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By Alameda County Environmental Health at 2:47 pm, Jul 02, 2014

## Atlantic Richfield Company

**Chuck Carmel**  
Remediation Management Project Manager

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June 27, 2014

Re: Second Addendum to Soil Vapor Investigation Work Plan  
Atlantic Richfield Company Station #374  
6407 Telegraph Avenue, Oakland, California  
ACEH Case #RO0000078

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

Submitted by,



Chuck Carmel  
Remediation Management Project Manager

Attachment



**BROADBENT**

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*Creating Solutions. Building Trust.*

June 27, 2014

06-88-602

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

Attn: Mr. Chuck Carmel

RE: Second Addendum to Soil Vapor Investigation Work Plan, Atlantic Richfield Company Station No.374, 6407 Telegraph Avenue, Oakland, California; ACEH Case No. RO0000078

Dear Mr. Carmel,

Broadbent & Associates, Inc. (Broadbent) is pleased to present this second addendum letter proposing additions to the scope of work to the Soil Vapor Investigation Work Plan (Work Plan; Broadbent, 2012) and Addendum to the Soil Vapor Investigation Work Plan (First Addendum; Broadbent, 2013) at ARCO Station #0374 located at 6407 Telegraph Avenue, Oakland, Alameda County, California (Site).

The Work Plan and First Addendum were originally approved by the Alameda County Environmental Health Agency (ACEH) in a meeting in September 19, 2013. The original scope of work described in these documents included advancing three total soil vapor probes with two depth discrete intervals at each location. One of the locations was proposed onsite near well MW-4, where high residual benzene compounds remain. The remaining two locations were to be advanced offsite, near an adjacent apartment complex. However, property access was initially denied by the adjacent property owner. In an email dated October 8, 2013, the ACEH agreed to allow the onsite soil vapor probe location to be installed and collect data from that location prior to determining if the offsite locations were necessary. The onsite soil vapor probe installation and sampling was carried out in November 2013. The scope of work was changed slightly due to field conditions. Only one soil vapor probe at a shallower depth located approximately 15 feet away from the originally-proposed location was installed. Results of the sampling from this soil vapor probe indicated that no petroleum hydrocarbons were present in soil vapor. Based on these results, a closure request was subsequently submitted to the ACEH (Broadbent, 2014). This closure request was denied by the ACEH in an email dated May 28, 2014. In a meeting on June 6, 2014, it was agreed to by BP and the ACEH that additional vapor intrusion assessment, and soil and groundwater investigation activities would be carried out. The additional scope of work is presented below. Additionally, the request for closure was retracted by BP pending the results of this additional assessment.

#### **ADDITIONAL SCOPE OF WORK**

Proposed soil vapor probe installation and sampling activities include those previously proposed offsite in the First Addendum. Property access to the adjacent apartment building will be secured prior to conducting this work. It is our understanding that the ACEH will aid in securing access with the offsite property owners. In addition to vapor intrusion activities, Broadbent will attempt to obtain building

plans for the adjacent apartment building from the City of Oakland to aid in the assessment of potential risks to the occupants of this building. Details of the proposed soil vapor probe installation and sampling activities are presented in the Work Plan and First Addendum.

In addition to the offsite vapor intrusion assessment, additional soil and groundwater assessment activities are proposed. These activities include advancing a total of three direct push borings. Two of the proposed borings are located offsite across Alcatraz Avenue, and the third near the adjacent apartment building, near the proposed soil vapor probe locations. The proposed soil vapor probe and direct-push soil boring locations are included in Drawing 1.

Prior to the start of field activities, Broadbent will obtain drilling permits from the Alameda County Public Works Agency (ACPWA). An encroachment permit for work in Alcatraz Avenue will also be secured from the City of Oakland. In addition, Broadbent will prepare a Site Health and Safety Plan (HASP) for the proposed work, prepare a Ground Disturbance Permit for BP, clear the Site for subsurface utilities, and provide a minimum 72 hour advance notification to ACPWA prior to 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 field investigation and securing the services of a private utility locating company to confirm the absence of underground utilities at the well location. The Site-specific HASP will be prepared for use by personnel implementing the work plan. A copy of the HASP will be available on-site during work.

A Broadbent field geologist will observe a California-licensed drilling company advance the soil borings. The borings will be advanced to a depth of 6.5 ft by hand auger and/or an air knife/vacuum-extraction rig in accordance with Broadbent's Environmental Drilling/Ground Disturbance Procedures. During clearance to 6.5 ft bgs, a soil sample will be collected at 3.0-3.5 ft bgs, from each boring using a hand auger. Below 6.5 ft bgs, borings will be advanced by a direct push rig with soil samples collected continuously to the depth of groundwater. Soil will be classified according to the Unified Soil Classification System (USCS), and will be examined using visual and manual methods for parameters including odor, staining, color, grain size, and moisture content. A photo-ionization detector (PID) will be utilized to screen and record the concentrations of total volatile organic compounds. Soil samples retained for analysis will be selected based on field observations and PID. One grab-groundwater sample will be collected from each borehole by inserting a small-diameter bailer into each open borehole and decanting the water into laboratory-supplied containers appropriate for the analyses. The soil borings will be abandoned upon completion by filling cement bentonite grout mix to the surface.

Soil and groundwater samples will be submitted under chain-of-custody protocol to TestAmerica Laboratories of Irvine, California, a California State-certified environmental laboratory. The samples will be analyzed for the following: GRO (C6-C12) by EPA Method 8015M; BTEX, MTBE, ethyl tert-butyl ether (ETBE), tert-amyl methyl ether (TAME), di-isopropyl ether (DIPE), tert-butyl alcohol (TBA), 1,2 dichloroethane (1,2 DCA), 1,2 dibromoethane (EDB), ethanol and naphthalene by EPA Method 8260B.

Excess soil and groundwater produced during the field activities will be temporarily stored onsite in 55-gallon, DOT-approved drums, pending characterization for proper management. Broadbent will assist with arranging for the removal and transportation of surplus soils and liquids to appropriate California-regulated facilities.

## DOCUMENTATION AND REPORTING

Upon completion of the work activities described above and after receipt of laboratory analytical data, Broadbent will prepare a Vapor Intrusion, Soil and Groundwater Investigation Report containing the following information at a minimum:

- Descriptions of the work performed
- Data gathered concerning building details of the adjacent apartment building
- Copies of the required permits
- Copies of the field notes
- Tabulated results and measurements
- Laboratory analytical reports with chain-of-custody records
- An updated Conceptual Site Model (CSM)

## PROPOSED SCHEDULE


The schedule for the above-noted work is proposed to proceed as follows:

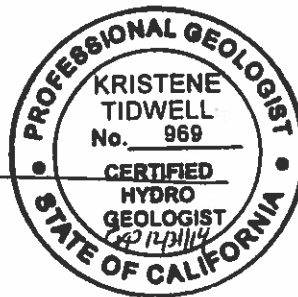
- Implement Soil Gas Investigation – Within 30 days of securing adjacent site access.
- Submittal of Vapor Intrusion, Soil and Groundwater Investigation Report – Within 90 days of securing adjacent site access.

## CLOSURE

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

Sincerely,  
BROADBENT & ASSOCIATES, INC.

  
Kristene Tidwell, P.G., C.H.G.  
Senior Hydrogeologist



## Attachments

Drawing 1      Site Map with Proposed Addition Soil Vapor Probe and Soil Boring Locations

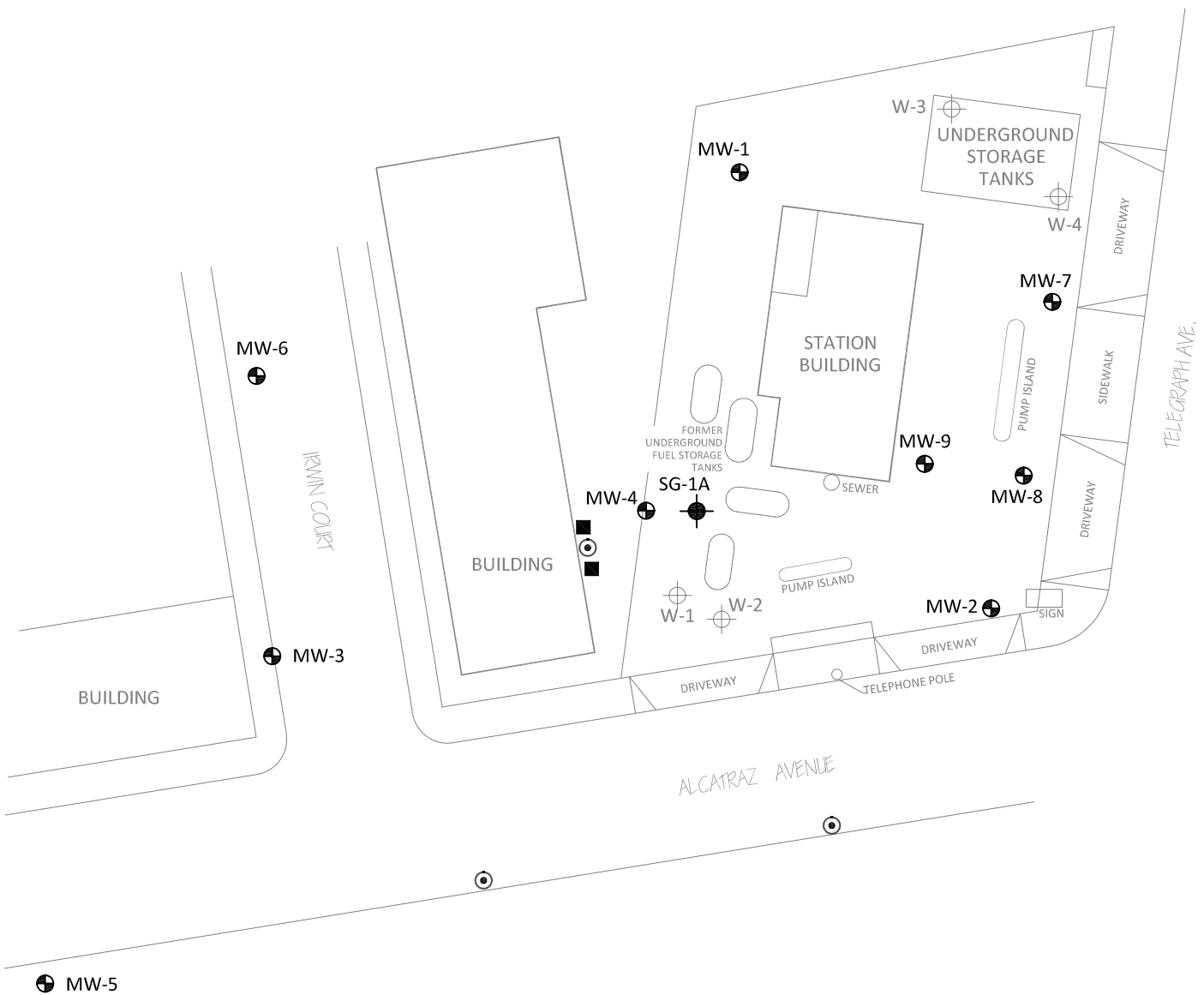
## References

Broadbent & Associates, 2012. Soil Vapor Investigation Work Plan. Atlantic Richfield Company Station No. 374, 6407 Telegraph Avenue, Oakland California, ACEH Case No. RO 0000078. November 20.

Broadbent & Associates, 2013. Conceptual Site Model and Addendum to the Soil Vapor Investigation Work Plan. Atlantic Richfield Company Station No. 374, 6407 Telegraph Avenue, Oakland California, ACEH Case No. RO 0000078. May 28.

Broadbent & Associates, 2014. Soil Vapor Investigation Report, Updated Conceptual Site Model, and Case Closure Request. Atlantic Richfield Company Station No. 374, 6407 Telegraph Avenue, Oakland California, ACEH Case No. RO 0000078. March 28.

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



**LEGEND**

- ⊕ Monitoring Well Location
- ⊕ Tank Pit Monitoring Well Location
- ⊕ Soil Vapor Probe Location
- ⊕ Proposed Soil Boring Location
- Proposed Soil Boring Nested Probe Locations - 3 Feet & 5 Feet

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

