ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Agency Director

DEPARTMENT OF ENVIRONMENTAL HEALTH
OFFICE OF THE DIRECTOR
1131 HARBOR BAY PARKWAY
ALAMEDA, CA 94502
(510) 567-6777
FAX (510) 337-9135

June 11, 2013

Shannon Couch
Atlantic Richfield Co.
P.O. Box 1257
San Ramon, CA 94583
(Sent via E-mail to Shannon.couch@bp.com)

Ed Ralston
Phillips 66
76 Broadway
Sacramento, CA 95818
(Sent via E-mail to: Ed.C.Ralston@p66.com)

Raymond Yeung
1541 Park St.
Alameda, CA 94501

Subject: Case Closure Transmittal; Fuel Leak Case No. RO0000318 and GeoTracker Global ID T0600100207, BP#11266, 1541 Park St., Alameda, CA 94501

Dear Ms. Couch and Messrs. Ralston and Yeung:

This letter transmits the enclosed underground storage tank (UST) case closure letter in accordance with Chapter 6.75 (Article 4, Section 25299.37[h]). The State Water Resources Control Board adopted this letter on February 20, 1997. As of March 1, 1997, the Alameda County Environmental Health (ACEH) is required to use this case closure letter for all UST leak sites. We are also transmitting to you the enclosed case closure summary. These documents confirm the completion of the investigation and cleanup of the reported release at the subject site. The subject fuel leak case is closed.

SITE INVESTIGATION AND CLEANUP SUMMARY

Please be advised that the following conditions exist at the site:

- Residual pollution remaining in soil beneath the site includes TPH as oil and grease and lead at concentrations of up to 150 ppm and 910 ppm, respectively.
- Maximum concentrations of up to 900 ppb TPH as gasoline, 1,000 ppb TPH as diesel, 48 ppb ethylbenzene, and 6 ppb MTBE remain in groundwater beneath the site.
- Case closure for this fuel leak site is granted for the current commercial land use only as a gasoline station. If a change in land use to any other commercial, residential or other conservative land use scenario occurs at this site, Alameda County Environmental Health (ACEH) must be notified as required by Government Code Section 65850.2.2. ACEH will re-evaluate the case upon receipt of approved development/construction plans.
- Excavation or construction activities in areas of residual contamination require planning and implementation of appropriate health and safety procedures by the responsible party (or current property owner/developer) prior to and during excavation and construction activities.

If you have any questions, please call Dilan Roe at (510) 567-6767. Thank you.

Sincerely,

Donna L. Drogos, P.E.
Division Chief

Enclosures:
1. Remedial Action Completion Certificate
2. Case Closure Summary

cc: Ms. Cherie McCaulou (w/enc.), SF- Regional Water Quality Control Board, 1515 Clay Street, Suite 1400, Oakland, CA 94612, (sent via electronic mail to CMacaulou@waterboards.ca.gov)
Leroy Griffin, Oakland Fire Department 250 Frank H. Ogawa Plaza, Ste. 3341, Oakland, CA 94612-2032 (sent via electronic mail to lgriffin@oaklandnet.com)
Dilan Roe (w/ enc via e-mail), D. Drogos (w/ enc via e-mail), T. Le (w/orig enc)

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Agency Director

DEPARTMENT OF ENVIRONMENTAL HEALTH
OFFICE OF THE DIRECTOR
1131 HARBOR BAY PARKWAY
ALAMEDA, CA 94502
(510) 567-6777
FAX (510) 337-9135

REMEDIAL ACTION COMPLETION CERTIFICATION

June 11, 2013

Shannon Couch
Atlantic Richfield Co.
P.O. Box 1257
San Ramon, CA 94583
(Sent via E-mail to: shannon.couch@bp.com)

Ed Ralston
Phillips 66
76 Broadway
Sacramento, CA 95818
(Sent via E-mail to: Ed.C.Ralston@p66.com)

Raymond Yeung
1541 Park St.
Alameda, CA 94501

Subject: Case Closure for Fuel Leak Case No. RO0000318 and GeoTracker Global ID T0600100207, BP#11266, 1541 Park St., Alameda, CA 94501

Dear Ms. Couch and Messrs. Ralston and Yeung:

This letter confirms the completion of a site investigation and remedial action for the underground storage tanks formerly located at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tank(s) are greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, this agency finds that the site investigation and corrective action carried out at your underground storage tank(s) site is in compliance with the requirements of subdivisions (a) and (b) of Section 25299.37 of the Health and Safety Code and with corrective action regulations adopted pursuant to Section 25299.77 of the Health and Safety Code and that no further action related to the petroleum release(s) at the site is required.

Claims for reimbursement of corrective action costs submitted to the Underground Storage Tank Cleanup Fund more than 365 days after the date of this letter or issuance or activation of the Fund's Letter of Commitment, whichever occurs later, will not be reimbursed unless one of the following exceptions applies:

- Claims are submitted pursuant to Section 25299.57, subdivision (k) (reopened UST case); or
- Submission within the timeframe was beyond the claimant's reasonable control, ongoing work is required for closure that will result in the submission of claims beyond that time period, or that under the circumstances of the case, it would be unreasonable or inequitable to impose the 365-day time period.

This notice is issued pursuant to subdivision (h) of Section 25299.37 of the Health and Safety Code. Please contact our office if you have any questions regarding this matter.

Sincerely,

Ariu Levi
Director

Alameda County Environmental Health

CASE CLOSURE SUMMARY
LEAKING UNDERGROUND FUEL STORAGE TANK - LOCAL OVERSIGHT PROGRAM

I. AGENCY INFORMATION

Date: July 23, 2012

Agency Name: Alameda County Environmental Health	Address: 1131 Harbor Bay Parkway
City/State/Zip: Alameda, CA 94502-6577	Phone: (510) 777-2478
Responsible Staff Person: Paresh Khatri	Title: Senior Hazardous Materials Specialist

II. CASE INFORMATION

Site Facility Name: BP #11266		
Site Facility Address: 1541 Park Street, Alameda, CA 94501-2933		
RB Case No.: 01-0221	StID No.: 624	LOP Case No.: RO0000318
URF Filing Date: ---	Global ID No.: T0600100207	APN: 71-202-6

Responsible Parties	Addresses	Phone Numbers
Shannon Couch c/o Atlantic Richfield Company	P.O. Box 1257, San Ramon, CA 94583	925.275.3804
Phillips 66 c/o Ed Ralston	76 Broadway, Sacramento, CA 95818	916.558.7633
Raymond Yeung	1541 Park Street, Alameda, CA 94501-2933	---

Tank I.D. No	Size in Gallons	Contents	Closed In Place/Removed?	Date
1	8,000	Gasoline	Removed	09/1987
2	6,000	Gasoline	Removed	09/1987
3	5,000	Gasoline	Removed	09/1987
4	250	Waste Oil	Removed	09/1987
Piping			Removed	09/1990 12/1999

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and Type of Release: Exact release source is unknown; upon excavation in 1987 the USTs were described as being in good condition.	
Site characterization complete? Yes	Date Approved By Oversight Agency: ---

Monitoring wells installed? Yes	Number: 7	Proper screened interval? Yes
Highest GW Depth Below Ground Surface: 6.24 ft (below top of casing)	Lowest Depth: 11.49 ft (below top of casing)	Flow Direction: Northeast, Southeast, South
Most Sensitive Current Use: Potential Drinking Water Source.		

Summary of Production Wells in Vicinity: A 2,000-ft radius well survey was performed for the Site. Ten irrigation wells, two industrial/municipal wells, one domestic well, and one abandoned well were identified. Four of the irrigations wells were reportedly located down-gradient from the Site. The down-gradient wells are approximately 1,500 down-gradient and do not appear to be receptors due to their distance from the site.	
Are drinking water wells affected? No	Aquifer Name: East Bay Plain
Is surface water affected? No	Nearest SW Name: Alameda Canal located approximately 2,000 feet northeast of the site.
Off-Site Beneficial Use Impacts (Addresses/Locations): None	
Reports on file? Yes	Where are reports filed? Alameda County Environmental Health

TREATMENT AND DISPOSAL OF AFFECTED MATERIAL

Material	Amount (Include Units)	Action (Treatment or Disposal w/Destination)	Date
Tank	1 x 8,000-gallon UST 1 x 6,000-gallon UST 1 x 5,000-gallon UST 1 x 250-gallon UST	Disposal, destination not reported	09/1987
Piping	---	Product lines removed in December 1999, destination not reported	12/1999
Free Product	---	---	---
Soil	400 cu yds	Disposal, destination not reported	09/1987
Groundwater	---	---	---

MAXIMUM DOCUMENTED CONTAMINANT CONCENTRATIONS BEFORE AND AFTER CLEANUP
(Please see Attachments for additional information on contaminant locations and concentrations)

Contaminant	Soil (ppm)		Water (ppb)	
	Before	After	Before	After
TPH (Gas)	3,200 (C1, 11.5', 9/15/1987)	<0.240 (SB-02, 11.5', 10/26/10)	530,000 (W-1, 1987)	900 (RW-1, 7/12/2010)
TPH (Diesel)	--	--	1,000 (MW-1, 8/24/2006)	1,000 (MW-1, 8/24/2006)
TPH (Oil & Grease)	150 (W.0-1, 7.5', 9/16/1987)	150 (W.0-1, 7.5', 9/16/1987)	--	--
Benzene	81 (C1, 11.5', 9/15/1987)	<0.004 (SB-02, 11.5', 10/26/10)	6,300 (W-1, 1987)	<0.5 (RW-1, 7/12/2010)
Toluene	42 (C1, 11.5', 9/15/1987)	<0.004 (SB-02, 11.5', 10/26/10)	66,000 (W-1, 1987)	27 (RW-1, 7/12/2010)
Ethylbenzene	0.013 (PD-3, 2', 12/08/1999)	<0.004 (SB-02, 11.5', 10/26/10)	1,800 (RW-1, 2/1/1995)	48 (RW-1, 7/12/2010)
Xylenes	460 (C1, 11.5', 9/15/1987)	<0.009 (SB-02, 11.5', 10/26/10)	200,000 (W-1, 1987)	220 (RW-1, 7/12/2010)
Heavy Metals (Cd, Cr, Pb, Ni, Zn)[5]	910[6] (PD-4, 2', 12/08/1999)	910[6] (PD-4, 2', 12/06/1999)	54.2 (MW-1, 6/30/2009)	5.0 (RW-1, 7/12/2010)
MTBE	0004[4] (SB-02, 11.5', 10/26/2010)	<0.004[3] (SB-02, 11.5', 10/26/10)	68,412[2] (MW-1, 3/29/1994)	6[1] (RW-1, 7/12/2010)
Other (8240/8270)	--	--	--	--

[1] 6 µg/L MtBE, <40 µg/L TBA, <5.0 µg/L DIPE, <5.0 µg/L ETBE, <5.0 µg/L TAME, <5.0 µg/L EDB, <5.0 µg/L 1.2-DCA, <1,000 µg/L ethanol.
[2] 68,412 µg/L MtBE, <200 µg/L TBA, <10 µg/L DIPE, <10 µg/L ETBE, <10 µg/L TAME, <10 µg/L EDB, <10 µg/L 1.2-DCA, <1,000 µg/L ethanol.
[3] TBA, DIPE, ETBE, TAME, EDB, 1.2-DCA and EtOH not analyzed.
[4] TBA, DIPE, ETBE, TAME, EDB, 1.2-DCA and EtOH not analyzed.
[5] All metals results are for Pb
[6] Pb concentrations detected were not removed and no recent verification monitoring conducted.
NA - Not Analyzed

Site History and Description of Corrective Actions:

The Site is located on the Southwest corner of the intersection of Lincoln Avenue and Park Street in Alameda, California (**Figure 1**). The station is currently an active 76-brand gasoline service station. Structures on the site include a service station building with three service bays and four pump islands with dispensers. The site is generally flat and surfaced in asphalt and concrete. Properties surrounding the site are primarily commercial and retail. The USTs on-site consist of one 12,000 gallon and two 10,000 gallon double walled fiberglass gasoline underground storage tanks (USTs). A 1,000 gallon double-walled fiberglass UST is used to store waste motor oil on-site. The first documented installation of USTs onsite was in 1987 when older and undocumented USTs were removed.

There are currently five on-site groundwater monitoring wells (MW-1 through MW-5) and one offsite monitoring well (MW-6) located in the Southern lane of Lincoln Avenue. One recovery well (RW-1) is located on the Northern portion of the site. A site map with soil boring and well locations is provided as **Figure 2**.

On September 15, 1987, Kaprealian Engineering, Inc (KEI) oversaw the removal and replacement of three gasoline USTs and one used oil UST at the Site. Two gasoline USTs (6,000- and 8,000-gallons) were single-walled fiberglass, while the third gasoline UST and used oil UST (5,000- and 250-gallons, respectively) were of steel construction. KEI collected eight sidewall samples from the excavation for the gasoline USTs and one bottom sample from the used oil UST excavation. KEI reported that bottom samples were not collected from the excavation for the gasoline USTs due to the presence of groundwater at approximately 12 feet bgs. In addition, one grab groundwater sample was collected from the gasoline UST excavation pit.

During UST removal activities, sidewall soil samples collected from the gasoline UST excavation at a depth of 11.5 feet bgs detected total petroleum hydrocarbons as gasoline (TPH-g) at concentrations ranging from non-detect to 3,200 milligrams per kilogram (mg/kg), benzene at concentrations ranging from non-detect to 81 mg/kg, toluene at concentrations ranging from non-detect to 42 mg/kg, and total xylenes at concentrations ranging from non-detect to

450 mg/kg. Concentrations of TPH-g, benzene, toluene, and total xylenes in the groundwater sample collected from beneath the former gasoline USTs were detected at 530,000 micrograms per liter (µg/L), 6,300 µg/L, 66,000 µg/L, and 200,000 µg/L, respectively (analytical results are summarized on the last page of **Table 1)** . One soil sample collected from beneath the used oil UST at a depth of 7.5 feet was non-detect for total petroleum hydrocarbons as diesel (TPH-d) and volatile organic hydrocarbons (VOCs), but detected 150 mg/kg total oil and grease (TOG).

On February 9, 1988, KEI oversaw the installation of three on-site exploratory soil borings to a depth of 25 ft bgs and subsequent installation of two-inch diameter groundwater monitoring wells (MW-1 through MW-3). One soil sample was collected from each boring at approximately 10 ft bgs. On February 11, 1998, the wells were developed, purged, and groundwater samples collected. The soil sample collected from MW-1 detected concentrations of TPH-g at 2.4 mg/kg, benzene at 0.1 mg/kg, toluene at 0.2 mg/kg and total xylenes at 0.7 mg/kg. The groundwater sample collected from MW-1 detected concentrations of TPH-g at 95,000 µg/L, benzene at 2,000 µg/L, toluene at 5,900 µg/L, ethylbenzene at 1,100 µg/L , and total xylenes at 10,000 µg/L. Soil and groundwater samples from borings/wells MW-2 and MW-3 detected no reportable concentrations of TPH-g or BTEX above laboratory detection limits. In addition, the groundwater sample from MW-3 was also analyzed for TPH-d, TOG, and VOCs; none of which were present above the method detection limits (MDL)

On March 22, 1989, KEI oversaw the drilling and installation of three additional two-inch diameter groundwater monitoring wells at the Site to a maximum depth of 25 feet bgs (MW-4 through MW-6). Two soil samples were collected from each boring at approximately 5 and 10 ft bgs. The wells were developed and purged on March 28, 1989, and on March 29, 1989 groundwater samples were collected from wells MW-1 through MW-6. Groundwater samples collected from well MW-1 detected reportable concentrations of TPH-g at 25,000 µg/L, benzene at 930 µg/L, toluene at 2,600 µg/L, ethylbenzene at 24 µg/L, and total xylenes at 3,100 µg/L. Minor BTEX concentrations were reported in the groundwater sample from well MW-2. No hydrocarbons were detected above MDLs in the soil or groundwater samples collected from wells MW-3 through MW-6.

On November 15, 1989, EMCON oversaw Tracer Research Corporation advance three direct-push borings on- and off-site (B-1 through B-3). Grab groundwater samples were collected from open boreholes B-1 through B-3 and from wells MW-2 and MW-6. Samples were screened onsite by means of a gas chromatograph for TPH-g and BTEX. Reportedly, an unknown non-fuel VOC was detected but not identified in samples from monitoring well MW-2 and MW-4. Analytical results for TPH-g and benzene ranged from non-detectable concentrations to maximum concentrations of 15,000 µg/L (MW-1) and 280 µg/L (MW-1).

Additionally in November 1989, EMCON performed aquifer testing at the Site. A step-drawdown test and a constant-discharge test were conducted in a two-inch diameter ground-water monitoring well (MW-5). Based on the results of the tests, EMCON estimated that the aquifer underlying the Site had an average specific capacity of approximately 330 gallons per day per foot (gpd/ft) and could sustain a yield of 0.5 gallons per minute (gpm). EMCON described these values as approximate due to well insufficiencies (high hydraulic head losses through the screen and sand pack).

On April 13, 1992, HETI oversaw the installation of one, six-inch diameter recovery well (RW-1) on-site. The well placement was based on previous EMCON aquifer testing, which suggested a well placed at this location would provide an area of influence (capture zone) sufficient to capture a 40-ft diameter petroleum hydrocarbon plume when pumping at 0.5 gpm. In the HETI Remedial Action Plan dated February 28, 1992, the recovery well was proposed to be installed to a depth of 25 ft bgs, and screened from five to 25 ft bgs. HETI reported in their Quarterly Monitoring Report dated May 4, 1992 that RW-1 was installed to a depth of 30 feet bgs. An actual screen interval was not provided within the report. Soil samples were not collected during the installation of the recovery well.

On December 6, 1999, Paradiso Mechanical removed and replaced the product dispensers and the associated underground piping at the Site. SECOR conducted soil sampling activities following excavation operations. SECOR reported that four soil samples, designated (PD-1 through PD-4) were collected from the excavation under the product dispensers. Soil sample PL-1 and PL-2 were collected from below the product piping excavations. The highest concentrations of hydrocarbons were detected in sample PD-3 at 2.0 mg/kg TPH-g, 0.009 mg/kg Benzene, 0.051 mg/kg Toluene, 0.013 mg/kg Ethylbenzene, and 0.15 mg/kg Xylenes. The highest concentrations of lead were observed in sample PD-4 at 910 mg/kg total lead, 39 milligrams per liter (mg/l) lead by California Waste Extraction Test (WET), and 1.2 mg/l lead by Toxicity Characteristic Leaching Procedure (TCLP).

On June 10, 2009, Stratus oversaw RSI Drilling in the advancement of two soil borings (B-1 and B-2) to a maximum depth of 9.5 feet bgs. The soil borings were advanced in effort to confirm elevated concentrations from soil sample C-1. The soil sample C-1 was collected during the initial UST removal and investigation in 1987 as a sidewall sample and reported the highest historical soil concentrations of TPH-g and benzene at 3,200 mg/Kg and 81 mg/Kg respectively. Only B-2 was completed as planned as crews encountered pea gravel and a metal object in clearing B-1 and abandoned the boring due to the presence of pea gravel and its proximity to the dispenser islands, product lines and utility lines. Boring B-2 was advanced to a maximum depth of 9.5-feet bgs near the former waste oil tank

excavation pit in the area of the sample location W.O.-1 (BAI, 2009).

On October 26, 2010 ARCADIS supervised WDC Exploration & Wells, Inc. in the advancement of one direct-push soil boring SB-02 (**Figure 2**) to assess the nature and extent of impacts to soil in the area of historic soil sample C-1, which contained elevated concentrations of petroleum hydrocarbons. A soil sample was collected from boring SB-02 at a depth of approximately 11.5 ft bgs and subsequent analysis reported all analytes below laboratory reporting limits with the exception of lead which reported a concentration of 2.0 mg/Kg (ARCADIS, 2010).

Groundwater monitoring of site monitoring wells began on October 10, 1988. The original groundwater monitoring schedule employed by KEI consisted of three monitoring events and one sampling event per quarter. The groundwater monitoring schedule was discontinued in October 2001. A one-time sampling event was performed on October 25, 2006 to maintain integrity of the groundwater monitoring wells. An additional onetime sampling event was conducted in June of 2009 in accompaniment of the soil investigation activities conducted by BAI. Groundwater sample analytical results are summarized on **Table 2.** Currently the highest reported concentrations of COCs in groundwater are from RW-1 with concentrations of TPH-g at 900 µg/L and benzene at 5.0 µg/L; and MW-2 with concentrations of MTBE at 6.0 µg/L collected on July 12, 2010.

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? Yes		
Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? Yes		
Does corrective action protect public health for current land use? Alameda County Environmental Health staff does not make specific determinations concerning public health risk. However, based upon the information available in our files to date, it does not appear that the release would present a significant risk to human health based upon current land use and conditions.		
Site Management Requirements: Case closure for this fuel leak site is granted for the current commercial land use only as a gasoline station. If a change in land use to any other commercial, residential or other conservative land use scenario is proposed at this site, Alameda County Environmental Health (AECH) must be notified as required by Government Code Section 65850.2.2. ACEH will re-evaluate the case upon receipt of approved development/construction plans. Excavation or construction activities in areas of residual contamination require planning and implementation of appropriate health and safety procedures by the responsible party (or current property owner/developer) prior to and during excavation and construction activities.		
Should corrective action be reviewed if land use changes? Yes.		
Was a deed restriction or deed notification filed? No		Date Recorded: ---
Monitoring Wells Decommissioned: No	Number Decommissioned: 0	Number Retained:7
List Enforcement Actions Taken: None		
List Enforcement Actions Rescinded: ---		

V. ADDITIONAL COMMENTS, DATA, ETC.

Considerations and/or Variances:

- Concentrations of TPH-g and benzene in the soil were detected up to 3,200 mg/kg and 81 mg/kg, respectively in September 1987. In a boring installed in the vicinity in 2010, TPH-g and benzene were not detected above the laboratory detection limit.
- Concentrations of TPH-g and benzene in groundwater have been detected at 900 µg/L 5.0 µg/L, respectively.
- Concentrations of Pb in soil up to 910 mg/kg remain in place.

Conclusion:

Alameda County Environmental Health staff believe that the levels of residual contamination do not pose a significantly threat to water resources, public health and safety, and the environment under the current commercial

leak case is necessary unless a change in land use to any other commercial, residential or other conservative land use scenario occurs at the site. ACEH staff recommend closure for the site.

VI. LOCAL AGENCY REPRESENTATIVE DATA

Prepared by: Paresh Khatri	Title: Sr. Hazardous Materials Specialist
Signature: Paresh Khatri	Date: July 23, 2012
Approved by: Donna L. Drogos, P.E.	Title: Division Chief
Signature: Donna L. Drogos	Date: 07/27/12

This closure approval is based upon the available information and with the provision that the information provided to this agency was accurate and representative of site conditions.

VII. REGIONAL BOARD NOTIFICATION

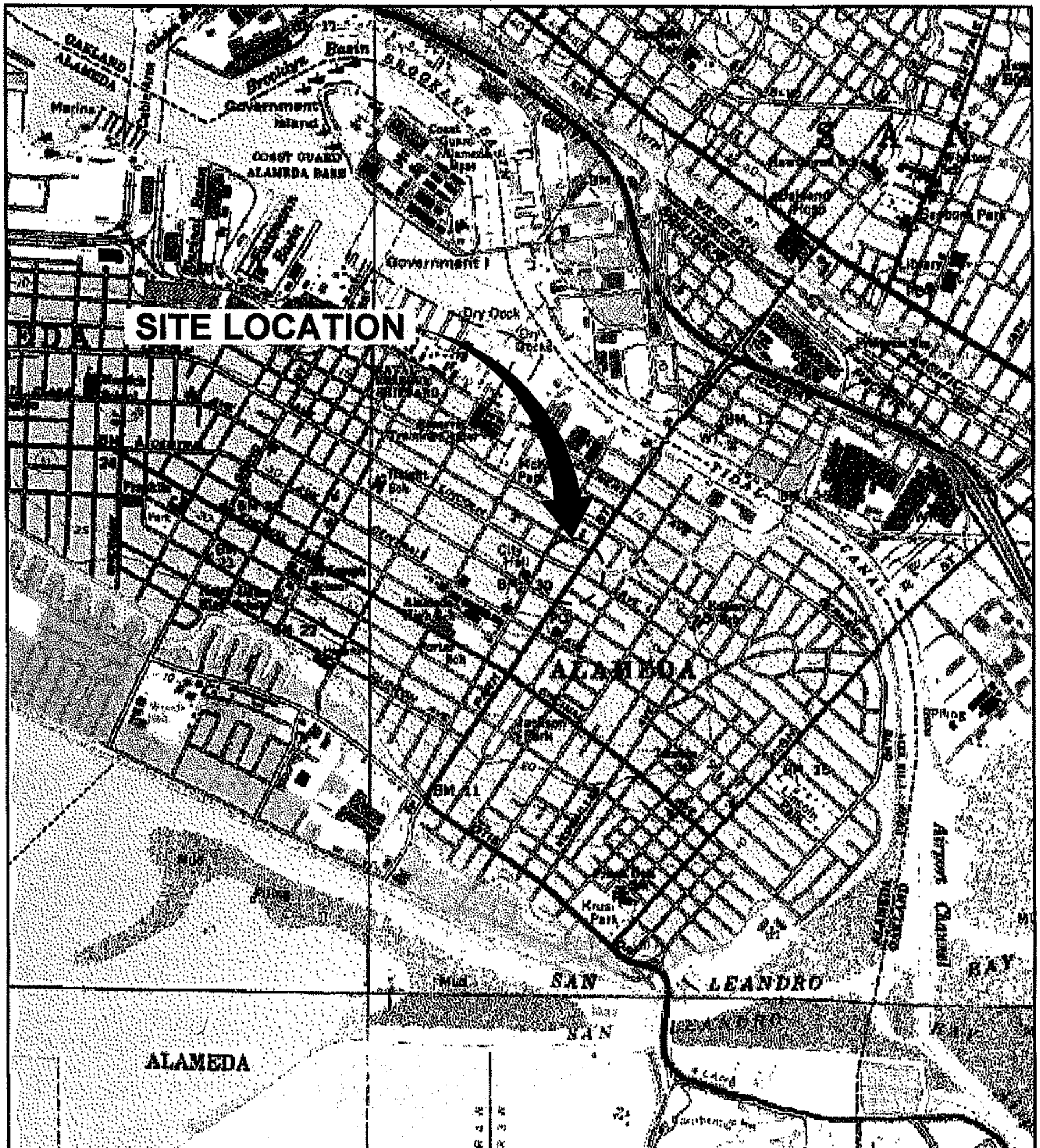
Regional Board Staff Name: Cherie McCaulou	Title: Engineering Geologist
Notification Date: 1/3/13	

VIII. MONITORING WELL DECOMMISSIONING

Date Requested by ACEH: 1/3/13	Date of Well Decommissioning Report: 2/21/13	
All Monitoring Wells Decommissioned:	Number Decommissioned: 7	Number Retained: 0
Reason Wells Retained: — — —		
Additional requirements for submittal of groundwater data from retained wells: None		
ACEH Concurrence - Signature: Dilan Roe	Date: 6/11/2013	

Attachments:
1. Site Figures 1-13
2. Analytical Tables 1-6
3. Boring Logs (17 pp)

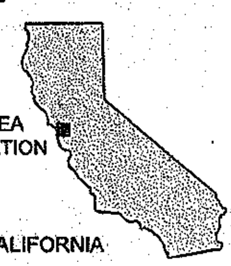
This document and the related CASE CLOSURE LETTER & REMEDIAL ACTION COMPLETION CERTIFICATE shall be retained by the lead agency as part of the official site file.



REFERENCE: BASE MAP USGS 7.5. MIN. TOPO. QUAD.,OAKLAND WEST, CA., 1993, AND SAN LEANDRO, 1993, REVISED 1996.

0 2000' 4000'

Approximate Scale: 1 in. = 2000 ft.



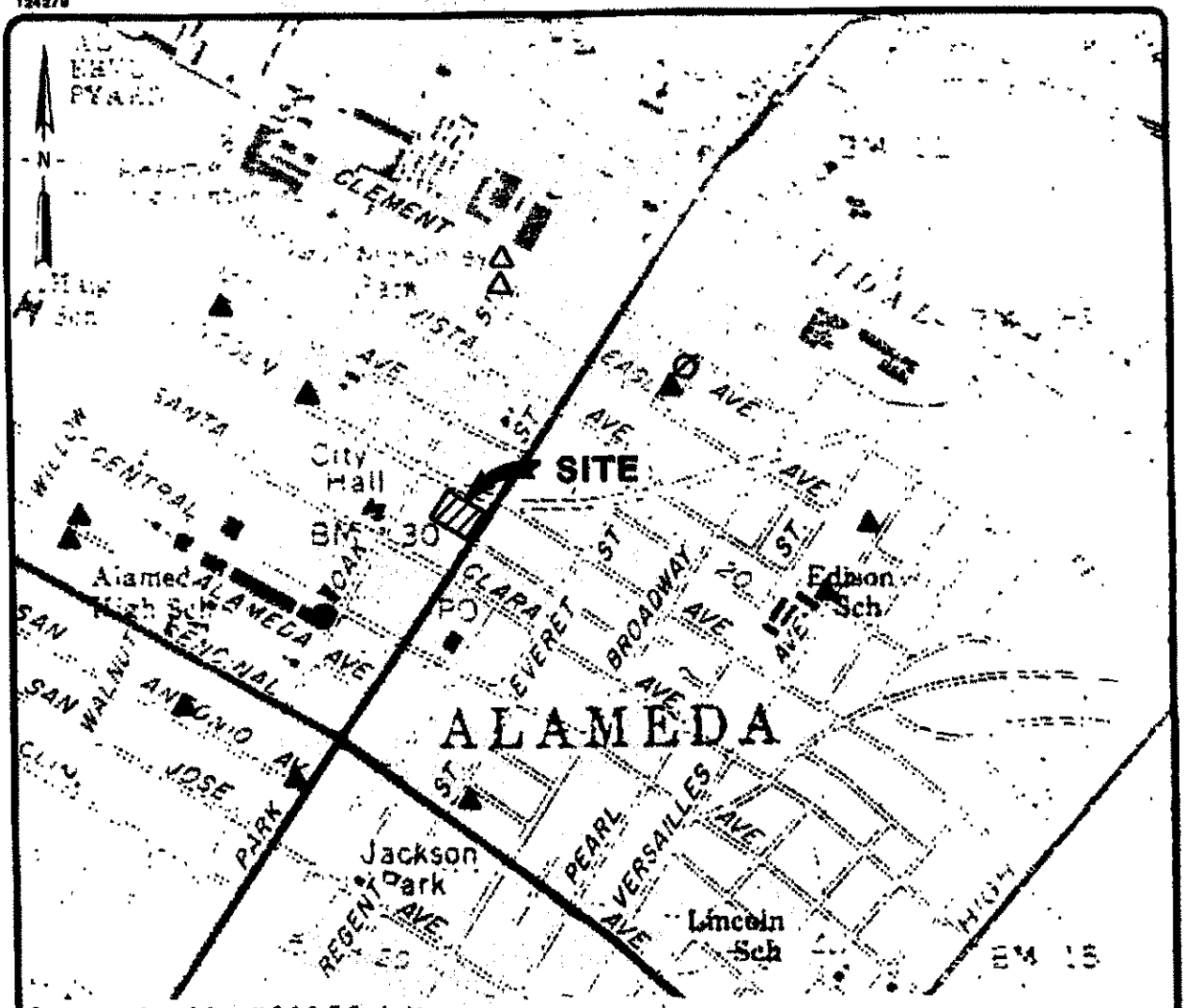
FORMER BP SERVICE STATION #11266
1541 PARK STREET
ALAMEDA, CALIFORNIA

SITE LOCATION MAP

ARCADIS

FIGURE 1

124278



Base map enlarged from U.S.G.S. 7.5 minute Topographic Series, Oakland East Quadrangle, 1959, photorevised 1980; Scale 1:24000.

EXPLANATION

- ● Domestic well
- ▲ Irrigation well
- △ Industrial/municipal well
- Ø Abandoned well

1/90

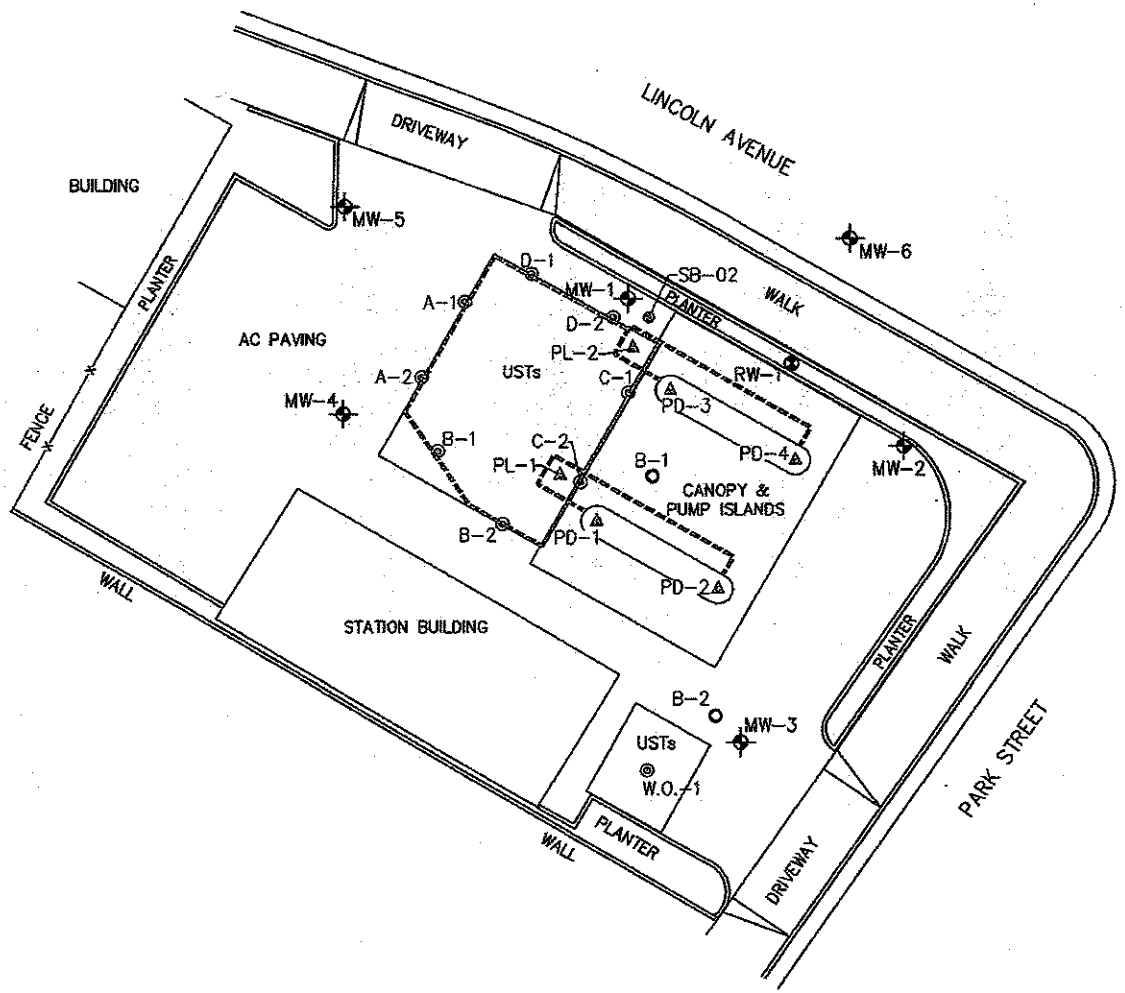
EMCON Associates

BP OIL CORPORATION
SERVICE STATION No. 11266
SITE ASSESSMENT
ALAMEDA, CALIFORNIA

WELL SURVEY

FIGURE 5

PROJECT NO. C90-04.06



LEGEND

- MONITORING WELL
- RECOVERY WELL
- SOIL BORING BY KAPREALIAN ENGINEERING, INC.; 1987
- SOIL SAMPLE LOCATION BY SECOR; 1999
- SOIL BORING BY BROADBENT & ASSOCIATES, INC.; 2009
- SOIL BORING LOCATION BY ARCADIS; 2010
- HISTORICAL EXCAVATION LIMIT

0 20' 40'

GRAPHIC SCALE

NOTE:

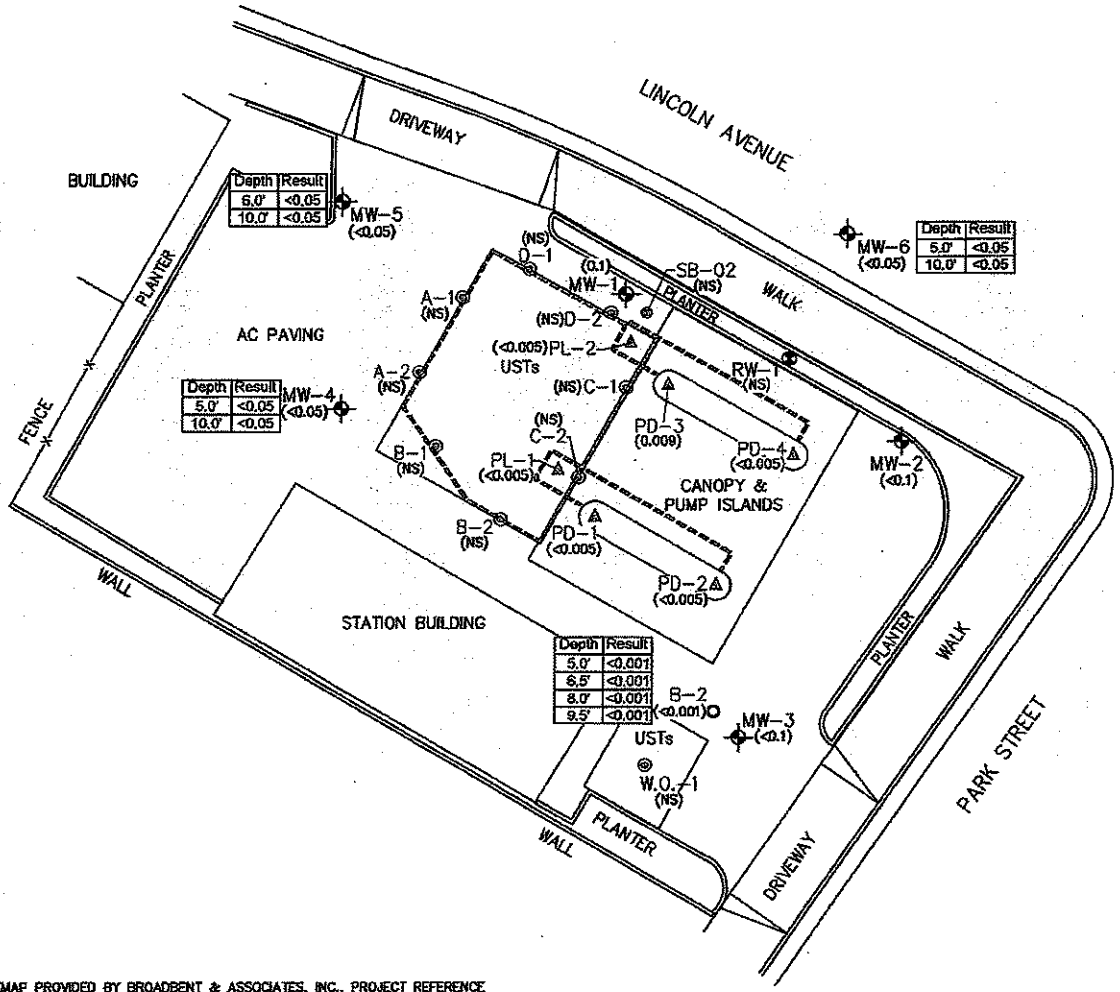
BASEMAP PROVIDED BY BROADBENT & ASSOCIATES, INC., PROJECT REFERENCE NO. 06-88-658, DATED SEPTEMBER 30, 2009, AT A SCALE OF 1"=30'.

FORMER BP SERVICE STATION #11266
1541 PARK STREET
ALAMEDA, CALIFORNIA
BP SITE 11266 CLOSURE

SITE PLAN WITH HISTORICAL EXCAVATION LIMITS AND SOIL SAMPLE LOCATIONS

ARCADIS

FIGURE 2



LEGEND

- MONITORING WELL
- RECOVERY WELL
- SOIL BORING BY KAPREALIAN ENGINEERING, INC.; 1987
- SOIL BORING BY BROADBENT & ASSOCIATES, INC.; 2009
- SOIL BORING LOCATION BY ARCADIS; 2010
- SOIL SAMPLE LOCATION BY SECOR; 1999
- HISTORICAL EXCAVATION LIMIT
- (<0.05) BENZENE CONCENTRATION IN (mg/kg) IN 1988
- (0.009) BENZENE CONCENTRATION IN (mg/kg) IN 1999
- (<0.001) BENZENE CONCENTRATION IN (mg/kg) IN 2009
- (NS) BENZENE CONCENTRATION IN (mg/kg) IN 2010
- (NS) NOT SAMPLED AT THE SPECIFIED INTERVAL
- mg/kg MILLIGRAMS PER KILOGRAM
- FT BGS FEET BELOW GROUND SURFACE

Depth	Result
5.0'	<0.05
10.0'	<0.05

BENZENE CONCENTRATION IN mg/kg

SAMPLE DEPTH IN FT BGS

NOTES:

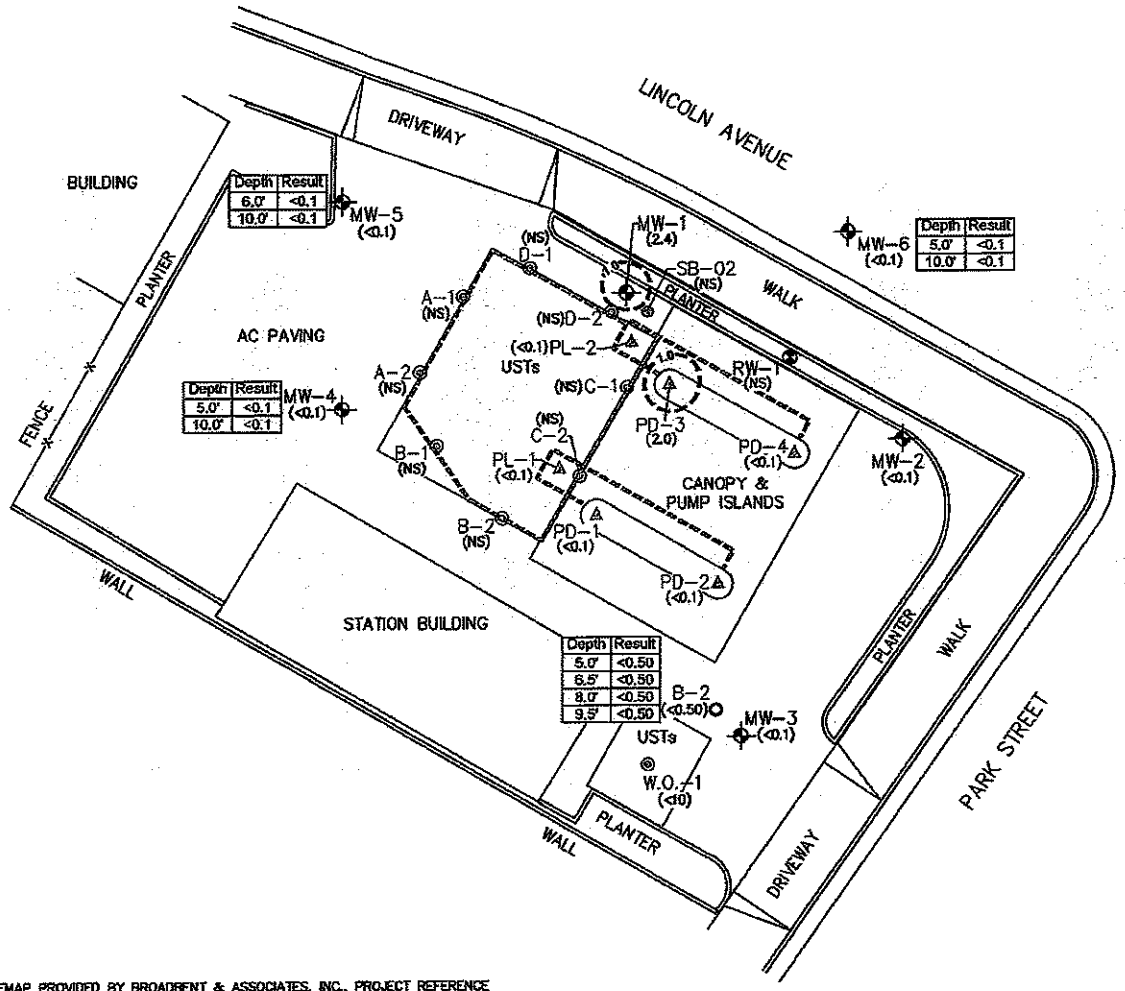
1. BASEMAP PROVIDED BY BROADBENT & ASSOCIATES, INC., PROJECT REFERENCE NO. 06-88-658, DATED SEPTEMBER 30, 2009, AT A SCALE OF 1"=30'.
2. SOIL CONCENTRATION IS BASED UPON THE HIGHEST DETECTION FROM THE BORING WITHIN THE VADOSE ZONE (0-10 FT BGS).

FORMER BP SERVICE STATION #11266
1541 PARK STREET
ALAMEDA, CALIFORNIA
BP SITE 11266 CLOSURE

HISTORICAL BENZENE SOIL SAMPLE RESULTS

ARCADIS

FIGURE 4



LEGEND

- MONITORING WELL
- RECOVERY WELL
- SOIL BORING BY KAPREALIAN ENGINEERING, INC.; 1987
- SOIL SAMPLE LOCATION BY SECOR; 1999
- SOIL BORING BY BROADBENT & ASSOCIATES, INC.; 2009
- SOIL BORING LOCATION BY ARCADIS; 2010
- HISTORICAL EXCAVATION LIMIT
- (2.4) TPHg CONCENTRATION IN (mg/kg) IN 1988
- (2.0) TPHg CONCENTRATION IN (mg/kg) IN 1999
- (<0.50) TPHg CONCENTRATION IN (mg/kg) IN 2009
- (NS) TPHg CONCENTRATION IN (mg/kg) IN 2010
- (NS) NOT SAMPLED AT THE SPECIFIED INTERVAL
- ~1.0~ TPHg ISOCONCENTRATION CONTOUR (mg/kg) (DASHED WHERE INFERRED)
- TPHg TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
- mg/kg MILLIGRAMS PER KILOGRAM
- FT BGS FEET BELOW GROUND SURFACE

Depth	Result
5.0'	<0.1
10.0'	<0.1

TPHg CONCENTRATION IN mg/kg
SAMPLE DEPTH IN FT BGS

0 20' 40'
GRAPHIC SCALE

NOTES:

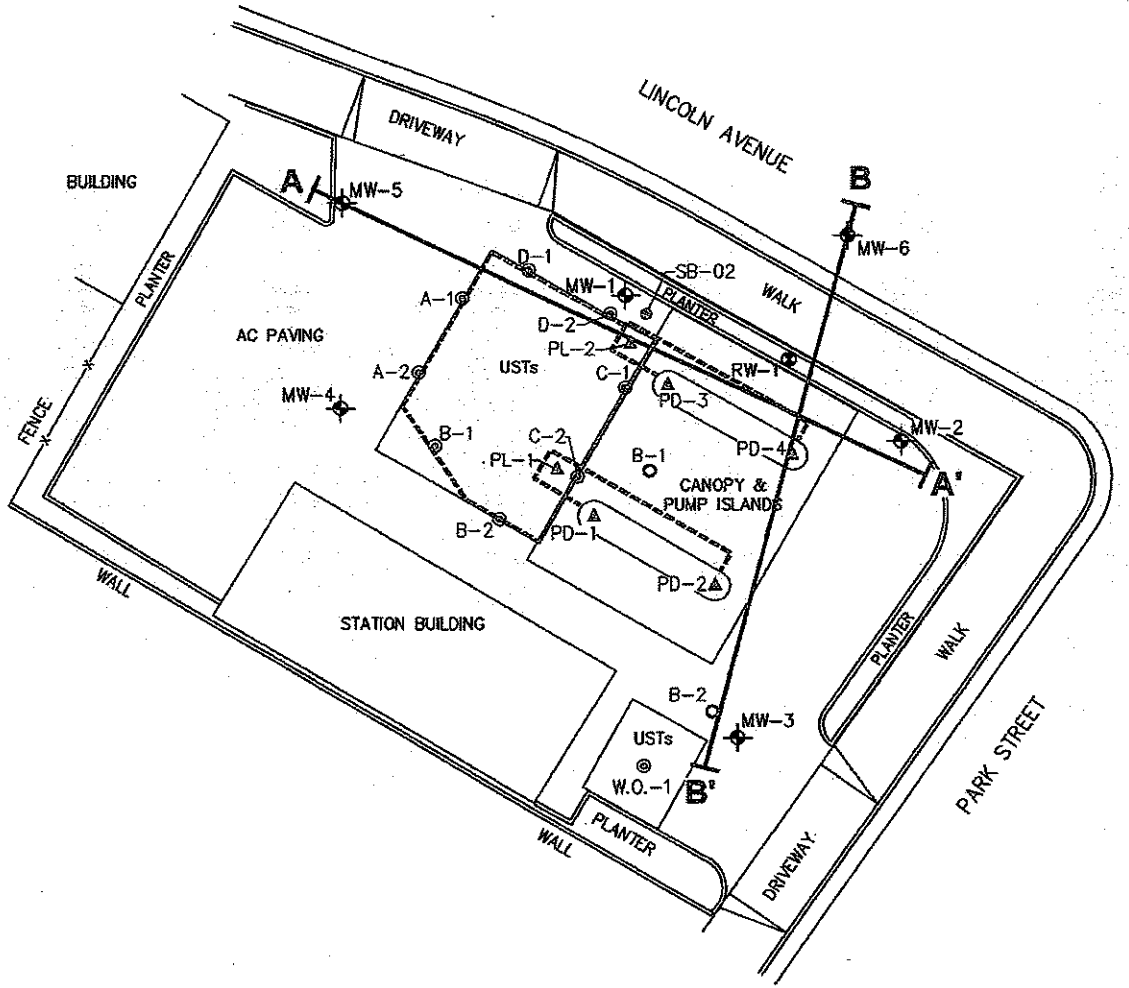
1. BASEMAP PROVIDED BY BROADBENT & ASSOCIATES, INC., PROJECT REFERENCE NO. 06-88-658, DATED SEPTEMBER 30, 2009, AT A SCALE OF 1"=30'.
2. SOIL CONCENTRATION IS BASED UPON THE HIGHEST DETECTION FROM THE BORING WITHIN THE VADOSE ZONE (0-10 FT BGS).

FORMER BP SERVICE STATION #11266
1541 PARK STREET
ALAMEDA, CALIFORNIA
BP SITE 11266 CLOSURE

HISTORICAL TPHg SOIL SAMPLE RESULTS

ARCADIS

FIGURE 3



LEGEND

- MONITORING WELL
- RECOVERY WELL
- SOIL BORING BY KAPREALIAN ENGINEERING, INC.; 1987
- SOIL SAMPLE LOCATION BY SECOR; 1999
- SOIL BORING BY BROADBENT & ASSOCIATES, INC.; 2009
- SOIL BORING LOCATION BY ARCADIS; 2010
- HISTORICAL EXCAVATION LIMIT
- CROSS SECTION LOCATION

0 20' 40'

GRAPHIC SCALE

NOTE:

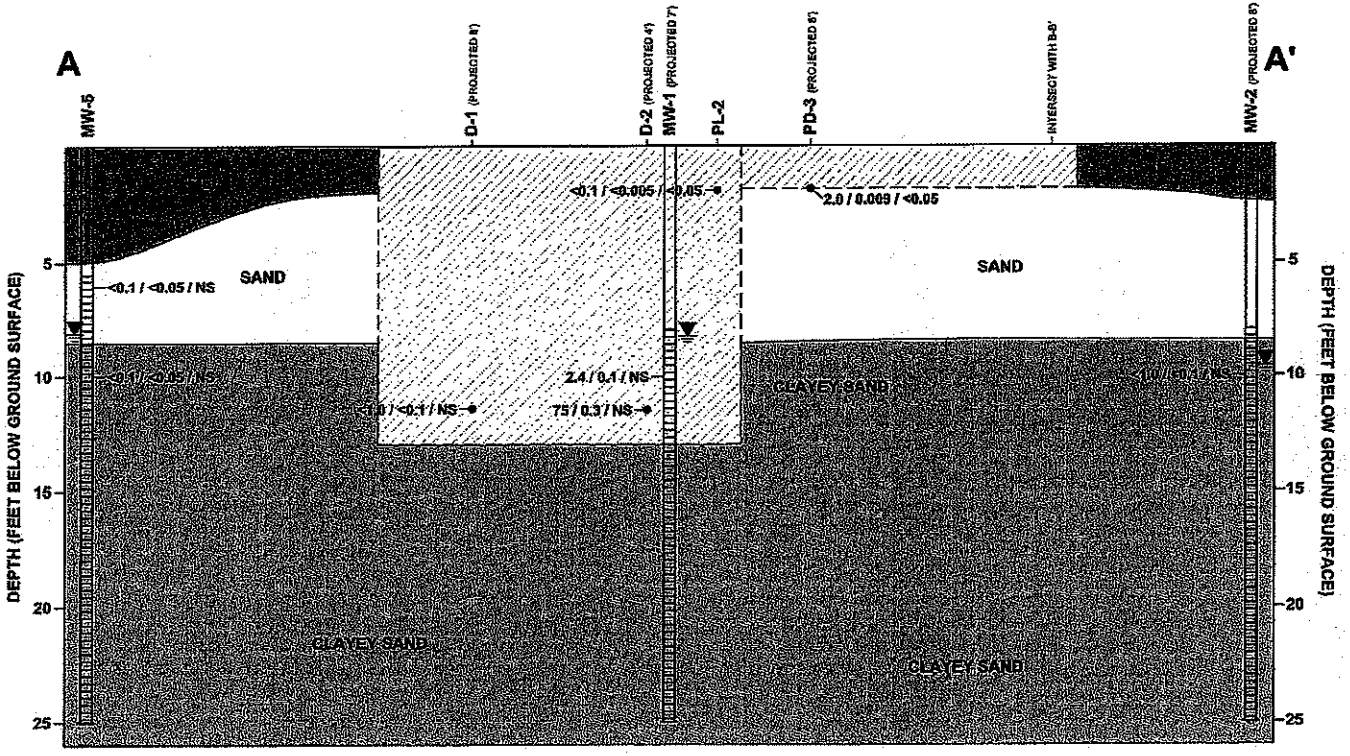
BASEMAP PROVIDED BY BROADBENT & ASSOCIATES, INC., PROJECT REFERENCE NO. 06-88-658, DATED SEPTEMBER 30, 2009, AT A SCALE OF 1"=30'.

FORMER BP SERVICE STATION #11266
1541 PARK STREET
ALAMEDA, CALIFORNIA
BP SITE 11266 CLOSURE

SITE PLAN WITH CROSS SECTION LOCATIONS

ARCADIS

FIGURE 5



LEGEND

TPHg / BENZENE / MTBE	LABORATORY ANALYZED SOIL SAMPLE IN MILLIGRAMS PER KILOGRAM (mg/kg)
83 / 0.044 / 65	ENVIRONMENTAL SCREENING LEVEL (mg/kg) FOR TPHg/BENZENE/MTBE
▼	WATER LEVEL DURING JULY 2010
	WELL SCREEN
TPHg	TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
MTBE	METHYL TERTIARY BUTYL ETHER

FILL
SAND
CLAYEY SAND
HISTORICAL EXCAVATION LIMITS

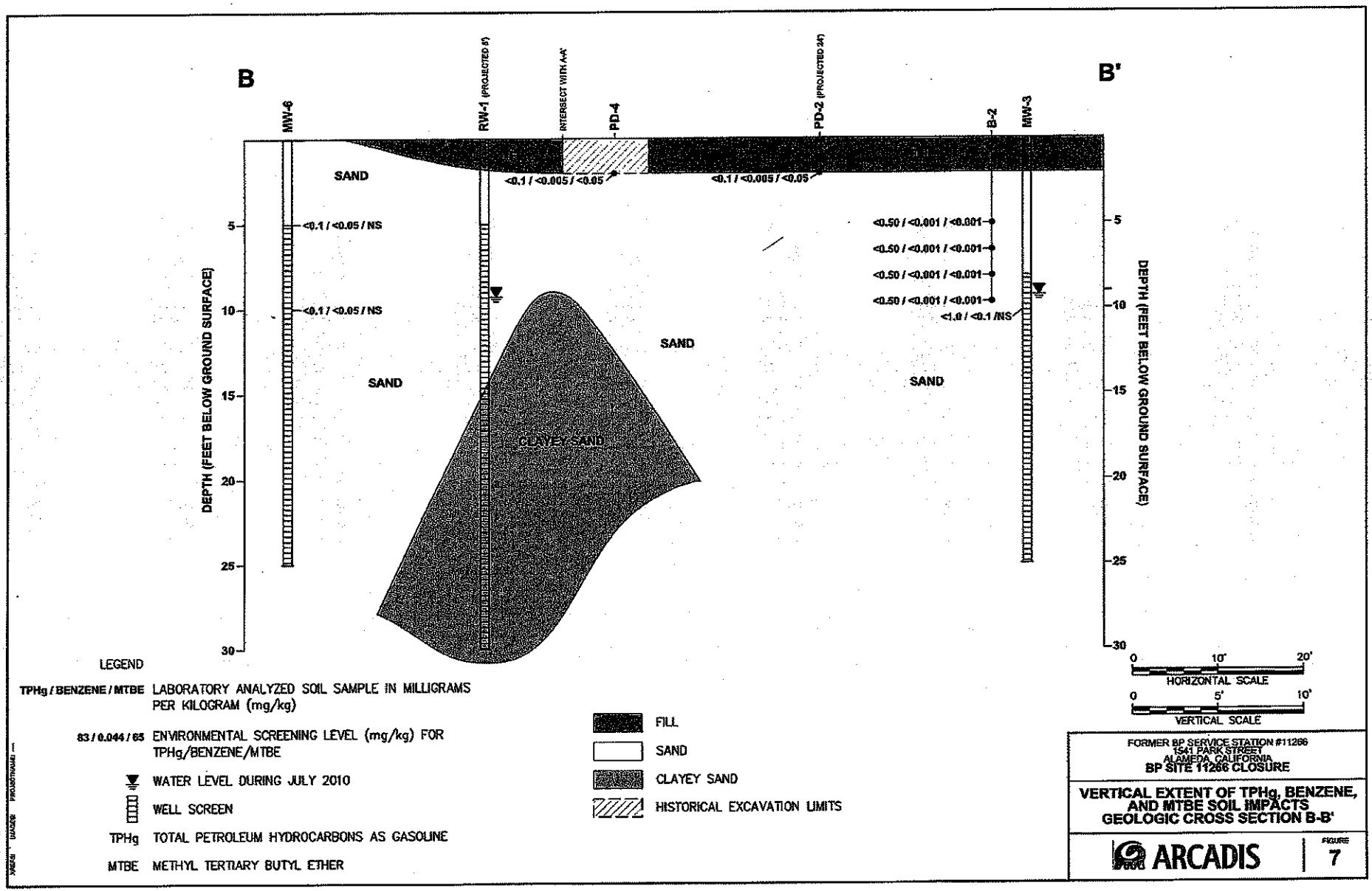
0 10' 20'
HORIZONTAL SCALE
0 5' 10'
VERTICAL SCALE

FORMER BP SERVICE STATION #11266
1541 PARK STREET
ALAMEDA, CALIFORNIA
BP SITE 11266 CLOSURE

VERTICAL EXTENT OF TPHg, BENZENE, AND MTBE SOIL IMPACTS GEOLOGIC CROSS SECTION A-A'

ARCADIS

FIGURE 6

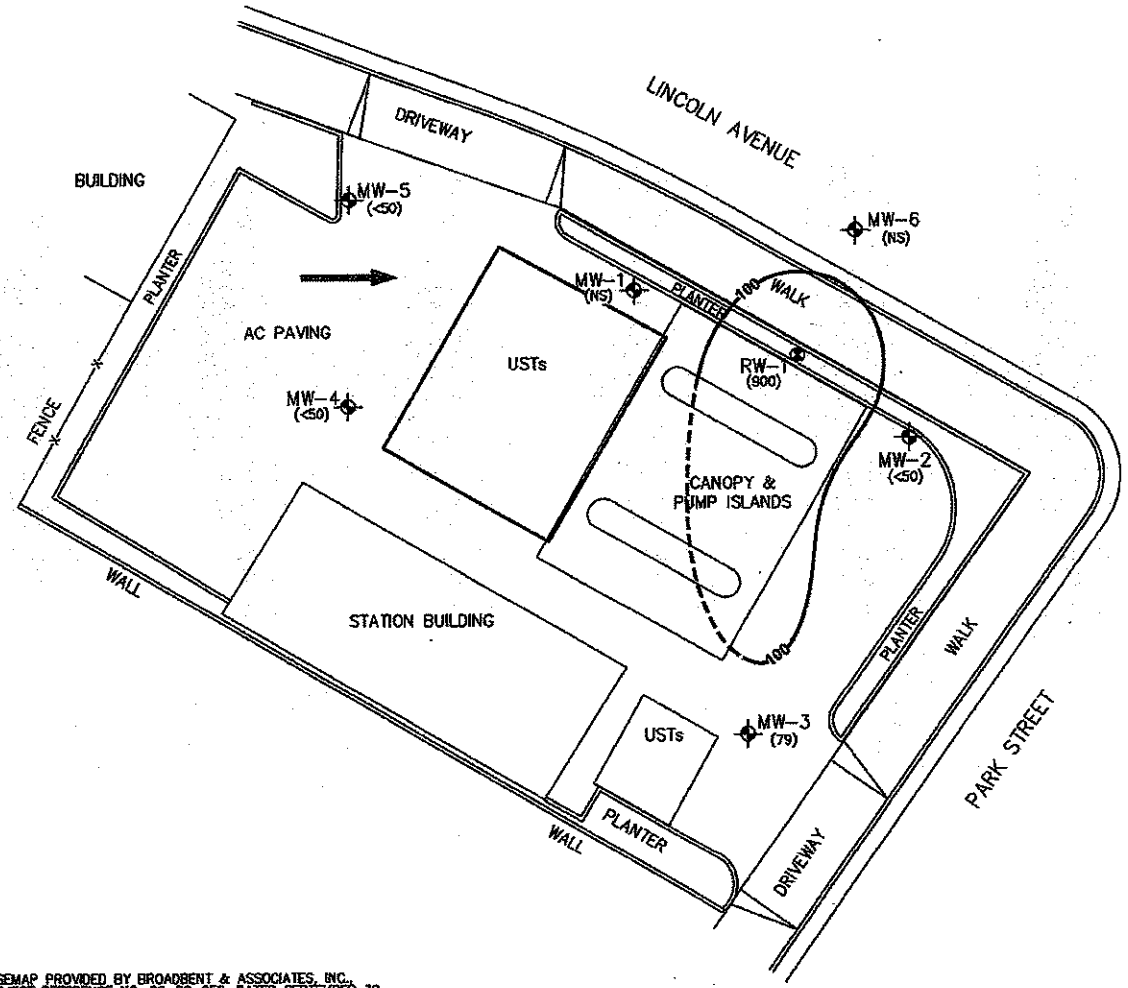


FORMER BP SERVICE STATION #11266
1541 PARK STREET
ALAMEDA, CALIFORNIA
BP SITE 11266 CLOSURE

VERTICAL EXTENT OF TPHg, BENZENE, AND MTBE SOIL IMPACTS GEOLOGIC CROSS SECTION B-B'

ARCADIS

FIGURE 7



LEGEND

- MONITORING WELL
- RECOVERY WELL
- 50 — TPHg ISOCONCENTRATION CONTOUR (µg/L) (DASHED WHERE INFERRED)
- (900) TPHg CONCENTRATION IN MICROGRAMS PER LITER (µg/L)
- APPROXIMATE GROUNDWATER FLOW DIRECTION
- TPHg TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
- (NS) NOT SAMPLED

0 20' 40'
GRAPHIC SCALE

NOTES:

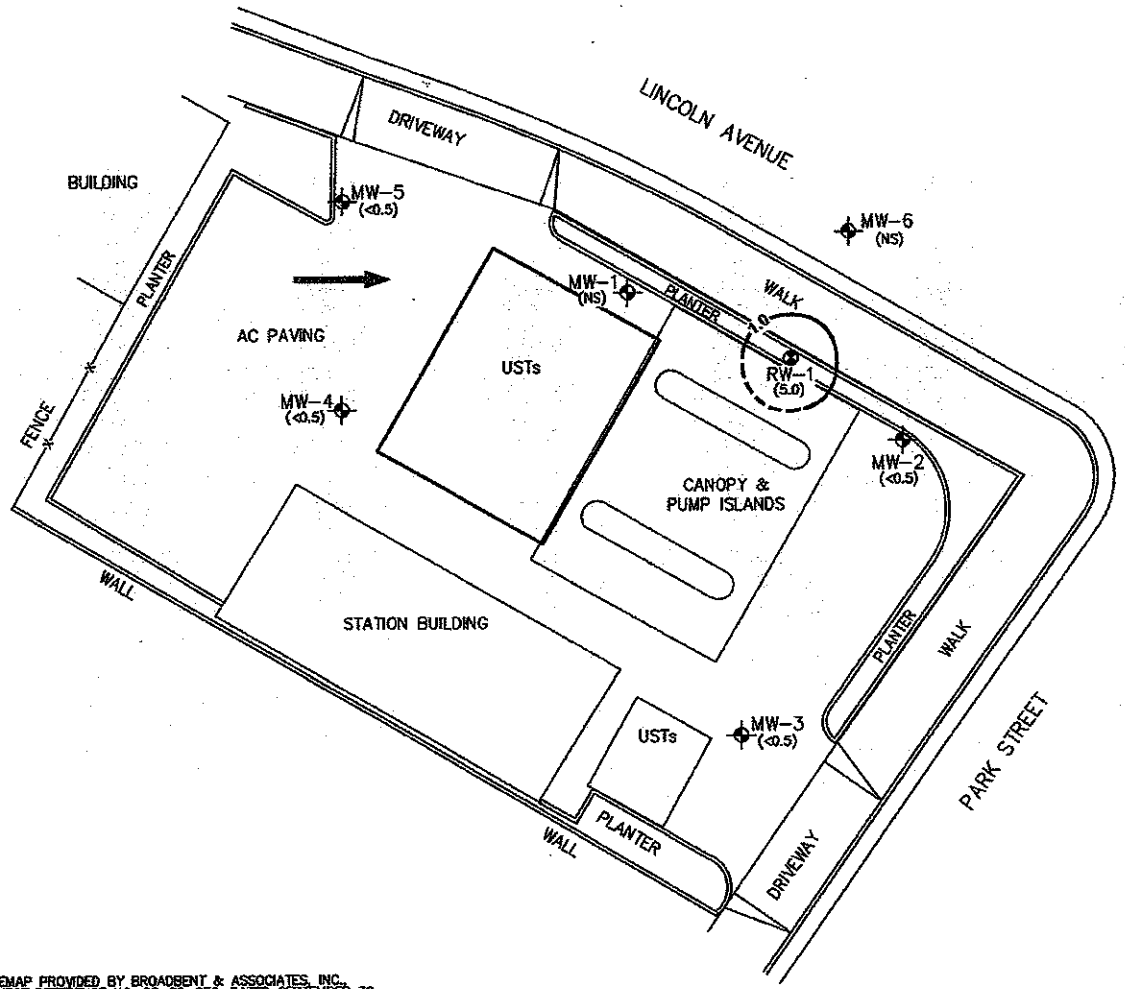
1. BASEMAP PROVIDED BY BROADBENT & ASSOCIATES, INC., PROJECT REFERENCE NO. 06-58-658, DATED SEPTEMBER 30, 2009, AT A SCALE OF 1"=30'.
2. CONCENTRATION IS BASED UPON THE HIGHEST DETECTION FROM THE BORING IN THE SPECIFIED INTERVAL.

FORMER BP SERVICE STATION #11266
1541 PARK STREET
ALAMEDA, CALIFORNIA
BP SITE 11266 CLOSURE

EXTENT OF TPHg GROUNDWATER IMPACTS JULY 2010

ARCADIS

FIGURE 8



LEGEND

- MONITORING WELL
- RECOVERY WELL
- ~1.0~ BENZENE ISOCONCENTRATION CONTOUR (µg/L) (DASHED WHERE INFERRED)
- (5.0) BENZENE CONCENTRATION IN MICROGRAMS PER LITER (µg/L)
- APPROXIMATE GROUNDWATER FLOW DIRECTION
- (NS) NOT SAMPLED

0 20' 40'

GRAPHIC SCALE

NOTES:

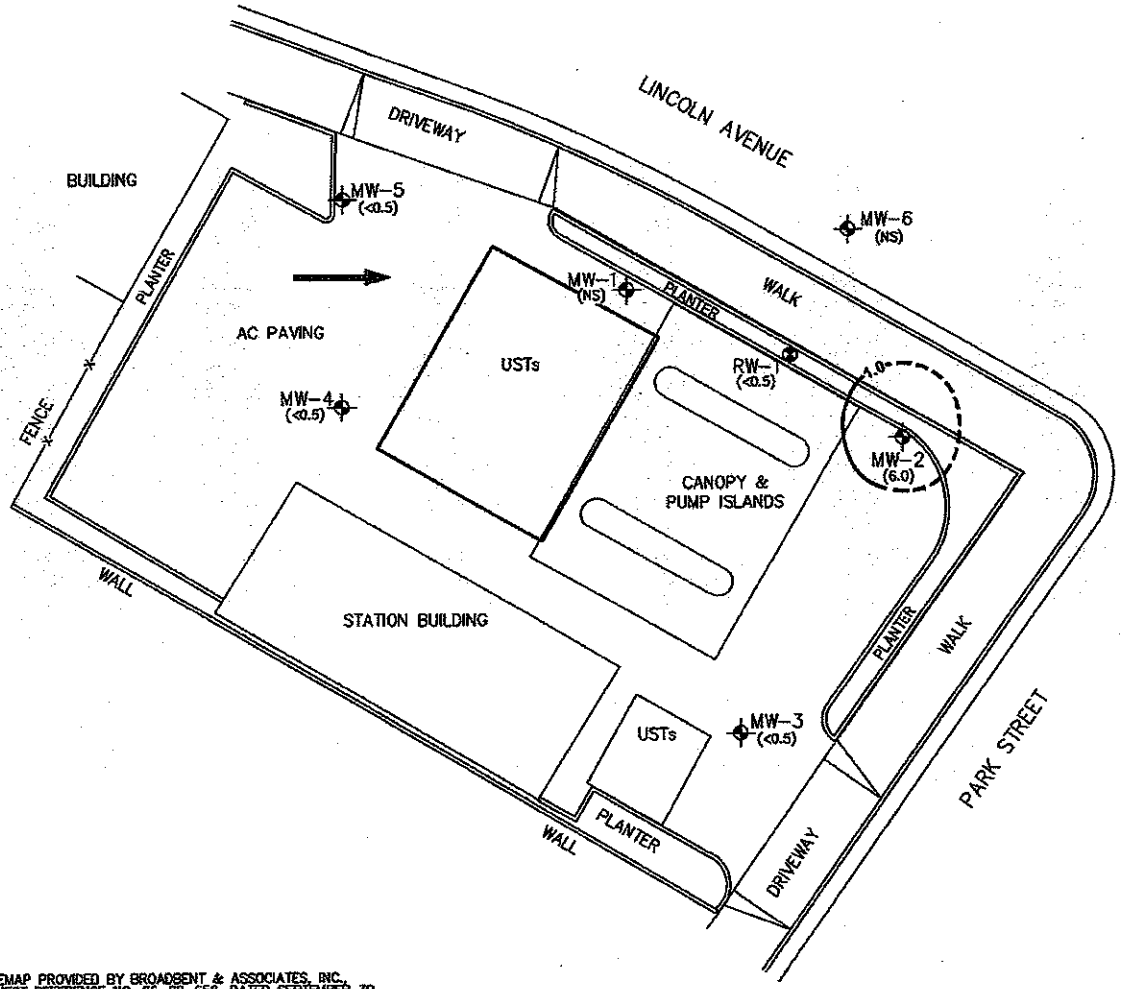
1. BASEMAP PROVIDED BY BROADBENT & ASSOCIATES, INC., PROJECT REFERENCE NO. 06-88-658, DATED SEPTEMBER 30, 2009, AT A SCALE OF 1"=30'.
2. CONCENTRATION IS BASED UPON THE HIGHEST DETECTION FROM THE BORING IN THE SPECIFIED INTERVAL.

FORMER BP SERVICE STATION #11266
1541 PARK STREET
ALAMEDA, CALIFORNIA
BP SITE 11266 CLOSURE

EXTENT OF BENZENE GROUNDWATER IMPACTS JULY 2010

ARCADIS

FIGURE 9



LEGEND

- MONITORING WELL
- RECOVERY WELL
- 1.0 — MTBE ISOCONCENTRATION CONTOUR (µg/L) (DASHED WHERE INFERRED)
- (6.0) MTBE CONCENTRATION IN MICROGRAMS PER LITER (µg/L)
- APPROXIMATE GROUNDWATER FLOW DIRECTION
- MTBE METHYL TERTIARY BUTYL ETHER
- (NS) NOT SAMPLED

0 20' 40'
GRAPHIC SCALE

NOTES:

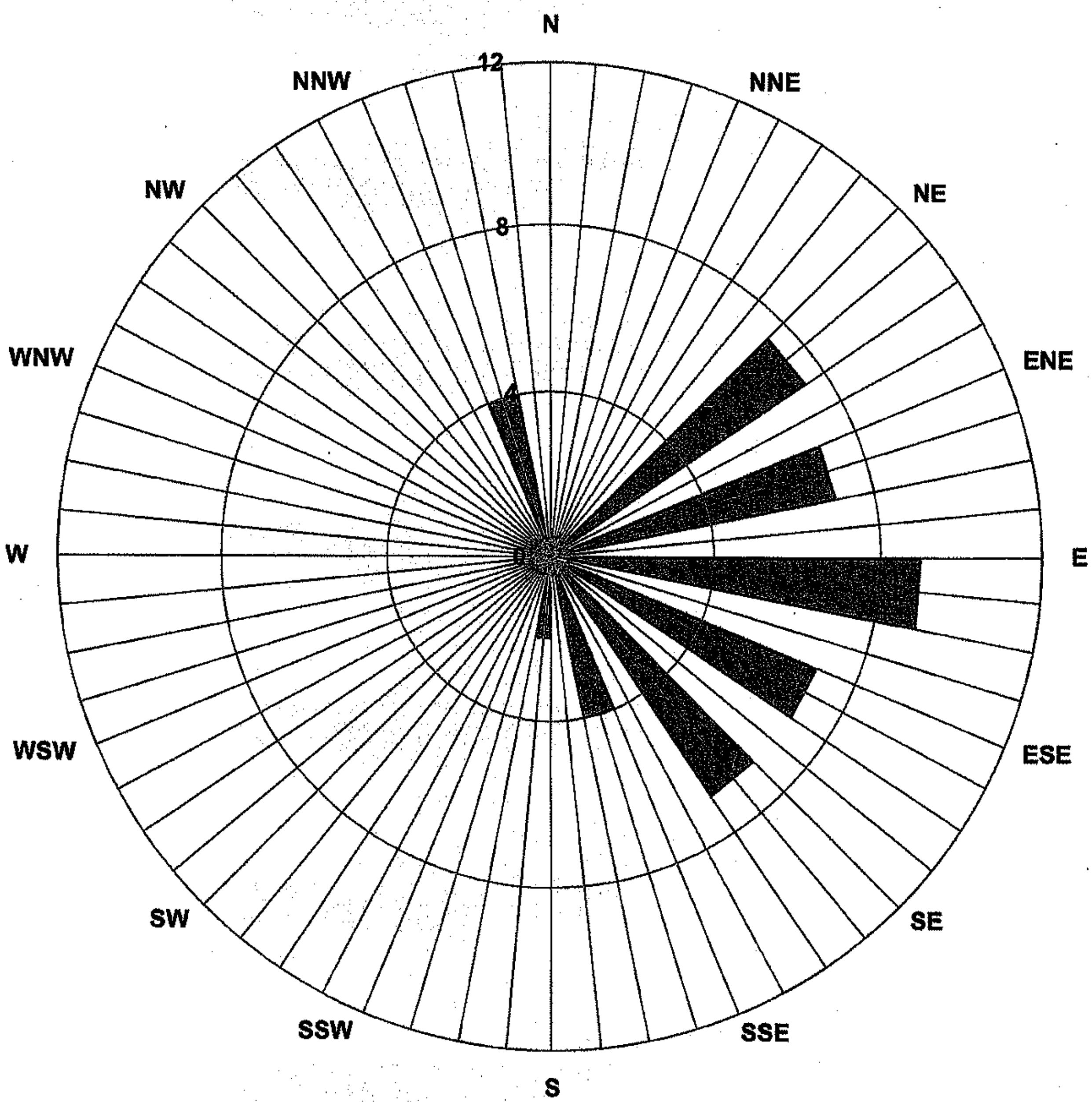
1. BASEMAP PROVIDED BY BROADBENT & ASSOCIATES, INC., PROJECT REFERENCE NO. 06-88-658, DATED SEPTEMBER 30, 2009, AT A SCALE OF 1"=30'.
2. CONCENTRATION IS BASED UPON THE HIGHEST DETECTION FROM THE BORING IN THE SPECIFIED INTERVAL.

FORMER BP SERVICE STATION #11266
1541 PARK STREET
ALAMEDA, CALIFORNIA
BP SITE 11266 CLOSURE

EXTENT OF MTBE GROUNDWATER IMPACTS JULY 2010

ARCADIS

FIGURE 10



LEGEND

CONCENTRIC CIRCLES REPRESENT 40 MONITORING EVENTS CONDUCTED BETWEEN OCTOBER 1988 THROUGH JULY 2010.

■ GROUNDWATER FLOW DIRECTION

FORMER BP SERVICE STATION #11266
1541 PARK STREET
ALAMEDA, CALIFORNIA
BP SITE 11266 CLOSURE

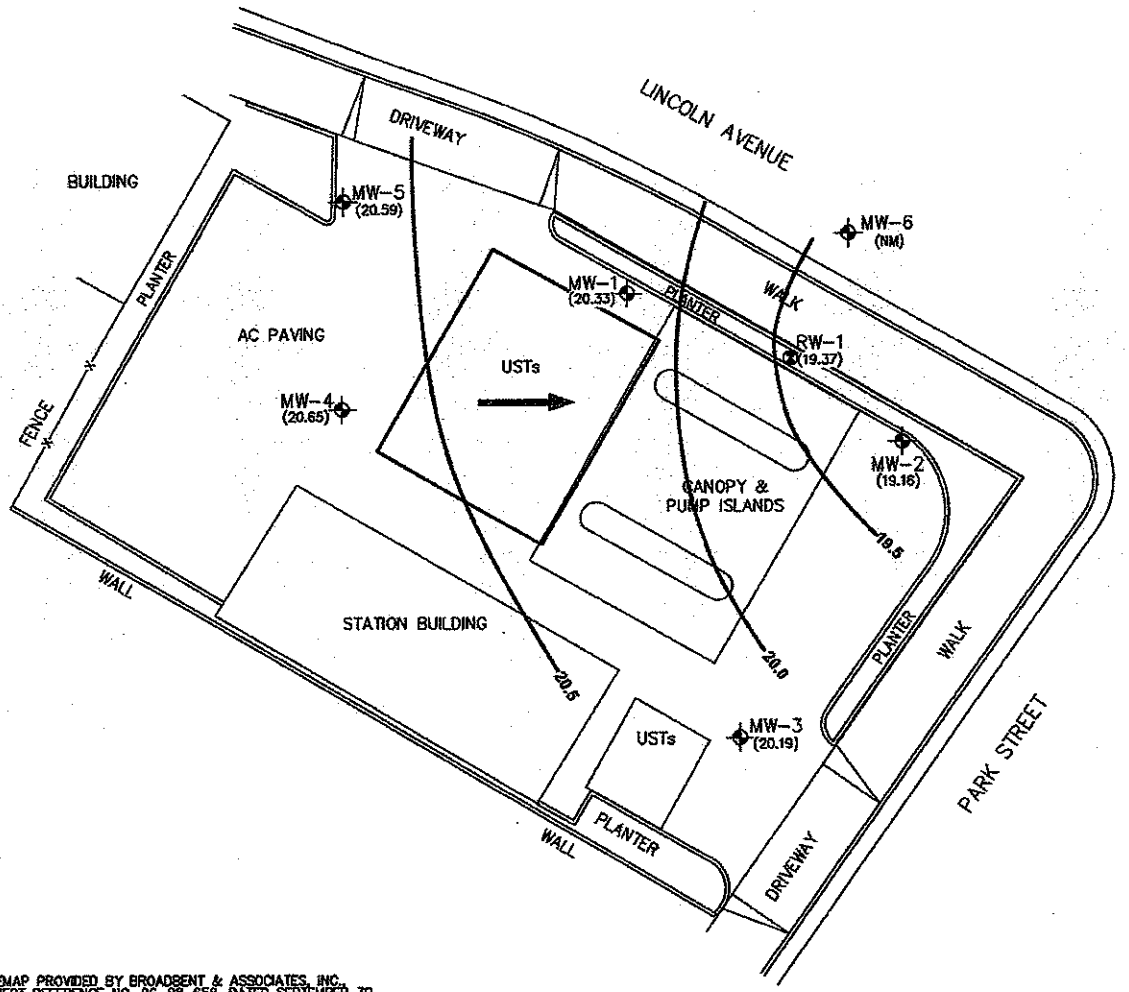
HISTORIC GROUNDWATER FLOW DIRECTION ROSE DIAGRAM

ARCADIS

FIGURE
11

CITY: PETALUMA, CA DIV/GROUP: ENV DB: J. HARRIS LD:-- PIC:-- PM: L.A. SMITH TM: C. MEYER LYR:(Opt)ON=*;OFF=*REF*
C:\Documents and Settings\jharris\Desktop\ENVCAD\GP09BPNA.C001.C0000\CLOSURE REPORT\DWG\GP09BPNAC001-W02.dwg LAYOUT: 11 SAVED: 2/3/2011 12:57 PM ACADVER: 18.0S (LMS TECH) PAGESETUP: SETUP1 PLOTSTYLETABLE: --- PLOTTED: 2/21/2011 9:38 AM BY: HARRIS, JESSICA

XREFS: IMAGES: PROJECTNAME: ---



LEGEND

- MONITORING WELL
- RECOVERY WELL
- 19.5 GROUNDWATER ELEVATION CONTOUR (FEET ABOVE MEAN SEA LEVEL)
- (20.59) GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)
- APPROXIMATE GROUNDWATER FLOW DIRECTION
- (NM) NOT MEASURED

0 20' 40'

GRAPHIC SCALE

NOTES:

1. BASEMAP PROVIDED BY BROADBENT & ASSOCIATES, INC., PROJECT REFERENCE NO. 06-88-658, DATED SEPTEMBER 30, 2009, AT A SCALE OF 1"=30'.
2. CONCENTRATION IS BASED UPON THE HIGHEST DETECTION FROM THE BORING IN THE SPECIFIED INTERVAL.

FORMER BP SERVICE STATION #11266
1541 PARK STREET
ALAMEDA, CALIFORNIA
BP SITE 11266 CLOSURE

POTENTIOMETRIC SURFACE CONTOURS JULY 2010

ARCADIS

FIGURE 12

Table 1: Historical Soil Results
Former BP Service Station No. 11266
1541 Park Street, Alameda, CA
Local Case #RO318

Sample Location	Sample Depth (ft bgs)	Sample Date	TPHg		TPHd		Benzene		Toluene		Ethylbenzene		Xylene		MTBE		O & G		Lead	
Commercial ESLs (mg/Kg)[1]			450		450		0.27		210		5.0		100		65		--		750	
A1*	11.5'	9/15/1987	<1.0	mg/Kg	--	mg/Kg	<0.1	mg/Kg	<0.1	mg/Kg	--	mg/Kg	<0.1	mg/Kg	--	--	--	--	--	--
A2*	11.5'	9/15/1987	<1.0	mg/Kg	--	mg/Kg	<0.1	mg/Kg	<0.1	mg/Kg	--	mg/Kg	<0.1	mg/Kg	--	--	--	--	--	--
B1*	11.5'	9/15/1987	<1.0	mg/Kg	--	mg/Kg	<0.1	mg/Kg	<0.1	mg/Kg	--	mg/Kg	<0.1	mg/Kg	--	--	--	--	--	--
B2*	11.5'	9/15/1987	340	mg/Kg	--	mg/Kg	<0.1	mg/Kg	<0.1	mg/Kg	--	mg/Kg	8.6	mg/Kg	--	--	--	--	--	--
C1*	11.5'	9/15/1987	3200	mg/Kg	--	mg/Kg	81	mg/Kg	42	mg/Kg	--	mg/Kg	450	mg/Kg	--	--	--	--	--	--
C2*	11.5'	9/15/1987	490	mg/Kg	--	mg/Kg	2.6	mg/Kg	13	mg/Kg	--	mg/Kg	180	mg/Kg	--	--	--	--	--	--
D1*	11.5'	9/15/1987	<1.0	mg/Kg	--	mg/Kg	<0.1	mg/Kg	<0.1	mg/Kg	--	mg/Kg	<0.1	mg/Kg	--	--	--	--	--	--
D2*	11.5'	9/15/1987	75	mg/Kg	--	mg/Kg	0.3	mg/Kg	6.1	mg/Kg	--	mg/Kg	40	mg/Kg	--	--	--	--	--	--
W.0-1*	7.5'	9/15/1987	<10	mg/Kg	--	mg/Kg	--	mg/Kg	--	mg/Kg	--	mg/Kg	--	mg/Kg	--	--	--	--	--	--
MW-1*	10'	2/9/1988	2.4	mg/Kg	--	mg/Kg	0.1	mg/Kg	0.2	mg/Kg	<0.1	mg/Kg	0.7	mg/Kg	--	--	--	--	--	--
MW-2*	10'	2/9/1988	<1.0	mg/Kg	--	mg/Kg	<0.1	mg/Kg	<0.1	mg/Kg	<0.1	mg/Kg	<0.1	mg/Kg	--	--	--	--	--	--
MW-3*	10'	2/9/1988	<1.0	mg/Kg	--	mg/Kg	<0.1	mg/Kg	<0.1	mg/Kg	<0.1	mg/Kg	<0.1	mg/Kg	--	--	--	--	--	--
MW4	5'	3/22/1989	<0.1	mg/Kg	--	mg/Kg	<0.05	mg/Kg	<0.1	mg/Kg	<0.1	mg/Kg	<0.1	mg/Kg	--	--	--	--	--	--
MW4	10'	3/22/1989	<0.1	mg/Kg	--	mg/Kg	<0.05	mg/Kg	<0.1	mg/Kg	<0.1	mg/Kg	<0.1	mg/Kg	--	--	--	--	--	--
MW5	5'	3/22/1989	<0.1	mg/Kg	--	mg/Kg	<0.05	mg/Kg	<0.1	mg/Kg	<0.1	mg/Kg	<0.1	mg/Kg	--	--	--	--	--	--
MW5	10'	3/22/1989	<0.1	mg/Kg	--	mg/Kg	<0.05	mg/Kg	<0.1	mg/Kg	<0.1	mg/Kg	<0.1	mg/Kg	--	--	--	--	--	--
MW6	5'	3/22/1989	<0.1	mg/Kg	--	mg/Kg	<0.05	mg/Kg	<0.1	mg/Kg	<0.1	mg/Kg	<0.1	mg/Kg	--	--	--	--	--	--
MW6	10'	3/22/1989	<0.1	mg/Kg	--	mg/Kg	<0.05	mg/Kg	<0.1	mg/Kg	<0.1	mg/Kg	<0.1	mg/Kg	--	--	--	--	--	--
D1	--	9/1/1990	ND	mg/Kg	--	mg/Kg	ND	mg/Kg	ND	mg/Kg	ND	mg/Kg	ND	mg/Kg	--	--	--	--	--	--
D2	--	9/1/1990	ND	mg/Kg	--	mg/Kg	ND	mg/Kg	ND	mg/Kg	ND	mg/Kg	ND	mg/Kg	--	--	--	--	--	--
D3	--	9/1/1990	ND	mg/Kg	--	mg/Kg	ND	mg/Kg	ND	mg/Kg	ND	mg/Kg	ND	mg/Kg	--	--	--	--	--	--
D4	--	9/1/1990	ND	mg/Kg	--	mg/Kg	ND	mg/Kg	ND	mg/Kg	ND	mg/Kg	ND	mg/Kg	--	--	--	--	--	--
Composite A	--	9/1/1990	ND	mg/Kg	--	mg/Kg	ND	mg/Kg	ND	mg/Kg	ND	mg/Kg	ND	mg/Kg	--	--	--	--	--	--
PD-1	2.0	12/6/1999	<0.1	mg/Kg	--	mg/Kg	<0.005	mg/Kg	<0.005	mg/Kg	<0.005	mg/Kg	<0.10	mg/Kg	<0.05	mg/Kg	--	--	<5.0	mg/Kg
PD-2	2.0	12/6/1999	<0.1	mg/Kg	--	mg/Kg	<0.005	mg/Kg	<0.005	mg/Kg	<0.005	mg/Kg	<0.10	mg/Kg	<0.05	mg/Kg	--	--	6.0	mg/Kg
PD-3	2.0	12/6/1999	2.0	mg/Kg	--	mg/Kg	0.009	mg/Kg	0.051	mg/Kg	0.013	mg/Kg	0.15	mg/Kg	<0.05	mg/Kg	--	--	140	mg/Kg
PD-4	2.0	12/6/1999	<0.1	mg/Kg	--	mg/Kg	<0.005	mg/Kg	0.15	mg/Kg	<0.005	mg/Kg	0.09	mg/Kg	<0.05	mg/Kg	--	--	910	mg/Kg
PL-1	2.0	12/6/1999	<0.1	mg/Kg	--	mg/Kg	<0.005	mg/Kg	<0.005	mg/Kg	<0.005	mg/Kg	<0.10	mg/Kg	<0.05	mg/Kg	--	--	10	mg/Kg
PL-2	2.0	12/6/1999	<0.1	mg/Kg	--	mg/Kg	<0.005	mg/Kg	<0.005	mg/Kg	0.008	mg/Kg	<0.10	mg/Kg	<0.05	mg/Kg	--	--	10	mg/Kg
B-2-5'	5.0	6/10/2009	<0.50	mg/Kg	--	mg/Kg	<0.001	mg/Kg	<0.001	mg/Kg	<0.001	mg/Kg	<0.001	mg/Kg	<0.001	mg/Kg	--	--	47.9	mg/Kg
B-2-6.5'	6.5	6/10/2009	<0.50	mg/Kg	--	mg/Kg	<0.001	mg/Kg	<0.001	mg/Kg	<0.001	mg/Kg	<0.001	mg/Kg	<0.001	mg/Kg	--	--	15.8	mg/Kg
B-2-8'	8.0	6/10/2009	<0.50	mg/Kg	--	mg/Kg	<0.001	mg/Kg	<0.001	mg/Kg	<0.001	mg/Kg	<0.001	mg/Kg	<0.001	mg/Kg	--	--	96.6	mg/Kg
B-2-9.5'	9.5	6/10/2009	<0.50	mg/Kg	--	mg/Kg	<0.001	mg/Kg	<0.001	mg/Kg	<0.001	mg/Kg	<0.001	mg/Kg	<0.001	mg/Kg	--	--	17.2	mg/Kg
SB-02	11.5	10/26/2010	<0.240	mg/Kg	--	mg/Kg	<0.004	mg/Kg	<0.004	mg/Kg	<0.004	mg/Kg	<0.009	mg/Kg	0.004	mg/Kg	--	--	2.0	mg/Kg

Notes:
ft bgs = feet below ground surface
TPHg = Total Petroleum Hydrocarbons as Gasoline
TPHd = Total Petroleum Hydrocarbons as Diesel
mg/kg = milligrams per kilogram
mg/L = milligrams per liter
ppm = parts per million
MTBE = Methyl tert-butyl ether
- = not analyzed
ND< = analyte not detected, result is less than value provided
1 = Soil ESLs values are listed from Table K-2
*=Total Petroleum Hydrocarbon Analysis with no Speciation
Bold=Exceeds ESL

TABLE 1

SUMMARY OF LABORATORY ANALYSES

(all analyses in parts per million)

Sample #	Type	Depth	Total Hydrocarbon	Benzene	Toluene	Xylene
A1	soil	11.5'	<1.0	<0.1	<0.1	<0.1
A2	Soil	11.5'	<1.0	<0.1	<0.1	<0.1
B1	soil	11.5'	<1.0	<0.1	<0.1	<0.1
B2	soil	11.5'	340	<0.1	<0.1	8.6
C1	soil	11.5'	3200	81	42	450
C2	soil	11.5'	490	2.6	13	180
D1	soil	11.5'	<1.0	<0.1	<0.1	<0.1
D2	soil	11.5'	75	0.3	6.1	40
W.O-1*	soil	7.5'	<10	----	----	----
W-1	water	12'	530,000	6,300	66,000	20,000 mg/L

* TOG = 150 ppm

COPY TO BP

Table 2: Historical Groundwater Results
Former BP Service Station No. 11266
1541 Park Street, Alameda, CA
Local Case #RO318

Location	Sample Date	TOC Elevation (ft)	DTW (ft btoc)	Product Thickness (ft)	Water Level Elevation (ft)	TPHg	Benzene	Toluene	Ethylbenzene	Xylene	MTBE	Lead	DO
						µg/L							mg/L
MW-1	2/17/1988	19.19	-	0	-	95000	2000	5900	1100	10000	-	-	-
MW-1	10/12/1988	19.19	10.58	0	8.61	14000	180	120	110	750	-	-	-
MW-1	12/28/1988	19.19	9.83	0	9.36	2800	40	7.1	2.3	110	-	-	-
MW-1	3/29/1989	19.19	-	0	-	25000	930	2600	24	3100	-	-	-
MW-1	11/28/1989	19.19	-	0	-	15000	280	880	340	1200	-	-	-
MW-1	2/13/1991	19.19	9.46	0	9.73	25000	680	2700	1100	3200	-	-	-
MW-1	5/10/1991	19.19	9.07	0	10.12	20000	400	1300	540	1600	-	-	-
MW-1	8/1/1991	19.19	9.76	0	9.43	11000	240	1100	500	1300	-	-	-
MW-1	1/8/1992	19.19	9.36	0	9.83	10000	260	1100	570	2000	-	-	-
MW-1	3/30/1992	19.19	8.15	0	11.04	5800	290	570	500	1100	-	-	-
MW-1	7/2/1992	19.19	9.38	0	9.81	2500	170	60	310	300	-	-	-
MW-1	7/22/1992	19.19	9.62	0	9.57	-	-	-	-	-	-	-	-
MW-1	10/2/1992	19.19	9.98	0	9.21	4000	86	190	270	350	-	-	-
MW-1	12/14/1992	19.19	9.90	0	9.29	6800	75	540	200	670	-	-	-
MW-1	3/24/1993	19.19	8.52	0	10.67	6400	150	310	370	710	1400	-	-
MW-1	6/17/1993	19.19	9.37	0	9.82	3800	110	160	310	480	220	-	-
MW-1	9/29/1993	19.19	10.80	0	8.39	1100	22	16	54	110	320	-	-
MW-1	12/28/1993	19.19	9.27	0	9.92	1800	26	110	77	300	220	-	-
MW-1	3/29/1994	19.19	8.77	0	10.42	22000	990	560	970	2000	68412	-	3.1
MW-1	7/7/1994	19.19	9.18	0	10.01	18000	67	32	250	140	30000	-	-
MW-1	10/18/1994	19.19	9.85	0	9.34	270	1.9	0.6	ND<0.5	3.2	-	-	3.6
MW-1	2/1/1995	19.19	7.04	0	12.15	5400	260	350	1100	980	-	-	6.5
MW-1	4/12/1995	19.19	7.74	0	11.45	13000	260	620	960	2600	-	-	5.0
MW-1	9/13/1995	19.19	9.58	0	9.61	5800	110	110	510	830	4300	-	5.2
MW-1	1/11/1996	19.19	8.95	0	10.24	5400	91	130	510	1000	1700	-	5.2
MW-1	4/18/1996	19.19	8.40	0	10.79	12000	190	420	1100	1560	2100	-	4.5
MW-1	6/28/1996	19.19	9.08	0	10.11	11000	100	130	670	1180	4600	-	-
MW-1	11/5/1996	19.19	9.81	0	9.38	8800	55	28	520	430	5700	-	5.5
MW-1	1/17/1997	19.19	7.81	0	11.38	12000	180	160	1200	1650	3200	-	8
MW-1	5/1/1997	19.19	9.13	0	10.06	8600	160	49	950	850	3200	-	7.0
MW-1	7/9/1997	19.19	9.55	0	9.64	10000	93	27	720	476	4500	-	6.3
MW-1	10/16/1997	19.19	9.77	0	9.42	2100	71	14	420	194	500	-	6.8
MW-1	1/8/1998	19.19	8.36	0	10.83	2500	33	21	180	183	1200	-	6.1
MW-1	4/17/1998	19.19	7.48	0	11.71	14000	140	410	730	1980	2400	-	3.7
MW-1	9/11/1998	19.19	9.30	0	9.89	7700	65	38	580	880	1700	-	5.6
MW-1	3/9/1999	19.19	6.80	0	12.39	6300	93	99	510	790	780	-	-
MW-1	9/23/1999	19.19	8.31	0	10.88	8500	93	88	910	1900	640	-	-
MW-1	3/27/2000	19.19	6.82	0	12.37	2100	35	6.2	240	120	160	-	-
MW-1	9/27/2000	19.19	8.58	0	10.61	810	13	0.62	43	12	46	-	-
MW-1	3/21/2001	19.19	7.47	0	11.72	1500	28.2	1.68	107	90.5	15.2	-	-
MW-1	9/18/2001	19.19	8.95	0	10.24	990	24	9.57	44.6	62.6	31.2	-	-

Table 2: Historical Groundwater Results
Former BP Service Station No. 11266
1541 Park Street, Alameda, CA
Local Case #RO318

Location	Sample Date	TOC Elevation (ft)	DTW (ft btoc)	Product Thickness (ft)	Water Level Elevation (ft)	TPHg	Benzene	Toluene	Ethylbenzene	Xylene	MTBE	Lead	DO
						µg/L							mg/L
MW-1	8/24/2006	19.19	7.75	0	11.44	1900	6.4	1.9	48	41	1.2	ND<100	-
MW-1	6/30/2009	28.62	8.85	0	19.77	11000	5.1	29	310	1200	ND<0.50	54.2	2.98
MW-1	3/18/2010	28.62	7.37	0	21.25	2100	ND<5.0	5.6	24	170	ND<5.0	25	0.82
MW-1	7/12/2010	28.62	8.29	0	20.33	-	-	-	-	-	-	-	-
MW-2	2/17/1988	19.32	-	0	-	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-2	10/12/1988	19.32	11.00	0	8.32	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-2	12/28/1988	19.32	10.38	0	8.94	ND<50	ND<0.5	ND<0.5	ND<0.5	0.6	-	-	-
MW-2	3/29/1989	19.32	-	0	-	ND<50	1.1	0.78	ND<0.5	1.7	-	-	-
MW-2	11/28/1989	19.32	-	0	-	170	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-2	2/13/1991	19.32	10.01	0	9.31	150	1.4	ND<0.5	ND<0.5	0.9	-	-	-
MW-2	5/10/1991	19.32	9.74	0	9.58	160	5.4	ND<0.5	0.5	0.8	-	-	-
MW-2	8/1/1991	19.32	10.27	0	9.05	110	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-2	1/8/1992	19.32	10.05	0	9.27	ND<50	1.4	ND<0.5	ND<0.5	1.1	-	-	-
MW-2	3/30/1992	19.32	9.03	0	10.29	91	0.7	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-2	7/2/1992	19.32	9.96	0	9.36	150	3.1	0.6	0.6	1.1	-	-	-
MW-2	7/22/1992	19.32	10.12	0	9.20	-	-	-	-	-	-	-	-
MW-2	10/2/1992	19.32	10.42	0	8.90	56	ND<0.5	0.8	0.8	1.2	-	-	-
MW-2	12/14/1992	19.32	10.77	0	8.55	210	1.5	ND<0.5	0.9	2.7	-	-	-
MW-2	3/24/1993	19.32	9.33	0	9.99	94	0.8	ND<0.5	ND<0.5	0.9	-	-	-
MW-2	6/17/1993	19.32	9.91	0	9.41	ND<50	ND<0.5	ND<0.5	ND<0.5	0.7	23	-	-
MW-2	9/29/1993	19.32	11.39	0	7.93	68	ND<0.5	0.9	0.7	1.9	59	-	-
MW-2	12/28/1993	19.32	9.75	0	9.57	260	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1300	-	-
MW-2	3/29/1994	19.32	9.39	0	9.93	150	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1622	-	4.9
MW-2	7/7/1994	19.32	9.68	0	9.64	1100	0.6	1.7	0.6	3.2	2000	-	-
MW-2	10/18/1994	19.32	10.22	0	9.10	290	31	0.8	ND<0.5	5.1	-	-	3.3
MW-2	2/1/1995	19.32	8.03	0	11.29	100	ND<0.5	ND<0.5	ND<0.5	ND<1	-	-	6
MW-2	4/12/1995	19.32	8.71	0	10.61	1200	ND<1.0	ND<1.0	ND<1.0	ND<2.0	-	-	8.3
MW-2	9/13/1995	19.32	10.19	0	9.13	480	ND<2.5	NO<2.5	ND<2.5	ND<5.0	2300	-	7.8
MW-2	1/11/1996	19.32	9.59	0	9.73	3400	ND<25	ND<25	ND<25	ND<50	11000	-	5.4
MW-2	4/18/1996	19.32	9.04	0	10.28	130	ND<0.5	ND<1	ND<1.0	ND<1	170	-	5.5
MW-2	6/28/1996	19.32	9.72	0	9.60	300	ND<0.5	ND<1	ND<1.0	ND<1	430	-	4.9
MW-2	11/5/1996	19.32	10.43	0	8.89	710	ND<2.5	ND<5.0	ND<5.0	ND<5.0	960	-	5.3
MW-2	1/17/1997	19.32	8.80	0	10.52	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	24	-	5.3
MW-2	5/1/1997	19.32	10.06	0	9.26	80	ND<0.5	ND<1.0	ND<1.0	ND<1.0	100	-	5.2
MW-2	7/9/1997	19.32,	10.50	0	8.82	150	ND<0.5	ND<1.0	ND<1.0	ND<1.0	170	-	4.3
MW-2	10/16/1997	19.32	10.18	0	9.14	ND<50	ND<1.0	ND<1.0	ND<1.0	ND<1.0	260	-	5
MW-2	1/8/1998	19.32	9.04	0	10.28	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	18	-	4.4
MW-2	4/17/1998	19.32	8.56	0	10.76	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	-	3.9
MW-2	9/11/1998	19.32	9.79	0	9,53	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	-	6.1
MW-2	3/9/1999	19.32	7.93	0	11.39	200	ND<1.0	ND<1.0	ND<1.0	ND<1.0	190	-	-
MW-2	9/23/1999	19.32	8.52	0	10.80	<250	ND<5.0	ND<5.0	ND<5.0	ND<5.0	84	-	-

Table 2: Historical Groundwater Results
Former BP Service Station No. 11266
1541 Park Street, Alameda, CA
Local Case #RO318

Location	Sample Date	TOC Elevation (ft)	DTW (ft btoc)	Product Thickness (ft)	Water Level Elevation (ft)	TPHg	Benzene	Toluene	Ethylbenzene	Xylene	MTBE	Lead	DO
						µg/L							mg/L
MW-2	3/27/2000	19.32	7.98	0	11.34	200	ND<0.5	ND<0.5	ND<0.5	ND<0.5	490	-	-
MW-2	9/27/2000	19.32	8.84	0	10.48	180	ND<0.5	ND<0.5	ND<0.5	ND<0.5	730	-	-
MW-2	3/21/2001	19.32	8.34	0	10.98	270	1.02	ND<0.5	ND<0.5	ND<1.5	341	-	-
MW-2	9/18/2001	19.32	9.29	0	10.03	100	ND<0.5	ND<0.5	ND<0.5	ND<1.5	178	-	-
MW-2	8/24/2006	19.32	8.25	0	11.07	55	0.57	ND<0.5	ND<0.5	1.0	47	ND<100	-
MW-2	6/30/2009	28.76	9.85	0	18.91	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	17	7.4	3.13
MW-2	3/18/2010	28.76	8.27	0	20.49	ND<50	ND<0.5	ND<0.5	ND<0.5	<1.0	6.3	ND<5.0	0.93
MW-2	7/12/2010	28.76	9.60	0	19.16	ND<50	ND<0.5	ND<0.5	ND<0.5	<1.0	6.0	ND<5.0	1.31
MW-3	2/17/1988	19.99	-	0	-	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-3	10/12/1988	19.99	11.40	0	8.59	ND<51	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-3	12/28/1988	19.99	10.79	0	9.20	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-3	3/29/1989	19.99	-	0	-	ND<51	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-3	11/28/1989	19.99	-	0	-	ND<52	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-3	2/13/1991	19.99	10.61	0	9.38	ND<53	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-3	5/10/1991	19.99	10.37	0	9.62	ND<54	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-3	8/1/1991	19.99	10.76	0	9.23	ND<54	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-3	1/8/1992	19.99	10.50	0	9.49	ND<54	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-3	3/30/1992	19.99	9.71	0	10.28	ND<55	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-3	7/211992	19.99	10.52	0	9.47	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-3	7/22/1992	19.99	10.62	0	9.37	-	-	-	-	-	-	-	-
MW-3	10/2/1992	19.99	10.86	0	9.13	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-3	12/14/1992	19.99	10.53	0	9.46	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-3	3/24/1993	19.99	9.06	0	10.93	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-3	6/17/1993	19.99	10.44	0	9.55	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-3	9/29/1993	19.99	11.06	0	8.93	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-3	12/28/1993	19.99	9.43	0	10.56	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-3	3/29/1994	19.99	10.01	0	9.98	-	-	-	-	-	-	-	-
MW-3	7/7/1994	19.99	10.14	0	9.85	ND<50	ND<0.5	0.7	ND<0.5	ND<0.5	-	-	-
MW-3	10/18/1994	19.99	10.56	0	9.43	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	3.2
MW-3	2/1/1995	19.99	8.98	0	11.01	ND<50	ND<0.5	1.0	0.5	1.9	-	-	5.9
MW-3	4/12/1995	19.99	9.70	0	10.29	-	-	-	-	-	-	-	-
MW-3	9/13/1995	19.99	10.70	0	9.29	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	ND<5.0	-	5.7
MW-3	1/11/1996	19.99	10.18	0	9.81	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	ND<5.0	-	5.5
MW-3	4/18/1996	19.99	9.53	0	10.46	-	-	-	-	-	-	-	-
MW-3	6/28/1996	19.99	9.21	0	10.78	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	-	4.3
MW-3	11/5/1996	19.99	9.94	0	10.05	-	-	-	-	-	-	-	-
MW-3	1/17/1997	19.99	9.29	0	10.70	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	-	5.0
MW-3	5/1/1997	19.99	10.53	0	9.46	-	-	-	-	-	-	-	-
MW-3	7/9/1997	19.99	10.92	0	9.07	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	-	4.0
MW-3	10/16/1997	19.99	11.24	0	8.75	-	-	-	-	-	-	-	-
MW-3	1/8/1998	19.99	10.12	0	9.87	-	-	-	-	-	-	-	-

Table 2: Historical Groundwater Results
Former BP Service Station No. 11266
1541 Park Street, Alameda, CA
Local Case #RO318

Location	Sample Date	TOC Elevation (ft)	DTW (ft btoc)	Product Thickness (ft)	Water Level Elevation (ft)	TPHg	Benzene	Toluene	Ethylbenzene	Xylene	MTBE	Lead	DO
						µg/L							mg/L
MW-3	4/17/1998	19.99	9.62	0	10.37	-	-	-	-	-	-	-	-
MW-3	9/11/1998	19.99	10.83	0	9.16	-	-	-	-	-	-	-	-
MW-3	3/9/1999	19.99	9.00	0	10.99	17000	8.2	ND<1.0	ND<1.0	5.9	17000	-	-
MW-3	9/23/1999	19.99	9.20	0	10.79	-	-	-	-	-	-	-	-
MW-3	3/27/2000	19.99	9.10	0	10.89	1200	4.5	1.2	3.0	3.1	2800	-	-
MW-3	9/27/2000	19.99	9.96	0	10.03	-	-	-	-	-	-	-	-
MW-3	3/21/2001	19.99	9.46	0	10.53	610	2.97	ND<2.5	8.66	7.85	572	-	-
MW-3	9/18/2001	19.99	10.13	0	9.86	-	-	-	-	-	-	-	-
MW-3	8/24/2006	19.99	9.61	0	10.38	96	ND<0.5	0.52	ND<0.5	ND<0.5	1.2	ND<100	-
MW-3	6/30/2009	29.43	10.03	0	19.40	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	2.40
MW-3	3/18/2010	29.43	8.82	0	20.61	100	ND<0.5	ND<0.5	ND<0.5	ND<1.0	ND<0.5	ND<5.0	0.78
MW-3	7/12/2010	29.43	9.24	0	20.19	79	ND<0.5	ND<0.5	ND<0.5	ND<1.0	ND<0.5	ND<5.0	-
MW-4	3/29/1989	20.17	-	0	-	ND	ND	ND	ND	ND	-	-	-
MW-4	11/28/1989	20.17	-	0	-	430	6.2	0.6	12	3	-	-	-
MW-4	2/13/1991	20.17	-	0	-	ND	ND	ND	ND	ND	-	-	-
MW-4	5/10/1991	20.17	9.67	0	10.50	ND<54	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-4	8/1/1991	20.17	10.42	0	9.75	ND<54	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-4	1/8/1992	20.17	10.05	0	10.12	ND	ND	ND	ND	ND	-	-	-
MW-4	3/30/1992	20.17	8.73	0	11.44	ND	ND	ND	ND	ND	-	-	-
MW-4	7/2/1992	20.17	10.04	0	10.13	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-4	7/22/1992	20.17	10.26	0	9.91	-	-	-	-	-	-	-	-
MW-4	10/2/1992	20.17	10.63	0	9.54	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-4	12/14/1992	20.17	10.02	0	10.15	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-4	3/24/1993	20.17	9.08	0	11.09	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-4	6/17/1993	20.17	10.03	0	10.14	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-4	9/29/1993	20.17	10.96	0	9.21	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-4	12128/1993	20.17	9.33	0	10.84	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-4	3/29/1994	20.17	9.42	0	10.75	-	-	-	-	-	-	-	-
MW-4	7/7/1994	20.17	9.82	0	10.35	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-4	10/18/1994	20.17	10.36	0	9.81	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	3.1
MW-4	2/1/1995	20.17	7.50	0	12.67	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	-	-	9.3
MW-4	4/12/1995	20.17	8.21	0	11.96	--	-	-	-	-	-	-	-
MW-4	9/13/1995	20.17	10.2	0	9.97	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	-	4.3
MW-4	1/11/1996	20.17	9.57	0	10.60	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	-	5.1
MW-4	4/18/1996	20.17	9.03	0	11.14	-	-	-	-	-	-	-	-
MW-4	6/28/1996	20.17	8.73	0	11.44	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	-	4.6
MW-4	11/5/1996	20.17	9.47	0	10.70	-	-	-	-	-	-	-	-
MW-4	1/17/1997	20.17	8.79	0	11.38	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	N0<10	-	5.4
MW-4	5/1/1997	20.17	10.08	0	10.09	-	-	-	-	-	-	-	-
MW-4	7/9/1997	20.17	10.52	0	9.65	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	-	4.1

Table 2: Historical Groundwater Results
Former BP Service Station No. 11266
1541 Park Street, Alameda, CA
Local Case #RO318

Location	Sample Date	TOC Elevation (ft)	DTW (ft btoc)	Product Thickness (ft)	Water Level Elevation (ft)	TPHg	Benzene	Toluene	Ethylbenzene	Xylene	MTBE	Lead	DO
						µg/L							mg/L
MW-4	10/16/1997	20.17	10.85	0	9.32	-	-	-	-	-	-	-	-
MW-4	1/8/1998	20.17	9.60	0	10.57	-	-	-	-	-	-	-	-
MW-4	4/17/1998	20.17	9.11	0	11.06	-	-	-	-	-	-	-	-
MW-4	9/11/1998	20.17	10.32	0	9.85	-	-	-	-	-	-	-	-
MW-4	3/9/1999	20.17	7.30	0	12.87	ND<50	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	-	0
MW-4	9/23/1999	20.17	7.86	0	12.31	-	-	-	-	-	-	-	-
MW-4	3/27/2000	20.17	7.57	0	12.60	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-
MW-4	9/27/2000	20.17	9.59	0	10.58	-	-	-	-	-	-	-	-
MW-4	3/21/2001	20.17	8.14	0	12.03	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.5	ND<0.5	-	-
MW-4	9/18/2001	20.17	9.74	0	10.43	-	-	-	-	-	-	-	-
MW-4	8/24/2006	20.17	8.98	0	11.19	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<100	-
MW-4	6/30/2009	29.61	9.47	0	20.14	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	35.7	3.53
MW-4	3/18/2010	29.61	7.85	0	21.76	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<5.0	1.3
MW-4	7/12/2010	29.61	8.96	0	20.65	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<5.0	-
MW-5	3/29/1989	19.41	-	0	-	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-5	11/28/1989	19.41	-	0	-	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-5	2/13/1991	19.41	-	0	-	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-5	5/10/1991	19.41	9.03	0	10.38	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-5	8/1/1991	19.41	9.70	0	9.71	ND<54	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-5	1/8/1992	19.41	9.23	0	10.18	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-5	3/30/1992	19.41	7.85	0	11.56	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-5	7/2/1992	19.41	9.27	0	10.14	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-5	7/22/1992	19.41	9.55	0	9.86	-	-	-	-	-	-	-	-
MW-5	10/2/1992	19.41	9.97	0	9.44	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-5	12/14/1992	19.41	9.14	0	10.27	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-5	3/24/1993	19.41	8.17	0	11.24	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-5	6/17/1993	19.41	8.29	0	11.12	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-5	9/29/1993	19.41	10.31	0	9.10	ND<50	ND<0.5	ND<0.5	ND<0.5	0.6	-	-	-
MW-5	12/28/1993	19.41	8.91	0	10.50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-5	3/29/1994	19.41	8.50	0	10.91	-	-	-	-	-	-	-	-
MW-5	7/7/1994	19.41	8.99	0	10.42	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-5	10/18/1994	19.41	9.61	0	9.80	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	3.5
MW-5	2/1/1995	19.41	6.55	0	12.86	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	-	-	7.6
MW-5	4/12/1995	19.41	7.27	0	12.14	-	-	-	-	-	-	-	-
MW-5	9/13/1995	19.41	9.49	0	9.92	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	-	4.9
MW-5	1/11/1996	19.41	8.82	0	10.59	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	-	4.9
MW-5	4/18/1996	19.41	8.30	0	11.11	-	-	-	-	-	-	-	-
MW-5	6(28/1996	19.41	8.96	0	10.45	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	-	4.2
MW-5	11/5/1996	19.41	9.69	0	9.72	-	-	-	-	-	-	-	-
MW-5	1/17/1997	19.41	9.02	0	10.39	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	-	5.2
MW-5	5/1/1997	19.41	10.29	0	9.12	-	--	-	-	-	-	-	-

Table 2: Historical Groundwater Results
Former BP Service Station No. 11266
1541 Park Street, Alameda, CA
Local Case #RO318

Location	Sample Date	TOC Elevation (ft)	DTW (ft btoc)	Product Thickness (ft)	Water Level Elevation (ft)	TPHg	Benzene	Toluene	Ethylbenzene	Xylene	MTBE	Lead	DO
						µg/L							mg/L
MW-5	7/9/1997	19.41	10.71	0	8.70	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	-	4.2
MW-5	10/16/1997	19.41	11.03	0	8.38	-	-	-	-	-	-	-	-
MW-5	1/8/1998	19.41	10.00	0	9.41	-	-	-	-	-	-	-	-
MW-5	4/17/1998	19.41	8.73	0	10.68	-	-	-	-	-	-	-	-
MW-5	9/11/1998	19.41	9.91	0	9.50	-	-	-	-	-	-	-	-
MW-5	3/9/1999	19.41	6.24	0	13.17	ND<50	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	-	-
MW-5	9/23/1999	19.41	6.74	0	12.67	-	-	-	-	-	-	-	-
MW-5	3/27/2000	19.41	6.64	0	12.77	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-
MW-5	9/27/2000	19.41	8.76	0	10.65	-	-	-	-	-	-	-	-
MW-5	3/21/2001	19.30	7.15	0	12.15	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.5	ND<0.5	-	-
MW-5	9/18/2001	19.30	8.85	0	10.45	-	-	-	-	-	-	-	-
MW-5	8/24/2006	19.41	8.12	0	11.29	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<100	-
MW-5	6/30/2009	28.72	8.61	0	20.11	-	-	-	-	-	-	-	-
MW-5	3/18/2010	28.72	6.84	0	21.88	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	ND<0.5	ND<5.0	1.3
MW-5	7/12/2010	28.72	8.13	0	20.59	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	ND<0.5	ND<5.0	1.77
MW-6	3/29/1989	19.4	-	0	-	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-6	11/28/1989	19.4	-	0	-	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-6	2/13/1991	19.4	-	0	-	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-6	5/10/1991	19.4	9.80	0	9.60	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-6	8/1/1991	19.4	10.29	0	9.11	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-6	1/8/1992	19.4	10.02	0	9.38	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-6	3/30/1992	19.4	8.86	0	10.54	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-6	7/2/1992	19.4	9.94	0	9.46	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-6	7/22/1992	19.4	10.1	0	9.30	-	-	-	-	-	-	-	-
MW-6	1012/1992	19.4	10.48	0	8.92	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-6	12/14/1992	19.4	10.76	0	8.64	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-6	3/24/1993	19.4	9.19	0	10.21	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-6	6/17/1993	19.4	9.91	0	9.49	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-6	9/29/1993	19.4	11.49	0	7.91	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-6	12/28/1993	19.4	9.88	0	9.52	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-6	3/29/1994	19.4	9.36	0	10.04	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	66.3	-	-
MW-6	7/7/1994	19.4	9.75	0	9.65	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	38	-	-
MW-6	10/18/1994	19.4	10.3	0	9.10	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-
MW-6	2/1/1995	19.4	7.92	0	11.48	ND<50	ND<0.5	0.9	ND<0.5	1.1	-	-	-
MW-6	4/12/1995	19.4	8.41	0	10.99	220	ND<0.5	ND<0.5	ND<0.50	ND<1.0	-	-	-
MW-6	9/13/1995	19.4	10.05	0	9.35	180	ND<1.0	ND<1.0	ND<1.0	ND<2.0	770	-	-
MW-6	1/11/1996	19.4	9.52	0	9.88	670	ND<2.5	ND<2.5	ND<2.5	ND<5.0	2400	-	-
MW-6	4/18/1996	19.4	9.03	0	10.37	560	ND<0.5	ND<1.0	ND<1.0	ND<1.0	860	-	-
MW-6	6/28/1996	19.4	8.76	0	10.64	620	ND<0.5	ND<1.0	ND<1.0	ND<1.0	540	-	-
MW-6	11/5/1996	19.4	9.48	0	9.92	810	ND<5.0	ND<10	ND<10	ND<10	970	-	-
MW-6	1/17/1997	19.4	8.58	0	10.82	830	ND<0.5	ND<1.0	ND<1.0	ND<1.0	960	-	-

Table 2: Historical Groundwater Results
Former BP Service Station No. 11266
1541 Park Street, Alameda, CA
Local Case #RO318

Location	Sample Date	TOC Elevation (ft)	DTW (ft btoc)	Product Thickness (ft)	Water Level Elevation (ft)	TPHg	Benzene	Toluene	Ethylbenzene	Xylene	MTBE	Lead	DO
						µg/L							mg/L
MW-6	5/1/1997	19.4	9.92	0	9.48	780	ND<5.0	ND<10	ND<10	ND<10	970	-	-
MW-6	7/9/1997	19.4	10.33	0	9.07	990	ND<0.5	ND<1.0	ND<1.0	ND<1.0	1100	-	-
MW-6	10/16/1997	19.4	10.66	0	8.74	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	750	-	-
MW-6	1/8/1998	19.4	8.92	0	10.48	120	ND<0.5	ND<1.0	ND<1.0	ND<1.0	120	-	-
MW-6	4/17/1998	19.4	8.12	0	11.28	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	62	-	-
MW-6	9/11/1998	19.4	9.31	0	10.09	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	59	-	-
MW-6	3/9/1999	19.4	7.25	0	12.15	ND<50	ND<1.0	ND<1.0	ND<1.0	ND<1.0	2.9	-	-
MW-6	9/23/1999	19.4	7.79	0	11.61	ND<250	ND<5.0	ND<5.0	ND<5.0	ND<5.0	20	-	-
MW-6	3/27/2000	19.4	7.03	0	12.37	ND<50	ND<0.5	ND<0.5	ND<0.5	2.40	ND<0.5	-	-
MW-6	9/27/2000	19.4	8.57	0	10.83	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-
MW-6	3/21/2001	19.4	7.47	0	11.93	ND<50	ND<0.5	ND<0.5	NO<0.5	ND<1.5	ND<0.5	-	-
MW-6	9/18/2001	19.4	9.12	0	10.28	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.5	ND<0.5	-	-
MW-6	8/24/2006	19.4	8.26	0	11.14	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	<100	-
MW-6	6/30/2009	28.82	9.83	0	18.99	ND<50	ND<10	ND<10	ND<10	ND<10	ND<10	9.95	2.56
MW-6	3/18/2010	28.82	8.04	0	20.78	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1.0	ND<0.5	<5.0	0.94
MW-6	7/12/2010	28.82	-	0	-	-	-	-	-	-	-	-	-
RW-1	7/22/1992	-	9.66	0	-	13000	1000	3400	380	2800	-	-	-
RW-1	10/2/1992	-	10.28	0	-	-	-	-	-	-	-	-	-
RW-1	12/14/1992	-		0	-	-	-	-	-	-	-	-	-
RW-1	3/24/1993	-	8.93	0	-	660	21	25	8.3	100	315	-	-
RW-1	6/17/1993	-	9.66	0	-	850	13	1.0	15	100	390	-	-
RW-1	9/29/1993	19.27		0	-4.13	1200	26	27	11	150	1800	-	-
RW-1	12/28/1993	19.27	9.76	0	9.51	3500	300	220	180	480	1900	-	-
RW-1	3/29/1994	19.27	8.93	0	10.34	12000	640	1700	450	2200	899	-	6.3
RW-1	7/7/1994	19.27	9.45	0	9.82	7600	530	1100	380	1800	410	-	-
RW-1	10/18/1994	19.27	10.11	0	9.16	5300	47	100	150	280	-	-	3.4
RW-1	2/1/1995	19.27	8.54	0	10.73	27000	2400	6100	1800	5300	-	-	4.5
RW-1	4/12/1995	19.27	8.21	0	11.06	6200	330	910	350	1500	-	-	5.2
RW-1	9/13/1995	19.27	9.84	0	9.43	920	140	60	34	110	1200	-	5.1
RW-1	1/11/1996	19.27	9.25	0	10.02	ND<50	0.95	0.61	ND<0.50	2.1	43	-	54
RW-1	4/18/1996	19.27	8.73	0	10.54	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	-	4.7
RW-1	6/28/1996	19.27	9.40	0	9.87	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	-	4.5
RW-1	11/5/1996	19.27	10.12	0	9.15	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	-	4.9
RW-1	1/17/1997	19.27	8.10	0	11.17	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	-	4.8
RW-1	5/1/1997	19.27	9.43	0	9.84	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	-	4.6
RW-1	7/9/1997	19.27	10.83	0	8.44	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	-	4.1
RW-1	10/16/1997	19.27	11.17	0	8.10	-	-	-	-	-	-	-	-
RW-1	1/8/1998	19.27	10.03	0	9.24	-	-	-	-	-	-	-	-
RW-1	4/17/1998	19.27	8.79	0	10.48	-	-	-	-	-	-	-	-
RW-1	9/11/1998	19.27	9.98	0	9.29	-	-	-	-	-	-	-	-
RW-1	3/9/1999	1927	7.19	0	12.08	-	-	-	-	-	-	-	-

Table 2: Historical Groundwater Results
Former BP Service Station No. 11266
1541 Park Street, Alameda, CA
Local Case #RO318

Location	Sample Date	TOC Elevation (ft)	DTW (ft btoc)	Product Thickness (ft)	Water Level Elevation (ft)	TPHg	Benzene	Toluene	Ethylbenzene	Xylene	MTBE	Lead	DO
						µg/L							mg/L
RW-1	9/23/1999	19.27	7.63	0	11.64	-	-	-	-	-	-	-	-
RW-1	3/27/2000	19.27	7.04	0	12.23	-	-	-	-	-	-	-	-
RW-1	9/27/2000	19.27	8.55	0	10.72	-	-	-	-	-	-	-	-
RW-1	3/21/2001	19.27	7.48	0	11.79	-	-	-	-	-	-	-	-
RW-1	9/18/2001	19.27	9.13	0	10.14	-	-	-	-	-	-	-	-
RW-1	8/24/2006	-	-	0	-	-	-	-	-	-	-	-	-
RW-1	6/30/2009	28.63	10.16	0	18.47	290	ND<0.50	15	9.6	51	ND<0.5	5.47	3.34
RW-1	3/18/2010	28.63	7.64	0	20.99	1000	3.9	82	59	280	ND<2.5	14	1.17
RW-1	7/12/2010	28.63	9.26	0	19.37	900	5.0	27	48	220	ND<5.0	5.0	1.05

Notes:
P = well purged prior to sampling
NP = well not purged prior to sampling
TOC = Top of Casing
BTOC = Below Top of Casing
DTW = Depth to Water
ft = feet
TPHg = Total Petroleum Hydrocarbons as Gasoline
MTBE = Methyl tert-butyl ether
TPHd = Total Petroleum Hydrocarbons as Diesel
µg/L = micrograms per liter
mg/L = milligrams per liter
- = not analyzed
ND< = analyte not detected, result is below laboratory reporting limit

Table 2. Summary of Fuel Additives Analytical Data

Former BP Station #11266, 1541 Park Street, Alameda, CA

Well and Sample Date	Concentrations in (µg/L)								Comments
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
MW-1									
8/24/2006	<600	<40	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	
6/30/2009	<50	10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
3/18/2010	<1,000	<40	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	
MW-2									
8/24/2006	<300	<20	47	<0.50	<0.50	2.2	<0.50	<0.50	
6/30/2009	<50	<10	17	<0.50	<0.50	1.0	<0.50	<0.50	
3/18/2010	<100	<4.0	6.3	<0.50	<0.50	<0.50	<0.50	<0.50	
7/12/2010	**<100**	**<4.0**	**6.0**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	
MW-3									
8/24/2006	<300	<20	1.2	<0.50	<0.50	<0.50	<0.50	<0.50	
6/30/2009	<50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
3/18/2010	<100	<4.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
7/12/2010	**<100**	**<4.0**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	
MW-4									
8/24/2006	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
6/30/2009	<50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
3/18/2010	<100	<4.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
7/12/2010	**<100**	**<4.0**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	
MW-5									
8/24/2006	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
3/18/2010	<100	4.2	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
7/12/2010	**<100**	**<4.0**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	
MW-6									
8/24/2006	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
6/30/2009	<1,000	<200	<10	<10	<10	<10	<10	<10	
3/18/2010	<100	<4.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
RW-1									
6/30/2009	<50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	

Table 2. Summary of Fuel Additives Analytical Data

Former BP Station #11266, 1541 Park Street, Alameda, CA

Well and Sample Date	Concentrations in (µg/L)								Comments
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
RW-1 Cont.									
3/18/2010	<500	<20	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	
7/12/2010	<1,000	<40	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	

Table 3: Historical Groundwater Flow Directions and Gradients
Former BP Service Station No. 11266
1541 Park Street, Alameda, CA
Local Case #RO318

Date Sampled	Approximate Flow Direction	Approximate Hydraulic Gradient (ft/ft)
10/12/1988	East	NA
12/28/1988	East	NA
2/13/1991	East	0.009
5/10/1991	East	0.01
8/1/1991	East	0.008
1/8/1992	East	0.01
3/30/1992	East	0.01
7/2/1992	East	0.009
10/2/1992	East	0.006
12/14/1992	East	0.02
3/24/1993	East	0.01
6/17/1993	Southeast	0.02
9/29/1993	Southeast	0.003
12/28/1993	Northeast	0.02
3/29/1994	Southeast	0.01
7/7/1994	Southeast	0.007
10/18/1994	East	0.008
2/1/1995	Southeast	0.02
4/12/1995	Southeast	0.02
9/13/1995	Southeast	0.008
1/11/1996	East	0.01
4/18/1996	East	0.01
6/28/1996	East	0.03
11/5/1996	Northeast	0.02
1/17/1997	Northeast	0.03
5/1/1997	Northeast	0.03
7/9/1997	Northeast	0.03
10/16/1997	Northwest	0.03
4/17/1998	South	0.01
9/11/1998	South	0.009
3/9/1999	Southeast	0.02
9/23/1999	Southeast	0.02
3/27/2000	South	0.02
9/27/2000	South	0.008
3/21/2001	Southeast	0.01
9/18/2001	Southeast	0.01
8/24/2006	South	0.01
6/30/2009	East	0.01
3/18/2010	Southeast	0.01
7/12/2010	South	0.02

Notes:
NA Not Availible

Table 4: Most Recent and Maximum Concentration of Contaminants Detected in Soil and Groundwater
Former BP Service Station No. 11266
1541 Park Street, Alameda, CA
Local Case #RO318

Analyte	Soil [1]							Groundwater					
	Most Recent Concentration Observed (mg/kg)	Sample Depth (feet bgs)	Sample Date	Maximum Concentration Observed (mg/kg)	Sample Depth (feet bgs)	Sample Date	Commercial ESL[2] (mg/kg)	Most Recent Concentration Observed (µg/L)	Sample Date	Maximum Concentration Observed (µg/L)	Sample Date	Commerical ESL for the Protection of the Vapor Intrusion Pathway[3] (µg/L)	State of California Maximum Contaminant Level (µg/L)
TPHg	<0.50 (B-2)	9.5	6/10/2009	2.4 (MW-1)	10	2/9/1988	450	**900 (RW-1)**	7/12/2010	**95,000 (MW-1)**	3/4/1988	--	NA
Benzene	<0.001 (B-2)	9.5	6/10/2009	0.1 (MW-1)	10	2/9/1988	0.27	**5.0 (RW-1)**	7/12/2010	**2,400 (RW-1)**	2/1/1995	1,800	1.0
Toluene	<0.001 (B-2)	9.5	6/10/2009	0.15 (PD-4)	2.0	12/6/1999	210	27 (RW-1)	7/12/2010	6,100 (RW-1)	2/1/1995	530,000	150
Ethylbenzene	<0.001 (B-2)	9.5	6/10/2009	0.013 (PD-3)	2.0	12/6/1999	5.0	48 (RW-1)	7/12/2010	1,800 (RW-1)	2/1/1995	170,000	300
Xylenes	<0.001 (B-2)	9.5	6/10/2009	0.7 (MW-1)	10	2/9/1999	100	220 (RW-1)	7/12/2010	10,000 (MW-1)	3/4/1988	160,000	1750
MTBE	<0.001 (B-2)	9.5	6/10/2009	<0.001 (B-2)	9.5	6/10/2009	650	6.0 (RW-1)	7/12/2010	68,412 (MW-1)	3/29/1994	80,000	13
TPHd	--	--	--	--	--	--	450	1,000 (MW-1)	8/24/2006	1,000 (MW-1)	8/24/2006	-	NA
Lead	86.6 (B-2)	8.0	6/10/2009	**910 (PD-4)**	2.0	12/6/1999	750	5.0 (RW-1)	7/12/2010	**54.2 (MW-1)**	6/30/2009	-	15

[1] Soil results are reported from the vadose zone, which does not exceed 10 feet bgs
[2] Soil ESLs are from Table K-2 of Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater
[3] Groundwater ESLs are from Table E-1 of Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater
[4] Groundwater MCLs are from Title 22 of the California Code of Regulations
Bold = exceedances of commercial ESL
TPHg = Total Petroleum Hydrocarbons as Gasoline
TPHd = Total Petroleum Hydrocarbons as Diesel
MTBE = methyl tert-butyl ether
mg/kg = milligrams per kilogram
µg/L = micrograms per liter
bgs = below ground surface
TPHg Commerical ESL values are listed as TPH (gasolines) in Table A of *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*
TPHd Commercial ESL values are listed as TPH (middle distillates) in Table A of Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater
ND = non-detect, below laboratory detection limits
NA = Not Available

Well Construction Details
Former BP Service Station 11266
1541 Park Street
Alameda, California

Soil Boring / Well ID	Installation Date	Boring Depth (feet bgs)	Well Diameter (inches)	Screened Interval (feet bgs)	Well Bottom (feet bgs)	Screen Length (feet)	Top of Casing Elevation (feet msl)	Latitude	Longitude
Groundwater Monitoring Wells									
MW-1	2/9/1988	25.0	2	8.0	25.0	17.0		37.7666142	-122.2412812
MW-2	2/9/1988	25.0	2	8.0	25.0	17.0		37.7665461	-122.241115
MW-3	2/9/1988	25.0	2	8.0	25.0	17.0		37.7664036	-122.2412079
MW-4	3/22/1989	25.0	2	5.0	25.0	20.0		37.7665568	-122.2414497
MW-5	3/22/1989	25.0	2	5.0	25.0	20.0		37.7666556	-122.2414517
MW-6	3/22/1989	25.0	2	5.0	25.0	20.0		37.7666447	-122.2411498
RW-1	4/13/1992	30.0	6	5.0	30.0	25.0		37.7665845	-122.2411828

Explanation:
bgs = below ground surface
msl = mean sea level
NA = not available
SVE = soil vapor extraction
TOC = top of casing
-- = not applicable

Table 2

WATER PRODUCING WELLS WITHIN 2,000 FEET OF SITE

County Well Number	Date Drilled	Well Depth (feet)	Casing Diameter (inches)	Usage
T2S/R3W-7L-1	NA	90	NA	Abandoned
T2S/R3W-7L-2	NA	NA	4	Irrigation
T2S/R3W-7M-1	04/77	72	6	Industrial
T2S/R3W-7M-2	04/77	82	6	Industrial
T2S/R3W-7N-1	NA	206	NA	Irrigation
T2S/R3W-7Q-1	09/77	28	5	Irrigation
T2S/R3W-7Q-8	07/88	60	10	Irrigation
T2S/R3W-18D-1	05/77	20	6	Irrigation
T2S/R4W-12J-1	08/77	29	6	Irrigation
T2S/R4W-12R-1	NA	325	16	Domestic
T2S/R4W-12R-2	02/77	19	4	Irrigation
T2S/R4W-12R-3	02/77	19	4	Irrigation
T2S/R4W-12R-4	05/77	30	6	Irrigation
T2S/R4W-13A-1	02/77	20	4	Irrigation

NA = Information not available

Exploratory Boring Log

Project No.	Boring & Casing Diameter	Logged By
KEI-P87-097A	8 in. 2 in csg.	JS
Project Name	**Casing Elevation**	**Date Drilled**
Mobil #10-EYD		2-9-88
Boring No.	**Hollow-stem Flight Auger**	**Depth to Groundwater**
MW-1		10.5 ft.

Penetration blows/ft	G. W. level	Depth (ft) Samples	Lithography USCS	Description
		0		ASPHALT & BASEROCK
				FILL
			SW	SAND: fine grained, very well sorted, little to no fines, dry
		5		
			SC	clayey sand at 8', low plasticity
31	▼	10		moderate odor in sample, dark greenish grey 5GY 4/1
		15		
		20		

Exploratory Boring Log

Project No. KEI-P87-097A	Boring & Casing Diameter	Logged By
Project Name Mobil #10-EYD	Casing Elevation	Date Drilled 2-9-88
Boring No. MW-1	Hollow-stem Flight Auger	Depth to Groundwater

Penetration blows/ft	G. W. level	Depth (ft) Samples	Lithography USCS	Description
		20		SAND: as above
		25		TOTAL DEPTH 25 FEET
		30		
		35		
		40		

WELL DETAILS

PROJECT NAME: Mobil S/S #10-EYD 1541 Park Ave. Alameda, CA

BORING/WELL NO. MW-1

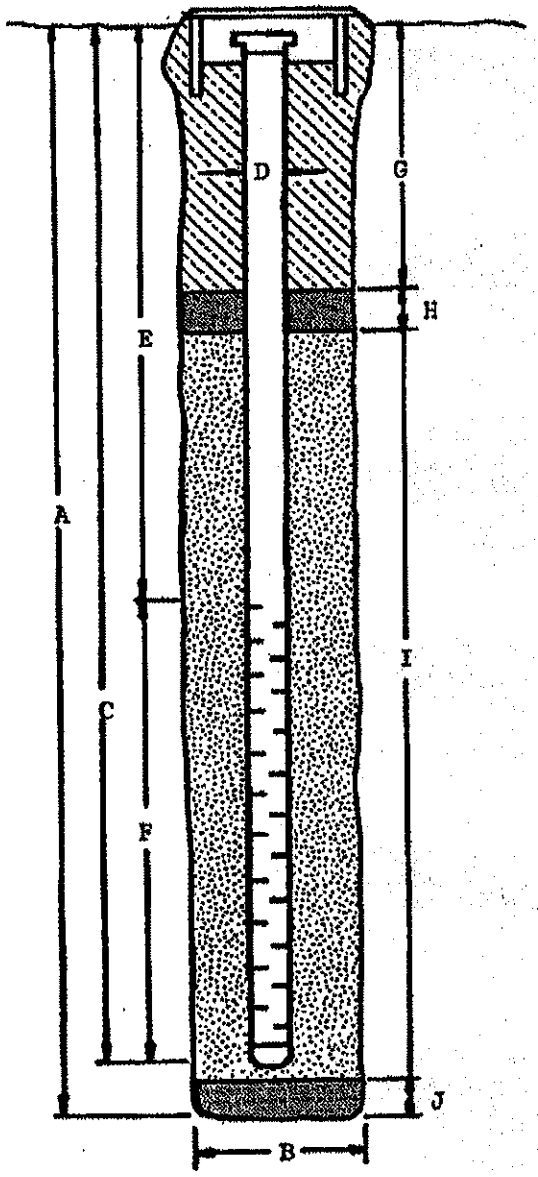
PROJECT NUMBER: KEI-P87-097A

CASING ELEVATION:

WELL PERMIT NO.: 88010

SURFACE ELEVATION:

G-5 Vault Box



A. Total Depth: 25'

B. Boring Diameter: 8"

Drilling method: Hollow stem

C. Casing Length: 25 '

Material: Schedule 40 PVC

D. Casing Diameter: 2 in.

E. Depth to Perforations: 8 ft.

F. Perforated Length: 17 ft.

Perforated Interval: 25 to 8 ft.

Perforation Type: slot

Perforation Size: 0.02 in.

G. Surface Seal: 6 to 0 ft.

Seal Material: concrete

H. Seal: 7 to 6 ft.

Seal Material: bentonite

I. Gravel Pack: 25 to 7 ft.

Pack Material: Monterey sand

Size: No. 3

J. Bottom Seal: none

Seal Material:

Exploratory Boring Log

Project No.	Boring & Casing Diameter	Logged By
KEI-P87-097A	8 in. 2 in. csg.	JS
Project Name	**Casing Elevation**	**Date Drilled**
Mobil #10-EGY		2-9-88
Boring No.	**Hollow-stem Flight Auger**	**Depth to Groundwater**
MW-2		11 ft.

Penetration blows/ft	G. W. level	Depth (ft) Samples	Lithography USCS	Description
		0		ASPHALT & BASEROCK FILL
			SW	SAND: brown 10YR 4/3, fine grained, very well sorted, no fines, dry
		5		
39		10		poor sample recovery brown 10YR 5/7
		15		
		20		

Exploratory Boring Log

Project No. KEI-P87-097A	Boring & Casing Diameter	Logged By
Project Name Mobil #10-EGY	Casing Elevation	Date Drilled 2-9-88
Boring No. MW-2	Hollow-stem Flight Auger	Depth to Groundwater

Penetration blows/ft	G. W. level	Depth (ft) Samples	Lithography USCS	Description
		20		SAND : as above
		25		TOTAL DEPTH 25 FEET
		30		
		35		
		40		

WELL DETAILS

PROJECT NAME: MOBIL S/S #10-EGY 1541 Park Ave Alameda, CA

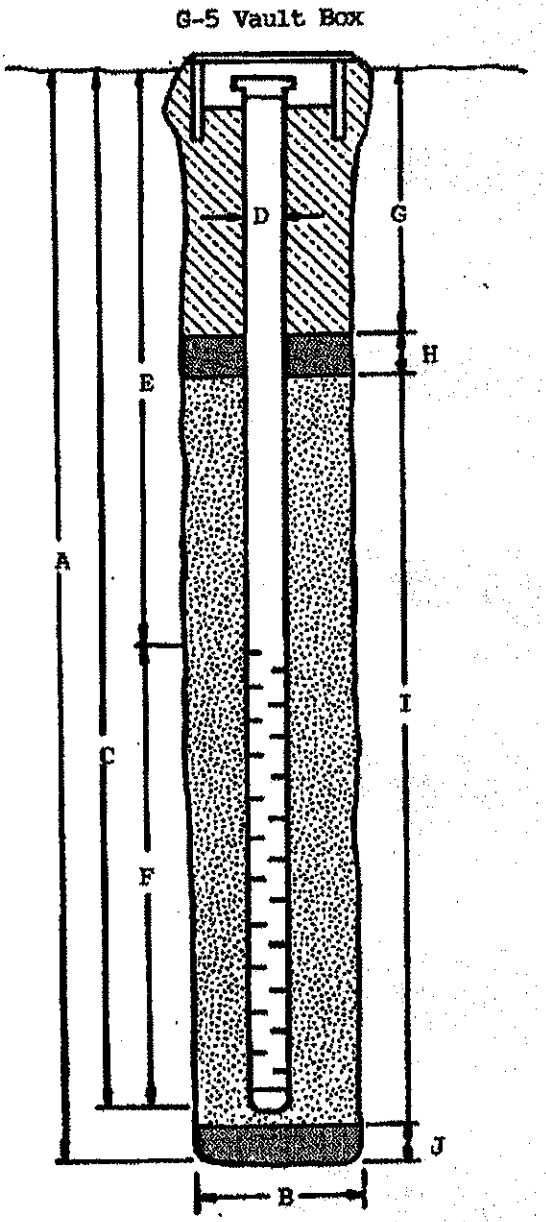
BORING/WELL NO. MW-2

PROJECT NUMBER: KEI-P87-097A

CASING ELEVATION: _____

WELL PERMIT NO.: 88010

SURFACE ELEVATION: _____



A. Total Depth: 25 ft.

B. Boring Diameter: 8 in.

Drilling method: Hollow stem

C. Casing Length: 25 ft.

Material: Schedule 40 PVC

D. Casing Diameter: 2 in.

E. Depth to Perforations: 8 ft.

F. Perforated Length: 17 ft.

Perforated Interval: 25 to 8 ft.

Perforation Type: slot

Perforation Size: 0.02 in.

G. Surface Seal: 6 to 0 ft.

Seal Material: concrete

H. Seal: 7 to 6 ft.

Seal Material: bentonite

I. Gravel Pack: 25 to 7 ft.

Pack Material: Monterey sand

Size: No. 3

J. Bottom Seal: none

Seal Material: _____

Exploratory Boring Log

Project No.	Boring & Casing Diameter	Logged By
KEI-P87-097A	8 in. 2 in. csg.	JS
Project Name	**Casing Elevation**	**Date Drilled**
Mobil #10-EDG		2-9-88
Boring No.	**Hollow-stem Flight Auger**	**Depth to Groundwater**
MW-3		13.5

Penetration blows/ft	G. W. level	Depth (ft) Samples	Lithography USCS	Description
		0		ASPHALT & BASEROCK FILL
			SW	SAND: dark reddish brown 5YR 3/3, fine grained, very well sorted, no fines, dry
		5		
45		10		no odor
		15		
		20		

Exploratory Boring Log

Project No.	Boring & Casing Diameter	Logged By
KEI-P87-097A	8 in. 2 in. csg.	JS
Project Name	**Casing Elevation**	**Date Drilled**
Mobil #10-EGY		2-9-88
Boring No.	**Hollow-stem Flight Auger**	**Depth to Groundwater**
MW-3		

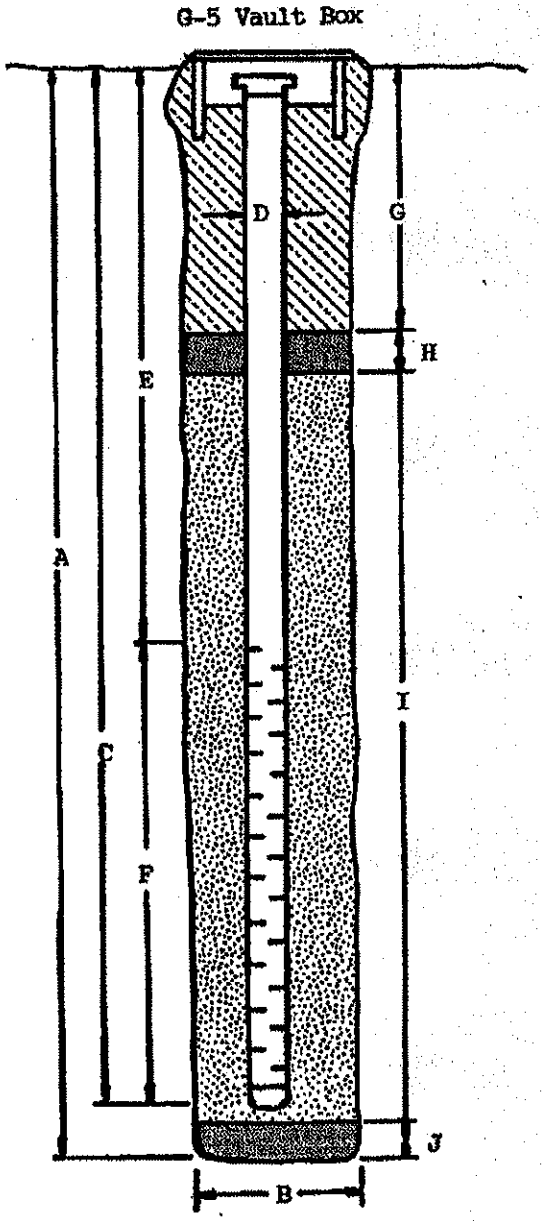
Penetration blows/ft	G. W. level	Depth (ft) Samples	Lithography USCS	Description
		20		SAND : as above
		25		TOTAL DEPTH 25 FEET
		30		
		35		
		40		

WELL DETAILS

PROJECT NAME: Mobil S/S #10-EGY BORING/WELL NO.MW-

PROJECT NUMBER: KEI-P87-097A CASING ELEVATION:

WELL PERMIT NO.: 88010 SURFACE ELEVATION:



A. Total Depth: 25 feet

B. Boring Diameter: 8 in.

Drilling method: Hollow stem

C. Casing Length: 25 ft.

Material: Schedule 40 PVC

D. Casing Diameter: 2 in.

E. Depth to Perforations: 10 ft.

F. Perforated Length: 15 ft.

Perforated Interval: 25 to 10 ft.

Perforation Type: slot

Perforation Size: 0.02 in.

G. Surface Seal: 7 to 0 ft.

Seal Material: concrete

H. Seal: 8 to 7 ft.

Seal Material: bentontie

I. Gravel Pack: 25 to 8 ft.

Pack Material: Monterey sand

Size: No. 3

J. Bottom Seal: none

Seal Material:

Key To Boring Logs

PRIMARY DIVISIONS			GROUP SYMBOL	SECONDARY DIVISIONS
COARSE GRAINED SOILS — MORE THAN HALF OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVELS — MORE THAN HALF OF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE	CLEAN GRAVELS (LESS THAN 5% FINES)	GW	Well graded gravels, gravel-sand mixtures, little or no fines
			GP	Poorly graded gravels or gravel-sand mixtures, little or no fines.
		GRAVEL WITH FINES	GM	Silty gravels, gravel-sand-silt mixtures, non-plastic fines
			GC	Clayey gravels, gravel-sand-clay mixtures, plastic fines.
	SANDS — MORE THAN HALF OF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE	CLEAN SANDS (LESS THAN 5% FINES)	SW	Well graded sands, gravelly sands, little or no fines.
			SP	Poorly graded sands or gravelly sands, little or no fines.
		SANDS WITH FINES	SM	Silty sands, sand-silt mixtures, non-plastic fines.
			SC	Clayey sands, sand-clay mixtures, plastic fines.
FINE GRAINED SOILS — MORE THAN HALF OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS — LIQUID LIMIT IS LESS THAN 50%		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
			OL	Organic silts and organic silty clays of low plasticity.
	SILTS AND CLAYS — LIQUID LIMIT IS GREATER THAN 50%		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.
			CH	Inorganic clays of high plasticity, fat clays.
			OH	Organic clays of medium to high plasticity, organic silts.
HIGHLY ORGANIC SOILS			Pt	Peat and other highly organic soils.

DEFINITION OF TERMS

	U.S. STANDARD SERIES SIEVE				CLEAR SQUARE SIEVE OPENINGS			
	200	40	10	4	3/4"	3"	12"	
SILTS AND CLAYS	SAND			GRAVEL		COBBLES	BOULDERS	
	FINE	MEDIUM	COARSE	FINE	COARSE			

GRAIN SIZES

SANDS AND GRAVELS	BLOWS/FOOT†
VERY LOOSE	0 - 4
LOOSE	4 - 10
MEDIUM DENSE	10 - 30
DENSE	30 - 50
VERY DENSE	OVER 50

RELATIVE DENSITY

SILTS AND CLAYS	STRENGTH‡	BLOWS/FOOT†
VERY SOFT	0 - 1/4	0 - 2
SOFT	1/4 - 1/2	2 - 4
FIRM	1/2 - 1	4 - 8
STIFF	1 - 2	8 - 16
VERY STIFF	2 - 4	16 - 32
HARD	OVER 4	OVER 32

CONSISTENCY

†Number of blows of 140 pound hammer falling 30 inches to drive a 2 inch O.D. (1-3/8 inch I.D.) split spoon (ASTM D-1586).

‡Unconfined compressive strength in tons/sq. ft. as determined by laboratory testing or approximated by the standard penetration test (ASTM D-1586), pocket penetrometer, torvane, or visual observation.

UNIFIED SOIL CLASSIFICATION SYSTEM
(ASTM D-2487)

Soil Color derived from the MUNSELL Soil Color Charts

BORING LOG

Project No.	Boring & Casing Diameter	Logged By
KEI-P87-0907	9" 2"	Gary Johnson
Project Name	**Well Head Elevation**	**Date Drilled**
Mobil - Alameda	N/A	3/22/89
Boring No.	**Drilling Method**	**Drilling Company**
MW-4	Hollow-stem Auger	EGI

Penetration blows/6"	G. W. level	Depth (ft) Samples	Stratigraphy USCS	Description
		0		Medium to fine grained sand, brown, well sorted
3/3/3		5		
12/18/20	▼	10	SP	As above
		15		As above to total depth
		20		
		25		
		30		
				TOTAL DEPTH 25'

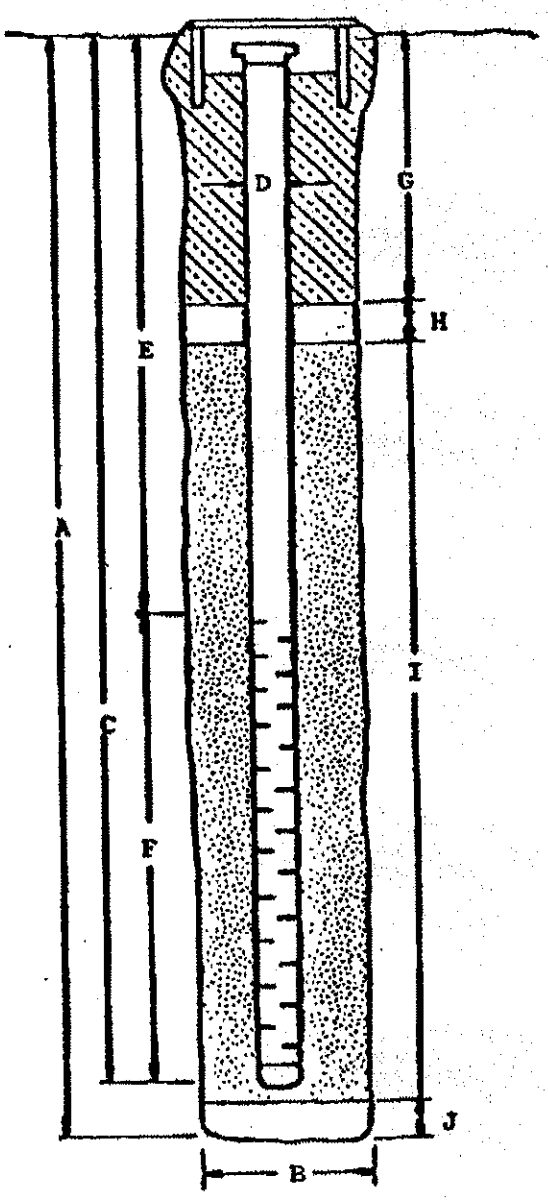
WELL COMPLETION DIAGRAM

PROJECT NAME: Mobil - Alameda BORING/WELL NO. MW-4

PROJECT NUMBER: KEI-P87-0907

WELL PERMIT NO.: 89124

Flush-mounted Well Cover



A. Total Depth: 25'

B. Boring Diameter*: 9"

Drilling Method: Hollow Stem Auger

C. Casing Length: 25'

Material: Schedule 40 PVC

D. Casing Diameter: OD = 2.375" ID = 2.067"

E. Depth to Perforations: 5'

F. Perforated Length: 20'

Perforated Inverval: 5'-25'

Perforation Type: Machined Slot

Perforation Size: 0.020"

G. Surface Seal: 0'-3'

Seal Material: Concrete

H. Seal: 1'

Seal Material: Bentonite

I. Gravel Pack: 4'-25'

Pack Material: RMC Lonestar Sand

Size: #3

J. Bottom Seal: None

Seal Material: N/A

*Boring diameter can vary from 8-1/4" to 9" depending on bit wear.

BORING LOG

Project No.	Boring & Casing Diameter	Logged By
KEI-P87-0907	9" 2"	Gary Johnson
Project Name	**Well Head Elevation**	**Date Drilled**
Mobil - Alameda	N/A	3/22/89
Boring No.	**Drilling Method**	**Drilling Company**
MW-5	Hollow-stem Auger	EGI

Penetration blows/6"	G. W. level	Depth (ft) Samples	Stratigraphy USCS	Description
		0		0'-5' fill large chunks of concrete
6/10/12		5		Medium to fine sand, brown, well sorted
12/14/16	▼	10	SP	As above to total depth
		15		
		20		
		25		TOTAL DEPTH 25'
		30		

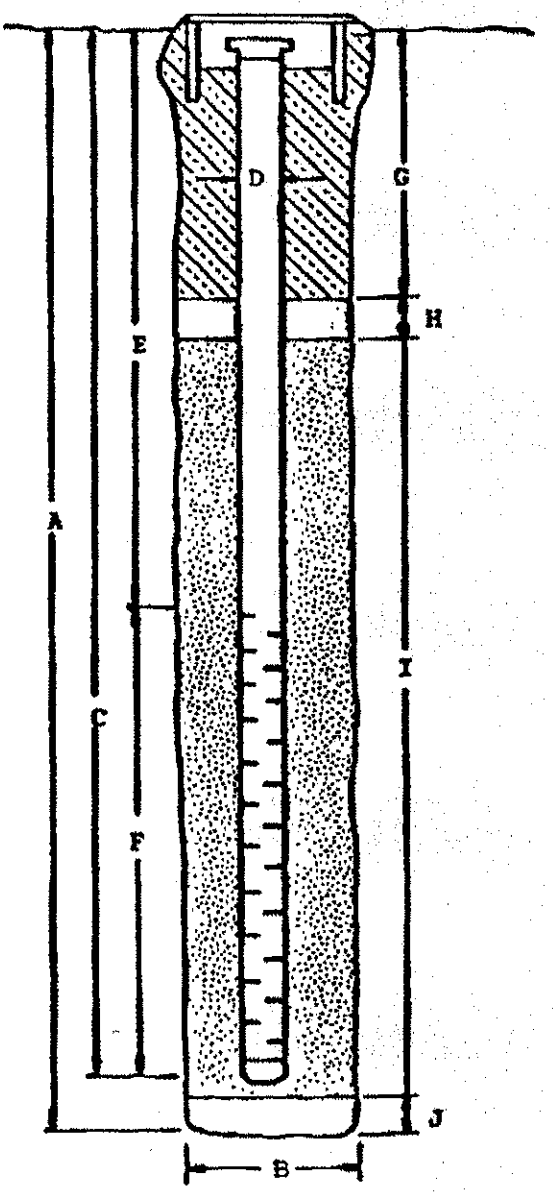
WELL COMPLETION DIAGRAM

PROJECT NAME: Mobil - Alameda BORING/WELL NO. MW-5

PROJECT NUMBER: KEI-P87-0907

WELL PERMIT NO.: 89124

Flush-mounted Well Cover



A. Total Depth: 25'

B. Boring Diameter*: 9"

Drilling Method: Hollow Stem Auger

C. Casing Length: 25'

Material: Schedule 40 PVC

D. Casing Diameter: OD = 2.375"

ID = 2.067"

E. Depth to Perforations: 5'

F. Perforated Length: 20'

Perforated Inverval: 5'-25'

Perforation Type: Machined Slot

Perforation Size: 0.020"

G. Surface Seal: 0'-3'

Seal Material: Concrete

H. Seal: 1'

Seal Material: Bentonite

I. Gravel Pack: 4'-25'

Pack Material: RMC Lonestar Sand

Size: #3

J. Bottom Seal: None

Seal Material: N/A

*Boring diameter can vary from 8-1/4" to 9" depending on bit wear.

BORING LOG

Project No. KEI-P87-0907	Boring & Casing Diameter 9" 2"	Logged By Gary Johnson
Project Name Mobil - Alameda	Well Head Elevation N/A	Date Drilled 3/22/89
Boring No. MW-6	Drilling Method Hollow-stem Auger	Drilling Company EGI