

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

From: Skance, John [<mailto:John.Skance@bp.com>]
Sent: Thursday, September 06, 2012 10:36 AM
To: Roe, Dilan, Env. Health
Cc: Drogos, Donna, Env. Health; Couch, Shannon L. (URS); Wager, Janet J
Subject: RE: Arcadis Follow-up Discussion, BP #11133, Case No. RO0000403

Dilan-

I'm glad we were able to have a good follow-up discussion today, and that you and Donna were able to speak directly with Janet regarding the Arcadis sites. To confirm one part of our conversation, and in regard to your note below, for the RM sites (those managed by Shannon Couch), we will be retracting and re-issuing the 6 previously submitted closure requests. The specific sites are: #11104, #771, #374, #2112, #472, and #2035.

Janet will address #11133 with Arcadis, and they will respond to you regarding that site.

Regards-
JS

John C. Skance
Strategy Manager - US Retail & Logistics

Atlantic Richfield Company
(a BP affiliated company)
P.O. Box 1257
San Ramon, CA 94583
Office: 925.275.3802
Mobile: 925.818.3781
Soft Phone: 281.892.5061
Fax: 925.275.3815
Email: john.skance@bp.com

From: Roe, Dilan, Env. Health [<mailto:Dilan.Roe@acgov.org>]
Sent: Wednesday, September 05, 2012 6:00 PM
To: Skance, John
Cc: Drogos, Donna, Env. Health
Subject: RE: Arcadis Follow-up Discussion, BP #11133, Case No. RO0000403

Hi John:

I have attached two files for use during our teleconference call tomorrow – the first file provides an example of a work plan supported by a Site Conceptual Model presented in a simple format (consisting of tables and cross sections) as promised ; the second file is a copy of the SWRCB USTCF Notice of Opportunity for Public Comment and their UST Case Closure Summary for BP Station # 11133 (RO000403) posted to GeoTracker for public review on September 4, 2012.

As discussed last week, subsequent to our meeting with you, ACEH had a teleconference call with

Lisa Babcock from the SWRCB USTCF to discuss our concerns with the quality of data contained in the case files for BP Station #11133. During our discussion we indicated to Ms. Babcock that we had met with you to discuss the case, and that based on the data presented, BP intended to withdraw their request for closure until the data quality issues for the site were addressed. Nevertheless, Ms. Babcock stated that they were going to post their evaluation and see what kind of public response they would get. Given the timing of the USTCF posting, ACEH's concerns regarding their evaluation, and the data quality problems we discussed last week with the quality of documents prepared by ARCADIS and Broadbent, I think it is pertinent to discuss the USTCFs recommendation for case closure during our teleconference call tomorrow with Janet Wager.

The Notice of Opportunity for Public Comment states that the USTCF staff obtained the owner/operator's approval to recommend closure of the case and lists Janet Wager and Hollis Phillips as the BP Responsible Party. This statement seems counter to the discussion we had during our meeting last Wednesday whereby we agreed upon a strategy that BP would withdraw all the Case Closure requests submitted to ACEH in order to review the adequacy of the documents in light of the LTCP criteria and assess potential data quality issues similar to those found in the documents for BP Station #11133.

ACEH is committed to working with BP to identify sites that are candidates for closure under the LTCP, develop schedules and strategies for moving all sites toward closure in as efficient way as possible, and close those sites that meet the LTCP criteria using valid data. We are currently preparing our response to the USTCFs recommendation for closure while concurrently finalizing our evaluation of BP Station #11133 for closure consideration under the Low Threat Closure Policy as presented to you in our meeting last week, and would like to discuss BP's position on this matter during our call tomorrow.

Regards,

Dilan Roe, P.E.

Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502
510.567.6767; Ext. 36767
QIC: 30440
dilan.roe@acgov.org

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

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

From: Skance, John [<mailto:John.Skance@bp.com>]
Sent: Thursday, August 30, 2012 11:08 AM
To: Roe, Dilan, Env. Health
Subject: Re: Arcadis Follow-up Discussion

Dilan-

We are confirmed for Sept. 6th at 8:30am. I will issue a meeting invite later today with call-in info.

Regard-

JS

Sent using BlackBerry

From: Roe, Dilan, Env. Health [<mailto:Dilan.Roe@acgov.org>]
Sent: Thursday, August 30, 2012 11:04 AM
To: Skance, John
Subject: RE: Arcadis Follow-up Discussion

John:

Thursday September 6th at 8:30 works for us.

I am still working on pulling together the attachments and will forward sometime today.

Regards,

Thurs Sept 6th: 8am to 11am PDST

Dilan Roe, P.E.

Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502
510.567.6767; Ext. 36767
QIC: 30440
dilan.roe@acgov.org

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

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

From: Skance, John [<mailto:John.Skance@bp.com>]
Sent: Wednesday, August 29, 2012 3:48 PM
To: Roe, Dilan, Env. Health; Drogos, Donna, Env. Health
Cc: Wager, Janet J
Subject: Arcadis Follow-up Discussion

Dilan and Donna-

As promised during our meeting today, I contacted Janet Wager of BP this afternoon to brief her on your concerns regarding Arcadis' work in Alameda County, and to check her availability for a call next week to discuss the matter in more detail. The following days and time blocks would work for Janet and I:

Tues Sept. 4th: 10am to 3pm PDST

Wed Sept. 5th: 10am to 3pm PDST

Thurs Sept 6th: 8am to 11am PDST

Let us know what date and time you prefer and we will issue a meeting invite with call-in info.

Also, we would appreciate you sending over any additional information/specifics that you want to discuss in regard to Arcadis. I told Janet I would scan and email her what you provided Shannon and I today, but mentioned that there were a few more items you were planning to send over.

Lastly, here is Janet's contact info:

Janet J Wager

**Contracts Manager
BP Remediation Management
201 Helios Way, Sixth Floor
Houston, TX 77079
o: 281-366-7187
c: 281-619-3517**

Regards-
JS

John C. Skance
Strategy Manager - US Retail & Logistics

Atlantic Richfield Company
(a BP affiliated company)
P.O. Box 1257
San Ramon, CA 94583
Office: 925.275.3802
Mobile: 925.818.3781
Soft Phone: 281.892.5061
Fax: 925.275.3815
Email: john.skance@bp.com

State Water Resources Control Board

NOTICE OF OPPORTUNITY FOR PUBLIC COMMENT

**UNDERGROUND STORAGE TANK CLEANUP FUND (FUND) CASE CLOSURE
RECOMMENDATION PURSUANT TO HEALTH AND SAFETY CODE SECTION 25299.39.2:
CLAIM NUMBER: 5502, SITE ADDRESS: BP #11133,
2220 98TH AVENUE, OAKLAND, CA 94603**

NOTICE IS HEREBY GIVEN THAT the State Water Resources Control Board (State Water Board) will accept comments on the proposed underground storage tank (UST) case closure for Alameda County Environmental Health Care Agency case number RO0000403, 2220 98TH Avenue, Oakland, Alameda County. The State Water Board will be considering this UST case closure summary at a future board meeting. The meeting will be noticed separately.

Health & Safety Code section 25299.39.2 subdivision (a)(1) requires that the Fund Manager notify UST owners or operators who have a Letter of Commitment (LOC) that has been in active status for five or more years and to review the case history of these sites on an annual basis unless otherwise notified by the UST owner or operator. In addition, Health & Safety Code section 25299.39.2 further states that the Fund Manager, with approval of the UST owner or operator, may recommend regulatory case closure to the State Water Board. This process is called the "5-Year Review." The State Water Board may close or require the closure of any UST case.

Having obtained the owner/operator's approval, and pursuant to Health & Safety Code section 25299.39.2 subdivision (a)(1), the Fund Manager recommends closure of the UST. Enclosed is a copy of the UST Case Closure Summary for the UST case. The case closure summary contains information about the UST case and forms the basis for the UST Cleanup Fund Manager's recommendation to the State Water Board for UST case closure. A copy of the Case Closure Summary has been provided to the owner/operator, environmental consultant of record, the local agency that has been overseeing corrective action, the local water purveyor, and the water district specified by Health & Safety Code section 25299.39.2 subdivision (a)(1).

New requirements specified in Health & Safety Code section 25299.39.2 subdivision (a)(2) require that the State Water Board limit reimbursement of any correction action costs incurred after the date of this letter to \$10,000 per year, excepting special circumstances.

SUBMISSION OF WRITTEN COMMENTS

Written comments on the case closure summary to the State Water Board **must be received by 12:00 Noon on November 5, 2012**. After the deadline, staff will not accept additional written comments unless the State Water Board determines that such comments should be accepted. Please provide the following information in the subject line: **“Comment Letter – BP #11133 Case Closure Summary.”** Comments must be addressed to:


Ms. Jeanine Townsend
Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor [95814]
P.O. Box 100
Sacramento, CA 95812-0100
(tel) 916-341-5600
(fax) 916-341-5620
(email) commentletters@waterboards.ca.gov

Hand and special deliveries should also be addressed to Ms. Townsend at the address above. Couriers delivering comments must check in with lobby security and have them contact Ms. Townsend at (916) 341-5600.

Please direct questions about this notice to Bob Trommer, UST Cleanup Fund, at (916) 341-5684 (btrommer@waterboards.ca.gov) or Nathan Jacobsen, Staff Counsel at (916) 341-5181 (njacobsen@waterboards.ca.gov).

September 4, 2012

Date



Jeanine Townsend
Clerk to the Board



State Water Resources Control Board

UST CASE CLOSURE SUMMARY

Agency Information

Agency Name: Alameda County Environmental Health Department (Local Oversight Program (County))	Address: 1131 Harbor Bay Parkway, Alameda, CA 94502
Agency Caseworker: Dilan Roe	Case No. RO0000403

Case Information

USTCF Claim No.: 5502	Global ID: T0600100210
Site Name: BP #11133	Site Address: 2220 98 th Street, Oakland CA 94603
Responsible Party 1: ConocoPhillips, Attn: Terry Grayson	Address: 76 Broadway Street Sacramento, CA 95818
Responsible Party 2: Suncor Holdings Corp. Attn: Keith Marks	Address: 11601 Wilshire Blvd,#700 Los Angeles, CA 90025
Responsible Party 3: BP/ARCO, Janet Wager Attn: Hollis Phillips	Address: 100 Montgomery, Suite 300, San Francisco, CA 94104
USTCF Expenditures to Date: \$574,684	Number of Years Case Open: 25

URL: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0600100210

Summary

The Low-Threat Underground Storage Tank Case Closure Policy (Low-Threat Policy) contains general and media-specific criteria, and cases that meet those criteria are appropriate for closure pursuant to the Low-Threat Policy. This case meets all of the required criteria of the Low-Threat Policy. A summary evaluation of compliance with the Low-Threat Policy is shown in **Attachment 1: Closure of Underground Storage Tank Sites' Checklist for Compliance with State Water Board Policies and State Law**. The Conceptual Site Model upon which the evaluation of the case has been made is described in **Attachment 2: Summary of Basic Site Information**. Highlights of the Conceptual Site Model of the case follow:

This is currently a vacant lot. A leak was reported in June 1987 during the removal of USTs. Since 1998, thirteen monitoring wells have been installed, contaminated soil excavated, and soil and groundwater remediation accounting for the removal of 13,839 pounds of petroleum hydrocarbons from soil vapor and groundwater. According to groundwater data, water quality objectives have been achieved for all constituents except for TPH gasoline (TPHg), MTBE and benzene in one well. To date, \$574,684 in corrective action costs have been reimbursed by the Fund.

There are no public supply wells regulated by the California Department of Public Health (CDPH) near the Site. No domestic wells have been identified. Shallow groundwater is not currently being used as a source of drinking water. Water is provided to water users near the Site by the East Bay Municipal Utility District. It is highly unlikely that any groundwater that may be impacted will be used as a source of drinking water or other beneficial use in the foreseeable future. The corrective action performed is protective of human health, safety, and the environment.

The petroleum release is limited to the shallow soil and groundwater. The affected groundwater is not currently being used as a source of drinking water or for any other beneficial use, and it is highly unlikely that the affected groundwater will be used as a source of drinking water or for any other beneficial use in the foreseeable future. Public supply wells are usually constructed with competent sanitary seals and intake screens that are in deeper more protected aquifers. Other designated beneficial uses of impacted groundwater are not threatened and it is highly unlikely that they will be considering these factors in the context of the Site setting. Remaining petroleum hydrocarbon constituents are limited, stable and concentrations declining. Remedial actions have been implemented and further remediation would be ineffective and expensive. Additional assessment/monitoring will not likely change the conceptual model. Any remaining petroleum hydrocarbon constituents do not pose significant risk to human health, safety or the environment. The corrective action performed is protective of human health, safety, and the environment.

Rationale for Closure under the Low-Threat Policy

- General Criteria – The case meets all eight general criteria.
- Groundwater – The case meets Groundwater-Specific Criterion 1.
- Vapor Intrusion to Indoor Air – The case is a vacant lot. Vapor assessment indicates human health is protected.
- Direct Contact and Outdoor Air Exposure – This case meets Policy Criterion 3.B. A professional assessment of site-specific risk from exposure shows that maximum concentrations of petroleum constituents in soil will have no significant risk of adversely affecting human health.

Objections to Closure

The County states the following:

- Groundwater monitoring wells have submerged well screens so reported concentrations of contaminants may be lower than actual concentrations.
- Verification monitoring after implementation of remediation activities is underway. The scheduled date to end verification monitoring was the Fourth Quarter 2011, as approved in the corrective action plan (CAP). The final report for the approved work performed has not been submitted and is required before case closure consideration.
- The existing risk assessment is approximately ten years old and is considered by the County to be out-dated in its methods.
- There is a school within a quarter-mile.

Response to Objections to Closure


- Wells have had submerged screens only the last few years with any regularity – even then, most of the critical monitoring wells are commonly submerged less than three feet. Current (July 2011) data report wells AW-1, MW-3, and RW-1, as being submerged an average of less than a foot and a half, a fairly insignificant amount (especially in light of wells being purged prior to the collection of a sample). Wells AW-4 and MW-1 are not submerged currently. Measured concentrations are so low that the small degree of potential dilution is unlikely to mask petroleum hydrocarbons in quantities of concern to human health or the environment. Taken collectively, these five wells delineate the plume adequately to show concentration decrease over time and plume stability.
- The County did receive the required four quarters of verification monitoring data in a report titled: “Case Closure Summary Report, dated November 30, 2011”, which was uploaded to GeoTracker. The County denied this submittal on the basis it had not been uploaded to the County database. The County has had eight months to review this report and close the case.
- The risk assessment conducted by Montgomery Watson Harza was accepted by the County about nine years ago and has not previously been found to be deficient. The County has not required a new risk assessment nor identified areas where there is significant risk to human health or the environment.
- The nearest school, Reach Academy, is located across Bancroft Avenue, approximately 100 feet southwest (downgradient) of the groundwater plume. The plume is at least 25 years old and has not caused significant impacts to date, nor is it likely to now that groundwater has been remediated. The plume has been delineated and is restricted largely to the Site. Downgradient well AW-2, located in the Bancroft Avenue median, reports non-detect concentrations of the constituents of concern. The impacted zone on-site is ringed by wells with low to non-detect concentrations. Additionally, potential risk to off-site residents from soil vapor was evaluated by Montgomery Watson Harza in their 2002 risk assessment; no significant risk existed.

Fund Manager Recommendation for Closure

Based on available information, residual petroleum hydrocarbons at the Site do not pose significant risks to human health, safety, or the environment, and the case meets the requirements of the Low-Threat Policy. Accordingly, the Fund Manager recommends that the case be closed. The State Water Board is conducting public notification. The County has the regulatory responsibility to supervise the abandonment of monitoring wells.



Lisa Babcock, P.G. 3939, C.E.G. 1235



Date

ATTACHMENT 1: COMPLIANCE WITH STATE WATER BOARD POLICIES AND STATE LAW

The site complies with the State Water Resources Control Board policies and state law. Section 25296.10 of the Health and Safety Code requires that sites be cleaned up to protect human health, safety, and the environment. Based on available information, any residual petroleum constituents at the site do not pose significant risk to human health, safety, or the environment.

The site complies with the requirements of the Low-Threat Underground Storage Tank (UST) Case Closure Policy as described below.¹

<p>Is corrective action consistent with Chapter 6.7 of the Health and Safety Code and implementing regulations? The corrective action provisions contained in Chapter 6.7 of the Health and Safety Code and the implementing regulations govern the entire corrective action process at leaking UST sites. If it is determined, at any stage in the corrective action process, that UST case closure is appropriate, further compliance with corrective action requirements is not necessary. Corrective action at this site has been consistent with Chapter 6.7 of the Health and Safety Code and implementing regulations and, since this case meets applicable case-closure requirements, further corrective action is not necessary, unless the activity is necessary for case closure.</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>Have waste discharge requirements or any other orders issued pursuant to Division 7 of the Water Code been issued at this site?</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p>If so, was the corrective action performed consistent with any order? There was an order issued for this site. The corrective action performed in the past is consistent with that order. Since this case meets applicable case-closure requirements, further corrective action under the order that is not necessary, unless the activity is necessary for case closure.</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</p>
<p><u>General Criteria</u> General criteria that must be satisfied by all candidate sites:</p> <p>Is the unauthorized release located within the service area of a public water system?</p> <p>Does the unauthorized release consist only of petroleum?</p> <p>Has the unauthorized (“primary”) release from the UST system been stopped?</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>

¹ Refer to the Low-Threat Underground Storage Tank Case Closure Policy for closure criteria for low-threat petroleum UST sites.

<p>Has free product been removed to the maximum extent practicable?</p> <p>Has a conceptual site model that assesses the nature, extent, and mobility of the release been developed?</p> <p>Has secondary source been removed to the extent practicable?</p> <p>Has soil or groundwater been tested for MTBE and results reported in accordance with Health and Safety Code Section 25296.15?</p> <p>Nuisance as defined by Water Code section 13050 does not exist at the site?</p> <p>Are there unique site attributes or site-specific conditions that demonstrably increase the risk associated with residual petroleum constituents?</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>NA</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p><u>Media-Specific Criteria</u> Candidate sites must satisfy all three of these media-specific criteria:</p> <p>1. Groundwater: To satisfy the media-specific criteria for groundwater, the contaminant plume that exceeds water quality objectives must be stable or decreasing in areal extent, and meet all of the additional characteristics of one of the five classes of sites:</p> <p>Is the contaminant plume that exceeds water quality objectives stable or decreasing in areal extent?</p> <p>Does the contaminant plume that exceeds water quality objectives meet all of the additional characteristics of one of the five classes of sites?</p> <p>If YES, check applicable class: <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5</p> <p>For sites with releases that have not affected groundwater, do mobile constituents (leachate, vapors, or light non-aqueous phase liquids) contain sufficient mobile constituents to cause groundwater to exceed the groundwater criteria?</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>NA</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>NA</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> <p>NA</p>
<p>2. Petroleum Vapor Intrusion to Indoor Air: The site is considered low-threat for vapor intrusion to indoor air if site-specific conditions satisfy all of the characteristics of one of the three classes of sites (a through c) or if the exception for active commercial fueling facilities applies.</p> <p>Is the site an active commercial petroleum fueling facility?</p>	

<p>Exception: Satisfaction of the media-specific criteria for petroleum vapor intrusion to indoor air is not required at active commercial petroleum fueling facilities, except in cases where release characteristics can be reasonably believed to pose an unacceptable health risk.</p> <p>a. Do site-specific conditions at the release site satisfy all of the applicable characteristics and criteria of scenarios 1 through 3 or all of the applicable characteristics and criteria of scenario 4? If YES, check applicable scenarios: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4</p> <p>b. Has a site-specific risk assessment for the vapor intrusion pathway been conducted and demonstrates that human health is protected to the satisfaction of the regulatory agency?</p> <p>c. As a result of controlling exposure through the use of mitigation measures or through the use of institutional or engineering controls, has the regulatory agency determined that petroleum vapors migrating from soil or groundwater will have no significant risk of adversely affecting human health?</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</p>
<p>3. Direct Contact and Outdoor Air Exposure: The site is considered low-threat for direct contact and outdoor air exposure if site-specific conditions satisfy one of the three classes of sites (a through c).</p> <p>a. Are maximum concentrations of petroleum constituents in soil less than or equal to those listed in Table 1 for the specified depth below ground surface (bgs)?</p> <p>b. Are maximum concentrations of petroleum constituents in soil less than levels that a site specific risk assessment demonstrates will have no significant risk of adversely affecting human health?</p> <p>c. As a result of controlling exposure through the use of mitigation measures or through the use of institutional or engineering controls, has the regulatory agency determined that the concentrations of petroleum constituents in soil will have no significant risk of adversely affecting human health?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA</p>

ATTACHMENT 2: SUMMARY OF BASIC SITE INFORMATION (Conceptual Site Model)

Site Location/ History

- The Site currently consists of a vacant, flat lot covered with gravel, soil, concrete, and low-lying vegetation, and is located at the southeastern corner of 98th Avenue and Bancroft Avenue in Oakland, California. BP acquired the Site from Mobil Oil Corporation in 1989; and, in January 1994, BP transferred the Site to TOSCO Marketing Company (TOSCO; now known as ConocoPhillips) and did not operate the facility. TOSCO ceased the capability of gasoline retail operations at the Site in 1999.
- The land use in the immediate vicinity of the Site is mixed commercial and residential.
- In June 1987, soil contamination was identified.
- Thirteen monitoring wells have been installed and monitored regularly.
- Site map showing the location of the former USTs, monitoring wells, and groundwater level contours is provided at the end of this summary.

Pollutant Source

- Nature of Contaminants of Concern: Petroleum hydrocarbons only.
- Source, Date Reported, and Status of Release: UST system, June 15, 1987, USTs removed.
- Free-Phase Hydrocarbons: Yes.

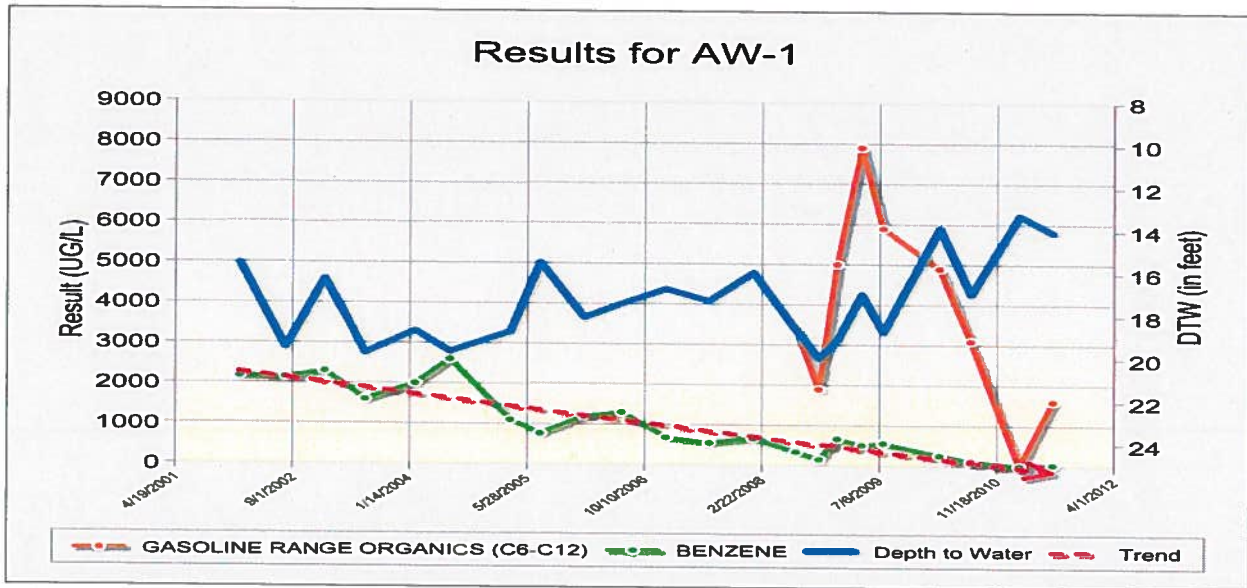
Geology/ Hydrogeology

- Stratigraphy: The Site is underlain by clay, silty clay and clayey silt.
- Maximum Sample Depth: 32 feet bgs.
- Minimum Groundwater Depth: 5.31 feet below ground surface (bgs) at monitoring well VEW-9.
- Maximum Groundwater Depth: 21.07 feet bgs at monitoring well AW-9.
- Current Average Depth to Groundwater: 14 feet bgs.
- Saturated Zones(s) Studied: 5 - 35 bgs.
- Groundwater Flow Direction: West with an average gradient of 0.01 feet/foot (ft/ft).

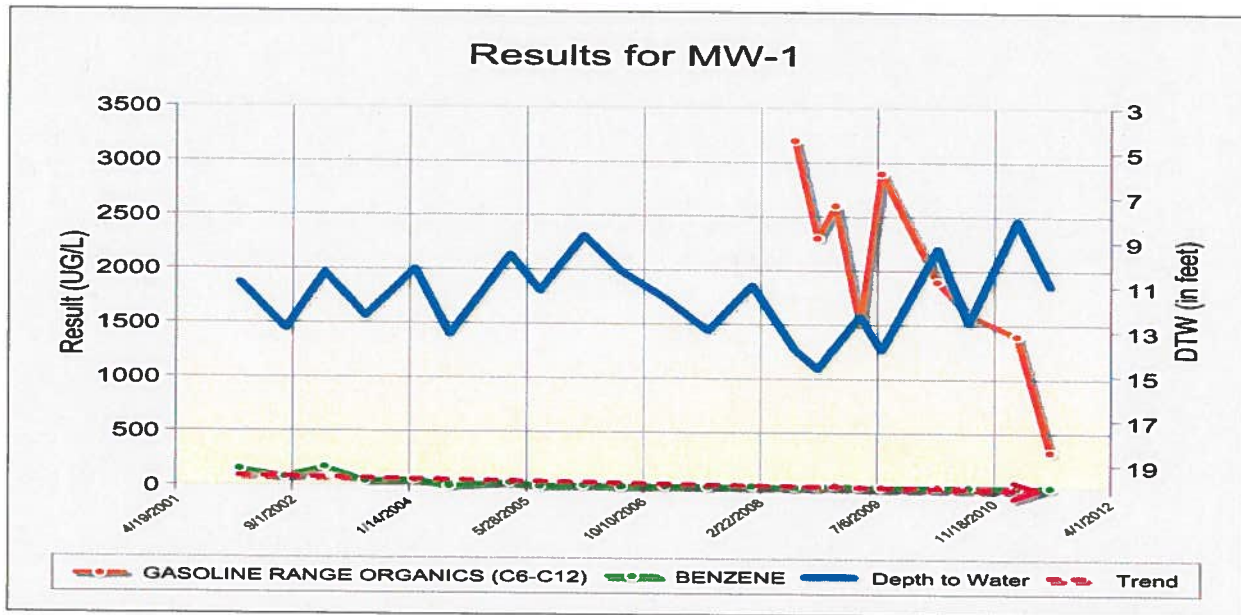
Groundwater Trends:

- There are 21 years of groundwater monitoring data for this Site which demonstrate the concentrations are decreasing and the plume is stable.

Source area well



Downgradient well near property line.



Receptors

- GW Basin: Santa Clara Valley – East Bay Plain.
- Beneficial Uses: Municipal and Domestic Supply.
- Land Use Designation: Unspecified, however review of aerial photography indicates land use in the area is of mixed use with a park to the west, a school to the south and southwest, and multifamily residential to the north and east.
- Public Water System: East Bay Municipal Utility District.

- Distance to Nearest Supply Well: According to data available in GeoTracker, there are no public supply wells regulated by CDPH within ½ mile of the Site. No domestic wells were identified in any of the files reviewed.

Risk Criteria

- Estimate of Hydrocarbon Mass in Soil: None reported.
- Soil/Groundwater tested for MTBE: Yes, see table below.
- Plume Mobility: Petroleum hydrocarbon constituents are limited to a very small area near the former service station building (AW-1) and the TPHg plume does not extend beyond the property boundary.
- Contaminated Zone(s) Used for Drinking Water: No.
- Risk from Residual Petroleum Hydrocarbon: Results of the Oakland RBCA Tier 3 evaluation completed by Newfields in 2000, indicated that “residual levels of petroleum hydrocarbons at the Site were below City of Oakland and United States Environmental Protection Agency (USEPA) acceptable cancer risk and non-cancer risk levels.”

In May 2002, Montgomery Watson Harza (MWH) performed a revised RBCA evaluation for the Site using Oakland and ASTM Tier 1 through Tier 3 RBCA values (MWH 2002). Results of the MWH RBCA evaluation indicated that the theoretical upper-bound incremental lifetime cancer risks and non-cancer hazard indices associated with levels of TPH, BTEX, and MTBE in site soil and groundwater were below acceptable levels. Accordingly, it was concluded that no further action was necessary for the protection of human health at the Site.

The most current soil concentrations are below the thresholds in Table 1 of the Policy. However, there are no results in GeoTracker for naphthalene. The amount of naphthalene in gasoline is very low – generally on the order of 0.25 percent (Potter and Simmons, 1998). The amount of benzene, however, is on the order of 3 percent (ten times greater). Since the concentrations of benzene at this Site are lower than the Table 1 naphthalene threshold concentration, it is highly unlikely that naphthalene concentrations in soil at the Site, if any, exceed that threshold.

Remediation Summary (Secondary Source Removal)

- Free Product: Yes, up to 1.11 feet in MW-1 and 1.38 feet in RW-1. A total of 162 gallons recovered by 2001. No free product has been reported since 2001.
- Soil Excavation: Two excavations have occurred at the Site:
1987 - An unknown amount of soil was excavated, transported and disposed offsite.
1998 - Approximately 655 tons of soil was excavated, transported and disposed offsite.
- In-Situ Soil and Groundwater Remediation: A soil vapor extraction system (SVE) in conjunction with a groundwater extraction and treatment system (GWETS) was installed and started operation in 1994. In December 1998, when the system was turned off, a total of 13,839 pounds of petroleum hydrocarbons were documented to have been removed.

Supporting Site Data

Tank Information

Tank No.	Size in Gallons	Contents	Closed in Place/ Removed/Active	Date
1	10,000	Gasoline	Removed	June 1987
2	8,000	Gasoline	Removed	June 1987
3	5,000	Gasoline	Removed	June 1987
4	10,000	Gasoline	Removed	October 1998
5	10,000	Gasoline	Removed	October 1998
6	12,000	Gasoline	Removed	October 1998

Monitoring Well Information

Well Designation	Date Installed	Screen Interval (feet bgs)	Depth to Water (feet bgs) (7/14/2011)
AW-1	June 1990	15-35	14.05
AW-2	April 1991	20-40	14.92
AW-3	April 1991	15-35	13.54
AW-4	June 1990	15-35	15.50
AW-5	April 1991	20-45	16.7
AW-6	April 1991	20-35	14.23
AW-7	April 1991	20-35	No Access
AW-8	April 1991	20-40	14.92
AW-9	January 1997	12-28	15.85
MW-1	May 1988	10-29	10.96
MW-2	May 1988	12-32	8.90
MW-3	May 1988	14-34	11.96
RW-1	April 1991	15-40	13.87

Petroleum Hydrocarbon Constituent Concentration

Contaminant	Soil (mg/kg)		Water (ug/L)		WQOs (ug/L)
	Maximum 0-5 ft bgs ^a	Maximum 5-10 ft bgs ^a	Maximum ^b	Latest (7/14/2011)	
TPHg	9.4	23	1,800,000	1,600	NL
TPHd	3,900	<1	NA	NA	NL
Benzene	0.9	0.92	57,000	35	1
Toluene	0.096	0.48	190,000	<0.5	300
Ethylbenzene	0.52	0.23	48,000	92	700
Xylenes	3	0.96	281,000	6.8	1,750
MTBE	4	NA	7,400	47	5
TBA	NA	NA	2,100	20	1,200 ^c
Naphthalene	NA	NA	NA	NA	170 ^d

NA: Not Analyzed, Not Applicable or Data Not Available

NL: Not listed

mg/kg: milligrams per kilogram, parts per million

ug/L: micrograms per liter, parts per billion

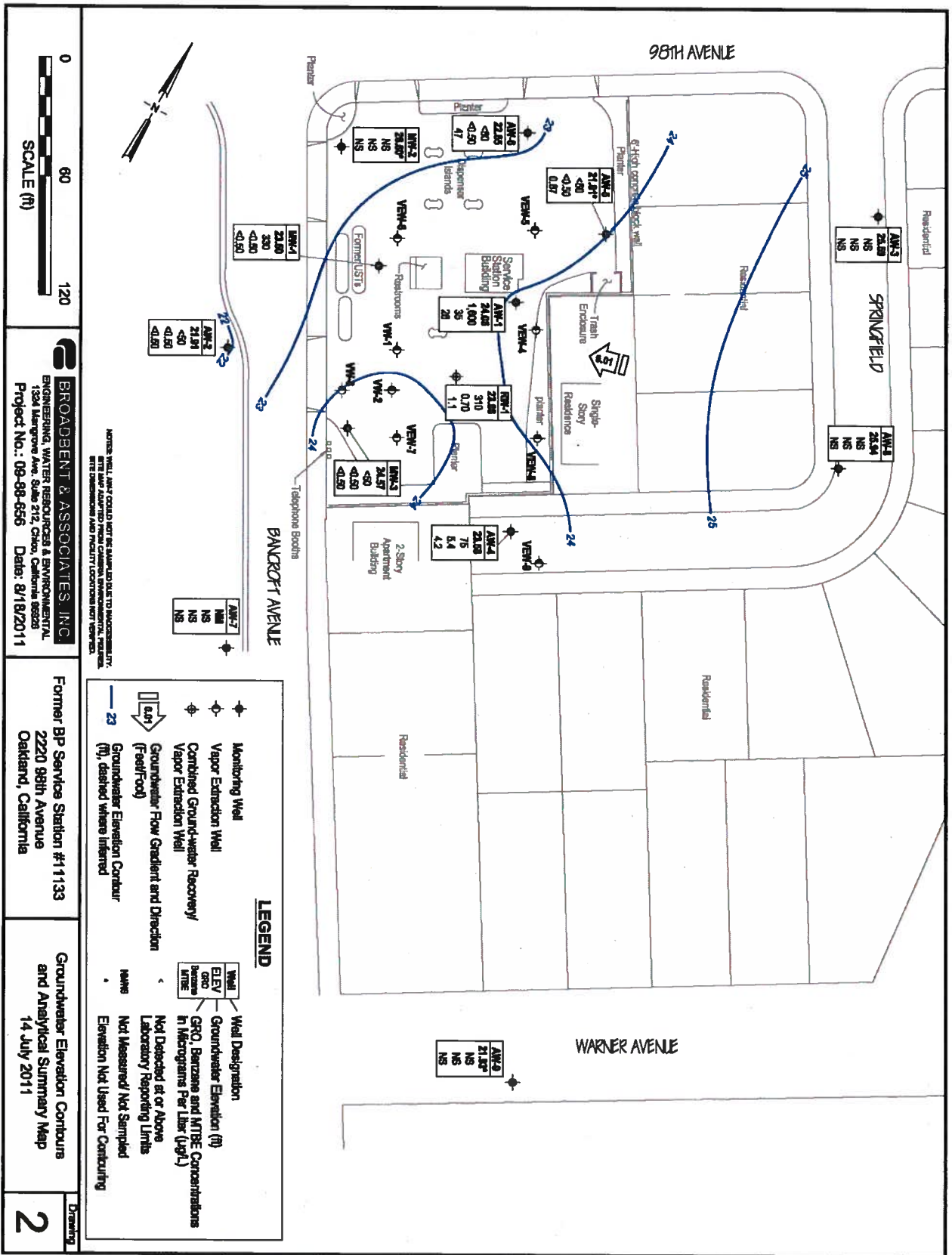
WQOs: Water Quality Objectives, Region 2 Basin Plan

^a According to Reports, soil

^b According to Geotracker, wells

^c California Department of Public Health Response Level

^d California Department of Public Health, Action level in drinking water



BROADBENT & ASSOCIATES, INC.
 ENGINEERING, WATER RESOURCES & ENVIRONMENTAL
 1324 Mariposa Ave., Suite 212, Chico, California 95926
 Project No.: 09-98-856 Date: 8/18/2011

Former BP Service Station #11133
 2220 98th Avenue
 Oakland, California

Groundwater Elevation Contours
 and Analytical Summary Map
 14 July 2011

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