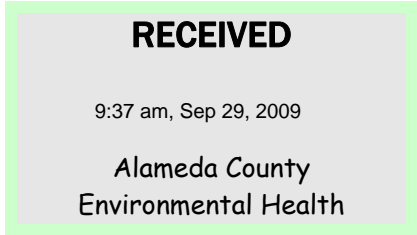


# Atlantic Richfield Company

**Chuck Carmel**  
Environmental Business Manager



PO Box 1257  
San Ramon, CA 94583  
Phone: (925) 275-3803  
Fax: (925) 275-3815  
E-Mail: charles.carmel @bp.com

September 25, 2009

Re: Revised Vapor Intrusion Assessment Work Plan  
Atlantic Richfield Company Service Station #2035  
1001 San Pablo Avenue, Albany, California  
ACEH Case #RO00000100

"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,

A handwritten signature in black ink, appearing to be "Chuck Carmel", enclosed within a hand-drawn oval.

Chuck Carmel  
Environmental Business Manager

Attachment:

**REVISED**  
**VAPOR INTRUSION ASSESSMENT WORK PLAN**  
Atlantic Richfield Company Station #2035  
1001 San Pablo Avenue, Albany, California  
ACEH Case No. RO0000100

Prepared for

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

Prepared by



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

25 September 2009

Project No. 06-88-610

25 September 2009

Project No. 06-88-610

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

Attn.: Mr. Chuck Carmel

Re: Revised Vapor Intrusion Assessment Work Plan, Atlantic Richfield Company Station #2035, 1001 San Pablo Avenue, Albany, California; ACEH Case No.RO0000100

Dear Mr. Carmel:

Broadbent & Associates, Inc. (BAI) is pleased to present this *Revised Vapor Intrusion Assessment Work Plan* for the Atlantic Richfield Company Station #2035, located at 1001 San Pablo Avenue, Albany, California (Site). BAI prepared this revised work plan in response to the 3 September 2009 letter from Mr. Paresh Khatri of Alameda County Environmental Health Services (ACEH), which approved the original work plan submitted on 10 August 2009 with technical comments. This work plan proposes a revised scope of work for vapor intrusion assessment with a revised completion schedule.

Should you have questions or require additional information, please do not hesitate to contact us at (530) 566-1400.

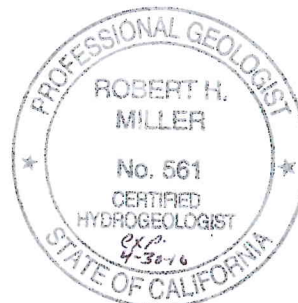
Sincerely,  
BROADBENT & ASSOCIATES, INC.



Thomas A. Venus, P.E.  
Senior Engineer



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



Enclosures

cc: Mr. Paresh Khatri, Alameda County Environmental Health (Submitted via ACEH ftp site)  
Ms. Shelby Lathrop, Conoco Phillips, 76 Broadway, Sacramento, CA 95818  
Electronic copy uploaded to GeoTracker

**REVISED VAPOR INTRUSION ASSESSMENT WORK PLAN**  
**Atlantic Richfield Company Station #2035**  
**1001 San Pablo Avenue, Albany, California**  
**ACEH Fuel Leak Case No. RO000100**

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**ATTACHMENTS**

- Drawing 1     Site Location Map
- Drawing 2     Site Plan with Proposed Soil-Gas Boring Locations

**APPENDICES**

- Appendix A    Recent Regulatory Correspondence

**REVISED VAPOR INTRUSION ASSESSMENT WORK PLAN**  
**Atlantic Richfield Company Station #2035**  
**1001 San Pablo Avenue, Albany, California**  
**ACEH Fuel Leak Case No. RO000100**

## **1.0 INTRODUCTION**

Broadbent & Associates, Inc. (BAI) has prepared this *Revised Vapor Intrusion Assessment Work Plan* for the Atlantic Richfield Company Station #2035, located at 1001 San Pablo Avenue, Albany, California (Site). The original *Vapor Intrusion Assessment Work Plan* (BAI, 8/10/2009) was prepared in response to the 11 June 2009 letter request from Mr. Paresh Khatri of Alameda County Environmental Health Services (ACEH), a copy of which is provided within Appendix A. This revised work plan was prepared in response to the 3 September 2009 letter from ACEH, which approved the original work plan but with technical comments. Specifically, the technical comments within the ACEH letter requested additional soil vapor sampling locations in the more northern and western portions of the property where elevated hydrocarbon contaminant concentrations have been observed, but away from current occupied structures on the Site. Submittal of a revised figure depicting the additional soil vapor sampling locations was requested within the ACEH letter of 3 September 2009. However, due to the significant change in scope of work, this revised work plan has been prepared for ACEH as well as for the benefit of Stratus Environmental, Inc. (Stratus), who will be implementing the field work scoped herein, under direct contract to Atlantic Richfield Company.

## **2.0 SITE BACKGROUND**

The Site is currently an active ARCO-brand gasoline retail outlet located on the southeast corner of San Pablo and Marin Avenues in Albany, California. A Site Location Map is provided as Drawing 1 following the text conclusion. The land use in the immediate vicinity of the Site is mixed commercial and residential. Development at the Site consists of a service station building with four gasoline underground storage tanks (USTs) with associated piping, and four pump dispensers on two dispenser islands. The Site is primarily covered with asphalt or concrete surfacing. The ACEH-assigned Fuel Leak Case No. is RO0000100 / GeoTracker Global ID No. T0600100081. A Shell-brand service station is located at 999 San Pablo Avenue across the street approximately 65 feet to the north-northwest of the Site. The Shell Station #13-5037 is an active leaking UST case, ACEH Fuel Leak Case No. RO0000121 / GeoTracker Global ID No. T0600101277.

Numerous subsurface investigations and remedial activities have been conducted on-site since 1989. A comprehensive Site history can be found within the *Work Plan for Soil & Water Investigation* (BAI, 1/5/2009). The Site history can be supplemented with the results from advancing three soil borings and the construction of three new ground-water monitoring wells at the Site in March and April 2009, as reported in the subsequent *Soil & Ground-Water Investigation Report* (BAI, 5/20/2009).

## **3.0 VAPOR INTRUSION ASSESSMENT**

In his letter dated 11 June 2009, Mr. Paresh Khatri thought it conceivable that Benzene concentrations reported in the *Soil & Ground-Water Investigation Report* (BAI, 5/20/2009) were indicative of vadose zone soil conditions that might potentially pose a vapor inhalation risk at the Site. In response, BAI proposed to perform a vapor intrusion assessment using active subsurface

soil gas sampling in the vicinity of the Station Building and the northern and western portions of the Site. Three soil gas boring locations were proposed on the north, northwest and west sides of the Station Building. The first soil gas boring location was proposed to be located approximately five feet north of the Station building, and south an equal distance from wells VW-4 and VW-7. The second soil gas boring location was proposed to be located approximately five feet northwest of the Station building, and an equal distance from wells VW-7 and VW-5. The third soil gas boring location was proposed to be located approximately five feet west of the Station building, and at least 10 feet southeast of well VW-9. The proposed soil gas locations were to be located above ground water known to be contaminated by petroleum hydrocarbons, an appreciable distance from the existing vapor wells that might allow short-circuiting of soil gas, and close to the base slab of the Station Building to more closely represent sub-slab conditions. This scope of work was proposed in the original *Vapor Intrusion Assessment Work Plan* (BAI, 8/10/2009).

As stated previously, Mr. Paresh Khatri's letter from ACEH dated 3 September 2009 requested vapor intrusion assessment not only for the current land use scenario, but future land use as well thinking it would be conceivable that a commercial structure could be constructed over other areas of elevated residual hydrocarbons at the Site. To that end, Mr. Khatri requested additional soil vapor sampling locations in the down-gradient vicinity of monitoring wells S-5, MW-7 and MW-8. In response, BAI has prepared this revised work plan identifying revised soil gas sampling locations. New soil gas sampling location SG-1 is proposed to be located approximately five feet north and eight feet east of the northwest corner of the Station Building. New soil gas sampling location SG-2 is proposed to be located approximately five feet west and eight feet south of the northwest corner of the Station Building. New soil gas sampling location SG-3 is proposed to be located approximately five feet east of the northeastern most dispenser, approximately midway or nine feet from MW-7 and VW-4. New soil gas sampling location SG-4 is proposed to be located approximately one foot south of the northern property boundary, 15 feet west of well VW-1, 10 feet northwest of well AS-1, and 10 feet northeast of well VW-2. Finally, new soil gas sampling location SG-5 is proposed to be located in the northwest corner of the property, approximately five feet from the base of the Station sign. These new locations balance meeting the objectives described in the ACEH letters with creating appreciable distances from existing wells that might otherwise allow short-circuiting of soil gas as well as appreciable distances from known underground structures. Still, the presence of known and unknown underground structures may require the slight relocation of these proposed soil gas boring locations in the field. The proposed soil gas boring/temporary vapor well sampling locations are presented in Drawing 2.

The proposed soil gas investigation methodology will be consistent with the guidelines published by the California Regional Water Quality Control Board – Los Angeles Region (LARWQCB) in the 25 February 1997 *Interim Guidance for Active Soil Gas Investigation*, the Department of Toxic Substances Control (DTSC) and LARWQCB 28 January 2003 *Advisory – Active Soil Gas Investigations*, and the American Petroleum Institute's (API) November 2005 Publication No. 4741 – *Collecting and Interpreting Soil Gas Samples from the Vadose Zone*. In accordance with this guidance, soil gas sampling should not be performed during or immediately after a rainfall event of 0.5 inches or more. If a rainfall event of this magnitude occurs within 24 hours of the scheduled soil gas sampling activities, the field work shall be rescheduled.

The near surface soils at the Site generally consist of sandy to silty clays with varying amounts of sand and gravel, extending from the ground surface to at least 34 feet below ground surface (ft bgs), the maximum depth explored to.

The soil gas borings will be advanced using a hand auger for the installation of the shallow soil vapor sampling wells/implants at the locations depicted in Drawing 2. As possible, soil will be classified in accordance with the USCS, and will be examined using visual and manual methods for parameters including staining, color, grain size, moisture content, and screened for volatile organic compounds using a Photo-Ionization Detector (PID). The borings will be converted to soil vapor wells following advancement of each boring to 3.5 ft bgs.

The soil vapor sampling wells will be constructed by placing a 6-inch long soil vapor probe at the bottom of each boring attached to a 0.25-inch diameter nylon tubing (e.g., NylaFlow or similar, not Teflon) extending to the surface. The probes are constructed of double-woven stainless steel wire screen with a pore diameter of 0.057-inch, equipped with stainless steel end fittings. The annulus of the soil vapor sampling wells will be constructed with No.2/12 sand filter pack from 3.5 ft bgs to 2.5 ft bgs, overlain with 2.5 ft bgs to 1.5 ft bgs bentonite annular seal. The remainder of the annulus will be filled with neat cement grout to the surface. The wells will be completed with flush, traffic-rated well boxes, with a concrete surface seal to match the existing grade. The cement grout will be allowed to cure a minimum of two weeks prior to sampling.

One-liter Summa<sup>®</sup> canisters will be used to collect samples for analysis by an offsite laboratory. The Summa<sup>®</sup> canisters will be shipped by the laboratory under high vacuum, leak checked, and batch certified to be free of contaminants. The initial canister vacuum will be measured before use and should be approximately 30 inches of mercury (in.Hg). If the initial vacuum is less than 28 in.Hg, the affected canister(s) will not be used. A purge canister will be used to purge the sampling train (sampling point and tubing) a minimum of three volumes prior to sample collection with the purge effluent being screened for volatile organic compounds using a PID. Swagelok fittings will be used to connect the canisters to the tubing. Once the purge canister is connected to the tubing, the sampling train will be checked for leaks by applying a vacuum for a minimum of 10 minutes. If the vacuum in the canister does not drop, this will indicate the sample train is not leaking.

In addition, a chemical leak check will be performed identify whether ambient air is leaking into the sample train. Prior to and during sample collection, a tracer/leak test compound (e.g., iso-propanol) will be applied around the probe at the ground surface and at connections in the sampling system. The tracer/leak test compound can easily be emplaced by wetting a paper towel and wrapping around the leak-check locations. The leak test compound will be included in the laboratory analysis. A single duplicate sample will be collected per field day of work from a sample point likely to have been impacted by petroleum hydrocarbons. The duplicate sample will serve as a means to validate the sample collection methods and laboratory analytical data. Soil gas samples will not be chilled.

Once the leak test is complete, the in-line valve will be closed and the sample canister connected to the tubing. The in-line valve will then be opened and the sample collected. The sampling flow rate will not exceed 200 milliliters per minute (mL/min) as measured by a flow regulator.

Samples will be collected until the pressure in the canister(s) reaches approximately five in.Hg or 30 minutes has elapsed. A measurement with a PID will also be collected from each sampling point following sample collection. In addition, one ambient air sample will be collected outside the station building entrance door using a Summa<sup>®</sup> canister. This sample will also be submitted to the off-site laboratory to compare soil gas analytical results with ambient air results.

Collected samples will be submitted promptly under chain-of-custody protocol to Calscience Environmental Laboratories, Inc. in Garden Grove, California (CA-ELAP #1230, NELAP #03220CA). Soil gas samples will be analyzed for Gasoline Range Organics (GRO, hydrocarbon chain lengths C6-C12), Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX), Methyl Tertiary Butyl Ether (MTBE), Ethanol, Tertiary Butyl Alcohol (TBA), Di-Isopropyl Ether (DIPE), Ethyl Tertiary Butyl Ether (ETBE), Tertiary Amyl Methyl Ether (TAME), and the leak-check compound (e.g., Isopropanol) by EPA Method TO-15. Soil gas samples will also be analyzed for Oxygen (O<sub>2</sub>), Carbon Dioxide (CO<sub>2</sub>), and Methane (CH<sub>4</sub>). Laboratory analyses for soil gas samples will be performed in accordance with the EPA standard holding times for Summa<sup>®</sup> canisters.

The hand auger assembly and other reusable components will be properly decontaminated to minimize the potential for cross-contamination between temporary soil gas sampling points. As outlined in the DTSC/LARWQCB and API guidance documents, these methods will include three-stage wash and rinse (i.e., wash equipment with a non-phosphate detergent, rinse with potable water, and a final rinse with distilled water) and/or steam cleaning.

#### **4.0 PRE-MOBILIZATION ACTIVITIES**

Prior to initiating field activities, Stratus will obtain the necessary permits from Alameda County; prepare a site health and safety plan (HASP) for the proposed work; clear the Site for subsurface utilities; and provide 72-hour advance written notification(s) to ACEH (email preferred to paresh.khatri@acgov.org) and BAI (email tvenus@broadbentinc.com or mobile phone 530-588-5887) prior to the start of field activities. The utility clearance will include notifying Underground Service Alert (USA) of the pending work a minimum of 48 hours prior to initiating the subsurface field investigation. In addition, the services of a private underground utility locator will be utilized.

The Site-specific HASP will be prepared for use by personnel implementing the work plan. The HASP will address the proposed soil-gas boring and DPE pilot testing scope of work. A copy of the HASP will be available on-site during work. The subcontractor(s) performing field activities will be provided with a copy of the HASP prior to initiating work. A safety tailgate meeting will also be conducted daily to review the Site hazards and work scope.

#### **5.0 DOCUMENTATION AND REPORTING**

Upon completion of the work activities described above and after receipt of laboratory analytical data, it is expected that Stratus will submit a data package including the following information at a minimum:



- Brief descriptions of the work performed;
- Copies of the required permits;
- Copies of all field notes;
- Tabulated results and measurements; and
- Laboratory analytical reports with copies of chain-of-custody records.

BAI shall use the data and information provided above to prepare a Vapor Intrusion Assessment Report.

## 6.0 PROPOSED SCHEDULE

The schedule for the above-noted work shall proceed as follows:

- Implement Soil Gas Investigation – Within 60 days of this work plan approval.
- Submittal of Soil Gas Investigation Report – It is anticipated that the deadline of 23 December 2009 stipulated by ACEH in their most recent letter will be met. However, due to the modification of the scope of work and work plan, an extension request is justified and may be needed.

## 7.0 CLOSURE

Discovery of hazardous or regulated materials constitutes a changed condition mandating a renegotiation of the scope of work described herein or termination of services. BAI will endeavor to alert the client of matters which, in the opinion of BAI, require immediate attention to protect the public health, safety, and environment. BAI will endeavor to advise the client of matters which should be reported to proper governmental entities. However, the client is solely responsible for reporting such matters and BAI shall not be held liable in the event the proper agency is not notified. Our services will be performed in accordance with the generally accepted practice at the time work commences. Results and recommendations will be based on laboratory results, observations of Stratus field personnel, and the points investigated. No other warranty, expressed or implied was made. This report has been prepared for the exclusive use of Atlantic Richfield Company.

## 8.0 REFERENCES

ACEH, 11 June 2009. *Fuel Leak Case No. RO 0000100 and GeoTracker Global ID T0600100081, ARCO #02035, 1001 San Pablo Ave., Albany, CA 94706.* Letter from Mr. Paresh Khatri (ACEH) to Mr. Paul Supple (Atlantic Richfield Company) requesting submittal of a vapor intrusion assessment work plan.

ACEH, 3 September 2009. *Fuel Leak Case No. RO 0000100 and GeoTracker Global ID T0600100081, ARCO #02035, 1001 San Pablo Ave., Albany, CA 94706.* Letter from Mr. Paresh Khatri (ACEH) to Mr. Paul Supple (Atlantic Richfield Company) approving work plan with technical comments.

API, November 2005. *Collecting and Interpreting Soil Gas Samples from the Vadose Zone.*

Publication Number 4741.

- BAI, 5 January 2009. *Work Plan for Soil & Ground-Water Investigation, Atlantic Richfield Company Station No. 2035, 1001 San Pablo Avenue, Albany, California, ACEHS Case No. RO0000100*. Submitted to Messrs. Paul Supple for Atlantic Richfield Company and Mr. Paresh Khatri for ACEH.
- BAI, 20 May 2009. *Soil & Ground-Water Investigation Report, Atlantic Richfield Company Station No. 2035, 1001 San Pablo Avenue, Albany, California, ACEH Case #RO0000100*. Submitted to Messrs. Paul Supple for Atlantic Richfield Company and Mr. Paresh Khatri for ACEH.
- BAI, 10 August 2009. *Vapor Intrusion Assessment Work Plan, Atlantic Richfield Company Station No. 2035, 1001 San Pablo Avenue, Albany, California, ACEH Case #RO0000100*. Submitted to Messrs. Paul Supple for Atlantic Richfield Company and Mr. Paresh Khatri for ACEH.
- Davis, Robin, May 2006. Vapor Attenuation in the Subsurface from Petroleum Hydrocarbon Sources: An Update and Discussion on the Ramifications of the Vapor-Intrusion Risk Pathway. *LUSTLine*, New England Interstate Water Pollution Control Commission, Bulletin 52: 22-25.
- Davis, Robin, March 2005. Making Sense of Subsurface Vapor Attenuation in Petroleum Hydrocarbon Sources. *LUSTLine*, New England Interstate Water Pollution Control Commission, Bulletin 49: 10-14.
- DTSC, 15 December 2004 (Revised 7 February 2005). *Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air*. Interim Final.
- DTSC and LARWQCB, 28 January 2003. *Advisory – Active Soil Gas Investigations*.
- Johnson, P.C. and Ettinger, R.A., 1991. Heuristic Model for Predicting the Intrusion Rate of Contaminant Vapors into Buildings. *Environmental Science Technology*, No.25: 1445-1452.
- Ririe, G.T., R.E. Sweeney, and S.J. Daugherty, 2002. A Comparison of Hydrocarbon Vapor Attenuation in the Field with Predictions from Vapor Diffusion Models. *Soil & Sediment Contamination*, AEHS Publishers, No.11(4):529-554.
- Roggemans, Sophie, Cristin L. Bruce, Paul C. Johnson, and Richard L. Johnson, December 2001. *Vadose Zone Natural Attenuation of Hydrocarbon Vapors: An Empirical Assessment of Soil Gas Vertical Profile Data*. API Bulletin No.15.
- US EPA, 4 March 2008. *US EPA's Vapor Intrusion Database: Preliminary Evaluation of Attenuation Factors*. Office of Solid Waste and Emergency Response (OSWER), Draft.
- US EPA, November 2002. *OSWER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance)*. EPA530-D-02-004.



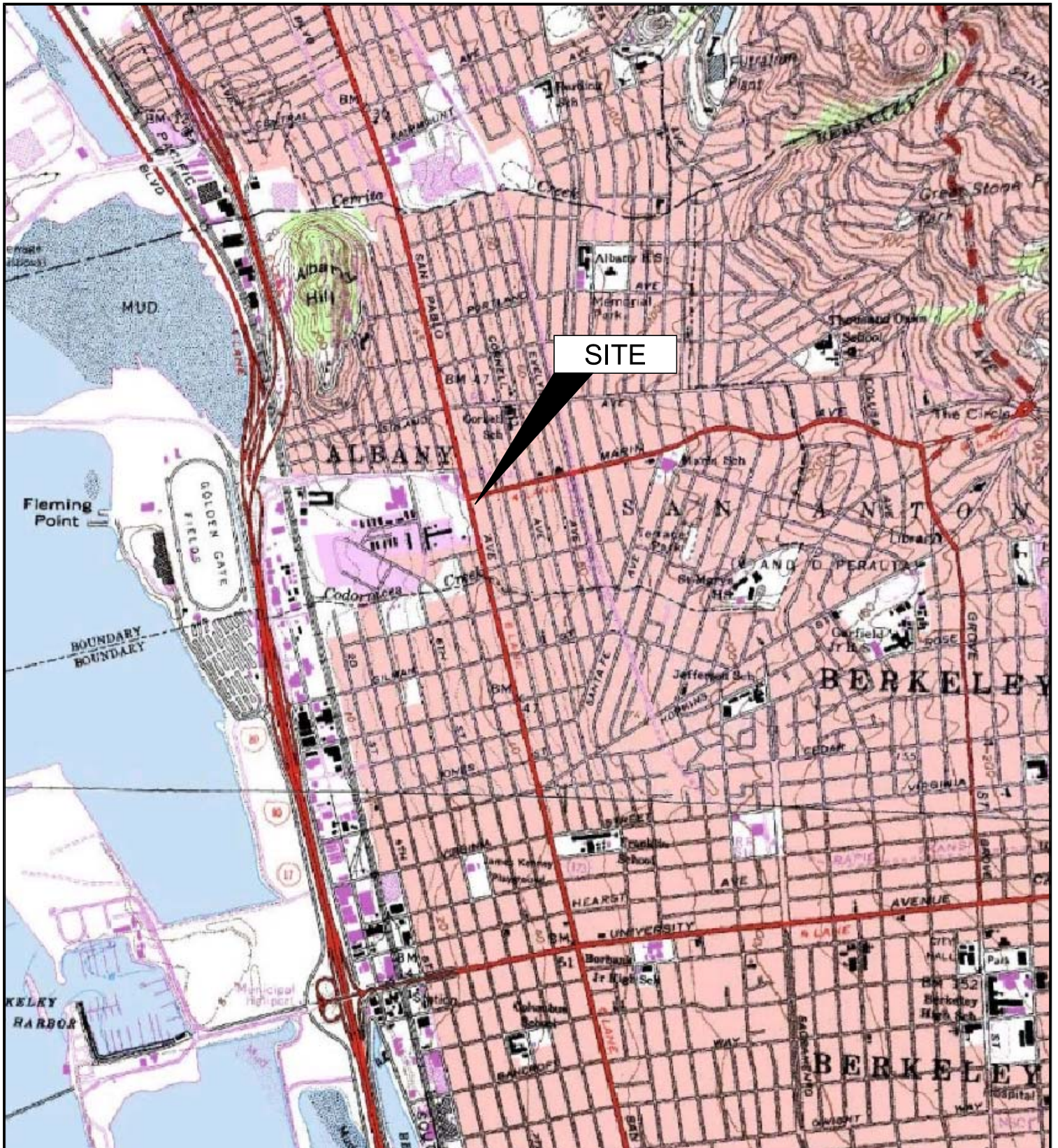
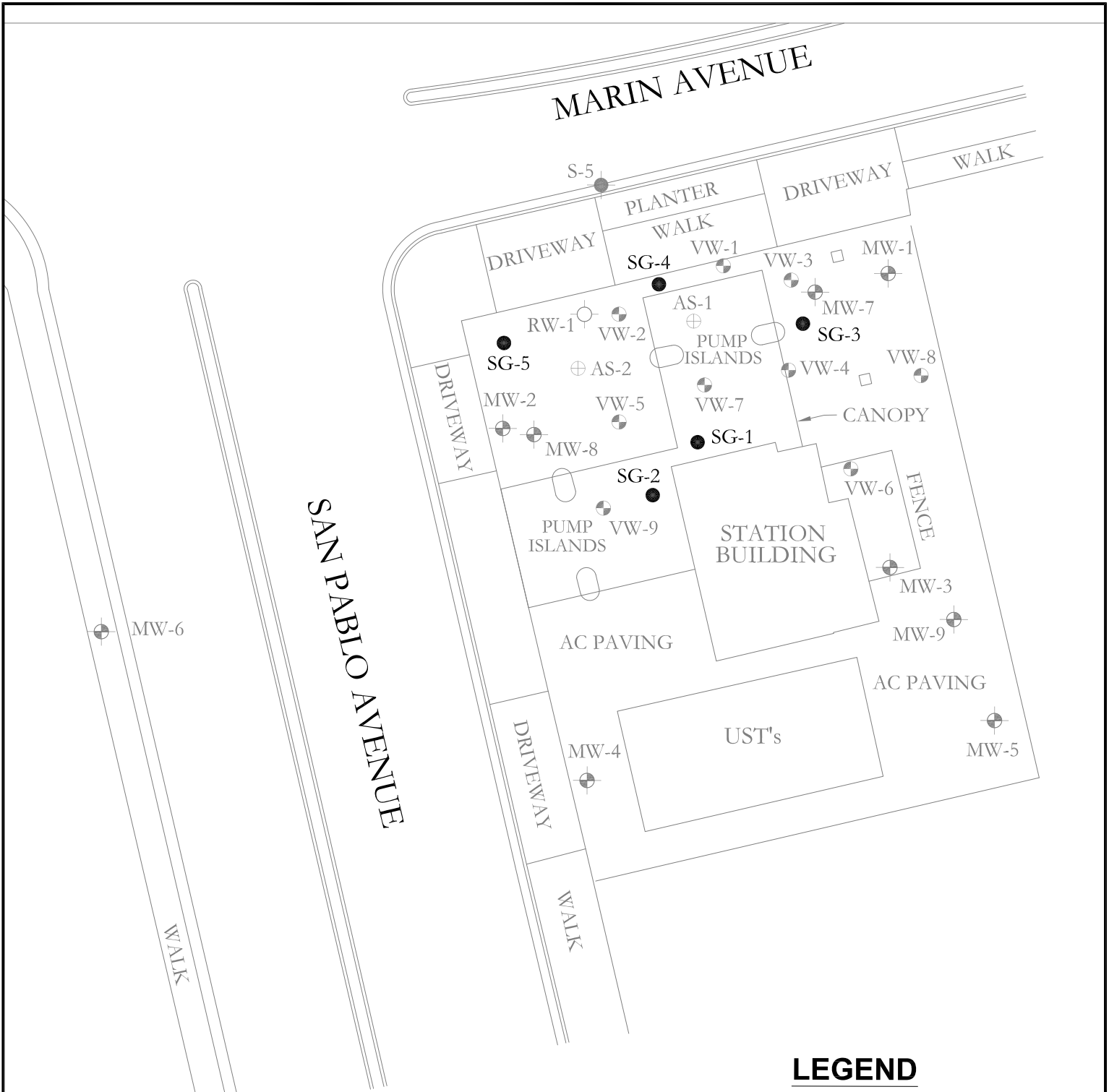


IMAGE SOURCE: USGS

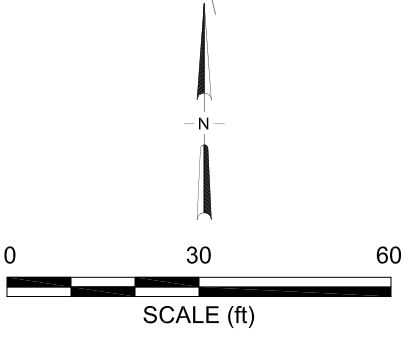




**LEGEND**

- Soil Gas Boring/ Temporary Vapor well
- ⊕ (ARCO) Monitoring well
- ⊙ (ARCO) Vapor extraction well
- ⊕ (ARCO) Air sparge well
- S-5 ● (Shell) Monitoring well

NOTES: SITE MAP ADAPTED FROM WOOD RODGERS FIGURE. SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.



APPENDIX A  
RECENT REGULATORY CORRESPONDENCE

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

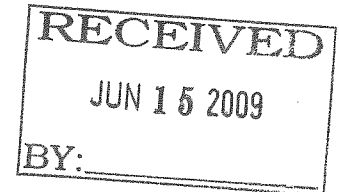


06.88-610  
BP 2035

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

June 11, 2009

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



Subject: Fuel Leak Case No. RO0000100 and GeoTracker Global ID T0600100081, ARCO #02035, 1001 San Pablo Avenue, Albany, CA 94706

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, "Soil and Groundwater Investigation Report," dated May 20, 2009, which was prepared by Broadbent & Associates, Inc. (BAI) for the subject site. The investigation was conducted to verify the effectiveness of the previously operated soil vapor extraction system. Three groundwater monitoring wells (MW-7 through MW-9) were installed as part of the investigation. Soil sample analytical results during monitoring well installations detected TPH-g as high as 860 mg/kg in soil sample MW-7 collected at 14 feet bgs, and benzene as high as 1.8 mg/kg in soil sample MW-8 collected at 13 feet bgs. Although both concentrations of contaminants were below their historic high concentrations of TPH-g and benzene detected in 1991 at 4,200 mg/kg and 36 mg/kg, respectively, the concentrations currently detected may still pose a risk to human health and the environment.

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

**TECHNICAL COMMENTS**

1. **Elevated Benzene in Soil** – As mentioned above, elevated benzene concentrations as high as 1.8 mg/kg in soil sample MW-8 at 13 feet bgs was detected at the site. Based on the review of the borings logs, this soil sample was characterized as "moist" and appears to have been collected from the capillary fringe. Therefore, the benzene concentrations detected in the sample appear to be indicative of vadose zone soil conditions and may pose a vapor inhalation risk at the site. To evaluate this data gap, as well as the effectiveness of the vapor extraction system, collection of soil vapor and/or sub-slab samples appears necessary. Please propose a scope of work to address the above-mentioned concerns and submit a work plan due by the date specified below.
2. **Groundwater Contaminant Plume Monitoring** – BAI recommends replacing monitoring wells MW-1 through MW-3 with the newly installed monitoring wells MW-7 through MW-9 to the sampling schedule. ACEH concurs with replacing monitoring wells MW-1 through MW-3 with the newly installed wells to the monitoring schedule. However, quarterly groundwater

sampling has been conducted for the most part since 1992 and a site specific monitoring plan should be prepared and a monitoring frequency reduction appears warranted. Therefore, please submit a groundwater monitoring plan for review. This may include a combination of quarterly, semi-annually, or annually sampled groundwater monitoring wells. Please include the proposal in the soil and groundwater investigation work plan due by the date specified below. In the interim, please initiate semi-annual groundwater monitoring until the monitoring plan has been submitted.

#### **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:

- **August 10, 2009** – Soil and Water Investigation Work Plan
- **Due within 30 Days of Sampling** – Semi-annual Monitoring Report (3<sup>rd</sup> Quarter 2009)

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](http://www.swrcb.ca.gov/ust/electronic_submittal/report_rqmts.shtml)).

#### **PERJURY STATEMENT**

**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](mailto:paresh.khatri@acgov.org).

Sincerely,



Paresh C. Khatri  
Hazardous Materials Specialist

Enclosure: ACEH Electronic Report Upload (ftp) Instructions



Mr. Supple  
RO0000100  
June 11, 2009, Page 4

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



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

September 3, 2009

Paul Supple (Sent via E-Mail to: [paul.supple@bp.com](mailto:paul.supple@bp.com))  
Atlantic Richfield Company  
(A BP Affiliated Company)  
P.O. Box 1257  
San Ramon, CA 94583

Subject: Soil Vapor Sampling at Fuel Leak Case No. RO0000100 and GeoTracker Global ID  
T0600100081, ARCO #02035, 1001 San Pablo Avenue, Albany, CA 94706

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, "Vapor Intrusion Assessment Work Plan," dated August 10, 2009, which was prepared by Broadbent & Associates, Inc. (BAI) for the subject site. BAI proposes to collect three soil vapor samples at the site to evaluate potential contaminant volatilization to indoor air exposure pathway.

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.

#### **TECHNICAL COMMENTS**

1. **Soil Vapor Sampling Locations** – As mentioned above, BAI proposes to collect three soil vapor samples located on the north, northwest and west sides of the Station Building at the site. Although the proposed sampling locations appear to evaluate potential contaminant volatilization to indoor in the vicinity of the service station building, the proposed locations do not appear to evaluate the entire site, including the north and west sides of the property where elevated hydrocarbon contaminant concentrations in groundwater have been detected at the site. Also, it is important to note that case closure evaluation for the site is based on not only the current land use scenario, but future land use as well. Therefore, it is conceivable that a commercial structure could be constructed over areas of elevated residual hydrocarbons at the site, which were not adequately characterized. To adequately characterize the site, additional soil vapor sampling locations in the areas of likely impact appear justified. Please include additional vapor sampling points in the down-gradient vicinity of monitoring wells S-5, MW-7, and MW-8. Also, please submit a revised site figure that identifies the additional sampling points, due by the date specified below.

### **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:

- **September 25, 2009** – Revised Site Figure
- **December 23, 2009** – Soil and Water Investigation Report
- **October 5 or 30, 2009** – Groundwater Monitoring Report (3<sup>rd</sup> Quarter 2009)

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](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

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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](mailto:paresh.khatri@acgov.org).

Sincerely,

Paresh C. Khatri  
Hazardous Materials Specialist

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: Tom Venus, Broadbent & Associates, Inc., 1324 Mangrove Ave., Ste 212, Chico, CA 95926  
(Sent via E-mail to: [tvenus@broadbentinc.com](mailto:tvenus@broadbentinc.com))

Donna Drogos, ACEH (Sent via E-mail to: [donna.drogos@acgov.org](mailto:donna.drogos@acgov.org))

Paresh Khatri, ACEH (Sent via E-mail to: [paresh.khatri@acgov.org](mailto:paresh.khatri@acgov.org))

GeoTracker

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