<0.50	<0.50	<1.0	*46*	1.71	7.48	
8/22/2013	P		7.00	27.00	7.79	155.70	<50	<0.50	<0.50	<0.50	<1.0	*82*	4.16	7.23	
MW-3															
6/20/2000	--	153.64	7.00	27.00	6.42	147.22	<50	<0.5	<0.5	<0.5	<1.0	*<10*	--	--	
9/28/2000	--		7.00	27.00	7.31	146.33	--	--	--	--	--	--	--	--	
12/17/2000	--		7.00	27.00	6.45	147.19	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	
3/23/2001	--		7.00	27.00	6.01	147.63	--	--	--	--	--	--	--	--	

Table 1. Summary of Groundwater Monitoring Data: Relative Water Elevations and Laboratory Analyses

ARCO Service Station #0374, 6407 Telegraph Ave., Oakland, CA

Well ID and Date Monitored	P/NP	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in µg/L						DO (mg/L)	pH	Footnote
							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
ESL - DW							100	1.0	40	30	20	5.0			
ESL - NDW							210	46	130	43	100	1,800			
MW-3 Cont.															
6/21/2001	--	153.64	7.00	27.00	6.80	146.84	*110*	*5.5*	<0.5	5.4	4.1	2.5	--	--	
9/23/2001	--		7.00	27.00	7.32	146.32	--	--	--	--	--	--	--	--	
12/31/2001	--		7.00	27.00	4.48	149.16	<50	<0.5	<0.5	<0.5	<0.5	4.9	--	--	
3/21/2002	--		7.00	27.00	4.36	149.28	--	--	--	--	--	--	--	--	
4/17/2002	--		7.00	27.00	5.31	148.33	<50	<0.5	<0.5	<0.5	<0.5	*8.7*	--	--	
8/12/2002	--		7.00	27.00	7.00	146.64	--	--	--	--	--	--	--	--	
12/6/2002	--		7.00	27.00	7.32	146.32	<50	<0.5	<0.5	<0.5	<0.5	*6.2*	1.4	6.7	
1/29/2003	--		7.00	27.00	6.07	147.57	--	--	--	--	--	--	--	--	b
5/23/2003	--		7.00	27.00	6.45	147.19	<50	<0.50	<0.50	<0.50	<0.50	1.6	0.9	7.7	
9/4/2003	--		7.00	27.00	6.93	146.71	--	--	--	--	--	--	--	--	c
11/20/2003	--		7.00	27.00	7.04	146.60	--	--	--	--	--	--	--	--	c
2/2/2004	--	159.21	7.00	27.00	5.92	153.29	--	--	--	--	--	--	--	--	f
5/14/2004	--		7.00	27.00	7.52	151.69	--	--	--	--	--	--	--	--	
9/2/2004	P		7.00	27.00	7.19	152.02	<50	<0.50	<0.50	<0.50	<0.50	*6.5*	9.3	8.9	
11/4/2004	--		7.00	27.00	6.40	152.81	--	--	--	--	--	--	--	--	
2/8/2005	--		7.00	27.00	6.01	153.20	--	--	--	--	--	--	--	--	
5/9/2005	--		7.00	27.00	6.74	152.47	--	--	--	--	--	--	--	--	
8/11/2005	P		7.00	27.00	6.77	152.44	<50	<0.50	<0.50	<0.50	<0.50	*11*	1.9	6.5	
11/18/2005	--		7.00	27.00	7.83	151.38	--	--	--	--	--	--	--	--	
2/16/2006	--		7.00	27.00	7.26	151.95	--	--	--	--	--	--	--	--	
5/30/2006	--		7.00	27.00	5.82	153.39	--	--	--	--	--	--	--	--	
8/24/2006	P		7.00	27.00	7.00	152.21	<50	<0.50	<0.50	<0.50	<0.50	*7.6*	1.15	6.4	
11/1/2006	--		7.00	27.00	7.50	151.71	--	--	--	--	--	--	--	--	
2/7/2007	--		7.00	27.00	6.90	152.31	--	--	--	--	--	--	--	--	
5/8/2007	--		7.00	27.00	5.95	153.26	--	--	--	--	--	--	--	--	
8/8/2007	NP		7.00	27.00	7.47	151.74	<50	<0.50	<0.50	<0.50	<0.50	1.2	1.21	6.93	

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ARCO Service Station #0374, 6407 Telegraph Ave., Oakland, CA

Well ID and Date Monitored	P/NP	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in µg/L						DO (mg/L)	pH	Footnote
							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
ESL - DW							100	1.0	40	30	20	5.0			
ESL - NDW							210	46	130	43	100	1,800			
MW-3 Cont.															
11/14/2007	--	159.21	7.00	27.00	7.05	152.16	--	--	--	--	--	--	--	--	
2/22/2008	--		7.00	27.00	5.50	153.71	--	--	--	--	--	--	--	--	
5/24/2008	--		7.00	27.00	7.03	152.18	--	--	--	--	--	--	--	--	
8/21/2008	NP		7.00	27.00	7.80	151.41	<50	<0.50	<0.50	<0.50	<0.50	3.1	2.11	6.84	
11/19/2008	--		7.00	27.00	7.69	151.52	--	--	--	--	--	--	--	--	
2/23/2009	--		7.00	27.00	7.28	151.93	--	--	--	--	--	--	--	--	
5/14/2009	--		7.00	27.00	6.17	153.04	--	--	--	--	--	--	--	--	
8/20/2009	NP		7.00	27.00	7.38	151.83	<50	<0.50	<0.50	<0.50	<0.50	2.2	2.05	7.01	
2/19/2010	--		7.00	27.00	5.31	153.90	--	--	--	--	--	--	--	--	
8/10/2010	NP		7.00	27.00	7.12	152.09	<50	<0.50	<0.50	<0.50	<0.50	1.6	1.27	7.33	
12/16/2010	--		7.00	27.00	5.65	153.56	--	--	--	--	--	--	--	--	j
2/14/2011	--		7.00	27.00	6.20	153.01	--	--	--	--	--	--	--	--	
5/20/2011	--		7.00	27.00	5.77	153.44	--	--	--	--	--	--	--	--	
8/15/2011	P		7.00	27.00	6.41	152.80	<50	<0.50	<0.50	<0.50	<0.50	1.2	1.04	7.0	
2/2/2012	--		7.00	27.00	6.34	152.87	--	--	--	--	--	--	--	--	
8/9/2012	P		7.00	27.00	6.62	152.59	<50	<0.50	<0.50	<0.50	<1.0	2.0	1.16	6.71	
2/14/2013	--		7.00	27.00	6.09	153.12	--	--	--	--	--	--	--	--	
8/22/2013	P		7.00	27.00	7.15	152.06	<50	<0.50	<0.50	<0.50	<1.0	1.4	4.35	6.72	
MW-4															
6/20/2000	--	156.53	7.00	27.00	7.50	149.03	***20,000***	***5,100***	***440***	***1,000***	***1,700***	*<250*	--	--	c
9/28/2000	--		7.00	27.00	8.20	148.33	--	--	--	--	--	--	--	--	
12/17/2000	--		7.00	27.00	8.11	148.42	***4,320***	***1,240***	<20	27.2	***249***	*<100*	--	--	
3/23/2001	--		7.00	27.00	6.69	149.84	--	--	--	--	--	--	--	--	
6/21/2001	--		7.00	27.00	8.01	148.52	***2,800***	***470***	16	19	***160***	*130*	--	--	
9/23/2001	--		7.00	27.00	8.91	147.62	--	--	--	--	--	--	--	--	

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							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
ESL - DW							100	1.0	40	30	20	5.0			
ESL - NDW							210	46	130	43	100	1,800			
MW-4 Cont.															
12/31/2001	--	156.53	7.00	27.00	4.42	152.11	***4,600***	***1,500***	*100*	***160***	***210***	*160*	--	--	
3/21/2002	--		7.00	27.00	4.98	151.55	--	--	--	--	--	--	--	--	
4/17/2002	--		7.00	27.00	6.23	150.30	***7,100***	***2,200***	*110*	***290***	***450***	*<250*	--	--	
8/12/2002	--		7.00	27.00	8.24	148.29	--	--	--	--	--	--	--	--	
12/6/2002	--		7.00	27.00	8.42	148.11	***1,500***	***410***	6.8	20	*29*	*43*	1.1	6.7	a
1/29/2003	--		7.00	27.00	7.20	149.33	--	--	--	--	--	--	--	--	b
5/23/2003	--		7.00	27.00	7.18	149.35	***<5,000***	***1,300***	*89*	***210***	***260***	*<50*	1.4	6.9	
9/4/2003	--		7.00	27.00	8.15	148.38	--	--	--	--	--	--	--	--	c
11/20/2003	--		7.00	27.00	8.73	147.80	--	--	--	--	--	--	--	--	c
2/2/2004	P	163.25	7.00	27.00	6.25	157.00	***980***	***280***	21	29	*38*	*29*	1.4	10.6	c, f, g
5/14/2004	--		7.00	27.00	8.38	154.87	--	--	--	--	--	--	--	--	g
9/2/2004	P		7.00	27.00	8.36	154.89	***260***	*11*	<1.0	5.5	14	*28*	2.4	7.4	g
11/4/2004	--		7.00	27.00	7.71	155.54	--	--	--	--	--	--	--	--	c, g
2/8/2005	P		7.00	27.00	6.27	156.98	***7,500***	***1,700***	***320***	***480***	***920***	*45*	0.65	6.5	g
5/9/2005	--		7.00	27.00	5.90	157.35	--	--	--	--	--	--	--	--	g
8/11/2005	P		7.00	27.00	7.96	155.29	***3,100***	***1,100***	*41*	***160***	***110***	*32*	0.6	6.5	g
11/18/2005	--		7.00	27.00	8.57	154.68	--	--	--	--	--	--	--	--	g
2/16/2006	P		7.00	27.00	6.28	156.97	***9,400***	***1,800***	*130*	***600***	***420***	*35*	0.5	6.8	g
5/30/2006	--	162.47	7.00	27.00	7.02	155.45	--	--	--	--	--	--	--	--	g
8/24/2006	P		7.00	27.00	8.26	154.21	***3,600***	***1,400***	21	***110***	*70*	*39*	1.00	6.8	
11/1/2006	--		7.00	27.00	8.67	153.80	--	--	--	--	--	--	--	--	
2/7/2007	NP		7.00	27.00	8.02	154.45	***3,100***	***570***	17	***170***	***110***	*67*	0.95	7.07	
5/8/2007	--		7.00	27.00	7.03	155.44	--	--	--	--	--	--	--	--	
8/8/2007	NP		7.00	27.00	8.60	153.87	***2,900***	***630***	22	***67***	*57*	*72*	0.93	6.79	
11/14/2007	--		7.00	27.00	8.53	153.94	--	--	--	--	--	--	--	--	
2/22/2008	P		7.00	27.00	6.25	156.22	***3,900***	***880***	39	***180***	*92*	*70*	2.31	6.87	

Table 1. Summary of Groundwater Monitoring Data: Relative Water Elevations and Laboratory Analyses

ARCO Service Station #0374, 6407 Telegraph Ave., Oakland, CA

Well ID and Date Monitored	P/NP	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in µg/L						DO (mg/L)	pH	Footnote
							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
ESL - DW							100	1.0	40	30	20	5.0			
ESL - NDW							210	46	130	43	100	1,800			
MW-4 Cont.															
5/24/2008	--	162.47	7.00	27.00	--	--	--	--	--	--	--	--	--	--	d
8/21/2008	NP		7.00	27.00	8.96	153.51	***3,700***	***1,100***	26	***85***	***130***	*53*	2.26	6.80	
11/19/2008	--		7.00	27.00	9.20	153.27	--	--	--	--	--	--	--	--	
2/23/2009	P		7.00	27.00	6.35	156.12	***3,000***	***220***	9.1	23	19	*39*	2.21	6.51	
5/14/2009	--		7.00	27.00	7.00	155.47	--	--	--	--	--	--	--	--	
8/20/2009	NP		7.00	27.00	8.05	154.42	***5,700***	***1,100***	35	***110***	*100*	*23*	2.17	6.81	
2/19/2010	P		7.00	27.00	5.71	156.76	***12,000***	***1,200***	*120*	***230***	***390***	<5.0	0.81	6.70	i
8/10/2010	NP		7.00	27.00	7.59	154.88	***9,700***	***1,500***	*120*	***400***	***400***	*<20*	3.81	6.8	
12/16/2010	P	162.48	7.00	27.00	6.83	155.65	***15,000***	***1,800***	*82*	***270***	***210***	*<25*	0.49	6.81	j
2/14/2011	NP		7.00	27.00	7.33	155.15	***260***	<0.50	<0.50	2.7	11	*13*	0.80	7.10	
5/20/2011	--		7.00	27.00	6.89	155.59	--	--	--	--	--	--	--	--	
8/15/2011	P		7.00	27.00	7.59	154.89	***8,600***	***2,100***	*86*	***250***	***210***	*<12*	1.02	7.0	l
2/2/2012	P		7.00	27.00	7.71	154.77	***4,600***	***1,000***	34	23	*33*	*<12*	0.60	7.2	
8/9/2012	P		7.00	27.00	6.57	155.91	***3,200***	***660***	*44*	***53***	*57*	<5.0	1.09	7.05	
2/14/2013	P		7.00	27.00	6.26	156.22	***7,200***	***1,400***	***150***	***390***	***700***	*<10*	1.20	7.51	
8/22/2013	P		7.00	27.00	7.59	154.89	***6,900***	***1,600***	*100*	***120***	***330***	*<10*	4.50	6.98	
MW-5															
6/20/2000	--	151.33	10.00	23.00	7.84	143.49	<50	<0.5	<0.5	<0.5	<1.0	*<10*	--	--	
9/28/2000	--		10.00	23.00	8.37	142.96	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	
12/17/2000	--		10.00	23.00	8.36	142.97	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	
3/23/2001	--		10.00	23.00	7.55	143.78	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	
6/21/2001	--		10.00	23.00	8.20	143.13	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	
9/23/2001	--		10.00	23.00	8.68	142.65	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	
12/31/2001	--		10.00	23.00	7.57	143.76	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	
3/21/2002	--		10.00	23.00	6.12	145.21	<50	<0.5	<0.5	<0.5	<0.5	3.2	--	--	

Table 1. Summary of Groundwater Monitoring Data: Relative Water Elevations and Laboratory Analyses

ARCO Service Station #0374, 6407 Telegraph Ave., Oakland, CA

Well ID and Date Monitored	P/NP	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in µg/L						DO (mg/L)	pH	Footnote
							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
ESL - DW							100	1.0	40	30	20	5.0			
ESL - NDW							210	46	130	43	100	1,800			
MW-5 Cont.															
4/17/2002	--	151.33	10.00	23.00	6.61	144.72	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	
8/12/2002	--		10.00	23.00	8.14	143.19	<50	<0.5	<0.5	<0.5	<0.5	<2.5	4.1	7.6	
12/6/2002	--		10.00	23.00	8.65	142.68	<50	<0.5	<0.5	<0.5	<0.5	<2.5	1.1	6.8	
1/29/2003	--		10.00	23.00	7.22	144.11	<50	<0.5	<0.5	<0.5	<0.5	<0.50	1	6.6	b
5/23/2003	--		10.00	23.00	7.31	144.02	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.1	6.6	
9/4/2003	--		10.00	23.00	9.50	141.83	<50	<0.50	<0.50	<0.50	<0.50	<0.50	3.2	6.7	
11/20/2003	--		10.00	23.00	8.31	143.02	--	--	--	--	--	--	--	--	
2/2/2004	--		10.00	23.00	6.92	144.41	--	--	--	--	--	--	--	--	c, f, h
5/14/2004	--		10.00	23.00	8.56	142.77	--	--	--	--	--	--	--	--	h
9/2/2004	P		10.00	23.00	8.79	142.54	<50	<0.50	<0.50	<0.50	<0.50	<0.50	3.5	6.8	h
11/4/2004	--		10.00	23.00	8.33	143.00	--	--	--	--	--	--	--	--	c, h
2/8/2005	--		10.00	23.00	7.28	144.05	--	--	--	--	--	--	--	--	h
5/9/2005	--		10.00	23.00	8.19	143.14	--	--	--	--	--	--	--	--	h
8/11/2005	P		10.00	23.00	8.39	142.94	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.2	6.6	h
11/18/2005	--		10.00	23.00	11.25	140.08	--	--	--	--	--	--	--	--	h
2/16/2006	--		10.00	23.00	9.22	142.11	--	--	--	--	--	--	--	--	h
5/30/2006	--		10.00	23.00	7.52	143.81	--	--	--	--	--	--	--	--	h
8/24/2006	P		10.00	23.00	7.95	143.38	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.60	6.6	
11/1/2006	--		10.00	23.00	8.32	143.01	--	--	--	--	--	--	--	--	
2/7/2007	--		10.00	23.00	8.25	143.08	--	--	--	--	--	--	--	--	
5/8/2007	--		10.00	23.00	7.60	143.73	--	--	--	--	--	--	--	--	
8/8/2007	P		10.00	23.00	8.12	143.21	<50	<0.50	<0.50	<0.50	<0.50	<0.50	3.26	7.31	
11/14/2007	--		10.00	23.00	9.10	142.23	--	--	--	--	--	--	--	--	
2/22/2008	--		10.00	23.00	7.48	143.85	--	--	--	--	--	--	--	--	
5/24/2008	--		10.00	23.00	8.12	143.21	--	--	--	--	--	--	--	--	
8/21/2008	P		10.00	23.00	8.65	142.68	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.14	6.54	

Table 1. Summary of Groundwater Monitoring Data: Relative Water Elevations and Laboratory Analyses

ARCO Service Station #0374, 6407 Telegraph Ave., Oakland, CA

Well ID and Date Monitored	P/NP	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in µg/L						DO (mg/L)	pH	Footnote
							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
ESL - DW							100	1.0	40	30	20	5.0			
ESL - NDW							210	46	130	43	100	1,800			
MW-5 Cont.															
11/19/2008	--	151.33	10.00	23.00	11.86	139.47	--	--	--	--	--	--	--	--	
2/23/2009	--		10.00	23.00	10.20	141.13	--	--	--	--	--	--	--	--	
5/14/2009	--		10.00	23.00	9.63	141.70	--	--	--	--	--	--	--	--	
8/20/2009	P		10.00	23.00	8.52	142.81	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.01	6.47	
2/19/2010	--		10.00	23.00	--	--	--	--	--	--	--	--	--	--	d
8/10/2010	P		10.00	23.00	8.05	143.28	<50	<0.50	<0.50	<0.50	<0.50	<0.50	1.15	7.1	
12/16/2010	--	156.90	10.00	23.00	8.10	148.80	--	--	--	--	--	--	--	--	j
2/14/2011	--		10.00	23.00	--	--	--	--	--	--	--	--	--	--	d
5/20/2011	--		10.00	23.00	--	--	--	--	--	--	--	--	--	--	d
8/15/2011	P		10.00	23.00	7.91	148.99	<50	<0.50	<0.50	<0.50	<0.50	<0.50	2.46	7.4	
2/2/2012	--		10.00	23.00	8.08	148.82	--	--	--	--	--	--	--	--	
8/9/2012	P		10.00	23.00	8.02	148.88	<50	<0.50	<0.50	<0.50	<1.0	<0.50	1.25	6.99	
2/14/2013	--		10.00	23.00	7.54	149.36	--	--	--	--	--	--	--	--	
8/22/2013	P		10.00	23.00	8.34	148.56	<50	<0.50	<0.50	<0.50	<1.0	<0.50	4.33	6.95	
MW-6															
6/20/2000	--	153.84	5.00	15.00	4.79	149.05	--	--	--	--	--	--	--	--	
9/28/2000	--		5.00	15.00	5.39	148.45	--	--	--	--	--	--	--	--	
12/17/2000	--		5.00	15.00	4.71	149.13	--	--	--	--	--	--	--	--	
3/23/2001	--		5.00	15.00	4.69	149.15	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	
6/21/2001	--		5.00	15.00	5.22	148.62	--	--	--	--	--	--	--	--	
9/23/2001	--		5.00	15.00	5.40	148.44	--	--	--	--	--	--	--	--	
12/31/2001	--		5.00	15.00	3.95	149.89	--	--	--	--	--	--	--	--	
3/21/2002	--		5.00	15.00	2.94	150.90	<50	<0.5	<0.5	<0.5	<0.5	*5.2*	--	--	
4/17/2002	--		5.00	15.00	5.11	148.73	--	--	--	--	--	--	--	--	
8/12/2002	--		5.00	15.00	5.23	148.61	--	--	--	--	--	--	--	--	

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ARCO Service Station #0374, 6407 Telegraph Ave., Oakland, CA

Well ID and Date Monitored	P/NP	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in µg/L						DO (mg/L)	pH	Footnote
							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
ESL - DW							100	1.0	40	30	20	5.0			
ESL - NDW							210	46	130	43	100	1,800			
MW-6 Cont.															
12/6/2002	--	153.84	5.00	15.00	5.29	148.55	--	--	--	--	--	--	--	--	
1/29/2003	--		5.00	15.00	4.79	149.05	--	--	--	--	--	--	--	--	b
5/23/2003	--		5.00	15.00	4.31	149.53	<50	<0.50	<0.50	<0.50	<0.50	*9.4*	1	6.7	
9/4/2003	--		5.00	15.00	--	--	--	--	--	--	--	--	--	--	d
11/20/2003	--		5.00	15.00	6.31	147.53	--	--	--	--	--	--	--	--	
2/2/2004	--	159.41	5.00	15.00	4.78	154.63	--	--	--	--	--	--	--	--	f
5/14/2004	--		5.00	15.00	6.29	153.12	--	--	--	--	--	--	--	--	
9/2/2004	--		5.00	15.00	5.79	153.62	--	--	--	--	--	--	--	--	d
11/4/2004	--		5.00	15.00	--	--	--	--	--	--	--	--	--	--	d
2/8/2005	--		5.00	15.00	5.13	154.28	--	--	--	--	--	--	--	--	
5/9/2005	--		5.00	15.00	4.52	154.89	--	--	--	--	--	--	--	--	
8/11/2005	P		5.00	15.00	5.02	154.39	<50	<0.50	<0.50	<0.50	<0.50	*7.9*	2.1	6.6	
11/18/2005	--		5.00	15.00	6.31	153.10	--	--	--	--	--	--	--	--	
2/16/2006	--		5.00	15.00	4.24	155.17	--	--	--	--	--	--	--	--	
5/30/2006	--		5.00	15.00	4.45	154.96	--	--	--	--	--	--	--	--	
8/24/2006	P		5.00	15.00	5.18	154.23	<50	<0.50	<0.50	<0.50	<0.50	*12*	3.4	6.8	
11/1/2006	--		5.00	15.00	6.05	153.36	--	--	--	--	--	--	--	--	
2/7/2007	--		5.00	15.00	5.00	154.41	--	--	--	--	--	--	--	--	
5/8/2007	--		5.00	15.00	4.30	155.11	--	--	--	--	--	--	--	--	
8/8/2007	NP		5.00	15.00	5.51	153.90	<50	<0.50	<0.50	<0.50	<0.50	0.57	2.94	6.87	
11/14/2007	--		5.00	15.00	5.38	154.03	--	--	--	--	--	--	--	--	
2/22/2008	--		5.00	15.00	4.70	154.71	--	--	--	--	--	--	--	--	
5/24/2008	--		5.00	15.00	5.25	154.16	--	--	--	--	--	--	--	--	
8/21/2008	NP		5.00	15.00	6.14	153.27	<50	<0.50	<0.50	<0.50	<0.50	1.9	1.99	7.13	
11/19/2008	--		5.00	15.00	5.94	153.47	--	--	--	--	--	--	--	--	
2/23/2009	--		5.00	15.00	5.00	154.41	--	--	--	--	--	--	--	--	

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ARCO Service Station #0374, 6407 Telegraph Ave., Oakland, CA

Well ID and Date Monitored	P/NP	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in µg/L						DO (mg/L)	pH	Footnote
							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
ESL - DW							100	1.0	40	30	20	5.0			
ESL - NDW							210	46	130	43	100	1,800			
MW-6 Cont.															
5/14/2009	--	159.41	5.00	15.00	4.60	154.81	--	--	--	--	--	--	--	--	
8/20/2009	NP		5.00	15.00	5.65	153.76	<50	<0.50	<0.50	<0.50	<0.50	2.0	1.98	6.81	
2/19/2010	--		5.00	15.00	7.28	152.13	--	--	--	--	--	--	--	--	
8/10/2010	NP		5.00	15.00	5.02	154.39	<50	<0.50	<0.50	<0.50	<0.50	4.3	1.99	6.93	
12/16/2010	--		5.00	15.00	4.50	154.91	--	--	--	--	--	--	--	--	j
2/14/2011	--		5.00	15.00	4.80	154.61	--	--	--	--	--	--	--	--	
5/20/2011	--		5.00	15.00	4.29	155.12	--	--	--	--	--	--	--	--	
8/15/2011	P		5.00	15.00	4.52	154.89	<50	<0.50	<0.50	<0.50	<0.50	2.2	1.55	7.1	
2/2/2012	--		5.00	15.00	--	--	--	--	--	--	--	--	--	--	d
8/9/2012	P		5.00	15.00	4.65	154.76	<50	<0.50	<0.50	<0.50	<1.0	3.6	1.14	6.89	
2/14/2013	--		5.00	15.00	--	--	--	--	--	--	--	--	--	--	d
8/22/2013	--		5.00	15.00	--	--	--	--	--	--	--	--	--	--	d
MW-7															
12/16/2010	P	164.80	5.00	20.00	6.52	158.28	***700***	<0.50	<0.50	15	*32*	*62*	--	7.08	j
2/14/2011	NP		5.00	20.00	6.77	158.03	***7,100***	***1,700***	*98*	***260***	***210***	*<20*	1.02	6.8	
5/20/2011	NP		5.00	20.00	5.84	158.96	***570***	<0.50	<0.50	*37*	*25*	4.6	1.66	6.7	l (GRO)
8/15/2011	P		5.00	20.00	6.96	157.84	***420***	<1.0	<1.0	***49***	6.7	*14*	0.58	6.9	
2/2/2012	P		5.00	20.00	7.15	157.65	<50	<0.50	<0.50	<0.50	<0.50	*6.2*	0.45	7.5	
8/9/2012	P		5.00	20.00	5.05	159.75	85	<0.50	<0.50	5.8	1.1	*7.0*	1.04	7.25	
2/14/2013	P		5.00	20.00	4.38	160.42	***310***	*1.2*	<0.50	1.6	6.3	*5.1*	1.31	7.64	
8/22/2013	P		5.00	20.00	7.39	157.41	78	<0.50	<0.50	3.9	<1.0	3.1	4.01	7.00	
MW-8															
12/16/2010	P	164.14	5.00	20.00	6.85	157.29	***520***	*43*	<0.50	4.1	*21*	*150*	0.46	7.12	j
2/14/2011	NP		5.00	20.00	7.30	156.84	<50	*<2.0*	<2.0	<2.0	<2.0	*110*	1.07	6.7	
5/20/2011	NP		5.00	20.00	6.88	157.26	<50	*<2.0*	<2.0	<2.0	<2.0	*88*	1.35	6.5	

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							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
ESL - DW							100	1.0	40	30	20	5.0			
ESL - NDW							210	46	130	43	100	1,800			
MW-8 Cont.															
8/15/2011	P	164.14	5.00	20.00	6.00	158.14	<50	*5.2*	<1.0	9.7	<1.0	*57*	0.51	6.7	
2/2/2012	P		5.00	20.00	7.57	156.57	<50	<0.50	<0.50	<0.50	<0.50	3.9	0.68	7.1	
8/9/2012	P		5.00	20.00	6.08	158.06	*110*	***67***	<0.50	<0.50	<1.0	*150*	1.16	6.98	
2/14/2013	P		5.00	20.00	5.70	158.44	***720***	***350***	<2.0	<2.0	<4.0	*240*	1.23	7.40	
8/22/2013	P		5.00	20.00	7.95	156.19	<50	*1.5*	<0.50	<0.50	<1.0	*180*	3.96	6.88	
MW-9															
12/16/2010	P	163.77	5.00	20.00	6.63	157.14	***330***	*18*	<0.50	11	*38*	*390*	0.57	6.97	j
2/14/2011	NP		5.00	20.00	6.85	156.92	<50	*<4.0*	<4.0	<4.0	<4.0	*270*	0.98	6.9	
5/20/2011	NP		5.00	20.00	6.39	157.38	66	*<4.0*	<4.0	<4.0	<4.0	*280*	1.64	6.7	l (GRO)
8/15/2011	NP		5.00	20.00	7.09	156.68	<50	*<2.0*	<2.0	<2.0	<2.0	*120*	0.88	7.1	
2/2/2012	P		5.00	20.00	7.18	156.59	<50	<0.50	<0.50	<0.50	<0.50	*34*	0.65	7.2	
8/9/2012	P		5.00	20.00	5.68	158.09	82	*1.9*	<0.50	<0.50	<1.0	*19*	1.61	7.13	
2/14/2013	P		5.00	20.00	5.27	158.50	***250***	*5.2*	<0.50	<0.50	1.4	*25*	1.23	7.51	
8/22/2013	P		5.00	20.00	7.46	156.31	***290***	0.71	<0.50	<0.50	1.4	*31*	4.71	7.07	

Symbols & Abbreviations:
-- = Not analyzed/applicable/measured/available
< = Not detected at or above laboratory reporting limit
DO = Dissolved oxygen
DTW = Depth to water in ft below TOC
ft bgs = Feet below ground surface
GRO = Gasoline range organics
GWE = Groundwater elevation measured in ft
mg/L = Milligrams per liter
MTBE = Methyl tert-butyl ether
NP = Well was not purged prior to sampling
P = Well was purged prior to sampling
TOC = Top of casing measured in ft
TPH-g = Total petroleum hydrocarbons as gasoline
µg/L = Micrograms per liter
BTEX = Benzene, toluene, ethylbenzene and xylenes

ESL - DW = Environmental Screning Levels (ESLs), shallow soils (<3 meters bgs), groundwater is a current or potential source of drinking water, for residential land use. Ref. California Regional Water Quality Control Board, San Francisco Bay Region (CRWQCB-SFBR), Screening for Environmental Concerns at Sites with Contaminated Soil & Groundwater, Interim Final-November 2007 (Revised May 2008).

ESL - NDW = Environmental Screning Levels (ESLs), shallow soils (<3 meters bgs), groundwater is NOT a current or potential source of drinking water, for residential land use. Ref. California Regional Water Quality Control Board, San Francisco Bay Region (CRWQCB-SFBR), Screening for Environmental Concerns at Sites with Contaminated Soil & Groundwater, Interim Final-November 2007 (Revised May 2008).

NE = ESL not established

Footnotes:
a = Chromatogram pattern: Gasoline C6-C10 for GRO/TPH-g
b = Beginning this quarter, groundwater samples were analyzed by EPA method 8260B for TPH-g, BTEX, and fuel oxygenates
c = Wells gauged with ORC sock in well
d = Well inaccessible
e = The hydrocarbon result for GRO was partly due to individual peaks in the quantitative range
f = Well resurveyed on 1/27/2004 to NAVD88
g = Upon review of survey data (1/27/2004), TOC elevation for MW-4 is actually 162.47 ft.
h = Upon review of survey data (1/27/2004), MW-5 was not surveyed from the TOC. MW-5 was surveyed from the pavement due to inaccessibility to the TOC. Therefore, survey data for MW-5 from the TOC is unavailable. Historic data prior to 5/30/2006 (change in consultant) not modified
i = Quantitation of unknown hydrocarbon(s) in sample based on gasoline
j = Surveyed 12/9/2010
k = Grab groundwater sample
l = Quantitated against gasoline

Notes:
Beginning in the fourth quarter 2003, the laboratory modified the reported analyte list. TPH-g was changed to GRO. The resulting data may be impacted by the potential of non-TPH-g analytes within the requested fuel range resulting in a higher concentration being reported

Beginning in the second quarter 2004, the carbon range for GRO was changed from C6-C10 to C4-C12

Values for DO and pH were obtained through field measurements

The DTW's and TOC's for wells MW-5 and MW-6 were taken from Delta Environmental sampling sheets because the well logs were not available

GRO analysis was completed by EPA method 8260B (C4-C12) for samples collected from the time period April 2006 through February 4, 2008. The analysis for GRO was changed to EPA method 8015B (C6-C12) for samples collected from the time period February 5, 2008 through the present

The data within this table collected prior to April 2006 was provided to Broadbent & Associates, Inc. by Atlantic Richfield Company and their previous consultants. Broadbent & Associates, Inc. has not verified the accuracy of this information

Table 2. Summary of Fuel Additives Analytical Data

ARCO Service Station #0374, 6407 Telegraph Ave., Oakland, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
ESL - DW	NE	12	5.0	NE	NE	NE	0.5	0.05	
ESL - NDW	NE	18,000	1,800	NE	NE	NE	200	150	
MW-1									
3/23/2001	--	--	***2,710***	--	--	--	--	--	
3/21/2002	--	--	***2,000***	--	--	--	--	--	
5/23/2003	<20,000	*<4,000*	*1,600*	<100	<100	<100	--	--	
11/20/2003	<2,000	*<400*	*1,500*	<10	<10	<10	--	--	a
5/14/2004	<5,000	*<1,000*	*1,200*	<25	<25	<25	*<25*	*<25*	
9/2/2004	<1,000	*<200*	*660*	<5.0	<5.0	<5.0	*<5.0*	*<5.0*	
11/4/2004	<2,000	*<400*	*580*	<10	<10	<10	*<10*	*<10*	
2/8/2005	<2,000	*<400*	*610*	<10	<10	<10	*<10*	*<10*	
5/9/2005	<1,000	*<200*	*620*	<5.0	<5.0	<5.0	*<5.0*	*<5.0*	a
8/11/2005	<500	*250*	*390*	<2.5	<2.5	2.6	*<2.5*	*<2.5*	a
11/18/2005	<500	*<100*	*340*	<2.5	<2.5	<2.5	*<2.5*	*<2.5*	a
2/16/2006	<1,500	*<100*	*340*	<2.5	<2.5	<2.5	*<2.5*	*<2.5*	
5/30/2006	<1,500	*<100*	*420*	<2.5	<2.5	<2.5	*<2.5*	*<2.5*	a
8/24/2006	<3,000	*<200*	*180*	<5.0	<5.0	<5.0	*<5.0*	*<5.0*	
11/1/2006	<3,000	*<200*	*220*	<5.0	<5.0	<5.0	*<5.0*	*<5.0*	a
2/7/2007	<3,000	*<200*	*190*	<5.0	<5.0	<5.0	*<5.0*	*<5.0*	
5/8/2007	<3,000	*<200*	*420*	<5.0	<5.0	<5.0	*<5.0*	*<5.0*	
8/8/2007	<300	*<20*	*110*	<0.50	<0.50	<0.50	<0.50	*<0.50*	
11/14/2007	<1,500	*<100*	*210*	<2.5	<2.5	<2.5	*<2.5*	*<2.5*	
2/22/2008	<300	<10	*250*	<0.50	<0.50	1.5	<0.50	*<0.50*	
5/24/2008	<3,000	*<100*	*380*	<5.0	<5.0	<5.0	*<5.0*	*<5.0*	
8/21/2008	<1,500	*<50*	*170*	<2.5	<2.5	<2.5	*<2.5*	*<2.5*	
11/19/2008	<300	<10	*30*	<0.50	<0.50	<0.50	<0.50	*<0.50*	
2/23/2009	<1,500	*<50*	*240*	<2.5	<2.5	<2.5	*<2.5*	*<2.5*	
5/14/2009	<300	<10	*200*	<0.50	<0.50	1.3	<0.50	*<0.50*	
8/20/2009	<1,200	*<40*	*170*	<2.0	<2.0	<2.0	*<2.0*	*<2.0*	
2/19/2010	<300	<10	*170*	<0.50	<0.50	1.2	<0.50	*<0.50*	
8/10/2010	<1,500	*<50*	*230*	<2.5	<2.5	<2.5	*<2.5*	*<2.5*	
12/16/2010	<1,200	*<40*	*140*	<2.0	<2.0	<2.0	*<2.0*	*<2.0*	

Table 2. Summary of Fuel Additives Analytical Data

ARCO Service Station #0374, 6407 Telegraph Ave., Oakland, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
ESL - DW	NE	12	5.0	NE	NE	NE	0.5	0.05	
ESL - NDW	NE	18,000	1,800	NE	NE	NE	200	150	
MW-1 Cont.									
2/14/2011	<1,500	*<50*	*170*	<2.5	<2.5	<2.5	*<2.5*	*<2.5*	
8/15/2011	<1,500	*<50*	*130*	<2.5	<2.5	<2.5	*<2.5*	*<2.5*	
2/2/2012	<600	*<20*	*66*	<1.0	<1.0	<1.0	*<1.0*	*<1.0*	
8/9/2012	<150	<10	*170*	<0.50	<0.50	0.78	<0.50	*<0.50*	
2/14/2013	<150	<10	*140*	<0.50	<0.50	0.58	<0.50	*<0.50*	
8/22/2013	<150	<10	*91*	<0.50	<0.50	<0.50	<0.50	*<0.50*	
MW-2									
3/23/2001	--	--	<2.5	--	--	--	--	--	
3/21/2002	--	--	*45*	--	--	--	--	--	
5/23/2003	<100	*<20*	*55*	<0.50	<0.50	0.53	--	--	
2/2/2004	<100	*<20*	*37*	<0.50	<0.50	<0.50	<0.50	*<0.50*	
9/2/2004	<500	*<100*	*67*	<2.5	<2.5	<2.5	*<2.5*	*<2.5*	
2/8/2005	<100	*<20*	*30*	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/11/2005	<100	*<20*	*35*	<0.50	<0.50	<0.50	<0.50	*<0.50*	a
2/16/2006	<300	*<20*	*39*	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/24/2006	<300	*<20*	*25*	<0.50	<0.50	<0.50	<0.50	*<0.50*	
2/7/2007	<300	*<20*	*7.2*	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/8/2007	<300	*<20*	*7.2*	<0.50	<0.50	<0.50	<0.50	*<0.50*	
2/22/2008	<300	<10	*24*	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/21/2008	<300	<10	4.9	<0.50	<0.50	<0.50	<0.50	*<0.50*	
2/23/2009	<300	<10	*24*	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/20/2009	<300	<10	*8.4*	<0.50	<0.50	<0.50	<0.50	*<0.50*	
2/19/2010	<300	<10	*22*	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/10/2010	<300	<10	*23*	<0.50	<0.50	<0.50	<0.50	*<0.50*	
12/16/2010	<300	<10	*17*	<0.50	<0.50	<0.50	<0.50	*<0.50*	
2/14/2011	<300	<10	*11*	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/15/2011	<300	<10	1.7	<0.50	<0.50	<0.50	<0.50	*<0.50*	
2/2/2012	<300	<10	1.8	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/9/2012	<150	<10	*73*	<0.50	<0.50	0.61	<0.50	*<0.50*	

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ARCO Service Station #0374, 6407 Telegraph Ave., Oakland, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
ESL - DW	NE	12	5.0	NE	NE	NE	0.5	0.05	
ESL - NDW	NE	18,000	1,800	NE	NE	NE	200	150	
MW-2 Cont.									
2/14/2013	<150	<10	*46*	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/22/2013	<150	<10	*82*	<0.50	<0.50	1.1	<0.50	*<0.50*	
MW-3									
6/20/2000	--	--	*<10*	--	--	--	--	--	
12/17/2000	--	--	<2.5	--	--	--	--	--	
6/21/2001	--	--	2.5	--	--	--	--	--	
12/31/2001	--	--	4.9	--	--	--	--	--	
4/17/2002	--	--	*8.7*	--	--	--	--	--	
12/6/2002	--	--	*6.2*	--	--	--	--	--	
5/23/2003	<100	*<20*	1.6	<0.50	<0.50	<0.50	--	--	
9/2/2004	<100	*<20*	*6.5*	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/11/2005	<100	*<20*	*11*	<0.50	<0.50	<0.50	<0.50	*<0.50*	a
8/24/2006	<300	*<20*	*7.6*	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/8/2007	<300	*<20*	1.2	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/21/2008	<300	<10	3.1	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/20/2009	<300	<10	2.2	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/10/2010	<300	<10	1.6	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/15/2011	<300	<10	1.2	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/9/2012	<150	<10	2.0	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/22/2013	<150	<10	1.4	<0.50	<0.50	<0.50	<0.50	*<0.50*	
MW-4									
6/20/2000	--	--	*<250*	--	--	--	--	--	
12/17/2000	--	--	*<100*	--	--	--	--	--	
6/21/2001	--	--	*130*	--	--	--	--	--	
12/31/2001	--	--	*160*	--	--	--	--	--	
4/17/2002	--	--	*<250*	--	--	--	--	--	
12/6/2002	--	--	*43*	--	--	--	--	--	
5/23/2003	<10,000	*<2,000*	*<50*	<50	<50	<50	--	--	

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ARCO Service Station #0374, 6407 Telegraph Ave., Oakland, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
ESL - DW	NE	12	5.0	NE	NE	NE	0.5	0.05	
ESL - NDW	NE	18,000	1,800	NE	NE	NE	200	150	
MW-4 Cont.									
2/2/2004	<500	*<100*	*29*	<2.5	<2.5	2.6	*<2.5*	*<2.5*	
9/2/2004	<200	*<40*	*28*	<1.0	<1.0	<1.0	*<1.0*	*<1.0*	
2/8/2005	<5,000	*<1,000*	*45*	<25	<25	<25	*<25*	*<25*	
8/11/2005	<2,000	*<400*	*32*	<10	<10	<10	*<10*	*<10*	
2/16/2006	<6,000	*<400*	*35*	<10	<10	<10	*<10*	*<10*	
8/24/2006	<1,500	*<100*	*39*	<2.5	<2.5	<2.5	*<2.5*	*<2.5*	
2/7/2007	<6,000	*<400*	*67*	<10	<10	<10	*<10*	*<10*	
8/8/2007	<6,000	*<400*	*72*	<10	<10	<10	*<10*	*<10*	
2/22/2008	<6,000	*<200*	*70*	<10	<10	<10	*<10*	*<10*	
8/21/2008	<12,000	*<400*	*53*	<20	<20	<20	*<20*	*<20*	
2/23/2009	<3,000	*<100*	*39*	<5.0	<5.0	<5.0	*<5.0*	*<5.0*	
8/20/2009	<12,000	*<400*	*23*	<20	<20	<20	*<20*	*<20*	
2/19/2010	<3,000	*<100*	<5.0	<5.0	<5.0	<5.0	*<5.0*	*<5.0*	
8/10/2010	<12,000	*<400*	*<20*	<20	<20	<20	*<20*	*<20*	
12/16/2010	<15,000	*<500*	*<25*	<25	<25	<25	*<25*	*<25*	
2/14/2011	<300	<10	*13*	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/15/2011	<7,500	*<250*	*<12*	<12	<12	<12	*<12*	*<12*	
2/2/2012	<7,500	*<250*	*<12*	<12	<12	<12	*<12*	*<12*	
8/9/2012	<1,500	*<100*	<5.0	<5.0	<5.0	<5.0	*<5.0*	*<5.0*	
2/14/2013	<3,000	*<200*	*<10*	<10	<10	<10	*<10*	*<10*	
8/22/2013	<3,000	*<200*	*<10*	<10	<10	<10	*<10*	*<10*	
MW-5									
6/20/2000	--	--	*<10*	--	--	--	--	--	
9/28/2000	--	--	<2.5	--	--	--	--	--	
12/17/2000	--	--	<2.5	--	--	--	--	--	
3/23/2001	--	--	<2.5	--	--	--	--	--	
6/21/2001	--	--	<2.5	--	--	--	--	--	
9/23/2001	--	--	<2.5	--	--	--	--	--	
12/31/2001	--	--	<2.5	--	--	--	--	--	

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ARCO Service Station #0374, 6407 Telegraph Ave., Oakland, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
ESL - DW	NE	12	5.0	NE	NE	NE	0.5	0.05	
ESL - NDW	NE	18,000	1,800	NE	NE	NE	200	150	
MW-5 Cont.									
3/21/2002	--	--	3.2	--	--	--	--	--	
4/17/2002	--	--	<2.5	--	--	--	--	--	
8/12/2002	--	--	<2.5	--	--	--	--	--	
12/6/2002	--	--	<2.5	--	--	--	--	--	
1/29/2003	<40	*<20*	<0.50	<0.50	<0.50	<0.50	--	--	
5/23/2003	<100	*<20*	<0.50	<0.50	<0.50	<0.50	--	--	
9/4/2003	<100	*<20*	<0.50	<0.50	<0.50	<0.50	<0.50	*<0.50*	
9/2/2004	<100	*<20*	<0.50	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/11/2005	<100	*<20*	<0.50	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/24/2006	<300	*<20*	<0.50	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/8/2007	<300	*<20*	<0.50	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/21/2008	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/20/2009	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/10/2010	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/15/2011	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/9/2012	<150	<10	<0.50	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/22/2013	<150	<10	<0.50	<0.50	<0.50	<0.50	<0.50	*<0.50*	
MW-6									
3/23/2001	--	--	<2.5	--	--	--	--	--	
3/21/2002	--	--	*5.2*	--	--	--	--	--	
5/23/2003	<100	*<20*	*9.4*	<0.50	<0.50	<0.50	--	--	
8/11/2005	<100	*<20*	*7.9*	<0.50	<0.50	<0.50	<0.50	*<0.50*	a
8/24/2006	<300	*<20*	*12*	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/8/2007	<300	*<20*	0.57	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/21/2008	<300	<10	1.9	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/20/2009	<300	<10	2.0	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/10/2010	<300	<10	4.3	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/15/2011	<300	<10	2.2	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/9/2012	<150	<10	3.6	<0.50	<0.50	<0.50	<0.50	*<0.50*	

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ARCO Service Station #0374, 6407 Telegraph Ave., Oakland, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
ESL - DW	NE	12	5.0	NE	NE	NE	0.5	0.05	
ESL - NDW	NE	18,000	1,800	NE	NE	NE	200	150	
MW-7									
12/16/2010	<300	<10	*62*	<0.50	<0.50	<0.50	<0.50	*<0.50*	
2/14/2011	<1,2000	*<400*	*<20*	<20	<20	<20	*<20*	*<20*	
5/20/2011	<300	<10	4.6	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/15/2011	<600	*<20*	*14*	<1.0	<1.0	<1.0	*<1.0*	*<1.0*	
2/2/2012	<300	<10	*6.2*	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/9/2012	<150	<10	*7.0*	<0.50	<0.50	<0.50	<0.50	*<0.50*	
2/14/2013	<150	<10	*5.1*	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/22/2013	<150	<10	3.1	<0.50	<0.50	<0.50	<0.50	*<0.50*	
MW-8									
12/16/2010	<300	<10	*150*	<0.50	<0.50	1.7	<0.50	*<0.50*	
2/14/2011	<1,200	*<40*	*110*	<2.0	<2.0	<2.0	*<2.0*	*<2.0*	
5/20/2011	<1,200	*<40*	*88*	<2.0	<2.0	<2.0	*<2.0*	*<2.0*	
8/15/2011	<600	*<20*	*57*	<1.0	<1.0	<1.0	*<1.0*	*<1.0*	
2/2/2012	<300	<10	3.9	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/9/2012	<150	*31*	*150*	<0.50	<0.50	2.0	<0.50	*<0.50*	
2/14/2013	<600	*150*	*240*	<2.0	<2.0	5.2	*<2.0*	*<2.0*	
8/22/2013	<150	*39*	*180*	<0.50	<0.50	2.8	<0.50	*<0.50*	
MW-9									
12/16/2010	<300	*40*	*390*	<0.50	<0.50	4.1	<0.50	*<0.50*	
2/14/2011	<2,400	*<80*	*270*	<4.0	<4.0	<4.0	*<4.0*	*<4.0*	
5/20/2011	<2,400	*<80*	*280*	<4.0	<4.0	<4.0	*<4.0*	*<4.0*	
8/15/2011	<1,200	*<40*	*120*	<2.0	<2.0	<2.0	*<2.0*	*<2.0*	
2/2/2012	<300	<10	*34*	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/9/2012	<150	<10	*19*	<0.50	<0.50	<0.50	<0.50	*<0.50*	
2/14/2013	<150	<10	*25*	<0.50	<0.50	<0.50	<0.50	*<0.50*	
8/22/2013	<150	<10	*31*	<0.50	<0.50	0.55	<0.50	*<0.50*	

Symbols & Abbreviations:
-- = Not analyzed/applicable/measured/available
< = Not detected at or above the laboratory reporting limi
1,2-DCA = 1,2-Dichloroethane
ether
EDB = 1,2-Dibromoethane
ETBE = Ethyl tert-butyl ether
MTBE = Methyl tert-butyl ether
TAME = tert-Amyl methyl ether
TBA = tert-Butyl alcohol
µg/L = Micrograms per Liter

ESL - DW = Environmental Screning Levels (ESLs), shallow soils (<3 meters bgs), groundwater is a current or potential source of drinking water, for residential land use. Ref. California Regional Water Quality Control Board, San Francisco Bay Region (CRWQCB-SFBR), Screening for Environmental Concerns at Sites with Contaminated Soil & Groundwater, Interim Final-November 2007 (Revised May 2008).

ESL - NDW = Environmental Screning Levels (ESLs), shallow soils (<3 meters bgs), groundwater is NOT a current or potential source of drinking water, for residential land use. Ref. California Regional Water Quality Control Board, San Francisco Bay Region (CRWQCB-SFBR), Screening for Environmental Concerns at Sites with Contaminated Soil & Groundwater, Interim Final-November 2007 (Revised May 2008).

NE = ESL not established

Footnotes:
a = The continuing calibration verification for ethanol was outside of client contractual limits, however, it was within method acceptance limits. The data should still be useful for its intended purpose

Notes:
All volatile organic compounds analyzed using EPA Method 8260B

The data within this table collected prior to April 2006 was provided to Broadbent & Associates, Inc. by Atlantic Richfield Company and their previous consultants. Broadbent & Associates, Inc. has not verified the accuracy of this information

Table 3. Historical Groundwater Gradient - Direction and Magnitude

ARCO Service Station #0374, 6407 Telegraph Ave., Oakland, CA

Date Measured	Approximate Gradient Direction	Approximate Gradient Magnitude (ft/ft)
1/31/1996	Southwest	0.04
4/10/1996	Southwest	0.04
7/16/1996	Southwest	0.03
10/14/1996	Southwest	0.03
3/27/1997	Southwest	0.04
5/27/1997	Southwest	0.03
8/12/1997	Southwest	0.04
11/17/1997	Southwest	0.03
3/16/1998	Southwest	0.03
5/12/1998	Southwest	0.04
7/27/1998	Southwest	0.04
10/15/1998	Southwest	0.02
2/18/1999	Southwest	0.05
5/24/1999	Southwest	0.03
8/27/1999	Southwest	0.03
10/26/1999	Southwest	0.03
2/3/2000	Southwest	0.047
6/20/2000	Southwest	0.035
9/28/2000	Southwest	0.034
12/17/2000	Southwest	0.032
3/23/2001	Southwest	0.034
6/21/2001	Southwest	0.032
9/23/2001	Southwest	0.029
12/31/2001	Southwest	0.043
3/21/2002	Southwest	0.038
4/17/2002	Southwest	0.031
8/12/2002	Southwest	0.032
12/6/2002	Southwest	0.020
1/29/2003	Southwest	0.027
5/23/2003	Southwest	0.039
9/4/2003	Southwest	0.033
11/20/2003	Southwest	0.029
2/2/2004	Southwest	0.043 (a)
5/14/2004	Southwest	0.037 (a)
9/2/2004	Southwest	0.027 (a)
11/4/2004	Southwest	0.034 (a)
2/8/2005	Southwest	0.061 (a)
5/9/2005	Southwest	0.08 (a)
8/11/2005	Southwest	0.06 (a)
11/18/2005	Southwest	0.07 (a)
2/16/2006	Southwest	0.09 (a)
5/30/2006	Southwest	0.06 (a)
8/24/2006	Southwest	0.03
11/1/2006	Southwest	0.02
2/7/2007	Southwest	0.03

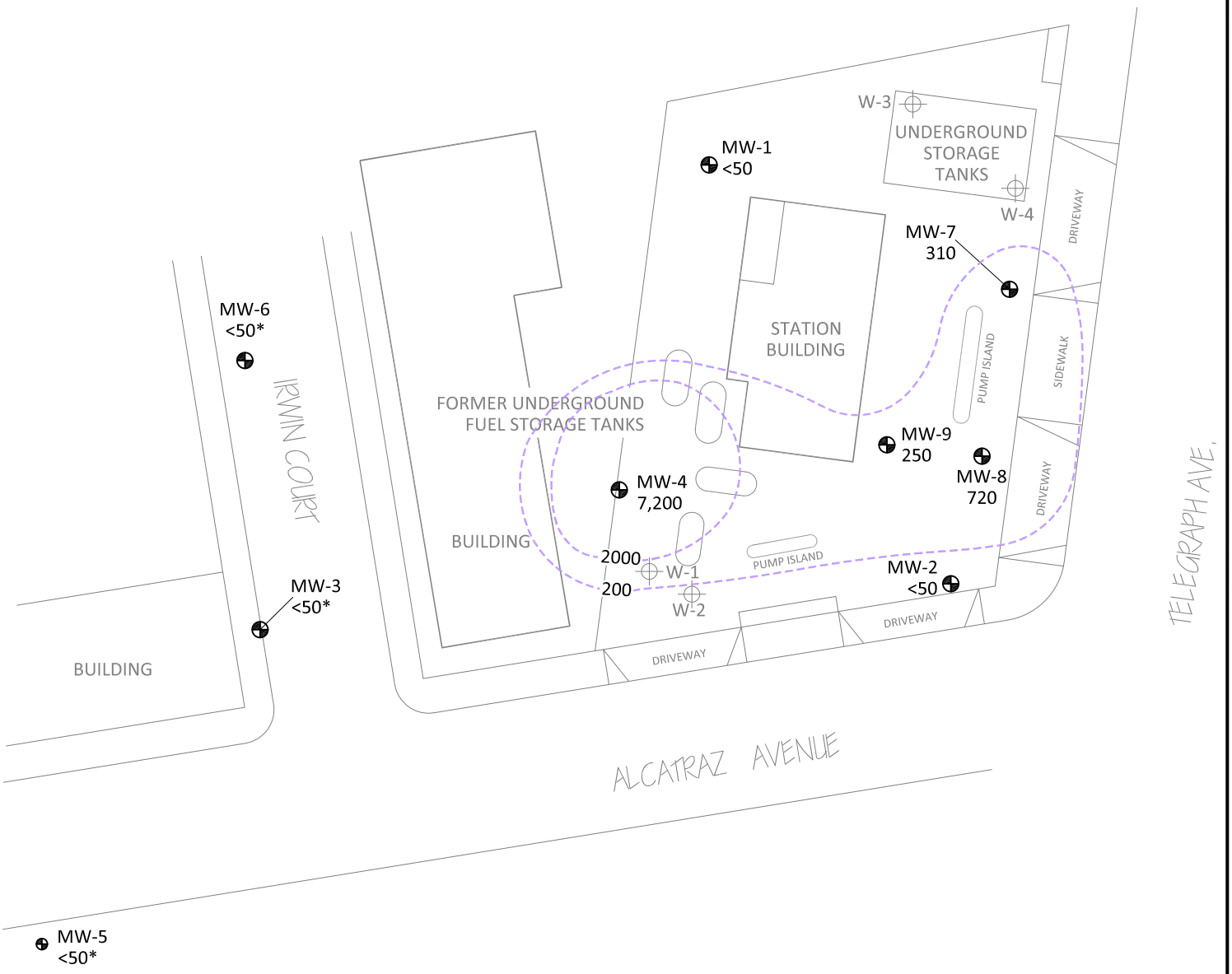
Table 3. Historical Groundwater Gradient - Direction and Magnitude

ARCO Service Station #0374, 6407 Telegraph Ave., Oakland, CA

Date Measured	Approximate Gradient Direction	Approximate Gradient Magnitude (ft/ft)
5/8/2007	Southwest	0.03
8/8/2007	Southwest	0.03
11/14/2007	Southwest	0.03
2/22/2008	Southwest	0.03
5/24/2008	Southwest	0.03
8/21/2008	Southwest	0.03
11/19/2008	Southwest	0.03
2/23/2009	Southwest	0.04
5/14/2009	Southwest	0.03
8/20/2009	Southwest	0.03
2/19/2010	West-Southwest	0.05
8/10/2010	Southwest	0.03
12/16/2010	Southwest	0.03
2/14/2011	Southwest	0.03
5/20/2011	Southwest	0.03
8/15/2011	Southwest	0.03
2/2/2012	Southwest	0.03
8/9/2012	Southwest	0.03
2/14/2013	Southwest	0.04
8/22/2013	**Southwest**	**0.03**

Footnotes:
a = Gradients potentially suspect due to error in MW-4 and MW-5 TOC measuring point elevations discovered third quarter 2006

Notes:
The data within this table collected prior to April 2006 was provided to Broadbent & Associates, Inc. by Atlantic Richfield Company and their previous consultants. Broadbent & Associates, Inc. has not verified the accuracy of this information



N

0 40 80

SCALE (ft)

LEGEND

- Monitoring Well Location
- Tank Pit Monitoring Well Location
- MTBE Isoconcentration Contour (µg/L)
- * Results from 3rd Quarter, 2012

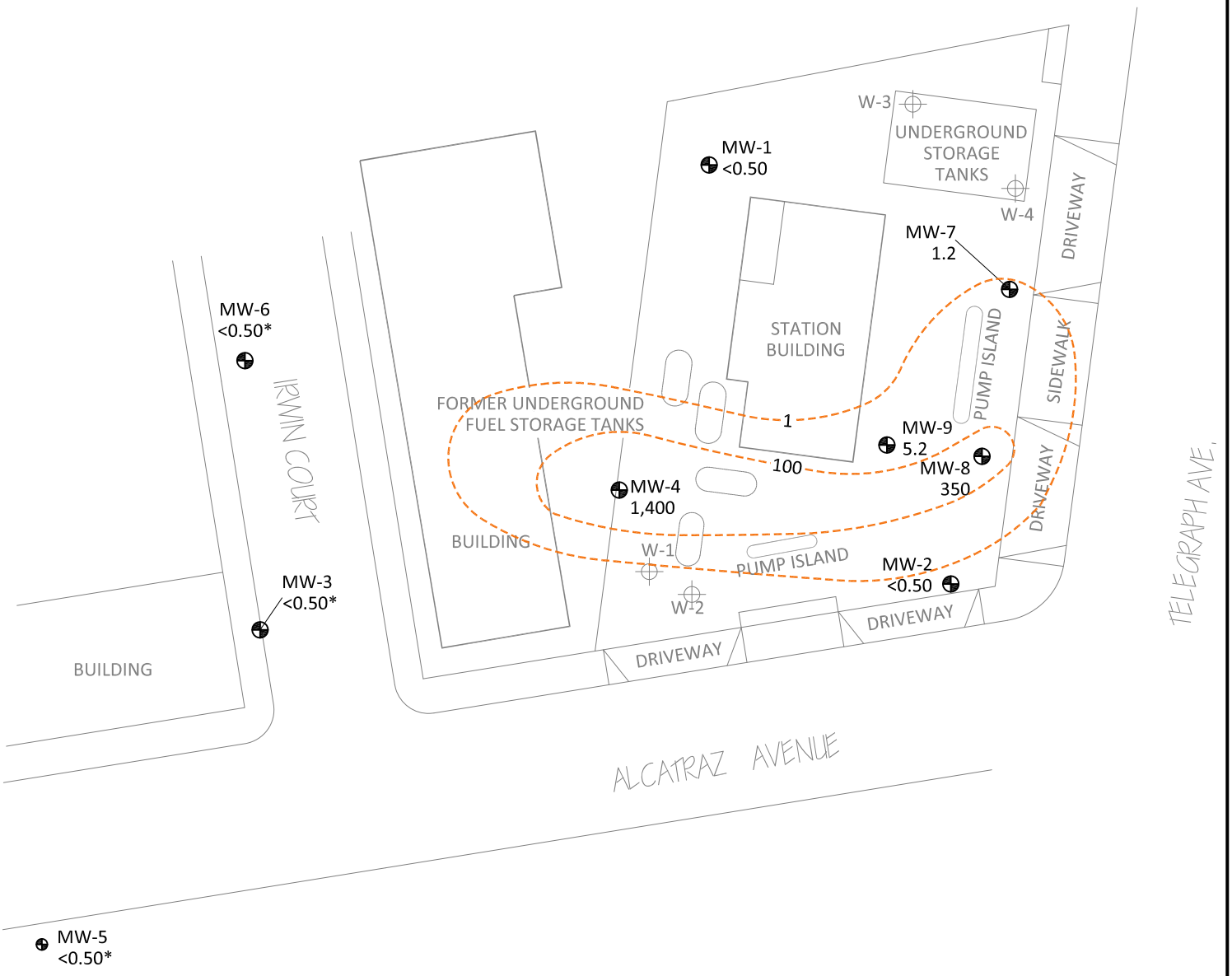
NOTE: SITE MAP ADAPTED FROM IT CORPORATION FIGURES.
SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.

BROADBENT
875 Cotting Lane, Suite G
Vacaville, California 95688
Project No.: 06-88-602 Date: 5/29/2013

Station #374
6407 Telegraph Ave.
Oakland, California

GRO Isoconcentration Contour Map
February 14, 2013

Drawing
4



0 40 80

SCALE (ft)

LEGEND

- Monitoring Well Location
- Tank Pit Monitoring Well Location
- MTBE Isoconcentration Contour (µg/L)
- * Results from 3rd Quarter, 2012

NOTE: SITE MAP ADAPTED FROM IT CORPORATION FIGURES.
SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.

BROADBENT
875 Cotting Lane, Suite G
Vacaville, California 95688
Project No.: 06-88-602 Date: 5/10/2013

Station #374
6407 Telegraph Ave.
Oakland, California

Benzene Isoconcentration Contour Map
February 14, 2013

Drawing
5

0 40 80

SCALE (ft)

LEGEND

- Monitoring Well Location
- Tank Pit Monitoring Well Location
- MTBE Isoconcentration Contour (µg/L)
- * Results from 3rd Quarter, 2012

NOTE: SITE MAP ADAPTED FROM IT CORPORATION FIGURES.
SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.

BROADBENT
875 Cotting Lane, Suite G
Vacaville, California 95688
Project No.: 06-88-602 Date: 5/29/2013

Station #374
6407 Telegraph Ave.
Oakland, California

MTBE Isoconcentration Contour Map
February 14, 2013

Drawing
6

A

A'

STATION BUILDING

MW-4

MW-9

MW-8

MW-7

165'

160'

155'

150'

145'

140'

135'

Elevation

TD = 27.5'

TD = 20'

TD = 20'

TD = 20'

Groundwater Elevation

ML/CL/CH - Low Permeability

SM/SC/GC/GM/SW/GP/SP - Moderate Permeability

Boring ID

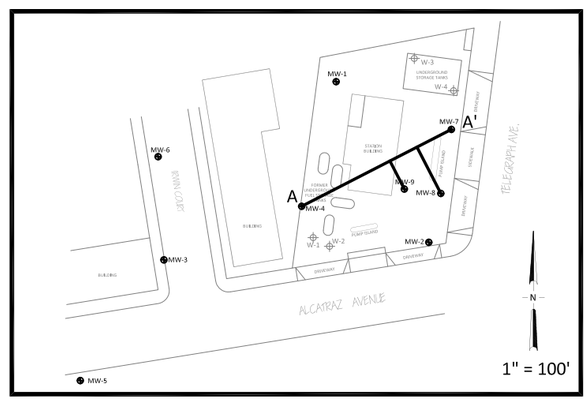
Extent of Boring

Extent of Well Screen

TD = Total Depth

0 10 20

HORIZONTAL SCALE (ft)
VERTICAL EXAGGERATION 2:1



Drawing 9

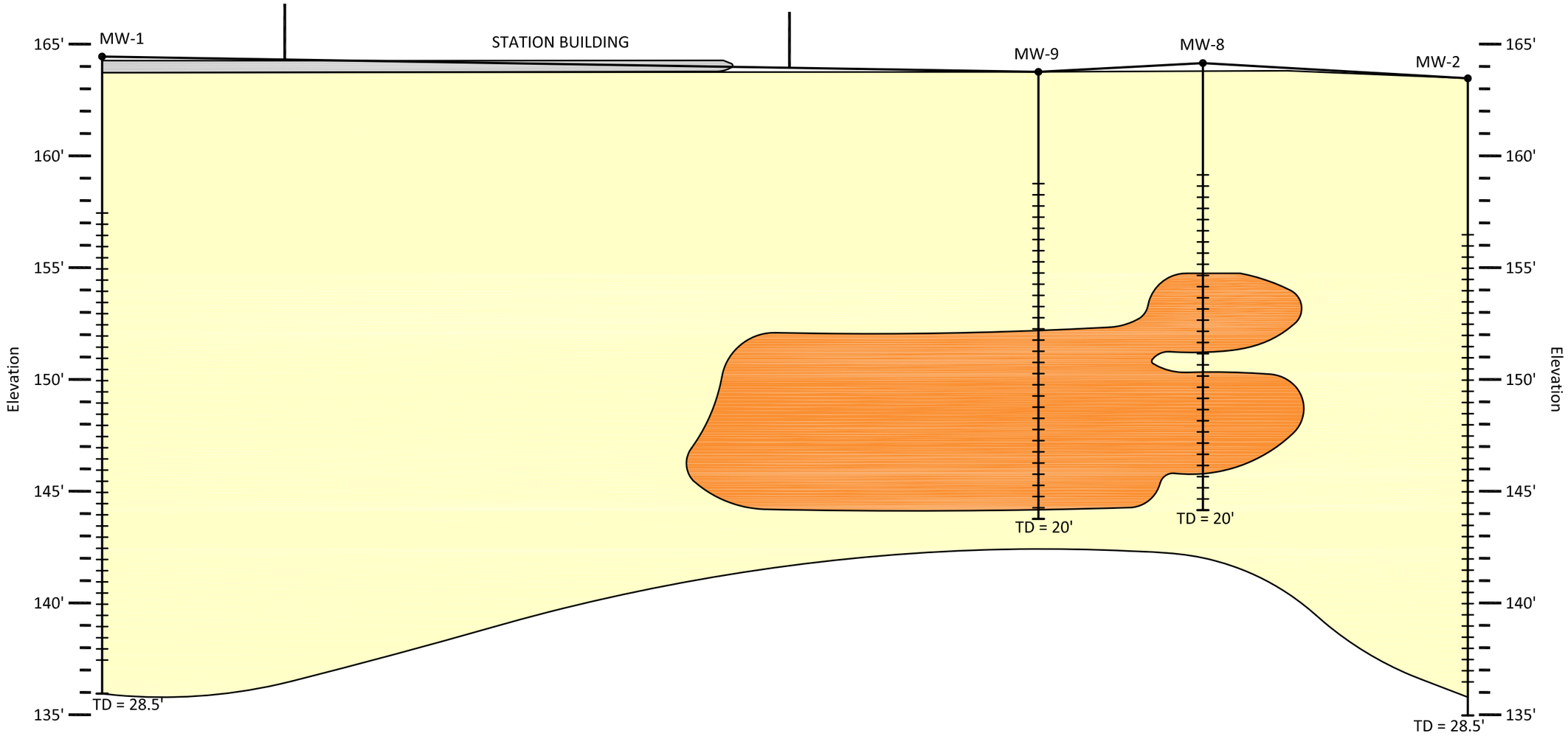
Geologic Cross Section A - A'

Station #374
6407 Telegraph Ave.
Oakland, California

BROADBENT
875 Cotting Lane, Suite G
Vacaville, California 95688
Project No.: 06-88-602 Date: 5/28/2013

B

B'

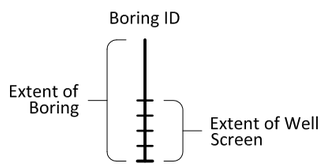


Groundwater Elevation

Asphalt/Backfill

ML/CL/CH - Low Permeability

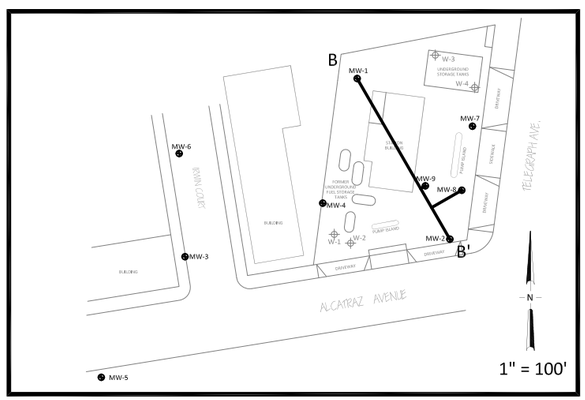
SM/SC/GC/GM/SW/GP/SP - Moderate Permeability



TD = Total Depth

0 10 20

HORIZONTAL SCALE (ft)
VERTICAL EXAGGERATION 2:1



Drawing 10

Geologic Cross Section B - B'

Station #374
6407 Telegraph Ave.
Oakland, California

BROADBENT
875 Cotting Lane, Suite G
Vacaville, California 95688
Project No.: 06-88-602 Date: 5/28/2013