Atlantic Richfield Company
(a BP affiliated company)

P.O. Box 1257
San Ramon, California 94583
Phone: (925) 275-3801
Fax: (925) 275-3815

10 August 2009

Re: On-Site Soil Investigation Report
Atlantic Richfield Company Station #2112
1260 Park Street
Alameda, California
ACEH Case #RO0000044

"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:

Paul Supple
Environmental Business Manager

ON-SITE SOIL INVESTIGATION REPORT
Atlantic Richfield Company Station #2112
1260 Park Street, Alameda, California
ACEH Case No. RO0000044

Prepared for

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

Prepared by

BROADBENT & ASSOCIATES, INC.
ENGINEERING, WATER RESOURCES & ENVIRONMENTAL

1324 Mangrove Avenue, Suite 212
Chico, California 95926
(530) 566-1400
www.broadbentinc.com

10 August 2009

Project No. 06-88-616

Broadbent & Associates, Inc.
1324 Mangrove Ave., Suite 212
Chico, CA 95926
Voice (530) 566-1400
Fax (530) 566-1401

BROADBENT & ASSOCIATES, INC
ENVIRONMENTAL, WATER RESOURCES & ENGINEERING

10 August 2009

Project No. 06-88-616

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

Attn.: Mr. Paul Supple

Re: On-Site Soil Investigation Report, Atlantic Richfield Company (a BP affiliated company) Station #2112, 1260 Park Street, Alameda, California;
ACEH Case #RO0000044

Dear Mr. Supple:

Attached is the *On-Site Soil Investigation Report* for Atlantic Richfield Company Station #2112 (herein referred to as Station #2112) located at 1260 Park Street, Alameda, California (Site). This report presents the results of the soil boring investigation conducted at Station #2112 in June 2009. This investigation was conducted in accordance with the *Work Plan for On-Site Soil Investigation* (BAI, 12/12/2008) as approved with additional comments by Alameda County Environmental Health Services (ACEH) in their letter dated 16 April 2009. This Soil Investigation Report includes descriptions of the site background, scope of investigation and field work performed, discussion of findings, conclusions and recommendations.

Should you have questions regarding the work performed or results obtained, please do not hesitate to contact us at (530) 566-1400.

Sincerely,
BROADBENT & ASSOCIATES, INC.

Thomas A. Venus, P.E.
Senior Engineer

Robert H. Miller, P.G., C.HG
Principal Hydrogeologist

PROFESSIONAL GEOLOGIST
ROBERT H. MILLER
No. 561
CERTIFIED HYDROGEOLOGIST
CHG-3070
STATE OF CALIFORNIA

Enclosure

cc: Paresh Khatri, Alameda County Environmental Health (Submitted via ACEH ftp site)
Electronic copy uploaded to GeoTracker

ON-SITE SOIL INVESTIGATION REPORT
Atlantic Richfield Company Station #2112
1260 Park Street
Alameda, California

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ATTACHMENTS

APPENDICES

ON-SITE SOIL INVESTIGATION REPORT
Atlantic Richfield Company Station #2112
1260 Park Street
Alameda, California

1.0 INTRODUCTION

On behalf of the Atlantic Richfield Company, RM – a BP affiliated company, Broadbent & Associates, Inc. (BAI) has prepared this On-Site Soil Investigation Report for additional soil characterization at the Atlantic Richfield Company Station #2112, located at 1260 Park Street, Alameda, California (Site). This on-site soil investigation was completed to characterize residual hydrocarbon contamination within soils at the source area (former underground storage tank excavation) in the southeastern portion of the property to verify effectiveness of past remediation activities at the Site. Investigation activities were conducted in accordance with the BAI *Work Plan for On-Site Soil Investigation* dated 12 December 2008, as approved with additional comments by the Alameda County Environmental Health (ACEH) in their response letter dated 16 April 2009. A copy of this letter is provided in Appendix A. This report includes discussions on the Site Background, Site Geology and Hydrogeology, Field Activities Performed, Results of the Investigation, Conclusions and Recommendations.

2.0 SITE BACKGROUND

The Site is an active ARCO-branded gasoline retail outlet located on the southern corner of Park Street and Encinal Avenue in Alameda, California (Drawing 1 and Drawing 2). The land use in the immediate vicinity of the Site is mixed commercial and residential. The Site consists of a service station building and four gasoline underground storage tanks (USTs) with associated piping and dispensers. The Site is covered with asphalt or concrete surfacing except for planters along the northwest, northeast, and southeast property boundaries containing mature trees.

Numerous subsurface investigations and remedial activities have been conducted on-site since 1987. A comprehensive Site history can be found within the *Work Plan for On-Site Soil Investigation* prepared by BAI dated 12 December 2008. Section 4.0 of this report details the most recent subsurface investigation field activities conducted as requested by ACEH.

3.0 SITE GEOLOGY AND HYDROGEOLOGY

According to the *East Bay Plain Groundwater Basin Beneficial Use Evaluation Report* (California Regional Water Quality Control Board – San Francisco Bay Region, June 1999), the Site is located within the Central Sub-Area of the East Bay Plain of the San Francisco Basin. The Central Sub-Area extends beneath the San Francisco Bay. The boundaries of the sub area are based on the Young Bay Mud. The Young Bay Mud has a sharp "edge" in some areas, and in other areas, the boundary is less well-defined. Alameda and Bay Farm Islands are located along the northeastern edge of the sub area. Historically there were artesian wells in the sub area that produced from gravels below the Yerba Buena Mud, but saltwater intrusion shut down these wells. Single-family residences historically relied on the Merrit Sand for water supply. However, contamination from septic systems and some saltwater intrusion resulted in localized

contamination. More recently, deep wells (700 to 1000 feet deep) were drilled at the Alameda City Golf Course. Production rates were lower than expected but this is believed due to drilling problems. Water quality was satisfactory for irrigation.

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 ground-water flow is from east to west or from the Hayward Fault to the San Francisco Bay. Ground-water 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 (RWQCB, 1999).

The Site elevation is approximately 30 feet above mean sea level. The water table fluctuates seasonally. Historically, depth-to-water measurements have ranged from 6 to 18 ft bgs. Ground-water flow direction during the third quarter monitoring event on 17 July 2006 was to the west-southwest at a gradient of 0.01 ft/ft. The nearest body of water is the San Francisco Bay, located approximately 0.75 miles southwest of the Site.

According to the *East Bay Plain Groundwater Basin Beneficial Use Evaluation Report*, the single-most important ground-water quality parameter directly influencing a beneficial use determination is the Total Dissolved Solids (TDS) concentration. Resolution 89-39, Sources of Drinking Water, exempts the Municipal and Domestic (MUN) Supply Beneficial Use designations for ground waters with TDS concentrations greater than 3,000 milligrams per liter (mg/l) and are not reasonably expected by the RWQCB to supply a public water system (note that the United States Environmental Protection Agency uses the 10,000 mg/l TDS value in determining potential drinking water sources). In 1996, RWQCB staff reviewed the General Plans for the East Bay Plain cities of Alameda, Albany, El Cerrito, Berkeley, Emeryville, Hayward, Oakland, Piedmont, Richmond, and San Leandro, along with the Alameda County Resource Conservation District, the Alameda County Flood Control and Water Conservation District, the North Richmond Shoreline, and Alameda County. None of these cities had "any plans to develop local groundwater resources for drinking water purposes, because of existing or potential saltwater intrusion, contamination, or poor or limited quantity." However, the RWQCB's Basin Plan denotes existing beneficial uses of MUN, industrial process supply (PROC), industrial service supply (IND), and agricultural supply (AGR) for the East Bay Plain ground-water basin (RWQCB, 1999).

The Site is typically underlain by sand and clayey sand to a total explored depth of approximately 25 ft bgs based on boring logs from the soil investigation conducted by Applied GeoSystems in January 1990. Boring logs for on-site monitoring and extraction wells were unavailable. The general geology consists of a sandy layer between ground surface and a maximum depth of approximately eight ft bgs. A clayey sand layer was typically observed from between five and eight ft bgs to 25 ft bgs, the total depth explored.

4.0 FIELD ACTIVITIES PERFORMED

The onsite soil investigation was completed to assess the presence of residual petroleum hydrocarbon-impacted soil on-site in the vicinity of the former UST complex in the southeastern corner of the Site. On 10 June 2009, Stratus oversaw RSI Drilling, Inc. advance three direct-

push soil borings at the Site, identified as B-7, B-8, and B-9. Borings B-7 through B-9 were originally identified as borings B-1 through B-3, respectively, in the work plan but were renamed to mitigate potential confusion with earlier borings of the same name. Soil boring B-7 was located in the general vicinity of the previously collected soil sample AX1-3-12, approximately five feet east-southeast of well AV-1. Soil boring B-8 was located on the back side of the Station building in the vicinity of the former waste oil UST. Soil boring B-9 was originally proposed on the northeast end of the former UST pit in vicinity of well AV-2. However, pea gravel, concrete debris, and large rocks were encountered in the proposed location, which prevented air knife clearance. Boring B-9 was relocated approximately 15 feet southeast of the originally proposed location, which situated the boring along the eastern corner of the former UST pit and south of well AV-2. The soil boring locations from this investigation are shown in Drawing 2.

4.1 Preliminary Field Activities

Prior to initiating field activities, Stratus obtained the necessary well drilling permits from the Alameda County Public Works Agency (See Appendix B), prepared a site health and safety plan specific to the work scope; and cleared the Site for subsurface utilities. The utility clearance included notifying Underground Service Alert of the work a minimum of 48 hours prior to initiating the field investigation, and additionally securing the services of Cruz Brothers, a private utility locating company to confirm the absence of underground utilities at the boring location. Boreholes were physically cleared to 6.5 feet below ground surface (bgs) using an air knife rig.

4.2 Soil Boring Advancement and Sampling

On 10 June 2009, Stratus field personnel observed RSI Drilling (RSI) of Woodland, California advance three soil borings (B-7, B-8, and B-9). RSI utilized a direct-push Powerprobe 9630 Pro-D drill rig to collect continuous core samples at the soil boring locations to a maximum depth of 14 ft bgs. Physical soil samples were collected at specific depths for laboratory analysis based on field observations and recommendations from ACEH.

Soil boring B-7 was advanced to a total depth of 14 ft bgs. Soil samples were collected from boring B-7 at five, eight, 11, and 14 feet bgs. Reportedly, no obvious visual contamination was observed. Screening with the photo-ionization detector (PID) did not detect volatile organic compounds at the sampling depths. Silty sand was encountered from approximately zero to 7.5 ft bgs and 10.5 ft bgs to 14 ft bgs, the total depth explored. Clayey sand was observed from approximately 7.5 ft bgs to 10.5 ft bgs. Following completion of soil boring advancement and collection of samples, the boring was backfilled with neat cement grout to surface grade.

Soil boring B-8 was advanced to a total depth of 14 ft bgs. Soil samples were collected from boring B-8 at five, eight, 11, and 14 feet bgs. Reportedly, no obvious visual contamination was observed. Screening with the PID detected volatile organic compounds at a concentration of greater than 5,000 parts per million (ppm) at a depth of 11 ft bgs. Silty sand with gravel was encountered from approximately zero to seven ft bgs. Clayey sand was observed from approximately 7.0 ft bgs to 9.5 ft bgs. Silty sand was encountered from approximately 9.5 to 14

ft bgs, the total depth explored. Following completion of soil boring advancement and collection of samples, the boring was backfilled with neat cement grout to surface grade.

Soil boring B-9 was advanced to a total depth of 14 ft bgs. Soil samples were collected from boring B-7 at five, eight, 11, and 14 feet bgs. Reportedly, no obvious visual contamination was observed. Screening with the PID did not detect volatile organic compounds at the sampling depths. Silty sand was encountered from approximately zero to 14 ft bgs, the total depth explored to. Following completion of soil boring advancement and collection of samples, the boring was backfilled with neat cement grout to surface grade.

Soil boring logs (GEO_BORE) and a site map depicting the boring locations (GEO_MAP) were uploaded to the GeoTracker AB2886 database. Upload confirmation pages are provided in Appendix C.

4.3 Investigation-Derived Residuals Management

Residual solids and liquids generated during the Site investigation activities were stored temporarily onsite in a Department of Transportation-approved 55-gallon drum pending analytical results and profiling. Following characterization and profiling, Belshire Environmental Services was scheduled to transport the investigation-derived residuals to an Atlantic Richfield Company-approved facility for treatment or disposal.

5.0 RESULTS OF INVESTIGATION

Soil samples were shipped to Calscience Environmental Laboratories, Inc. (Garden Grove), a California State-certified laboratory, under standard chain-of-custody protocol. Samples were analyzed for Gasoline Range Organics (GRO, hydrocarbon chain lengths between C6-C12) by EPA Method 8015B; and for Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX), Methyl Tert-Butyl Ether (MTBE), Ethyl Tert-Butyl Ether (ETBE), Tert-Amyl Methyl Ether (TAME), Di-Isopropyl Ether (DIPE), 1,2-Dichloroethane (1,2-DCA), 1,2-Dibromoethane (EDB), Tert-Butyl Alcohol (TBA), and Ethanol using EPA Method 8260B. The laboratory noted that the reporting limits in samples B-7 11’ and B-9 5’ were raised due to high levels of non-target analytes. No other significant irregularities were encountered during laboratory analysis of the samples. A copy of the laboratory analytical report, including chain-of-custody documentation, is provided in Appendix B. The analytical results of this investigation and the Environmental Screening Levels (ESLs) established by the San Francisco Bay Regional Water Quality Control Board (SFRWQCB) for shallow soils (<3 meters) within residential areas where ground water is not a current or potential source of drinking water are summarized in tabular form on the following page.

Values depicted in bold type represent concentrations detected above laboratory reporting limits. Concentrations of MTBE, ETBE, TAME, DIPE, 1,2-DCA, EDB, TBA, and Ethanol are not included in the above table as the results for these constituents were below their respective laboratory reporting limits. Residential land use and shallow soil ESLs were used in order to provide a conservative benchmark for comparison of observed concentrations. Laboratory

analytical results (EDF) were uploaded to the GeoTracker AB2886 database. Upload confirmation pages are provided in Appendix C.

Soil Samples - Laboratory Analytical Results (mg/kg)

Sample ID	GRO	Benzene	Toluene	Ethylbenzene	Xylenes
B-7 5'	<0.50	<0.001	<0.001	<0.001	<0.001
B-7 8'	<0.50	<0.001	<0.001	<0.001	<0.001
B-7 11'	**2.8**	<0.10	<0.10	**0.14**	<0.10
B-7 14'	**8.6**	<0.001	**0.0016**	**0.0063**	**0.04**
B-8 5'	<0.50	<0.001	<0.001	<0.001	<0.001
B-8 8'	<0.50	<0.001	<0.001	<0.001	**0.0015**
B-8 11'	**2,000**	**0.23**	**14**	**18**	**210**
B-8 14'	**3.2**	<0.001	**0.005**	**0.0044**	**0.031**
B-9 5'	**26**	<0.10	<0.10	**0.31**	**2.8**
B-9 8'	<0.50	<0.001	<0.001	<0.001	**0.0015**
B-9 11'	<0.50	<0.001	<0.001	<0.001	**0.0022**
B-9 14'	<0.50	<0.001	<0.001	<0.001	**0.0023**
ESLs	**100**	**0.12**	**9.3**	**2.3**	**11**

mg/kg – milligrams per kilogram
ESLs – Environmental Screening Levels for Residential Shallow Soil (less than 3 meters)

6.0 DISCUSSION OF FINDINGS

Observed results are summarized in the following bullet points:

- GRO was detected above the laboratory reporting limit in five of the 12 soil samples collected at concentrations up to 2,000 milligrams per kilogram (mg/kg) in sample B-8 11'.
- Benzene was detected above the laboratory reporting limit in one of the 12 samples at a concentration of 0.23 mg/kg in sample B-8 11'.
- Toluene was detected above the laboratory reporting limit in three of the 12 soil samples collected at concentrations up to 14 mg/kg in sample B-8 11'.
- Ethylbenzene was detected above the laboratory reporting limit in five of the 12 soil samples collected at concentrations up to 18 mg/kg in sample B-8 11'.
- Total xylenes were detected above the laboratory reporting limit in eight of the 12 soil samples collected at concentrations up to 210 mg/kg in sample B-8 11'.
- The remaining constituents analyzed for were not detected above their respective laboratory reporting limits in the 12 soil samples collected.
- GRO and BTEX concentrations exceeded the ESLs in sample B-8 11'. GRO and BTEX concentrations detected above laboratory reporting limits in the remaining 11 soil samples collected were below the established ESLs.

- Boring B-7 is in the vicinity of previous soil sample AX1-3-12 (26 July 1990), which contained Total Purgeable Petroleum Hydrocarbons (TPPH) at 23,000 mg/kg and Benzene at 150 mg/kg as referenced in the ACEH letter dated 16 October 2008 (Appendix A). No evidence of Benzene was detected from soil boring samples collected at location B-7. GRO was detected at minor concentrations of 2.8 mg/kg and 8.6 mg/kg at depths of 11 ft bgs and 14 ft bgs, respectively.
- Boring B-9 is in the general vicinity of previous soil sample S-11-B4 (22 January 1990), which contained TPPH at 21,000 mg/kg and Benzene at 210 mg/kg as referenced in the ACEH letter dated 16 October 2008 (Appendix A). It should be noted that the previous sample S-11-B4 was collected prior to UST removal and is now located within the excavation pit (backfill material) of the former UST complex. No evidence of benzene was detected from the soil boring samples collected at location B-9. GRO was detected at a concentration of 26 mg/kg at a depth of five ft bgs.

7.0 CONCLUSIONS AND RECOMMENDATIONS

On behalf of the Atlantic Richfield Company, RM – a BP affiliated company, BAI prepared this Soil Investigation Report for Station No. 2112, located at 1260 Park Street, Alameda, California. Investigation activities were conducted in accordance with the BAI *Work Plan for On-Site Soil Investigation* dated 12 December 2008, as approved with additional comments by the ACEH in their letter dated 16 April 2009. Based on the findings of this investigation, BAI concludes that historic operation of the remediation system on-site appears to have reduced petroleum hydrocarbon contaminant concentrations within source area soils to concentrations below ESLs with the exception of sample B-8 11'. Contaminant concentrations at this sample location and depth appear to be localized.

Based on the analytical results obtained during the soil investigation, progress toward case closure is recommended.

8.0 CLOSURE

This document has been prepared for the exclusive use of Atlantic Richfield Company. The findings presented in this report are based upon the observations of Stratus field personnel, points of investigation and results of laboratory tests performed by Calscience Environmental Laboratories, Inc. (Garden Grove, California). Services were performed in accordance with the generally accepted standard of practice at the time this report was written. No warranty, expressed or implied, is intended. It is possible that variations in the soil or groundwater conditions could exist beyond the points explored in this investigation. Also, changes in site conditions could occur at some time in the future due to variations in rainfall, temperature, regional water usage or other factors.

9.0 REFERENCES

ACEH, 16 October 2008. Fuel Leak Case No. RO0000044 and GeoTracker Global ID T0600100083 ARCO #2112, 1260 Park Street, Alameda, CA 94501. Letter from Mr. Paresh Khatri (ACEH) to Mr. Paul Supple (Atlantic Richfield Company) requesting work plan.

ACEH, 16 April 2009. Fuel Leak Case No. RO0000044 and GeoTracker Global ID T0600100083 ARCO #2112, 1260 Park Street, Alameda, CA 94501. Letter from Mr. Paresh Khatri (ACEH) to Mr. Paul Supple (Atlantic Richfield Company) approving work plan with additional comments.

Broadbent & Associates, Inc., 12 December 2008. *Work Plan for On-Site Soil Investigation, Atlantic Richfield Company Station No. 2112, 1260 Park Street, Alameda, California, ACEH Case No. RO0000044.*

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

California Regional Water Quality Control Board, San Francisco Bay Region, Groundwater Committee, May 2008. *Screening For Environmental Concerns at Sites with Contaminated Soil and Groundwater*.

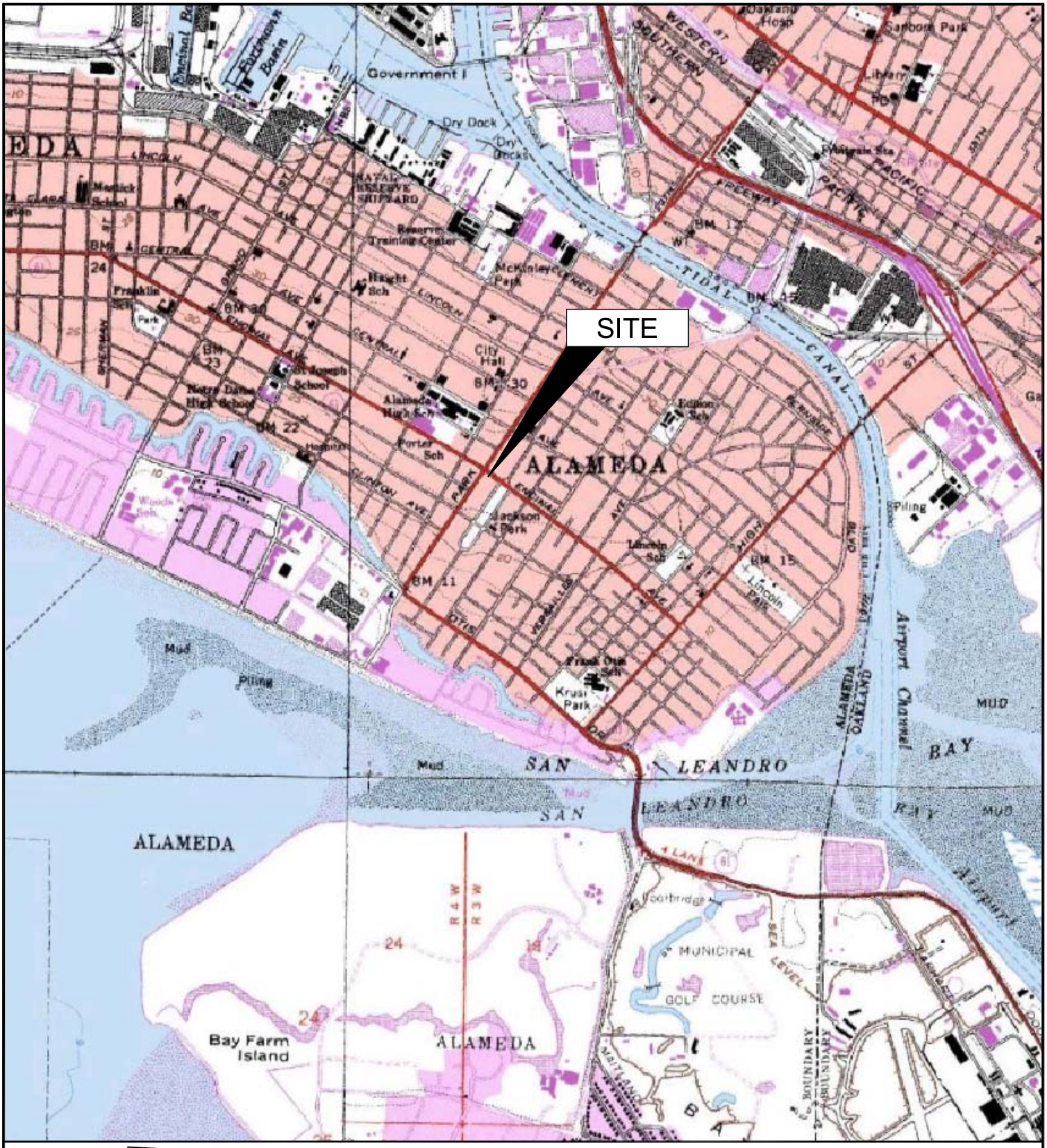


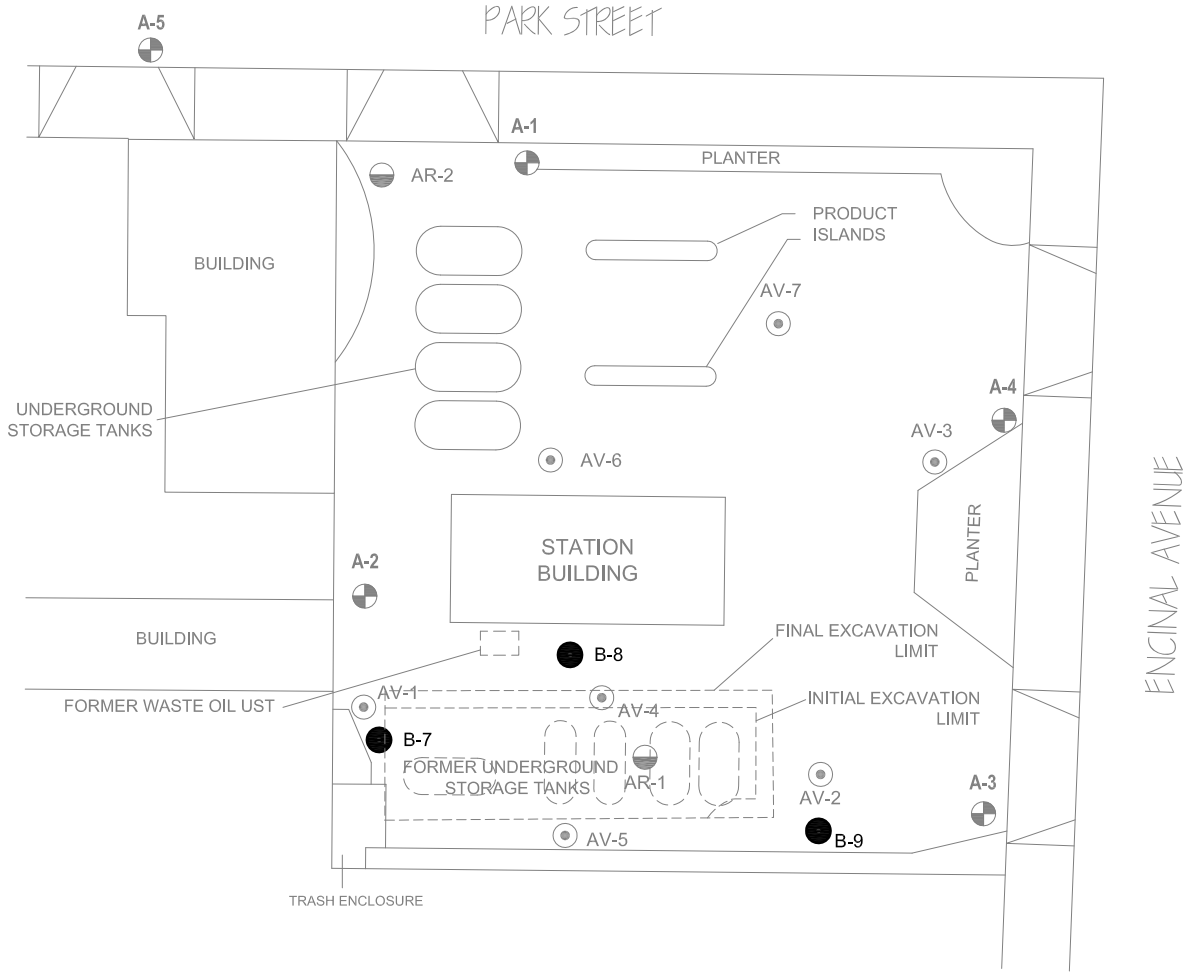
IMAGE SOURCE: USGS

BROADBENT & ASSOCIATES, INC.
ENGINEERING, WATER RESOURCES & ENVIRONMENTAL
1324 Mangrove Ave. Suite 212, Chico, CA 95926
Project No.: 06-88-616 Date: 07/27/09

Station #2112
1260 Park Street
Alameda, California

Site Location Map

Drawing
1



LEGEND:

A-1	MONITORING WELL LOCATION
AR-1	GROUND-WATER EXTRACTION WELL LOCATION
AV-1	VAPOR EXTRACTION WELL LOCATION
B-9	BORING LOCATION
- - - - - -	EXCAVATED AREA

0 40 80

SCALE (ft)

BROADBENT & ASSOCIATES, INC.
ENGINEERING, WATER RESOURCES & ENVIRONMENTAL
1324 Mangrove Ave. Suite 212, Chico, California 95926
Project No.: 06-88-616 Date: 4/30/09

Station #2112
1260 Park Street
Alameda, California

Site Map with Soil Boring Locations and Excavation Limits

Drawing
2

APPENDIX A

RECENT REGULATORY CORRESPONDANCE

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

October 16, 2008

Paul Supple
Atlantic Richfield Company
(A BP Affiliated Company)
P.O. Box 1257
San Ramon, CA 94583

Subject: Fuel Leak Case No. RO0000044 and Geotracker Global ID T0600100083, ARCO #2112, 1260 Park Street, Alameda, CA 94501

Dear Mr. Supple:

Alameda County Environmental Health (ACEH) staff has reviewed the case file for the above-referenced site including the recently submitted document entitled, "Third Quarter 2006 Ground-Water Monitoring Report," dated October 13, 2006 and the "Second Quarter 2008 Status Report," dated July 18, 2008, which were prepared by Broadbent & Associates, Inc. (BAI) for the subject site. Based on a review of the case file, it appears that in January 1990, GeoStrategies, Inc. (GSI) installed six borings to assess site conditions in the areas of the former and current UST complexes. Soil sample analytical results detected total petroleum hydrocarbons (TPH) as gasoline (g) and benzene at concentrations of 21,000 mg/kg and 210 mg/kg, respectively in soil sample S-11-B4 collected approximately 11 feet below the ground surface (bgs) in the vicinity of the former UST complex. In July 1990, the USTs were removed from site and new USTs were relocated to the northwest corner of the property. Soil sample analytical results detected TPH-g and benzene at concentrations of 23,000 mg/kg and 150 mg/kg, respectively in excavation confirmation soil sample AX1-3-12 collected at 12 feet bgs. In October 1992, groundwater recovery and vapor extraction systems were installed at the site. The treatment systems ceased operations in 1997 with ACEH approval.

According to BAI, case closure was requested by BP on June 4, 2004. ACEH responded in our June 20, 2006 correspondence requesting more recent groundwater monitoring data with additional sampling parameters for fuel oxygenates, ethanol, and lead scavengers. According to BAI, concentrations of contaminants detected in groundwater are similar to those previously detected and requests case closure. Although groundwater sample analytical data is consistent with historical sampling results, confirmation soil samples do not appear to have been collected to verify remediation system effectiveness. Since data gaps have been identified, ACEH cannot consider case closure at this time. This decision to deny closure is subject to appeal to the State Water Resources Control Board (SWRCB), pursuant to Section 25299.39.2(b) of the Health and Safety Code (Thompson-Richter Underground Storage Tank Reform Act - Senate Bill 562). Please contact the SWRCB Underground Storage Tank Program at (916) 341-5851 for information regarding the appeal process.

ACEH requests that you address the following technical comments and send us the technical reports requested below.

TECHNICAL COMMENTS

1. **Confirmation Soil Sampling & Contaminant Source Area Characterization** – As mentioned above, significantly elevated concentrations of TPH-g and benzene were detected in soil prior to and following the UST removals in 1990. Although a soil vapor extraction system operated at the site, adequate system design and site details (i.e. depths and screened intervals of wells, radius of influence, estimated contaminant mass in the subsurface, total contaminant mass removed, confirmation soil sampling to evaluate system effectiveness, etc.) were not available in our case file. Additionally, significantly elevated concentrations of TPH (23,000 mg/kg) and benzene (210 mg/kg) were detected at 12 feet and 11 feet, respectively. Therefore, the vertical extent of soil impact appears undefined and the elevated contaminant concentrations may pose a potential vapor intrusion risk. Please propose a scope of work to address the above-mentioned concerns and submit a work plan by the date specified below.

REQUEST FOR INFORMATION

ACEH's case file for the subject site contains the following electronic reports as listed on our website (http://www.acgov.org/aceh/lop/ust.htm). You are requested to submit copies of all other reports related to environmental investigations for this property (including Remediation System Installation Reports, Monitoring Well Installation Reports, etc.) by **November 14, 2008**.

TECHNICAL REPORT REQUEST

Please submit technical reports to ACEH (Attention: Paresh Khatri), according to the following schedule:

- **December 15, 2008** – Soil and Water Investigation Work Plan

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

ELECTRONIC SUBMITTAL OF REPORTS

ACEH's Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of reports in electronic form. The electronic copy replaces paper copies and is expected to be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program FTP site are provided on the attached "Electronic Report Upload Instructions." Submission of reports to the Alameda County FTP site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board

(SWRCB) Geotracker website. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for all groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitoring wells, and other data to the Geotracker database over the Internet. Beginning July 1, 2005, these same reporting requirements were added to Spills, Leaks, Investigations, and Cleanup (SLIC) sites. Beginning July 1, 2005, electronic submittal of a complete copy of all reports for all sites is required in Geotracker (in PDF format). Please visit the SWRCB website for more information on these requirements (http://www.swrcb.ca.gov/ust/electronic_submittal/report_rqmts.shtml.

PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

UNDERGROUND STORAGE TANK CLEANUP FUND

Please note that delays in investigation, later reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to $10,000 per day for each day of violation.

If you have any questions, please call me at (510) 777-2478 or send me an electronic mail message at paresh.khatri@acgov.org.

Sincerely,

Paresh C. Khatri
Hazardous Materials Specialist

Donna L. Drogos, PE
Supervising Hazardous Materials Specialist

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: Tom Venus, Broadbent & Associates, Inc., 1324 Mangrove Ave., Ste 212, Chico, CA 95926
Donna Drogos, ACEH
Paresh Khatri, ACEH
File

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

April 16, 2009

Paul Supple
Atlantic Richfield Company
(A BP Affiliated Company)
P.O. Box 1257
San Ramon, CA 94583

Subject: Fuel Leak Case No. RO0000044 and GeoTracker Global ID T0600100083, ARCO #2112, 1260 Park Street, Alameda, CA 94501

Dear Mr. Supple:

Alameda County Environmental Health (ACEH) staff has reviewed the case file for the above-referenced site including the recently submitted document entitled, "Work Plan for On-site Investigation," dated December 12, 2008, which was prepared by Broadbent & Associates, Inc. (BAI). To collect post-remediation confirmation soil samples and conduct source area characterization, BAI proposes to install three borings one located near the former waste oil UST and two borings around the former UST complex.

ACEH generally concurs with the proposed scope of work and the proposed scope of work may be implemented provided that the modifications requested in the technical comments below are addressed and incorporated during the field implementation. Submittal of a revised Work Plan is not required unless an alternate scope of work outside that described in the Work Plan and technical comments below is proposed.

We request that you address the following technical comments, perform the proposed work, and send us the technical reports requested below.

TECHNICAL COMMENTS

1. **Confirmation Soil Sampling** – As mentioned above, "BAI proposes advancing three direct-push technology (DPT) borings to evaluate potential residual petroleum hydrocarbon impacts to soil. One boring (B-1) is proposed approximately five feet east-southeast of well AV-1 located along the southwestern property boundary of the Site. Boring B-2 is proposed on the back side of the Station building in the vicinity of the former waste oil UST. Boring B-3 is proposed on the northeast end of the former UST pit in the vicinity of well AV-2." BAI did not provide a site figure that illustrates the former excavation boundaries in relation to the proposed boring locations. Based on a comparison of the former UST excavation limits depicted by GeoStrategies, Inc. to BAI's proposed soil boring locations, boring B-2 appears to be in the vicinity of the former waste oil UST and boring B-3 appears to be in the vicinity of excavation soil sample AX-1-8*. However, boring B-1 appears to be 10 feet northwest of soil sample AX1-3-12. ACEH is concerned that this location may not adequately address the

possible residual hydrocarbon impact in the vicinity of sample AX1-3-12. Please note that several other excavation soil samples (AX1-2*-10, AX1-3-12, AX1-6-10, and AX1-7*-10) also detected significantly elevated concentrations of petroleum hydrocarbons. To summarize, TPH-g and benzene were detected at concentrations of 7,700 mg/kg and 60 mg/kg, respectively, in soil sample AX1-2*-10; TPH-g and benzene were detected at concentrations of 23,000 mg/kg and 150 mg/kg, respectively, in soil sample AX1-3-12; TPH-g and benzene were detected at concentrations of 1,000 mg/kg and 2 mg/kg, respectively, in soil sample AX1-6-10; and TPH-g and benzene were detected at concentrations of 9,400 mg/kg and 96 mg/kg, respectively, in soil sample AX1-7*-10. However, no confirmatory borings have been proposed to evaluate potential residual contamination in those areas. Therefore, in an interest to expedite this site toward case closure by adequately characterizing potential residual petroleum hydrocarbon impacted soil in the vicinity of the former USTs, at least three additional borings appear necessary. First, boring B-1 should be re-located approximately 10 feet to the southwest (in the vicinity of soil sample AX1-3-12). Secondly, borings should be installed in the vicinity of AX1-2*-10, AX1-6-10, and AX1-7*-10 and in any other area of the site that historically detected elevated hydrocarbon concentrations in soil. Lastly, please submit a revised site figure for review, due by the date specified below, which illustrates not only the former USTs, but the excavation boundaries in relation to the proposed borings.

NOTIFICATION OF FIELDWORK ACTIVITIES

Please schedule and complete the fieldwork activities by the date specified below and provide ACEH with at least three (3) business days notification prior to conducting the fieldwork.

TECHNICAL REPORT REQUEST

Please submit technical reports to ACEH (Attention: Paresh Khatri), according to the following schedule:

- **April 30, 2009** – Revised Site Figure
- **July 15, 2009** – Soil and Water Investigation Report

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

ELECTRONIC SUBMITTAL OF REPORTS

ACEH's Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of reports in electronic form. The electronic copy replaces paper copies and is expected to be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program FTP site are provided on the attached "Electronic Report Upload Instructions." Submission of reports to the Alameda County FTP site is an addition to existing

requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) GeoTracker website. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for all groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitoring wells, and other data to the GeoTracker database over the Internet. Beginning July 1, 2005, these same reporting requirements were added to Spills, Leaks, Investigations, and Cleanup (SLIC) sites. Beginning July 1, 2005, electronic submittal of a complete copy of all reports for all sites is required in GeoTracker (in PDF format). Please visit the SWRCB website for more information on these requirements (http://www.swrcb.ca.gov/ust/electronic_submittal/report_rqmts.shtml.

PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

UNDERGROUND STORAGE TANK CLEANUP FUND

Please note that delays in investigation, later reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to $10,000 per day for each day of violation.

If you have any questions, please call me at (510) 777-2478 or send me an electronic mail message at paresh.khatri@acgov.org.

Sincerely,

Paresh C. Khatri
Hazardous Materials Specialist

Donna L. Drogos, PE
Supervising Hazardous Materials Specialist

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: Tom Venus, Broadbent & Associates, Inc., 1324 Mangrove Ave., Ste 212, Chico, CA 95926
Donna Drogos, ACEH (sent via electronic mail)
Paresh Khatri, ACEH (sent via electronic mail)
GeoTracker
File

APPENDIX B

STRATUS SOIL BORING DATA PACKAGE
(Includes Field Data Sheets, Boring Logs, Drilling Permit, Site Plan, and Certified Laboratory Analytical Report with Chain-of-Custody Documentation)

STRATUS
ENVIRONMENTAL, INC.

3330 Cameron Park Drive, Ste 550
Cameron Park, California 95682
(530) 676-6004 ~ Fax: (530) 676-6005

July 7, 2009

Mr. Tom Venus
Broadbent & Associates, Inc.
1324 Mangrove Avenue
Chico, California 95926

Re: Soil Boring Data Package, ARCO Service Station No. 2112, located at 1260 Park Street, Alameda, California (field activities performed between May 29, 2009 and June 10, 2009).

General Information

Data Submittal Prepared / Reviewed by: Collin Fischer and Scott Bittinger / Jay Johnson
Phone Number: (530) 676-2062 / (530) 676-6000

Date: May 29, 2009
On-Site Supplier Representative: Collin Fischer
Scope of Work Performed: Health and safety meeting with utility locating subcontractor (Cruz Brothers Locators). Locate and mark all onsite utilities and sketch on site map per ground disturbance procedures. Clear 3 onsite boring locations and mark for Underground Service Alert (USA) clearance.
Variations from Work Scope: None noted

Date: June 8, 2009
On-Site Supplier Representative: Collin Fischer
Scope of Work Performed: Fill our health and safety forms. Check USA markings, Update USA tracking sheet, and sketch locations of underground utilities identified by USA on site map per ground disturbance procedures.
Variations from Work Scope: None noted

Date: June 10, 2009
On-Site Supplier Representative: Collin Fischer and Scott Bittinger
Scope of Work Performed: Health and safety meeting with air knife and drilling subcontractor (RSI Drilling). Clear 3 borings to 6.5 feet below ground surface (bgs) with air knife. Complete 3 continuous core direct push soil borings to 14 feet bgs.
Variations from Work Scope: None noted, although boring locations were adjusted, as needed, after encountering pea gravel, concrete debris, or large rocks which inhibited air knife clearance of the boreholes.

This submittal presents data collected in association with the completion of three soil borings. The attachments include field data sheets, soil boring logs, a drilling permit, a site plan depicting approximate soil boring and underground utility locations, certified analytical reports, and chain-of-custody records for the samples collected during this phase of investigation. The information is being provided to BP-ARCO's Scoping Supplier for use in preparing a report for regulatory submittal. This submittal is limited to presentation of collected data and does not include data interpretation or conclusions or recommendations.

Any questions concerning this submittal should be addressed to the Preparer/Reviewer identified above.

Sincerely,

STRATUS ENVIRONMENTAL, INC.

Scott G. Bittinger, P.G.
Project Geologist

REGISTERED GEOLOGIST
Scott G. Bittinger
No. 7477
STATE OF CALIFORNIA

Jay R. Johnson, P.G.
Project Manager

Attachments:

- Field Data Sheets
- Boring logs
- Drilling permit
- Site Plan
- Certified Analytical Reports with Chain-of-Custody Documentation

cc: Paul Supple, BP/ARCO

5/29/2009
Sunny
Clear.

ARCO 2112 - Colin Fischer
Cruz Bros

1145 -> ONSITE, Fill out SAFETY PAPERWORK, SITE WALK, TALK TO STATION MANAGER ABOUT WORK.

1200 -> START CLEARING UTILITIES, TALK W/ STATION MANAGER ABOUT BLDG & REBUILD, FOUND HISTORIC PUMP ISLAND &/OR TANK SENSOR JUNCTION BOX, WILL HOOK ONTO IT & TRY & LOCATE AS WELL AS NEW LINES.

1300 -> ELECTRIC, H_2O, & SEWER LINES LOCATED & SKETCHED, COMM IS HELIAC & GAS IS NOT CONNECTED TO BUILDING. ASKED STATION MANAGER ABOUT GAS, SHE SAYS THAT NO GAS @ STATION, ALL UTILITIES ARE POWER BY ELECTRIC. GAS MAIN LOCATED W PARK STREET, NOT GOING INTO STATION @ ALL.

1320 -> NEW TANK / PUMP ISLAND POWER/SENSOR LINES LOCATED & MARKED.
NO LINES FOUND COMING OUT OF HISTORICAL JXN BOX TOWARDS OLD TANKS.
ONE FOUND COMING OUT FRONT, MARKED ON MAP.

1330 -> DONE IDENTIFYING UTILITIES, CLEAR 3 BORING LOCATIONS, MARK FOR USA.

1400 -> OFFSITE

STRATUS ENV., INC.

ARCO 2112 - COLLIN FOSTER

Cloudy
060809

0655 -> ONSITE, FILL OUT SAFETY PAPERWORK.

0710 -> UPDATE USA TRACKING SHEET, SKETCH ANY ADDITIONAL
UTILITIES ON SITE MAP.

0725 -> OFFSITE

Collin Foster

STRATUS ENV. INC.

Field Data Sheet

Site: ARCO 2112 Date: 6/10/09

Personnel on site: Collin Fischer, RSI Drilling

Weather Conditions: Cloudy

Notes:

0700 -> onsite, RSI onsite, Safety Meeting.

0730 -> Set up on (B-7) w/ AE & Begin Clearing.

0800 -> AE done @ (B-7), move to (B-8) & Begin Clearing.

0810 -> Boring cleared to 5' bgs. Very Sandy Lithology.

0815 -> Move to (B-9) & Begin Clearing. Waiting for Engineering Problem to be resolved w/ Drill Rig.

0830 -> Found PEA-gravel @ (B-9) @ ~24" bgs. Pea gravel is likely from the remediation trench located NE of B. Move N 3' NW & try again.

0850 -> Large Rock/Concrete found in boring @ 24", Move 3' East & try again

0905 -> Slab on concrete most likely old barrell found @ 32", Move N 10' SE & try again.

0925 -> @ 27" bgs, a large rock in hole, Move 5' ENE & try again.

0935 -> Encountered backfill asphalt & cement, but we were able to get through it.

1005 - (B-9) Cleared, still waiting on Drill Rig to Begin Boring.

1035 -> Different Rig arrives onsite w/ mechanic, mechanic begins repair on track rig, meanwhile track mounted rig begins probing. AE crew offsite.

1045 -> Start Probing @ (B-7).

1058 -> Done, Move to (B-8).

1115 -> Done, Move to (B-9).

1145 -> Done, start Mixing & Grout all holes.

1230 -> Holes Grouted, Cleanup & secure site.

1245 -> offsite

Stantec Env, Inc.

SOIL BORING LOG **Boring No. B-7** **Sheet: 1 of 1**

Client	ARCO 2112	Date	June 10, 2009
Address	1260 Park Street	Drilling Co.	RSI Drilling rig type: Powerprobe 9630 Pro-D
	Alameda, CA	Driller	Norman
Project No.	E2112	Method	Direct Push Hole Diameter: 2"
Logged By:	Collin Fischer	Sampler:	Continuous core

Sample Type	Sample No.	Date	Sample Time	Sample Recov.	Well Details	Depth Scale	Lithologic Column	Descriptions of Materials and Conditions	PID (PPM)
						1		Cleared to 6.5' bgs with air knife.	
						2			
						3			
						4	SM	Silty sand, SM, (0'-7.5'), dark yellowish brown, dry 85% fine to medium grained sand, 15% silt	
S	B-7 5'	6/10/09	1050	100		5			0
						6			
						7			
S	B-7 8'	6/10/09	1053	100		8			0
						9	SC	Clayey sand, SC, (7.5'-10.5'), dark yellowish brown, moist 70% medium grained sand, 30% clay	
						10			
S	B-7 11'	6/10/09	1055	100		11			0
						12	SM	Silty sand, SM, (10.5'-14'), dark grayish brown, wet 85% medium grained sand, 15% silt	
						13			
S	B-7 14'	6/10/09	1058	100		14			0
						15			
						16			
						17			
						18			
						19			
						20			

Recovery

Sample

Comments:

STRATUS ENVIRONMENTAL, INC.

SOIL BORING LOG **Boring No. B-8** **Sheet: 1 of 1**

Client	ARCO 2112	Date	June 10, 2009
Address	1260 Park Street	Drilling Co.	RSI Drilling rig type: Powerprobe 9630 Pro-D
	Alameda, CA	Driller	Norman
Project No.	E2112	Method	Direct Push Hole Diameter: 2"
Logged By:	Collin Fischer	Sampler:	Continuous core

Sample Type	Sample No.	Date	Sample Time	Sample Recov.	Well Details	Depth Scale	Lithologic Column	Descriptions of Materials and Conditions	PID (PPM)
						1		Cleared to 6.5' bgs with air knife.	
						2			
						3			
						4	SM	Silty sand with gravel, SM, (0'-7'), dark yellowish brown, dry 70% fine to medium grained sand, 20% silt, 10 % medium gravel	
S	B-8 5'	6/10/09	1103	100		5			0
						6			
						7			
S	B-8 8'	6/10/09	1105	100		8	SC		0
						9		Clayey sand, SC, (7'-9.5'), dark yellowish brown, moist 70% medium grained sand, 30% clay	
						10			
S	B-8 11'	6/10/09	1108	100		11			5000+
						12	SM	Silty sand, SM, (9.5'-14'), dark grayish brown, wet 85% medium grained sand, 15% silt	
						13			
S	B-8 14'	6/10/09	1110	100		14			0
						15			
						16			
						17			
						18			
						19			
						20			

Recovery

Sample

Comments:

STRATUS ENVIRONMENTAL, INC.

SOIL BORING LOG Boring No. B-9 Sheet: 1 of 1

Client	ARCO 2112	Date	June 10, 2009
Address	1260 Park Street	Drilling Co.	RSI Drilling rig type: 6620 DT
	Alameda, CA	Driller	Norman
Project No.	E2112	Method	Direct Push Hole Diameter: 2"
Logged By:	Collin Fischer	Sampler:	Continuous core

Sample Type	Sample No.	Date	Sample Time	Sample Recov.	Well Details	Depth Scale	Lithologic Column	Descriptions of Materials and Conditions	PID (PPM)
						1		Cleared to 6.5' bgs with air knife.	
						2			
						3			
						4			
S	B-9 5'	6/10/09	1135	100		5			0
						6			
						7		Silty sand, SM, (0'-12'), dark yellowish brown, dry 85% fine to medium grained sand, 15% silt	
S	B-9 8'	6/10/09	1138	100		8	SM		0
						9			
						10			
S	B-9 11'	6/10/09	1140	100		11			0
						12			
						13		Silty sand, SM, (12'-14'), dark yellowish brown, wet 80% fine to medium grained sand, 20% silt	
S	B-9 14'	6/10/09	1143	100		14			0
						15			
						16			
						17			
						18			
						19			
						20			

Recovery

Sample

Comments:

STRATUS ENVIRONMENTAL, INC.

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: 06/03/2009 By jamesy

Permit Numbers: W2009-0449
Permits Valid from 06/10/2009 to 06/10/2009

Application Id:	1243985168121	**City of Project Site:**Alameda
Site Location:	1260 Park St, Alameda, CA	
Project Start Date:	06/10/2009	**Completion Date:**06/10/2009
Assigned Inspector:	Contact John Shouldice at (510) 670-5424 or johns@acpwa.org	
Applicant:	Stratus - Scott Bittinger 333- Cameron Pk Dr #550, Cameron Park, CA 95682	**Phone:** 530-676-2062
Property Owner:	BPO ARCO 6 Center Pointe Dr., La Palma, CA 90623	**Phone:** 925-275-3801
Client:	** same as Property Owner **	

	Total Due:	$230.00
Receipt Number: WR2009-0202	**Total Amount Paid:**	$230.00
Payer Name : Stratus	Paid By: CHECK	**PAID IN FULL**

Works Requesting Permits:

Borehole(s) for Investigation-Geotechnical Study/CPT's - 3 Boreholes
Driller: RSI Drilling - Lic #: 802334 - Method: other

Work Total: $230.00

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2009-0449	06/03/2009	09/08/2009	3	3.00 in.	20.00 ft

Specific Work Permit Conditions

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site.

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

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

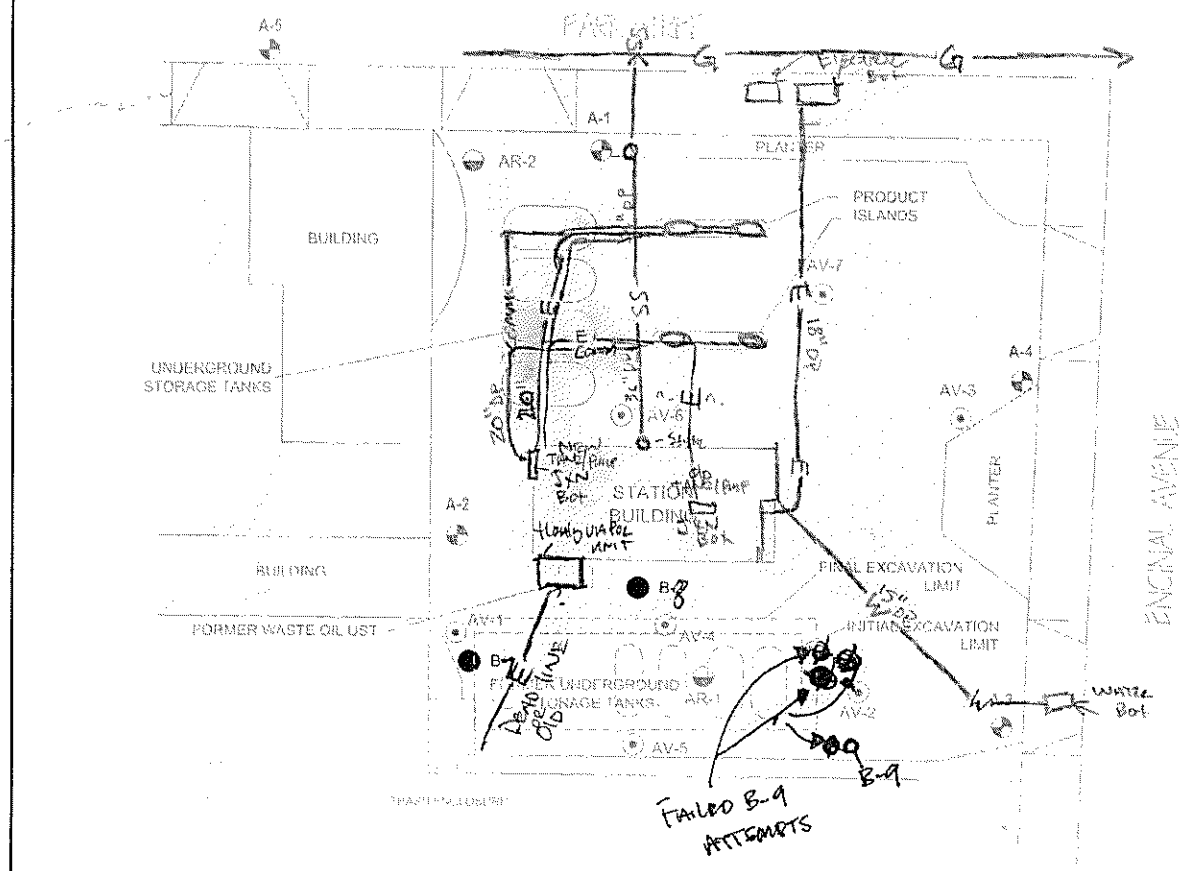
4. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or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

5. Applicant shall contact John Shouldice for an inspection time at 510-670-5424 at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

6. Permitte, 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.

7. 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.

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



#H2O ONSITE

LEGEND:

- A-1 MONITORING WELL LOCATION
- AR-1 GROUND-WATER EXTRACTION WELL LOCATION
- AV-1 VAPOR EXTRACTION WELL LOCATION
- B-3 PROPOSED BORING LOCATION
- EXCAVATED AREA

*ALONE/INTERNET IS AERIAL.

(2) NO GAS CONNECTION, MAIN IS IN STREET.

(3) PUMP & TANK COMM LINE IS MISPLACED ON MAP.

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

0 40 80
SCALE (ft)

BROADBENT & ASSOCIATES, INC.
ENGINEERING, WATER RESOURCES & ENVIRONMENTAL
1324 Mangrove Ave. Suite 212, Chico, California 95926
Project No.: 06-88-616 Date: 4/30/09

Station #2112
1260 Park Street
Alameda, California

Site Map with Proposed Soil Boring Locations and Excavation Limits

Drawing
2

Calscience
Environmental
Laboratories, Inc.

June 24, 2009

Jay Johnson
Stratus Environmental, inc.
3330 Cameron Park Drive, Suite 550
Cameron Park, CA 95682-8861

Subject: **Calscience Work Order No.: 09-06-1047**
Client Reference: BP 2112

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 6/11/2009 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. The original report of subcontracted analysis, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Calscience Environmental
Laboratories, Inc.
Richard Villafania
Project Manager

Calscience Environmental Laboratories, Inc.

Analytical Report

Stratus Environmental, inc.	Date Received:	06/11/09
3330 Cameron Park Drive, Suite 550	Work Order No:	09-06-1047
Cameron Park, CA 95682-8861	Preparation:	EPA 5030B
	Method:	EPA 8015B (M)

Project: BP 2112

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-7 5'	**09-06-1047-1-A**	**06/10/09 10:50**	**Solid**	**GC 1**	**06/12/09**	**06/12/09 13:21**	**090612B01**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	0.50	1		mg/kg
Surrogates:	**REC (%)**	**Control Limits**		**Qual**	
1,4-Bromofluorobenzene	85	42-126			

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-7 8'	**09-06-1047-2-A**	**06/10/09 10:53**	**Solid**	**GC 1**	**06/12/09**	**06/12/09 13:53**	**090612B01**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	0.50	1		mg/kg
Surrogates:	**REC (%)**	**Control Limits**		**Qual**	
1,4-Bromofluorobenzene	83	42-126			

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-7 11'	**09-06-1047-3-A**	**06/10/09 10:55**	**Solid**	**GC 1**	**06/12/09**	**06/12/09 14:25**	**090612B01**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	2.8	0.50	1		mg/kg
Surrogates:	**REC (%)**	**Control Limits**		**Qual**	
1,4-Bromofluorobenzene	90	42-126			

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-7 14'	**09-06-1047-4-A**	**06/10/09 10:58**	**Solid**	**GC 1**	**06/12/09**	**06/12/09 14:57**	**090612B01**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	8.6	0.50	1		mg/kg
Surrogates:	**REC (%)**	**Control Limits**		**Qual**	
1,4-Bromofluorobenzene	105	42-126			

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Stratus Environmental, inc.	Date Received:	06/11/09
3330 Cameron Park Drive, Suite 550	Work Order No:	09-06-1047
Cameron Park, CA 95682-8861	Preparation:	EPA 5030B
	Method:	EPA 8015B (M)

Project: BP 2112

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-8 5'	**09-06-1047-5-A**	**06/10/09 11:03**	**Solid**	**GC 1**	**06/12/09**	**06/12/09 15:29**	**090612B01**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	0.50	1		mg/kg
Surrogates:	**REC (%)**	**Control Limits**		**Qual**	
1,4-Bromofluorobenzene	84	42-126			

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-8 8'	**09-06-1047-6-A**	**06/10/09 11:05**	**Solid**	**GC 1**	**06/12/09**	**06/12/09 16:32**	**090612B01**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	0.50	1		mg/kg
Surrogates:	**REC (%)**	**Control Limits**		**Qual**	
1,4-Bromofluorobenzene	85	42-126			

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-8 11'	**09-06-1047-7-A**	**06/10/09 11:08**	**Solid**	**GC 1**	**06/12/09**	**06/12/09 19:44**	**090612B02**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	2000	25	50		mg/kg
Surrogates:	**REC (%)**	**Control Limits**		**Qual**	
1,4-Bromofluorobenzene	178	42-126		LH,AY	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-8 14'	**09-06-1047-8-A**	**06/10/09 11:10**	**Solid**	**GC 1**	**06/12/09**	**06/12/09 17:04**	**090612B01**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	3.2	0.50	1		mg/kg
Surrogates:	**REC (%)**	**Control Limits**		**Qual**	
1,4-Bromofluorobenzene	97	42-126			

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Stratus Environmental, inc.	Date Received:	06/11/09
3330 Cameron Park Drive, Suite 550	Work Order No:	09-06-1047
Cameron Park, CA 95682-8861	Preparation:	EPA 5030B
	Method:	EPA 8015B (M)

Project: BP 2112

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-9 5'	**09-06-1047-9-A**	**06/10/09 11:35**	**Solid**	**GC 1**	**06/12/09**	**06/12/09 17:36**	**090612B01**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	26	0.50	1		mg/kg
Surrogates:	**REC (%)**	**Control Limits**		**Qual**	
1,4-Bromofluorobenzene	118	42-126			

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-9 8'	**09-06-1047-10-A**	**06/10/09 11:38**	**Solid**	**GC 1**	**06/12/09**	**06/12/09 18:08**	**090612B01**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	0.50	1		mg/kg
Surrogates:	**REC (%)**	**Control Limits**		**Qual**	
1,4-Bromofluorobenzene	86	42-126			

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-9 11'	**09-06-1047-11-A**	**06/10/09 11:40**	**Solid**	**GC 1**	**06/12/09**	**06/12/09 18:40**	**090612B01**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	0.50	1		mg/kg
Surrogates:	**REC (%)**	**Control Limits**		**Qual**	
1,4-Bromofluorobenzene	84	42-126			

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-9 14'	**09-06-1047-12-A**	**06/10/09 11:43**	**Solid**	**GC 1**	**06/12/09**	**06/12/09 19:12**	**090612B01**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	0.50	1		mg/kg
Surrogates:	**REC (%)**	**Control Limits**		**Qual**	
1,4-Bromofluorobenzene	84	42-126			

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Stratus Environmental, inc.		Date Received:	06/11/09
3330 Cameron Park Drive, Suite 550		Work Order No:	09-06-1047
Cameron Park, CA 95682-8861		Preparation:	EPA 5030B
		Method:	EPA 8015B (M)

Project: BP 2112

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-697-118**	**N/A**	**Solid**	**GC 1**	**06/12/09**	**06/12/09 11:13**	**090612B01**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	0.50	1		mg/kg

Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	83	42-126	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-697-119**	**N/A**	**Solid**	**GC 1**	**06/12/09**	**06/12/09 12:49**	**090612B02**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	5.0	10		mg/kg

Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	86	42-126	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Stratus Environmental, inc.
3330 Cameron Park Drive, Suite 550
Cameron Park, CA 95682-8861

Date Received: 06/11/09
Work Order No: 09-06-1047
Preparation: EPA 5030B
Method: EPA 8260B
Units: mg/kg

Project: BP 2112

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-7 5'	**09-06-1047-1-A**	**06/10/09 10:50**	**Solid**	**GC/MS Z**	**06/13/09**	**06/13/09 15:17**	**090613L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.0010	1		Methyl-t-Butyl Ether (MTBE)	ND	0.0010	1	
1,2-Dibromoethane	ND	0.0010	1		Tert-Butyl Alcohol (TBA)	ND	0.010	1	
1,2-Dichloroethane	ND	0.0010	1		Diisopropyl Ether (DIPE)	ND	0.0020	1	
Ethylbenzene	ND	0.0010	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.0020	1	
Toluene	ND	0.0010	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.0020	1	
Xylenes (total)	ND	0.0010	1						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	105	75-141		1,2-Dichloroethane-d4	103	73-151	
Toluene-d8	100	87-111		1,4-Bromofluorobenzene	97	71-113	

B-7 8'	**09-06-1047-2-A**	**06/10/09 10:53**	**Solid**	**GC/MS Z**	**06/12/09**	**06/13/09 02:54**	**090612L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.0010	1		Methyl-t-Butyl Ether (MTBE)	ND	0.0010	1	
1,2-Dibromoethane	ND	0.0010	1		Tert-Butyl Alcohol (TBA)	ND	0.010	1	
1,2-Dichloroethane	ND	0.0010	1		Diisopropyl Ether (DIPE)	ND	0.0020	1	
Ethylbenzene	ND	0.0010	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.0020	1	
Toluene	ND	0.0010	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.0020	1	
Xylenes (total)	ND	0.0010	1						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	91	75-141		1,2-Dichloroethane-d4	105	73-151	
Toluene-d8	99	87-111		1,4-Bromofluorobenzene	97	71-113	

B-7 11'	**09-06-1047-3-A**	**06/10/09 10:55**	**Solid**	**GC/MS Z**	**06/13/09**	**06/13/09 20:13**	**090613L02**

Comment(s): BH - Reporting limits raised due to high levels of non-target analytes.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.10	100		Methyl-t-Butyl Ether (MTBE)	ND	0.10	100	
1,2-Dibromoethane	ND	0.10	100		Tert-Butyl Alcohol (TBA)	ND	1.0	100	
1,2-Dichloroethane	ND	0.10	100		Diisopropyl Ether (DIPE)	ND	0.20	100	
Ethylbenzene	0.14	0.10	100		Ethyl-t-Butyl Ether (ETBE)	ND	0.20	100	
Toluene	ND	0.10	100		Tert-Amyl-Methyl Ether (TAME)	ND	0.20	100	
Xylenes (total)	ND	0.10	100						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	93	75-141		1,2-Dichloroethane-d4	99	73-151	
Toluene-d8	100	87-111		1,4-Bromofluorobenzene	99	71-113	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Stratus Environmental, inc.
3330 Cameron Park Drive, Suite 550
Cameron Park, CA 95682-8861

Date Received: 06/11/09
Work Order No: 09-06-1047
Preparation: EPA 5030B
Method: EPA 8260B
Units: mg/kg

Project: BP 2112

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-7 14'	**09-06-1047-4-A**	**06/10/09 10:58**	**Solid**	**GC/MS Z**	**06/13/09**	**06/13/09 20:42**	**090613L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.0010	1		Methyl-t-Butyl Ether (MTBE)	ND	0.0010	1	
1,2-Dibromoethane	ND	0.0010	1		Tert-Butyl Alcohol (TBA)	ND	0.010	1	
1,2-Dichloroethane	ND	0.0010	1		Diisopropyl Ether (DIPE)	ND	0.0020	1	
Ethylbenzene	0.0063	0.0010	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.0020	1	
Toluene	0.0016	0.0010	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.0020	1	
Xylenes (total)	0.040	0.0010	1						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	100	75-141		1,2-Dichloroethane-d4	100	73-151	
Toluene-d8	101	87-111		1,4-Bromofluorobenzene	100	71-113	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-8 5'	**09-06-1047-5-A**	**06/10/09 11:03**	**Solid**	**GC/MS Z**	**06/13/09**	**06/13/09 15:46**	**090613L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.0010	1		Methyl-t-Butyl Ether (MTBE)	ND	0.0010	1	
1,2-Dibromoethane	ND	0.0010	1		Tert-Butyl Alcohol (TBA)	ND	0.010	1	
1,2-Dichloroethane	ND	0.0010	1		Diisopropyl Ether (DIPE)	ND	0.0020	1	
Ethylbenzene	ND	0.0010	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.0020	1	
Toluene	ND	0.0010	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.0020	1	
Xylenes (total)	ND	0.0010	1						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	103	75-141		1,2-Dichloroethane-d4	108	73-151	
Toluene-d8	100	87-111		1,4-Bromofluorobenzene	97	71-113	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-8 8'	**09-06-1047-6-A**	**06/10/09 11:05**	**Solid**	**GC/MS Z**	**06/13/09**	**06/13/09 16:16**	**090613L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.0010	1		Methyl-t-Butyl Ether (MTBE)	ND	0.0010	1	
1,2-Dibromoethane	ND	0.0010	1		Tert-Butyl Alcohol (TBA)	ND	0.010	1	
1,2-Dichloroethane	ND	0.0010	1		Diisopropyl Ether (DIPE)	ND	0.0020	1	
Ethylbenzene	ND	0.0010	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.0020	1	
Toluene	ND	0.0010	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.0020	1	
Xylenes (total)	0.0015	0.0010	1						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	97	75-141		1,2-Dichloroethane-d4	109	73-151	
Toluene-d8	99	87-111		1,4-Bromofluorobenzene	95	71-113	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Stratus Environmental, inc.	Date Received:	06/11/09
3330 Cameron Park Drive, Suite 550	Work Order No:	09-06-1047
Cameron Park, CA 95682-8861	Preparation:	EPA 5030B
	Method:	EPA 8260B
	Units:	mg/kg
Project: BP 2112		Page 3 of 6

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-8 11'	**09-06-1047-7-A**	**06/10/09 11:08**	**Solid**	**GC/MS Z**	**06/13/09**	**06/13/09 16:45**	**090613L02**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	0.23	0.10	100		Methyl-t-Butyl Ether (MTBE)	ND	0.10	100	
1,2-Dibromoethane	ND	0.10	100		Tert-Butyl Alcohol (TBA)	ND	1.0	100	
1,2-Dichloroethane	ND	0.10	100		Diisopropyl Ether (DIPE)	ND	0.20	100	
Ethylbenzene	18	0.10	100		Ethyl-t-Butyl Ether (ETBE)	ND	0.20	100	
Toluene	14	0.10	100		Tert-Amyl-Methyl Ether (TAME)	ND	0.20	100	
Xylenes (total)	210	1.0	1000						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	97	75-141		1,2-Dichloroethane-d4	100	73-151	
Toluene-d8	105	87-111		1,4-Bromofluorobenzene	106	71-113	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-8 14'	**09-06-1047-8-A**	**06/10/09 11:10**	**Solid**	**GC/MS Z**	**06/13/09**	**06/13/09 17:15**	**090613L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.0010	1		Methyl-t-Butyl Ether (MTBE)	ND	0.0010	1	
1,2-Dibromoethane	ND	0.0010	1		Tert-Butyl Alcohol (TBA)	ND	0.010	1	
1,2-Dichloroethane	ND	0.0010	1		Diisopropyl Ether (DIPE)	ND	0.0020	1	
Ethylbenzene	0.0044	0.0010	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.0020	1	
Toluene	0.0050	0.0010	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.0020	1	
Xylenes (total)	0.031	0.0010	1						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	102	75-141		1,2-Dichloroethane-d4	98	73-151	
Toluene-d8	100	87-111		1,4-Bromofluorobenzene	99	71-113	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-9 5'	**09-06-1047-9-A**	**06/10/09 11:35**	**Solid**	**GC/MS Z**	**06/13/09**	**06/13/09 17:45**	**090613L02**

Comment(s): BH - Reporting limits raised due to high levels of non-target analytes.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.10	100		Methyl-t-Butyl Ether (MTBE)	ND	0.10	100	
1,2-Dibromoethane	ND	0.10	100		Tert-Butyl Alcohol (TBA)	ND	1.0	100	
1,2-Dichloroethane	ND	0.10	100		Diisopropyl Ether (DIPE)	ND	0.20	100	
Ethylbenzene	0.31	0.10	100		Ethyl-t-Butyl Ether (ETBE)	ND	0.20	100	
Toluene	ND	0.10	100		Tert-Amyl-Methyl Ether (TAME)	ND	0.20	100	
Xylenes (total)	2.8	0.10	100						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	93	75-141		1,2-Dichloroethane-d4	98	73-151	
Toluene-d8	101	87-111		1,4-Bromofluorobenzene	102	71-113	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Stratus Environmental, inc.
3330 Cameron Park Drive, Suite 550
Cameron Park, CA 95682-8861

Date Received: 06/11/09
Work Order No: 09-06-1047
Preparation: EPA 5030B
Method: EPA 8260B
Units: mg/kg

Project: BP 2112

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-9 8'	**09-06-1047-10-A**	**06/10/09 11:38**	**Solid**	**GC/MS Z**	**06/13/09**	**06/13/09 18:14**	**090613L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.0010	1		Methyl-t-Butyl Ether (MTBE)	ND	0.0010	1	
1,2-Dibromoethane	ND	0.0010	1		Tert-Butyl Alcohol (TBA)	ND	0.010	1	
1,2-Dichloroethane	ND	0.0010	1		Diisopropyl Ether (DIPE)	ND	0.0020	1	
Ethylbenzene	ND	0.0010	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.0020	1	
Toluene	ND	0.0010	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.0020	1	
Xylenes (total)	0.0015	0.0010	1						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	103	75-141		1,2-Dichloroethane-d4	108	73-151	
Toluene-d8	99	87-111		1,4-Bromofluorobenzene	96	71-113	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-9 11'	**09-06-1047-11-A**	**06/10/09 11:40**	**Solid**	**GC/MS Z**	**06/13/09**	**06/13/09 18:44**	**090613L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.0010	1		Methyl-t-Butyl Ether (MTBE)	ND	0.0010	1	
1,2-Dibromoethane	ND	0.0010	1		Tert-Butyl Alcohol (TBA)	ND	0.010	1	
1,2-Dichloroethane	ND	0.0010	1		Diisopropyl Ether (DIPE)	ND	0.0020	1	
Ethylbenzene	ND	0.0010	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.0020	1	
Toluene	ND	0.0010	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.0020	1	
Xylenes (total)	0.0022	0.0010	1						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	101	75-141		1,2-Dichloroethane-d4	103	73-151	
Toluene-d8	101	87-111		1,4-Bromofluorobenzene	97	71-113	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-9 14'	**09-06-1047-12-A**	**06/10/09 11:43**	**Solid**	**GC/MS Z**	**06/13/09**	**06/13/09 19:13**	**090613L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.0010	1		Methyl-t-Butyl Ether (MTBE)	ND	0.0010	1	
1,2-Dibromoethane	ND	0.0010	1		Tert-Butyl Alcohol (TBA)	ND	0.010	1	
1,2-Dichloroethane	ND	0.0010	1		Diisopropyl Ether (DIPE)	ND	0.0020	1	
Ethylbenzene	ND	0.0010	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.0020	1	
Toluene	ND	0.0010	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.0020	1	
Xylenes (total)	0.0023	0.0010	1						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	99	75-141		1,2-Dichloroethane-d4	103	73-151	
Toluene-d8	100	87-111		1,4-Bromofluorobenzene	98	71-113	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Stratus Environmental, inc.
3330 Cameron Park Drive, Suite 550
Cameron Park, CA 95682-8861

Date Received: 06/11/09
Work Order No: 09-06-1047
Preparation: EPA 5030B
Method: EPA 8260B
Units: mg/kg

Project: BP 2112

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-709-149**	**N/A**	**Solid**	**GC/MS Z**	**06/12/09**	**06/13/09 02:24**	**090612L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.0010	1		Methyl-t-Butyl Ether (MTBE)	ND	0.0010	1	
1,2-Dibromoethane	ND	0.0010	1		Tert-Butyl Alcohol (TBA)	ND	0.010	1	
1,2-Dichloroethane	ND	0.0010	1		Diisopropyl Ether (DIPE)	ND	0.0020	1	
Ethylbenzene	ND	0.0010	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.0020	1	
Toluene	ND	0.0010	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.0020	1	
Xylenes (total)	ND	0.0010	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
Dibromofluoromethane	98	75-141			1,2-Dichloroethane-d4	101	73-151		
Toluene-d8	97	87-111			1,4-Bromofluorobenzene	95	71-113		

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-709-151**	**N/A**	**Solid**	**GC/MS Z**	**06/13/09**	**06/13/09 12:49**	**090613L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.0010	1		Methyl-t-Butyl Ether (MTBE)	ND	0.0010	1	
1,2-Dibromoethane	ND	0.0010	1		Tert-Butyl Alcohol (TBA)	ND	0.010	1	
1,2-Dichloroethane	ND	0.0010	1		Diisopropyl Ether (DIPE)	ND	0.0020	1	
Ethylbenzene	ND	0.0010	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.0020	1	
Toluene	ND	0.0010	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.0020	1	
Xylenes (total)	ND	0.0010	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
Dibromofluoromethane	103	75-141			1,2-Dichloroethane-d4	104	73-151		
Toluene-d8	98	87-111			1,4-Bromofluorobenzene	96	71-113		

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-709-152**	**N/A**	**Solid**	**GC/MS Z**	**06/13/09**	**06/13/09 12:19**	**090613L02**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.10	100		Methyl-t-Butyl Ether (MTBE)	ND	0.10	100	
1,2-Dibromoethane	ND	0.10	100		Tert-Butyl Alcohol (TBA)	ND	1.0	100	
1,2-Dichloroethane	ND	0.10	100		Diisopropyl Ether (DIPE)	ND	0.20	100	
Ethylbenzene	ND	0.10	100		Ethyl-t-Butyl Ether (ETBE)	ND	0.20	100	
Toluene	ND	0.10	100		Tert-Amyl-Methyl Ether (TAME)	ND	0.20	100	
Xylenes (total)	ND	0.10	100						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
Dibromofluoromethane	102	75-141			1,2-Dichloroethane-d4	103	73-151		
Toluene-d8	100	87-111			1,4-Bromofluorobenzene	95	71-113		

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Stratus Environmental, inc.	Date Received:	06/11/09
3330 Cameron Park Drive, Suite 550	Work Order No:	09-06-1047
Cameron Park, CA 95682-8861	Preparation:	EPA 5030B
	Method:	EPA 8260B
	Units:	mg/kg
Project: BP 2112		Page 6 of 6

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-709-155**	**N/A**	**Solid**	**GC/MS Z**	**06/15/09**	**06/15/09 18:07**	**090615L02**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.10	100		Methyl-t-Butyl Ether (MTBE)	ND	0.10	100	
1,2-Dibromoethane	ND	0.10	100		Tert-Butyl Alcohol (TBA)	ND	1.0	100	
1,2-Dichloroethane	ND	0.10	100		Diisopropyl Ether (DIPE)	ND	0.20	100	
Ethylbenzene	ND	0.10	100		Ethyl-t-Butyl Ether (ETBE)	ND	0.20	100	
Toluene	ND	0.10	100		Tert-Amyl-Methyl Ether (TAME)	ND	0.20	100	
Xylenes (total)	ND	0.10	100						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
Dibromofluoromethane	98	75-141			1,2-Dichloroethane-d4	102	73-151		
Toluene-d8	98	87-111			1,4-Bromofluorobenzene	94	71-113		

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Stratus Environmental, inc.	Date Received:	06/11/09
3330 Cameron Park Drive, Suite 550	Work Order No:	09-06-1047
Cameron Park, CA 95682-8861	Preparation:	EPA 5030B
	Method:	EPA 8015B (M)

Project BP 2112

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
B-7 5'	**Solid**	**GC 1**	**06/12/09**	**06/12/09**	**090612S01**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Gasoline Range Organics (C6-C12)	86	87	42-126	1	0-25	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Stratus Environmental, inc.	Date Received:	06/11/09
3330 Cameron Park Drive, Suite 550	Work Order No:	09-06-1047
Cameron Park, CA 95682-8861	Preparation:	EPA 5030B
	Method:	EPA 8260B

Project BP 2112

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
B-7 8'	**Solid**	**GC/MS Z**	**06/12/09**	**06/13/09**	**090612S01**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	84	87	78-114	3	0-14	
Chloroform	89	81	80-120	10	0-20	
1,1-Dichloroethane	84	85	80-120	1	0-20	
1,2-Dichloroethane	90	93	80-120	3	0-20	
1,1-Dichloroethene	82	83	73-127	1	0-21	
Ethanol	91	89	45-135	2	0-29	
Tetrachloroethene	70	73	80-120	5	0-20	
Toluene	83	85	74-116	2	0-16	
Trichloroethene	82	84	74-122	2	0-17	
Methyl-t-Butyl Ether (MTBE)	90	93	69-123	4	0-18	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Stratus Environmental, inc.	Date Received:	06/11/09
3330 Cameron Park Drive, Suite 550	Work Order No:	09-06-1047
Cameron Park, CA 95682-8861	Preparation:	EPA 5030B
	Method:	EPA 8260B

Project BP 2112

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
09-06-1049-2	**Solid**	**GC/MS Z**	**06/13/09**	**06/13/09**	**090613S01**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	82	83	78-114	1	0-14	
Chloroform	88	87	80-120	2	0-20	
1,1-Dichloroethane	84	84	80-120	0	0-20	
1,2-Dichloroethane	90	88	80-120	2	0-20	
1,1-Dichloroethene	79	80	73-127	1	0-21	
Ethanol	84	77	45-135	8	0-29	
Tetrachloroethene	60	60	80-120	0	0-20	
Toluene	82	82	74-116	0	0-16	
Trichloroethene	78	78	74-122	1	0-17	
Methyl-t-Butyl Ether (MTBE)	90	89	69-123	0	0-18	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Stratus Environmental, inc.	Date Received:	06/11/09
3330 Cameron Park Drive, Suite 550	Work Order No:	09-06-1047
Cameron Park, CA 95682-8861	Preparation:	EPA 5030B
	Method:	EPA 8260B

Project BP 2112

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
09-06-1342-11	**Solid**	**GC/MS Z**	**06/15/09**	**06/15/09**	**090615S01**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	92	90	78-114	2	0-14	
Chloroform	95	95	80-120	0	0-20	
1,1-Dichloroethane	91	91	80-120	0	0-20	
1,2-Dichloroethane	92	89	80-120	4	0-20	
1,1-Dichloroethene	93	93	73-127	1	0-21	
Ethanol	94	89	45-135	5	0-29	
Tetrachloroethene	83	80	80-120	3	0-20	
Toluene	93	92	74-116	2	0-16	
Trichloroethene	90	89	74-122	1	0-17	
Methyl-t-Butyl Ether (MTBE)	84	85	69-123	1	0-18	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Stratus Environmental, inc.	Date Received: N/A
3330 Cameron Park Drive, Suite 550	Work Order No: 09-06-1047
Cameron Park, CA 95682-8861	Preparation: EPA 5030B
	Method: EPA 8015B (M)

Project: BP 2112

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-697-119	**Solid**	**GC 1**	**06/12/09**	**06/12/09**	**090612B02**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Gasoline Range Organics (C6-C12)	92	96	70-118	5	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Stratus Environmental, inc.		Date Received:	N/A
3330 Cameron Park Drive, Suite 550		Work Order No:	09-06-1047
Cameron Park, CA 95682-8861		Preparation:	EPA 5030B
		Method:	EPA 8015B (M)

Project: BP 2112

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-697-118	**Solid**	**GC 1**	**06/12/09**	**06/12/09**	**090612B01**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Gasoline Range Organics (C6-C12)	92	96	70-118	5	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Stratus Environmental, inc.		Date Received:	N/A
3330 Cameron Park Drive, Suite 550		Work Order No:	09-06-1047
Cameron Park, CA 95682-8861		Preparation:	EPA 5030B
		Method:	EPA 8260B

Project: BP 2112

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-709-149	Solid	GC/MS Z	06/12/09	06/12/09	090612L01

Parameter	LCS %REC	LCSD %REC	%REC CL	ME_CL	RPD	RPD CL	Qualifiers
Benzene	102	102	84-114	79-119	0	0-7	
Bromobenzene	102	102	80-120	73-127	0	0-20	
Bromochloromethane	95	96	80-120	73-127	1	0-20	
Bromodichloromethane	102	102	80-120	73-127	1	0-20	
Bromoform	103	101	80-120	73-127	3	0-20	
Bromomethane	86	82	80-120	73-127	4	0-20	
n-Butylbenzene	106	110	77-123	69-131	4	0-25	
sec-Butylbenzene	105	110	80-120	73-127	4	0-20	
tert-Butylbenzene	105	108	80-120	73-127	3	0-20	
Carbon Disulfide	101	102	80-120	73-127	1	0-20	
Carbon Tetrachloride	100	101	69-135	58-146	0	0-13	
Chlorobenzene	100	100	85-109	81-113	0	0-8	
Chloroethane	100	101	80-120	73-127	1	0-20	
Chloroform	97	95	80-120	73-127	2	0-20	
Chloromethane	93	96	80-120	73-127	3	0-20	
2-Chlorotoluene	105	103	80-120	73-127	2	0-20	
4-Chlorotoluene	102	105	80-120	73-127	4	0-20	
Dibromochloromethane	101	100	80-120	73-127	1	0-20	
1,2-Dibromo-3-Chloropropane	95	101	80-120	73-127	6	0-20	
1,2-Dibromoethane	100	99	80-120	73-127	2	0-20	
Dibromomethane	102	102	80-120	73-127	0	0-20	
1,2-Dichlorobenzene	101	105	80-110	75-115	3	0-10	
1,3-Dichlorobenzene	100	104	80-120	73-127	3	0-20	
1,4-Dichlorobenzene	97	103	80-120	73-127	6	0-20	
Dichlorodifluoromethane	101	100	80-120	73-127	1	0-20	
1,1-Dichloroethane	100	101	80-120	73-127	1	0-20	
1,2-Dichloroethane	103	103	80-120	73-127	0	0-20	
1,1-Dichloroethene	102	102	83-125	76-132	0	0-10	
c-1,2-Dichloroethene	98	98	80-120	73-127	0	0-20	
t-1,2-Dichloroethene	102	102	80-120	73-127	0	0-20	
1,2-Dichloropropane	98	100	79-115	73-121	2	0-25	
1,3-Dichloropropane	99	98	80-120	73-127	1	0-20	
2,2-Dichloropropane	94	96	80-120	73-127	2	0-20	
1,1-Dichloropropene	101	102	80-120	73-127	0	0-20	
c-1,3-Dichloropropene	105	105	80-120	73-127	0	0-20	
t-1,3-Dichloropropene	104	103	80-120	73-127	1	0-20	
Ethylbenzene	107	105	80-120	73-127	2	0-20	
Isopropylbenzene	109	107	80-120	73-127	1	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Stratus Environmental, inc.
3330 Cameron Park Drive, Suite 550
Cameron Park, CA 95682-8861

Date Received: N/A
Work Order No: 09-06-1047
Preparation: EPA 5030B
Method: EPA 8260B

Project: BP 2112

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-709-149	Solid	GC/MS Z	06/12/09	06/12/09	090612L01

Parameter	LCS %REC	LCSD %REC	%REC CL	ME CL	RPD	RPD CL	Qualifiers
p-Isopropyltoluene	104	108	80-120	73-127	4	0-20	
Methylene Chloride	99	99	80-120	73-127	0	0-20	
Naphthalene	95	102	80-120	73-127	7	0-20	
n-Propylbenzene	108	107	80-120	73-127	0	0-20	
Styrene	108	107	80-120	73-127	1	0-20	
Ethanol	98	94	50-134	36-148	4	0-23	
1,1,1,2-Tetrachloroethane	102	101	80-120	73-127	1	0-20	
1,1,2,2-Tetrachloroethane	92	92	80-120	73-127	0	0-20	
Tetrachloroethene	105	105	80-120	73-127	1	0-20	
Toluene	101	101	79-115	73-121	0	0-8	
1,2,3-Trichlorobenzene	93	100	80-120	73-127	7	0-20	
1,2,4-Trichlorobenzene	92	101	80-120	73-127	9	0-20	
1,1,1-Trichloroethane	100	102	80-120	73-127	2	0-20	
1,1,2-Trichloroethane	105	100	80-120	73-127	5	0-20	
Trichloroethene	105	108	87-111	83-115	2	0-7	
Trichlorofluoromethane	97	97	80-120	73-127	1	0-20	
1,2,3-Trichloropropane	97	99	80-120	73-127	3	0-20	
1,2,4-Trimethylbenzene	105	108	80-120	73-127	3	0-20	
1,3,5-Trimethylbenzene	104	104	80-120	73-127	0	0-20	
Vinyl Acetate	80	79	80-120	73-127	2	0-20	
Vinyl Chloride	95	99	72-126	63-135	4	0-10	
p/m-Xylene	107	105	80-120	73-127	1	0-20	
o-Xylene	110	106	80-120	73-127	4	0-20	
Methyl-t-Butyl Ether (MTBE)	95	98	75-129	66-138	3	0-13	
Tert-Butyl Alcohol (TBA)	100	96	66-126	56-136	4	0-24	
Diisopropyl Ether (DIPE)	96	98	77-125	69-133	2	0-13	
Ethyl-t-Butyl Ether (ETBE)	98	100	72-132	62-142	2	0-12	
Tert-Amyl-Methyl Ether (TAME)	100	102	77-125	69-133	2	0-10	

Total number of LCS compounds : 66
Total number of ME compounds : 1
Total number of ME compounds allowed : 3
LCS ME CL validation result : Pass

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Stratus Environmental, inc.		Date Received:	N/A
3330 Cameron Park Drive, Suite 550		Work Order No:	09-06-1047
Cameron Park, CA 95682-8861		Preparation:	EPA 5030B
		Method:	EPA 8260B

Project: BP 2112

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-709-151	Solid	GC/MS Z	06/13/09	06/13/09	090613L01

Parameter	LCS %REC	LCSD %REC	%REC CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	91	94	84-114	79-119	3	0-7	
Bromobenzene	96	97	80-120	73-127	1	0-20	
Bromochloromethane	91	112	80-120	73-127	21	0-20	
Bromodichloromethane	96	99	80-120	73-127	4	0-20	
Bromoform	97	100	80-120	73-127	3	0-20	
Bromomethane	77	78	80-120	73-127	1	0-20	
n-Butylbenzene	96	99	77-123	69-131	3	0-25	
sec-Butylbenzene	93	95	80-120	73-127	2	0-20	
tert-Butylbenzene	96	98	80-120	73-127	2	0-20	
Carbon Disulfide	91	92	80-120	73-127	1	0-20	
Carbon Tetrachloride	89	91	69-135	58-146	2	0-13	
Chlorobenzene	91	92	85-109	81-113	1	0-8	
Chloroethane	91	93	80-120	73-127	2	0-20	
Chloroform	96	100	80-120	73-127	5	0-20	
Chloromethane	88	89	80-120	73-127	2	0-20	
2-Chlorotoluene	93	94	80-120	73-127	1	0-20	
4-Chlorotoluene	95	97	80-120	73-127	2	0-20	
Dibromochloromethane	98	98	80-120	73-127	0	0-20	
1,2-Dibromo-3-Chloropropane	85	89	80-120	73-127	5	0-20	
1,2-Dibromoethane	97	98	80-120	73-127	1	0-20	
Dibromomethane	98	101	80-120	73-127	3	0-20	
1,2-Dichlorobenzene	99	103	80-110	75-115	4	0-10	
1,3-Dichlorobenzene	97	99	80-120	73-127	2	0-20	
1,4-Dichlorobenzene	95	96	80-120	73-127	1	0-20	
Dichlorodifluoromethane	84	86	80-120	73-127	2	0-20	
1,1-Dichloroethane	92	95	80-120	73-127	3	0-20	
1,2-Dichloroethane	97	99	80-120	73-127	2	0-20	
1,1-Dichloroethene	90	91	83-125	76-132	2	0-10	
c-1,2-Dichloroethene	91	111	80-120	73-127	21	0-20	
t-1,2-Dichloroethene	92	93	80-120	73-127	1	0-20	
1,2-Dichloropropane	95	97	79-115	73-121	2	0-25	
1,3-Dichloropropane	97	98	80-120	73-127	1	0-20	
2,2-Dichloropropane	93	90	80-120	73-127	3	0-20	
1,1-Dichloropropene	90	92	80-120	73-127	2	0-20	
c-1,3-Dichloropropene	105	108	80-120	73-127	2	0-20	
t-1,3-Dichloropropene	105	107	80-120	73-127	2	0-20	
Ethylbenzene	93	94	80-120	73-127	1	0-20	
Isopropylbenzene	94	95	80-120	73-127	1	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Stratus Environmental, inc.		Date Received:	N/A
3330 Cameron Park Drive, Suite 550		Work Order No:	09-06-1047
Cameron Park, CA 95682-8861		Preparation:	EPA 5030B
		Method:	EPA 8260B

Project: BP 2112

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-709-151	Solid	GC/MS Z	06/13/09	06/13/09	090613L01

Parameter	LCS %REC	LCSD %REC	%REC CL	ME_CL	RPD	RPD CL	Qualifiers
p-Isopropyltoluene	94	96	80-120	73-127	2	0-20	
Methylene Chloride	96	98	80-120	73-127	2	0-20	
Naphthalene	97	101	80-120	73-127	4	0-20	
n-Propylbenzene	93	95	80-120	73-127	1	0-20	
Styrene	99	102	80-120	73-127	3	0-20	
Ethanol	90	88	50-134	36-148	2	0-23	
1,1,1,2-Tetrachloroethane	95	96	80-120	73-127	0	0-20	
1,1,2,2-Tetrachloroethane	99	98	80-120	73-127	1	0-20	
Tetrachloroethene	79	83	80-120	73-127	5	0-20	
Toluene	91	93	79-115	73-121	2	0-8	
1,2,3-Trichlorobenzene	98	101	80-120	73-127	3	0-20	
1,2,4-Trichlorobenzene	99	100	80-120	73-127	1	0-20	
1,1,1-Trichloroethane	88	91	80-120	73-127	3	0-20	
1,1,2-Trichloroethane	100	101	80-120	73-127	1	0-20	
Trichloroethene	87	92	87-111	83-115	5	0-7	
Trichlorofluoromethane	81	85	80-120	73-127	4	0-20	
1,2,3-Trichloropropane	92	93	80-120	73-127	2	0-20	
1,2,4-Trimethylbenzene	97	100	80-120	73-127	3	0-20	
1,3,5-Trimethylbenzene	93	93	80-120	73-127	0	0-20	
Vinyl Acetate	118	121	80-120	73-127	2	0-20	
Vinyl Chloride	85	89	72-126	63-135	5	0-10	
p/m-Xylene	94	95	80-120	73-127	1	0-20	
o-Xylene	97	98	80-120	73-127	1	0-20	
Methyl-t-Butyl Ether (MTBE)	100	102	75-129	66-138	2	0-13	
Tert-Butyl Alcohol (TBA)	97	101	66-126	56-136	3	0-24	
Diisopropyl Ether (DIPE)	98	101	77-125	69-133	3	0-13	
Ethyl-t-Butyl Ether (ETBE)	102	116	72-132	62-142	12	0-12	
Tert-Amyl-Methyl Ether (TAME)	103	105	77-125	69-133	2	0-10	

Total number of LCS compounds : 66
Total number of ME compounds : 3
Total number of ME compounds allowed : 3
LCS ME CL validation result : Pass

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Stratus Environmental, inc.		Date Received:	N/A
3330 Cameron Park Drive, Suite 550		Work Order No:	09-06-1047
Cameron Park, CA 95682-8861		Preparation:	EPA 5030B
		Method:	EPA 8260B

Project: BP 2112

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-709-152	**Solid**	**GC/MS Z**	**06/13/09**	**06/13/09**	**090613L02**

Parameter	LCS %REC	LCSD %REC	%REC CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	91	94	84-114	79-119	3	0-7	
Bromobenzene	96	97	80-120	73-127	1	0-20	
Bromochloromethane	91	112	80-120	73-127	21	0-20	
Bromodichloromethane	96	99	80-120	73-127	4	0-20	
Bromoform	97	100	80-120	73-127	3	0-20	
Bromomethane	77	78	80-120	73-127	1	0-20	
n-Butylbenzene	96	99	77-123	69-131	3	0-25	
sec-Butylbenzene	93	95	80-120	73-127	2	0-20	
tert-Butylbenzene	96	98	80-120	73-127	2	0-20	
Carbon Disulfide	91	92	80-120	73-127	1	0-20	
Carbon Tetrachloride	89	91	69-135	58-146	2	0-13	
Chlorobenzene	91	92	85-109	81-113	1	0-8	
Chloroethane	91	93	80-120	73-127	2	0-20	
Chloroform	96	100	80-120	73-127	5	0-20	
Chloromethane	88	89	80-120	73-127	2	0-20	
2-Chlorotoluene	93	94	80-120	73-127	1	0-20	
4-Chlorotoluene	95	97	80-120	73-127	2	0-20	
Dibromochloromethane	98	98	80-120	73-127	0	0-20	
1,2-Dibromo-3-Chloropropane	85	89	80-120	73-127	5	0-20	
1,2-Dibromoethane	97	98	80-120	73-127	1	0-20	
Dibromomethane	98	101	80-120	73-127	3	0-20	
1,2-Dichlorobenzene	99	103	80-110	75-115	4	0-10	
1,3-Dichlorobenzene	97	99	80-120	73-127	2	0-20	
1,4-Dichlorobenzene	95	96	80-120	73-127	1	0-20	
Dichlorodifluoromethane	84	86	80-120	73-127	2	0-20	
1,1-Dichloroethane	92	95	80-120	73-127	3	0-20	
1,2-Dichloroethane	97	99	80-120	73-127	2	0-20	
1,1-Dichloroethene	90	91	83-125	76-132	2	0-10	
c-1,2-Dichloroethene	91	111	80-120	73-127	21	0-20	
t-1,2-Dichloroethene	92	93	80-120	73-127	1	0-20	
1,2-Dichloropropane	95	97	79-115	73-121	2	0-25	
1,3-Dichloropropane	97	98	80-120	73-127	1	0-20	
2,2-Dichloropropane	93	90	80-120	73-127	3	0-20	
1,1-Dichloropropene	90	92	80-120	73-127	2	0-20	
c-1,3-Dichloropropene	105	108	80-120	73-127	2	0-20	
t-1,3-Dichloropropene	105	107	80-120	73-127	2	0-20	
Ethylbenzene	93	94	80-120	73-127	1	0-20	
Isopropylbenzene	94	95	80-120	73-127	1	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Stratus Environmental, inc.		Date Received:	N/A
3330 Cameron Park Drive, Suite 550		Work Order No:	09-06-1047
Cameron Park, CA 95682-8861		Preparation:	EPA 5030B
		Method:	EPA 8260B

Project: BP 2112

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-709-152	Solid	GC/MS Z	06/13/09	06/13/09	090613L02

Parameter	LCS %REC	LCSD %REC	%REC CL	ME CL	RPD	RPD CL	Qualifiers
p-Isopropyltoluene	94	96	80-120	73-127	2	0-20	
Methylene Chloride	96	98	80-120	73-127	2	0-20	
Naphthalene	97	101	80-120	73-127	4	0-20	
n-Propylbenzene	93	95	80-120	73-127	1	0-20	
Styrene	99	102	80-120	73-127	3	0-20	
Ethanol	90	88	50-134	36-148	2	0-23	
1,1,1,2-Tetrachloroethane	95	96	80-120	73-127	0	0-20	
1,1,2,2-Tetrachloroethane	99	98	80-120	73-127	1	0-20	
Tetrachloroethene	79	83	80-120	73-127	5	0-20	
Toluene	91	93	79-115	73-121	2	0-8	
1,2,3-Trichlorobenzene	98	101	80-120	73-127	3	0-20	
1,2,4-Trichlorobenzene	99	100	80-120	73-127	1	0-20	
1,1,1-Trichloroethane	88	91	80-120	73-127	3	0-20	
1,1,2-Trichloroethane	100	101	80-120	73-127	1	0-20	
Trichloroethene	87	92	87-111	83-115	5	0-7	
Trichlorofluoromethane	81	85	80-120	73-127	4	0-20	
1,2,3-Trichloropropane	92	93	80-120	73-127	2	0-20	
1,2,4-Trimethylbenzene	97	100	80-120	73-127	3	0-20	
1,3,5-Trimethylbenzene	93	93	80-120	73-127	0	0-20	
Vinyl Acetate	118	121	80-120	73-127	2	0-20	
Vinyl Chloride	85	89	72-126	63-135	5	0-10	
p/m-Xylene	94	95	80-120	73-127	1	0-20	
o-Xylene	97	98	80-120	73-127	1	0-20	
Methyl-t-Butyl Ether (MTBE)	100	102	75-129	66-138	2	0-13	
Tert-Butyl Alcohol (TBA)	97	101	66-126	56-136	3	0-24	
Diisopropyl Ether (DIPE)	98	101	77-125	69-133	3	0-13	
Ethyl-t-Butyl Ether (ETBE)	102	116	72-132	62-142	12	0-12	
Tert-Amyl-Methyl Ether (TAME)	103	105	77-125	69-133	2	0-10	

Total number of LCS compounds : 66
Total number of ME compounds : 3
Total number of ME compounds allowed : 3
LCS ME CL validation result : Pass

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Stratus Environmental, inc.		Date Received:	N/A
3330 Cameron Park Drive, Suite 550		Work Order No:	09-06-1047
Cameron Park, CA 95682-8861		Preparation:	EPA 5030B
		Method:	EPA 8260B

Project: BP 2112

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-709-155	**Solid**	**GC/MS Z**	**06/15/09**	**06/15/09**	**090615L02**

Parameter	LCS %REC	LCSD %REC	%REC CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	104	103	84-114	79-119	1	0-7	
Bromobenzene	102	105	80-120	73-127	3	0-20	
Bromochloromethane	119	89	80-120	73-127	29	0-20	
Bromodichloromethane	104	102	80-120	73-127	2	0-20	
Bromoform	102	101	80-120	73-127	0	0-20	
Bromomethane	111	97	80-120	73-127	14	0-20	
n-Butylbenzene	109	107	77-123	69-131	1	0-25	
sec-Butylbenzene	109	107	80-120	73-127	2	0-20	
tert-Butylbenzene	111	109	80-120	73-127	2	0-20	
Carbon Disulfide	108	105	80-120	73-127	3	0-20	
Carbon Tetrachloride	102	100	69-135	58-146	2	0-13	
Chlorobenzene	103	103	85-109	81-113	0	0-8	
Chloroethane	102	96	80-120	73-127	6	0-20	
Chloroform	107	92	80-120	73-127	15	0-20	
Chloromethane	102	98	80-120	73-127	4	0-20	
2-Chlorotoluene	105	107	80-120	73-127	2	0-20	
4-Chlorotoluene	104	103	80-120	73-127	2	0-20	
Dibromochloromethane	102	104	80-120	73-127	2	0-20	
1,2-Dibromo-3-Chloropropane	105	104	80-120	73-127	1	0-20	
1,2-Dibromoethane	102	103	80-120	73-127	1	0-20	
Dibromomethane	101	100	80-120	73-127	1	0-20	
1,2-Dichlorobenzene	104	101	80-110	75-115	2	0-10	
1,3-Dichlorobenzene	103	101	80-120	73-127	2	0-20	
1,4-Dichlorobenzene	102	99	80-120	73-127	3	0-20	
Dichlorodifluoromethane	106	103	80-120	73-127	4	0-20	
1,1-Dichloroethane	103	102	80-120	73-127	2	0-20	
1,2-Dichloroethane	102	102	80-120	73-127	0	0-20	
1,1-Dichloroethene	105	102	83-125	76-132	3	0-10	
c-1,2-Dichloroethene	101	97	80-120	73-127	4	0-20	
t-1,2-Dichloroethene	108	104	80-120	73-127	3	0-20	
1,2-Dichloropropane	102	103	79-115	73-121	0	0-25	
1,3-Dichloropropane	104	104	80-120	73-127	0	0-20	
2,2-Dichloropropane	100	98	80-120	73-127	2	0-20	
1,1-Dichloropropene	107	105	80-120	73-127	2	0-20	
c-1,3-Dichloropropene	108	106	80-120	73-127	1	0-20	
t-1,3-Dichloropropene	108	108	80-120	73-127	0	0-20	
Ethylbenzene	107	107	80-120	73-127	1	0-20	
Isopropylbenzene	109	109	80-120	73-127	0	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Stratus Environmental, inc.		Date Received:	N/A
3330 Cameron Park Drive, Suite 550		Work Order No:	09-06-1047
Cameron Park, CA 95682-8861		Preparation:	EPA 5030B
		Method:	EPA 8260B

Project: BP 2112

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-709-155	Solid	GC/MS Z	06/15/09	06/15/09	090615L02

Parameter	LCS %REC	LCSD %REC	%REC CL	ME CL	RPD	RPD CL	Qualifiers
p-Isopropyltoluene	107	107	80-120	73-127	1	0-20	
Methylene Chloride	105	102	80-120	73-127	3	0-20	
Naphthalene	97	99	80-120	73-127	1	0-20	
n-Propylbenzene	109	110	80-120	73-127	0	0-20	
Styrene	108	108	80-120	73-127	0	0-20	
Ethanol	116	122	50-134	36-148	5	0-23	
1,1,1,2-Tetrachloroethane	100	102	80-120	73-127	2	0-20	
1,1,2,2-Tetrachloroethane	102	104	80-120	73-127	2	0-20	
Tetrachloroethene	94	96	80-120	73-127	2	0-20	
Toluene	104	105	79-115	73-121	1	0-8	
1,2,3-Trichlorobenzene	97	98	80-120	73-127	1	0-20	
1,2,4-Trichlorobenzene	98	98	80-120	73-127	0	0-20	
1,1,1-Trichloroethane	101	101	80-120	73-127	1	0-20	
1,1,2-Trichloroethane	102	101	80-120	73-127	1	0-20	
Trichloroethene	101	101	87-111	83-115	0	0-7	
Trichlorofluoromethane	105	102	80-120	73-127	2	0-20	
1,2,3-Trichloropropane	102	100	80-120	73-127	3	0-20	
1,2,4-Trimethylbenzene	108	106	80-120	73-127	2	0-20	
1,3,5-Trimethylbenzene	109	109	80-120	73-127	0	0-20	
Vinyl Acetate	112	106	80-120	73-127	5	0-20	
Vinyl Chloride	100	97	72-126	63-135	2	0-10	
p/m-Xylene	108	108	80-120	73-127	1	0-20	
o-Xylene	107	108	80-120	73-127	1	0-20	
Methyl-t-Butyl Ether (MTBE)	97	96	75-129	66-138	1	0-13	
Tert-Butyl Alcohol (TBA)	101	101	66-126	56-136	0	0-24	
Diisopropyl Ether (DIPE)	98	96	77-125	69-133	2	0-13	
Ethyl-t-Butyl Ether (ETBE)	97	98	72-132	62-142	2	0-12	
Tert-Amyl-Methyl Ether (TAME)	97	99	77-125	69-133	2	0-10	

Total number of LCS compounds : 66
Total number of ME compounds : 0
Total number of ME compounds allowed : 3
LCS ME CL validation result : Pass

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order Number: 09-06-1047

Qualifier	Definition
AX	Sample too dilute to quantify surrogate.
BA	Relative percent difference out of control.
BA,AY	BA = Relative percent difference out of control. AY = Matrix interference suspected.
BB	Sample > 4x spike concentration.
BF	Reporting limits raised due to high hydrocarbon background.
BH	Reporting limits raised due to high level of non-target analytes.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
BY	Sample received at improper temperature.
BZ	Sample preserved improperly.
CL	Initial analysis within holding time but required dilution.
CQ	Analyte concentration greater than 10 times the blank concentration.
CU	Surrogate concentration diluted to not detectable during analysis.
DF	Reporting limits elevated due to matrix interferences.
DU	Insufficient sample quantity for matrix spike/dup matrix spike.
ET	Sample was extracted past end of recommended max. holding time.
EY	Result exceeds normal dynamic range; reported as a min est.
GR	Internal standard recovery is outside method recovery limit.
IB	CCV recovery abovelimit; analyte not detected.
IH	Calibrtn. verif. recov. below method CL for this analyte.
IJ	Calibrtn. verif. recov. above method CL for this analyte.
J,DX	J=EPA Flag -Estimated value; DX= Value < lowest standard (MQL), but > than MDL.
LA	Confirmatory analysis was past holding time.
LG,AY	LG= Surrogate recovery below the acceptance limit. AY= Matrix interference suspected.
LH,AY	LH= Surrogate recovery above the acceptance limit. AY= Matrix interference suspected.
LM,AY	LM= MS and/or MSD above acceptance limits. See Blank Spike (LCS). AY= Matrix interference suspected.
LN,AY	LN= MS and/or MSD below acceptance limits. See Blank Spike (LCS). AY= Matrix interference suspected.
LQ	LCS recovery above method control limits.

Work Order Number: 09-06-1047

Qualifier	Definition
LR	LCS recovery below method control limits.
LW	Quantitation of unknown hydrocarbon(s) in sample based on gasoline.
LX	Quantitation of unknown hydrocarbon(s) in sample based on diesel.
MB	Analyte present in the method blank.
PC	Sample taken from VOA vial with air bubble > 6mm diameter.
PI	Primary and confirm results varied by > than 40% RPD.
RB	RPD exceeded method control limit; % recoveries within limits.
SG	A silica gel cleanup procedure was performed.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture.

Atlantic Richfield Company
A BP affiliated company

Laboratory Management Program LaMP Chain of Custody Record

BP/ARC Project Name:
BP/ARC Facility No:
Req Due Date (mm/dd/yy): 10/17
Lab Work Order Number:
Rush TAT: Yes ___ No X

Lab Name: CALSCIENCE	BP/ARC Facility Address: 1260 PARK ST.	Consultant/Contractor: STRATUS
Lab Address: 7440 LINCOLN WAY, GARDEN GROVE	City, State, ZIP Code: ALAMEDA, CA.	Consultant/Contractor Project No: E2112
Lab PM: RICHARD V.	Lead Regulatory Agency: ACPWA	Address: 3330 CAMERON PARK DR. #550
Lab Phone: (714) 895-5494	California Global ID No.: T0600100083	Consultant/Contractor PM: JIM JOHNSON
Lab Shipping Acct: 9255	Enfos Proposal No: 0002-0002	Phone: (530) 676 6000
Lab Bottle Order No:	Accounting Mode: Provision X OOC-BU ___ OOC-RM ___	Email EDD To: CHUFFO STRATUSINC.NET
Other Info:	Stage: Activity:	Invoice To: BP/ARC X Contractor ___
BP/ARC EBM: PAUL SUPPLEE		
EBM Phone:		
EBM Email:		

Lab No.	Sample Description	Date	Time	Matrix: Soil / Solid	Matrix: Water / Liquid	Matrix: Air / Vapor	No. Containers / Preservative: Total Number of Containers	Unpreserved	H_2SO_4	HNO_3	HCl	Methanol	Requested Analyses: GRO	BTEX	MTBE 8260	1,2 DCA	EDB
1	B-7 5'	6/10/09	1050	X			1	X					X	X	X	X	X
2	B-7 8'		1053	X			1	X									
3	B-7 11'		1055	X			1	X									
4	B-7 14'		1058	X			1	X									
5	B-8 5'		1103	X			1	X									
6	B-8 8'		1105	X			1	X									
7	B-8 11'		1108	X			1	X									
8	B-8 14'		1110	X			1	X									
9	B-9 5'		1135	X			1	X									
10	B-9 8'		1138	X			1	X									

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

Comments

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

Sampler's Name: CF	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company: STRATUS	[signature]	6/10/09	1800	[signature] CEL	6/11/09	1030
Shipment Method: GSO Ship Date:						
Shipment Tracking No: 106160259						

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

Atlantic Richfield Company
A BP affiliated company

Laboratory Management Program LaMP Chain of Custody Record

BP/ARC Project Name:
BP/ARC Facility No:
Req Due Date (mm/dd/yy): 6/4/09 (1047)
Lab Work Order Number:

Rush TAT: Yes ___ No X

Lab Name: CalScience	BP/ARC Facility Address: 1260 Park St.	Consultant/Contractor: Stratus
Lab Address: 7440 Lincoln Way, Garden Grove	City, State, ZIP Code: Alameda, CA.	Consultant/Contractor Project No: E2112
Lab PM: Richard V.	Lead Regulatory Agency: ACPWA	Address: 3551 Cranberry Park Dr. #550
Lab Phone: (714) 895-5494	California Global ID No.: T0600100083	Consultant/Contractor PM: Jim Johnson
Lab Shipping Accnt: 9255	Enfos Proposal No: 0002-0002	Phone: (530) 676 6005
Lab Bottle Order No:	Accounting Mode: Provision X OOC-BU ___ OOC-RM ___	Email EDD To: CHUFFO stratusinc.net
Other Info:	Stage: Activity:	Invoice To: BP/ARC X Contractor ___
BP/ARC EBM: Paul Supple		
EBM Phone:		
EBM Email:		

Lab No.	Sample Description	Date	Time	Matrix: Soil / Solid	Matrix: Water / Liquid	Matrix: Air / Vapor	No. Containers / Preservative: Total Number of Containers	Unpreserved	H_2SO_4	HNO_3	HCl	Methanol	Requested Analyses: GRO	BTEX	8260	1,2 DCA	EDB
11	B-9 11'	6/1/09	1140	X			1	X					X	X	X	X	X
12	B-9 14'	↓	1143	X			1	X					X	X	X	X	X

Report Type & QC Level
Standard ___
Full Data Package ___

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

Sampler's Name: CF
Sampler's Company: Stratus
Shipment Method: GSO Ship Date:
Shipment Tracking No: 106160259

Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
[signature]	6/1/09	1800	[signature] CEL	6/1/09	1800

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

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 09-06- 1 8 4 7

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: Stratus

DATE: 06/11/09

TEMPERATURE: (Criteria: 0.0 °C – 6.0 °C, not frozen)

Temperature 3.8 °C - 0.2 °C (CF) = 3.6 °C ☐ Blank ☑ Sample

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

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

☐ **Received at ambient temperature, placed on ice for transport by Courier.**

Ambient Temperature: ☐ Air ☐ Filter ☐ Metals Only ☐ PCBs Only **Initial:** YL

CUSTODY SEALS INTACT:

☐ Cooler ☐_____ ☐ No (Not Intact) ☑ Not Present ☐ N/A **Initial:** YL

☐ Sample ☐_____ ☐ No (Not Intact) ☑ Not Present **Initial:** YL

SAMPLE CONDITION:	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
☐ COC not relinquished. ☐ No date relinquished. ☐ No time relinquished.			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and good condition	☑	☐	☐
Correct containers and volume for analyses requested	☑	☐	☐
Analyses received within holding time	☑	☐	☐
Proper preservation noted on COC or sample container	☐	☐	☑
☐ Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace	☐	☐	☑
Tedlar bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE:

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

Water: ☐VOA ☐VOA**h** ☐VOA**na_2** ☐125AGB ☐125AGB**h** ☐125AGB**p** ☐1AGB ☐1AGB**na_2** ☐1AGB**s** ☐500AGB ☐500AGJ ☐500AGJ**s** ☐250AGB ☐250CGB ☐250CGB**s** ☐1PB ☐500PB ☐500PB**na** ☐250PB ☐250PB**n** ☐125PB ☐125PB**znna** ☐100PB ☐100PB**na_2** ☐_____ ☐_____ ☐_____

Air: ☐Tedlar® ☐Summa® ☐_____ **Other:** ☐_____ **Checked/Labeled by:** YL

Container: C: Clear A: Amber P: Plastic G: Glass J: Jar (Wide-mouth) B: Bottle (Narrow-mouth) **Reviewed by:** AH

Preservative: h: HCL n: HNO3 na_2:$Na_2S_2O_3$ Na: NaOH p: H_3PO_4 s: H_2SO_4 znna: $ZnAc_2$+NaOH f: Field-filtered **Scanned by:** YL

Calscience
Environmental
Laboratories, Inc.

June 25, 2009

Jay Johnson
Stratus Environmental, inc.
3330 Cameron Park Drive, Suite 550
Cameron Park, CA 95682-8861

Subject: **Calscience Work Order No.: 09-06-1048**
Client Reference: ARCO 2112

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 6/11/2009 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. The original report of subcontracted analysis, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Calscience Environmental
Laboratories, Inc.
Richard Villafania
Project Manager

Calscience Environmental Laboratories, Inc.

Analytical Report

Stratus Environmental, inc.	Date Received:	06/11/09
3330 Cameron Park Drive, Suite 550	Work Order No:	09-06-1048
Cameron Park, CA 95682-8861	Preparation:	EPA 3050B
	Method:	EPA 6010B

Project: ARCO 2112

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SWC	**09-06-1048-1-A**	**06/10/09 11:50**	**Solid**	**ICP 5300**	**06/12/09**	**06/13/09 13:35**	**090612L02**

Parameter	Result	RL	DF	Qual	Units
Lead	39.4	0.500	1		mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**097-01-002-12,399**	**N/A**	**Solid**	**ICP 5300**	**06/12/09**	**06/13/09 13:04**	**090612L02**

Parameter	Result	RL	DF	Qual	Units
Lead	ND	0.500	1		mg/kg

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Stratus Environmental, inc.	Date Received:	06/11/09
3330 Cameron Park Drive, Suite 550	Work Order No:	09-06-1048
Cameron Park, CA 95682-8861	Preparation:	EPA 5030B
	Method:	EPA 8015B (M)

Project: ARCO 2112

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SWC	**09-06-1048-1-A**	**06/10/09 11:50**	**Solid**	**GC 1**	**06/12/09**	**06/12/09 21:51**	**090612B01**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	2.6	0.50	1		mg/kg
Surrogates:	**REC (%)**	**Control Limits**		**Qual**	
1,4-Bromofluorobenzene	89	42-126			

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-697-118**	**N/A**	**Solid**	**GC 1**	**06/12/09**	**06/12/09 11:13**	**090612B01**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	0.50	1		mg/kg
Surrogates:	**REC (%)**	**Control Limits**		**Qual**	
1,4-Bromofluorobenzene	83	42-126			

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Stratus Environmental, inc.	Date Received:	06/11/09
3330 Cameron Park Drive, Suite 550	Work Order No:	09-06-1048
Cameron Park, CA 95682-8861	Preparation:	EPA 5030B
	Method:	EPA 8260B
	Units:	mg/kg
Project: ARCO 2112		Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SWC	**09-06-1048-1-A**	**06/10/09 11:50**	**Solid**	**GC/MS Z**	**06/12/09**	**06/13/09 08:18**	**090612L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.0050	1		Xylenes (total)	0.074	0.0050	1	
Ethylbenzene	0.010	0.0050	1		Methyl-t-Butyl Ether (MTBE)	ND	0.0050	1	
Toluene	0.011	0.0050	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
Dibromofluoromethane	104	73-139			1,2-Dichloroethane-d4	108	73-145		
Toluene-d8	101	90-108			1,4-Bromofluorobenzene	98	71-113		

Method Blank	099-12-796-1,648	N/A	Solid	GC/MS Z	06/12/09	06/13/09 02:24	090612L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.0050	1		Xylenes (total)	ND	0.0050	1	
Ethylbenzene	ND	0.0050	1		Methyl-t-Butyl Ether (MTBE)	ND	0.0050	1	
Toluene	ND	0.0050	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
Dibromofluoromethane	98	73-139			1,2-Dichloroethane-d4	101	73-145		
Toluene-d8	97	90-108			1,4-Bromofluorobenzene	95	71-113		

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Stratus Environmental, inc.	Date Received:	06/11/09
3330 Cameron Park Drive, Suite 550	Work Order No:	09-06-1048
Cameron Park, CA 95682-8861	Preparation:	EPA 3050B
	Method:	EPA 6010B

Project ARCO 2112

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
09-06-0361-1	**Solid**	**ICP 5300**	**06/12/09**	**06/13/09**	**090612S02**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	99	99	75-125	0	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - PDS / PDSD

Stratus Environmental, inc.	Date Received	06/11/09
3330 Cameron Park Drive, Suite 550	Work Order No:	09-06-1048
Cameron Park, CA 95682-8861	Preparation:	EPA 3050B
	Method:	EPA 6010B

Project: ARCO 2112

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	PDS/PDSD Batch Number
09-06-0361-1	**Solid**	**ICP 5300**	**06/12/09**	**06/13/09**	**090612S02**

Parameter	PDS %REC	PDSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	97	96	75-125	0	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Stratus Environmental, inc.	Date Received:	06/11/09
3330 Cameron Park Drive, Suite 550	Work Order No:	09-06-1048
Cameron Park, CA 95682-8861	Preparation:	EPA 5030B
	Method:	EPA 8015B (M)

Project ARCO 2112

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
09-06-1047-1	**Solid**	**GC 1**	**06/12/09**	**06/12/09**	**090612S01**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Gasoline Range Organics (C6-C12)	86	87	42-126	1	0-25	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Stratus Environmental, inc.	Date Received:	06/11/09
3330 Cameron Park Drive, Suite 550	Work Order No:	09-06-1048
Cameron Park, CA 95682-8861	Preparation:	EPA 5030B
	Method:	EPA 8260B

Project ARCO 2112

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
09-06-1047-2	**Solid**	**GC/MS Z**	**06/12/09**	**06/13/09**	**090612S01**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	84	87	78-114	3	0-14	
Chloroform	89	81	80-120	10	0-20	
1,1-Dichloroethane	84	85	80-120	1	0-20	
1,2-Dichloroethane	90	93	80-120	3	0-20	
1,1-Dichloroethene	82	83	73-127	1	0-21	
Ethanol	91	89	45-135	2	0-29	
Tetrachloroethene	70	73	80-120	5	0-20	
Toluene	83	85	74-116	2	0-16	
Trichloroethene	82	84	74-122	2	0-17	
Methyl-t-Butyl Ether (MTBE)	90	93	69-123	4	0-18	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Stratus Environmental, inc.		Date Received:	N/A
3330 Cameron Park Drive, Suite 550		Work Order No:	09-06-1048
Cameron Park, CA 95682-8861		Preparation:	EPA 3050B
		Method:	EPA 6010B

Project: ARCO 2112

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-01-002-12,399	**Solid**	**ICP 5300**	**06/12/09**	**06/13/09**	**090612L02**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	101	103	80-120	2	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Stratus Environmental, inc.		Date Received:	N/A
3330 Cameron Park Drive, Suite 550		Work Order No:	09-06-1048
Cameron Park, CA 95682-8861		Preparation:	EPA 5030B
		Method:	EPA 8015B (M)

Project: ARCO 2112

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-697-118	**Solid**	**GC 1**	**06/12/09**	**06/12/09**	**090612B01**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Gasoline Range Organics (C6-C12)	92	96	70-118	5	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Stratus Environmental, inc.		Date Received:	N/A
3330 Cameron Park Drive, Suite 550		Work Order No:	09-06-1048
Cameron Park, CA 95682-8861		Preparation:	EPA 5030B
		Method:	EPA 8260B

Project: ARCO 2112

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-796-1,648	**Solid**	**GC/MS Z**	**06/12/09**	**06/12/09**	**090612L01**

Parameter	LCS %REC	LCSD %REC	%REC CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	102	102	84-114	79-119	0	0-7	
Carbon Tetrachloride	100	101	66-132	55-143	0	0-12	
Chlorobenzene	100	100	87-111	83-115	0	0-7	
1,2-Dibromoethane	100	99	80-120	73-127	2	0-20	
1,2-Dichlorobenzene	101	105	79-115	73-121	3	0-8	
1,1-Dichloroethene	102	102	73-121	65-129	0	0-12	
Ethylbenzene	107	105	80-120	73-127	2	0-20	
Toluene	101	101	78-114	72-120	0	0-7	
Trichloroethene	105	108	84-114	79-119	2	0-8	
Vinyl Chloride	95	99	63-129	52-140	4	0-15	
Methyl-t-Butyl Ether (MTBE)	95	98	77-125	69-133	3	0-11	
Tert-Butyl Alcohol (TBA)	100	96	47-137	32-152	4	0-27	
Diisopropyl Ether (DIPE)	96	98	76-130	67-139	2	0-8	
Ethyl-t-Butyl Ether (ETBE)	98	100	76-124	68-132	2	0-12	
Tert-Amyl-Methyl Ether (TAME)	100	102	82-118	76-124	2	0-11	
Ethanol	98	94	59-131	47-143	4	0-21	

Total number of LCS compounds : 16
Total number of ME compounds : 0
Total number of ME compounds allowed : 1
LCS ME CL validation result : Pass

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order Number: 09-06-1048

Qualifier	Definition
AX	Sample too dilute to quantify surrogate.
BA	Relative percent difference out of control.
BA,AY	BA = Relative percent difference out of control. AY = Matrix interference suspected.
BB	Sample > 4x spike concentration.
BF	Reporting limits raised due to high hydrocarbon background.
BH	Reporting limits raised due to high level of non-target analytes.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
BY	Sample received at improper temperature.
BZ	Sample preserved improperly.
CL	Initial analysis within holding time but required dilution.
CQ	Analyte concentration greater than 10 times the blank concentration.
CU	Surrogate concentration diluted to not detectable during analysis.
DF	Reporting limits elevated due to matrix interferences.
DU	Insufficient sample quantity for matrix spike/dup matrix spike.
ET	Sample was extracted past end of recommended max. holding time.
EY	Result exceeds normal dynamic range; reported as a min est.
GR	Internal standard recovery is outside method recovery limit.
IB	CCV recovery abovelimit; analyte not detected.
IH	Calibrtn. verif. recov. below method CL for this analyte.
IJ	Calibrtn. verif. recov. above method CL for this analyte.
J,DX	J=EPA Flag -Estimated value; DX= Value < lowest standard (MQL), but > than MDL.
LA	Confirmatory analysis was past holding time.
LG,AY	LG= Surrogate recovery below the acceptance limit. AY= Matrix interference suspected.
LH,AY	LH= Surrogate recovery above the acceptance limit. AY= Matrix interference suspected.
LM,AY	LM= MS and/or MSD above acceptance limits. See Blank Spike (LCS). AY= Matrix interference suspected.
LN,AY	LN= MS and/or MSD below acceptance limits. See Blank Spike (LCS). AY= Matrix interference suspected.
LQ	LCS recovery above method control limits.

Work Order Number: 09-06-1048

Qualifier	Definition
LR	LCS recovery below method control limits.
LW	Quantitation of unknown hydrocarbon(s) in sample based on gasoline.
LX	Quantitation of unknown hydrocarbon(s) in sample based on diesel.
MB	Analyte present in the method blank.
PC	Sample taken from VOA vial with air bubble > 6mm diameter.
PI	Primary and confirm results varied by > than 40% RPD.
RB	RPD exceeded method control limit; % recoveries within limits.
SG	A silica gel cleanup procedure was performed.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture.

Atlantic Richfield Company
A BP affiliated company

Laboratory Management Program LaMP Chain of Custody Record

BP/ARC Project Name:
BP/ARC Facility No:
Req Due Date (mm/dd/yy): 1048
Rush TAT: Yes ___ No X
Lab Work Order Number:

Lab Name: CALSCIENCE	BP/ARC Facility Address: 1260 PARK ST.	Consultant/Contractor: STRATUS	
Lab Address: 7440 LINCOLN WAY, GARDEN GROVE	City, State, ZIP Code: ALAMEDA, CA.	Consultant/Contractor Project No: E2112	
Lab PM: RICHARD V.	Lead Regulatory Agency: ACPWA	Address: 3330 CAMERON PARK DR. #550	
Lab Phone: (714) 895-5494	California Global ID No.: T0600100083	Consultant/Contractor PM: JAY JOHNSON	
Lab Shipping Accnt: 9255	Enfos Proposal No: 000UZ-0002	Phone: (530) 676 6000	
Lab Bottle Order No:	Accounting Mode: Provision X OOC-BU ___ OOC-RM ___	Email EDD To: CHUFF@STRATUSINC.NET	
Other Info:	Stage: Activity:	Invoice To: BP/ARC X Contractor ___	
BP/ARC EBM: PAUL SUPPLE			
EBM Phone:			
EBM Email:			

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

Lab No.	Sample Description	Date	Time	Soil / Solid	Water / Liquid	Air / Vapor	Total Number of Containers	Unpreserved	H_2SO_4	HNO_3	HCl	Methanol	GRO	BTEX	HVOCs	1,2 DCA	EDB	MTBE	TOTAL LEAD			Comments
	~~B-9 TH~~	~~6/10/09~~	~~1140~~																			
	~~B-9 TH'~~	~~6/10/09~~	~~1142~~																			
1	SWC	6/10/09	1150	X			1	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.

Sampler's Name: CF
Sampler's Company: STRATUS
Shipment Method: GSO Ship Date:
Shipment Tracking No: 1060259
Special Instructions:

Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
[signature]	6/10/09	1800	[signature] CEL	6/11/09	1030

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

BP/ARC LaMP COC Rev. 6 01/01/2009

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 09-06-[1][0][4][8]

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: Stratus DATE: 06/11/09

TEMPERATURE: (Criteria: 0.0 °C – 6.0 °C, not frozen)

Temperature 3.8 °C - 0.2 °C (CF) = 3.6 °C ☐ Blank ☑ Sample

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

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

☐ **Received at ambient temperature, placed on ice for transport by Courier.**

Ambient Temperature: ☐ Air ☐ Filter ☐ Metals Only ☐ PCBs Only **Initial:** YL

CUSTODY SEALS INTACT:

☐ Cooler ☐_____ ☐ No (Not Intact) ☑ Not Present ☐ N/A **Initial:** YL

☐ Sample ☐_____ ☐ No (Not Intact) ☑ Not Present **Initial:** YL

SAMPLE CONDITION:	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
☐ COC not relinquished. ☐ No date relinquished. ☐ No time relinquished.			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and good condition	☑	☐	☐
Correct containers and volume for analyses requested	☑	☐	☐
Analyses received within holding time	☑	☐	☐
Proper preservation noted on COC or sample container	☐	☐	☑
☐ Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace	☐	☐	☑
Tedlar bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE:

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

Water: ☐VOA ☐VOAh ☐VOAna_2 ☐125AGB ☐125AGBh ☐125AGBp ☐1AGB ☐1AGBna_2 ☐1AGBs ☐500AGB ☐500AGJ ☐500AGJs ☐250AGB ☐250CGB ☐250CGBs ☐1PB ☐500PB ☐500PBna ☐250PB ☐250PBn ☐125PB ☐125PBznna ☐100PB ☐100PBna_2 ☐_____ ☐_____ ☐_____

Air: ☐Tedlar® ☐Summa® ☐_____ **Other:** ☐_____ **Checked/Labeled by:** YC

Container: C: Clear A: Amber P: Plastic G: Glass J: Jar (Wide-mouth) B: Bottle (Narrow-mouth) **Reviewed by:** AH

Preservative: h: HCL n: HNO3 na_2:$Na_2S_2O_3$ Na: NaOH p: H_3PO_4 s: H_2SO_4 znna: $ZnAc_2$+NaOH f: Field-filtered **Scanned by:** _____

APPENDIX C

GEOTRACKER UPLOAD CONFIRMATION RECEIPTS

STATE WATER RESOURCES CONTROL BOARD

GEOTRACKER ESI

UPLOADING A GEO_BORE FILE

SUCCESS

Your GEO_BORE file has been successfully submitted!

Submittal Type:	**GEO_BORE**
Facility Global ID:	**T0600100083**
Field Point:	**B-7**
Facility Name:	**ARCO #2112**
File Name:	**GEO_BORE B-7.pdf**
Username:	**Broadbent & Associates, Inc.**
Username:	**BROADBENT-C**
IP Address:	**67.118.40.90**
Submittal Date/Time:	**7/16/2009 4:12:25 PM**
Confirmation Number:	**1024751961**

STATE WATER RESOURCES CONTROL BOARD

GEOTRACKER ESI

UPLOADING A GEO_BORE FILE

SUCCESS

Your GEO_BORE file has been successfully submitted!

Submittal Type:	**GEO_BORE**
Facility Global ID:	**T0600100083**
Field Point:	**B-8**
Facility Name:	**ARCO #2112**
File Name:	**GEO_BORE B-8.pdf**
Username:	**Broadbent & Associates, Inc.**
Username:	**BROADBENT-C**
IP Address:	**67.118.40.90**
Submittal Date/Time:	**7/16/2009 4:12:49 PM**
Confirmation Number:	**4256005406**

STATE WATER RESOURCES CONTROL BOARD

GEOTRACKER ESI

UPLOADING A GEO_BORE FILE

SUCCESS

Your GEO_BORE file has been successfully submitted!

Submittal Type:	**GEO_BORE**
Facility Global ID:	**T0600100083**
Field Point:	**B-9**
Facility Name:	**ARCO #2112**
File Name:	**GEO_BORE B-9.pdf**
Username:	**Broadbent & Associates, Inc.**
Username:	**BROADBENT-C**
IP Address:	**67.118.40.90**
Submittal Date/Time:	**7/16/2009 4:13:08 PM**
Confirmation Number:	**6917046964**

STATE WATER RESOURCES CONTROL BOARD

GEOTRACKER ESI

UPLOADING A GEO_MAP FILE

SUCCESS

Your GEO_MAP file has been successfully submitted!

Submittal Type:	**GEO_MAP**
Facility Global ID:	**T0600100083**
Facility Name:	**ARCO #2112**
File Name:	**GEO_MAP.pdf**
Username:	**Broadbent & Associates, Inc.**
Username:	**BROADBENT-C**
IP Address:	**67.118.40.90**
Submittal Date/Time:	**7/16/2009 4:12:03 PM**
Confirmation Number:	**5484826207**

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 - Soil and Water Investigation Report**
Submittal Title:	**Soil Investigation 0609**
Facility Global ID:	**T0600100083**
Facility Name:	**ARCO #2112**
File Name:	**09061047 fix.zip**
Organization Name:	**Broadbent & Associates, Inc.**
Username:	**BROADBENT-C**
IP Address:	**67.118.40.90**
Submittal Date/Time:	**7/16/2009 4:22:45 PM**
Confirmation Number:	**4798882901**

VIEW QC REPORT

VIEW DETECTIONS REPORT