ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Director

July 30, 2010

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

Charles Carmel (*Sent via E-mail to: charles.carmel@bp.com*)
Atlantic Richfield Corporation
P.O. Box 1257
San Ramon, CA 94583

Subject: Fuel Leak Case No. RO0000392 and Geotracker Global ID T0600100114, ARCO #02185, 9800 International Boulevard, Oakland, CA 94603

Dear Mr. Carmel:

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 soil contamination of TPH-g and benzene at concentrations of 5,400 mg/kg and 22 mg/kg, respectively, was left in place near the dispenser island in 1991. A confirmation soil sample located in the vicinity of the contamination collected in July 2008 did not detect hydrocarbon contamination above the laboratory detection limit.
- Residual concentrations of TPH-g and MtBE were was detected in groundwater at concentrations of up to 360 µg/L and 1.8 µg/L, respectively, of which TPH-g exceeds the ESLs where groundwater is a potential drinking water source in a residential land-use risk scenario.

If you have any questions, please call Paresh Khatri at (510) 777-2478. 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

Closure Unit (w/enc)
State Water Resources Control Board
UST Cleanup Fund
P.O. Box 944212
Sacramento, CA 94244-2120

Paresh Khatri (w/orig enc), D. Drogos (w/enc), T. Le-Khan (w/enc)

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Agency Director

DEPARTMENT OF ENVIRONMENTAL HEALTH
OFFICE OF THE DIRECTOR
1131 HARBOR BAY PARKWAY
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July 30, 2010

Charles Carmel (*Sent via E-mail to: charles.carmel@bp.com*)
Atlantic Richfield Corporation
P.O. Box 1257
San Ramon, CA 94583

REMEDIAL ACTION COMPLETION CERTIFICATE

Subject: Fuel Leak Case No. RO0000392 and Geotracker Global ID T0600100114, ARCO #02185, 9800 International Boulevard, Oakland, CA 94603

Dear Mr. Carmel:

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 25296.10 of the Health and Safety Code and with corrective action regulations adopted pursuant to Section 25299.3 of the Health and Safety Code and that no further action related to the petroleum release(s) at the site is required.

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: August 24, 2009

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: Hazardous Materials Specialist

II. CASE INFORMATION

Site Facility Name: ARCO # 02185		
Site Facility Address: 9800 International Boulevard, Oakland, California 94603		
RB Case No.: 01-0122	Local Case No.: 3876	LOP Case No.: RO0000392
URF Filing Date: --	Global ID No.: T0600100114	APN: 46-5425-14-3

Responsible Parties	Addresses	Phone Numbers
Paul Supple	BP West Coast Products, LLC. P.O. Box 1257 San Ramon, CA 94583	925-275-3801

Tank I.D. No	Size in Gallons	Contents	Closed In Place/Removed?	Date
1	1x10,000-gallon	Gasoline	Removed	10/30/1991
2	1x 10,000-gallon	Gasoline	Removed	10/30/1991
3	1x 8,000-gallon	Gasoline	Removed	10/30/1991
Piping			Removed	10/30/1991

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and Type of Release: Leaking dispenser		
Site characterization complete? Yes	Date Approved By Oversight Agency: 5/12/2008	
Monitoring wells installed? Yes	Number: 10	Proper screened interval? Yes
Highest GW Depth Below Ground Surface: 6.30 ft bgs (MW-6, 02/25/1998)	Lowest Depth: 14.75 ft bgs (MW-4, 11/93/1992)	Flow Direction: West to southwesterly
Most Sensitive Current Use: Potential drinking water source.		

Summary of Production Wells in Vicinity: A ½ mile well survey identified 5 cathodic protection wells, one irrigation well, and two destroyed wells. The five cathodic protection wells (22G1, 22G2, 22R1, 23D1, and 23F2) are between 65 and 120 feet in depth, and the total depth of the irrigation well is 230 feet. No other details of well construction were available. The locations of the wells are illustrated on Figure 10. Well 22G1 is located approximately 1,500 feet cross-gradient of the site and well 22G2 is located approximately 2,000 feet down-gradient of the site. Considering the non-migratory residual concentrations of dissolved phase petroleum hydrocarbons in the groundwater that is confined to the primary source areas at the Site, no water wells, deeper drinking water aquifers, surface water or other sensitive receptors are likely to be impacted.

Are drinking water wells affected? No	Aquifer Name: East Bay Plain Groundwater Basin
Is surface water affected? No	Nearest SW Name: Arroyo Viejo is approximately 1.1 mile north or up-gradient of the site and San Leandro Creek is approximately 1.1 mile south or down-gradient 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	Two 10,000-gallon One 8,000-gallon	Disposal to H & H Ship Company San Francisco, CA	10/30/1991
Piping	Unknown	Disposal to H & H Ship Company San Francisco, CA	10/30/1991
Free Product	Unknown	---	---
Soil	600 cu yards 300 cu yards	BFI Facility Redwood Landfill	10-11/1991
Groundwater	10,000-gallons	Disposal to H & H Ship Company San Francisco, CA	10-11/1991

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[1]	Before[6]	After
TPH (Gas)	5,400 (L-9, 9.5 ft, 10/30/1991)	<0.50 (B-1 9.5 ft, 7/18/2008)	44,000 (MW-3, 01/14/1993)	360 (MW-6, 06/19/2008)
TPH (Diesel)	NA	NA	NA	NA
TPH (Motor Oil)	NA	NA	NA	NA
TRPH	NA	NA	NA	NA
Benzene	22 (L-9, 9.5 ft, 10/30/1991)	<0.0010 (B-1 9.5 ft, 7/18/2008)	1,100 (MW-3, 01/14/1993)	<0.5 (06/19/2008)
Toluene	330 (L-9, 9.5 ft, 10/30/1991)	<0.0010 (B-1 9.5 ft, 7/18/2008)	1,100 (MW-3, 10/19/1992)	<0.50 (06/19/2008)
Ethylbenzene	120 (L-9, 9.5 ft, 10/30/1991)	<0.0010 (B-1 9.5 ft, 7/18/2008)	2,200 (MW-3, 01/14/1993)	<0.50 (06/19/2008)
Xylenes	640 (L-9, 9.5 ft, 10/30/1991)	<0.0010 (B-1 9.5 ft, 7/18/2008)	9,600 (MW-3, 01/14/1993)	<0.50 (06/19/2008)
MTBE	NA[5]	<0.0010[4] (B-1, 9.5 ft, 7/18/2008)	2,200[3] (MW-3 08/20/1996)	1.8[2] (MW-10, 06/19/2008)
Lead	NA	56 (SP(1-4), 11/14/2002)	NA	NA

[1] Soil samples collected from boring B-1 on July 18, 2008 installed in the vicinity of L-9 did not detect contaminants above the laboratory detection limit.
[2]Other VOCs (groundwater µg/L after cleanup): 1.8 µg/L MtBE, < 10 µg/L TBA, <0.5 µg/L DIPE, <0.5 µg/L ETBE, <0.5 µg/L TAME, <0.5 µg/L EDB, <0.5 µg/L 1.2-DCA, <300 µg/L EtOH
[3]Other VOCs (groundwater ppb before cleanup): 2,200 µg/L MtBE, NA TBA, NA TAME, NA ETBE, NA DIPE
[4]Other VOCs (Soil mg/kg after cleanup): <0.0010 mg/kg MtBE, < 0.010 mg/kg TBA, <0.0020 mg/kg DIPE, <0.0020 mg/kg ETBE, <0.0020 mg/kg TAME, <0.10 mg/kg EtOH
[5]Other VOCs (Soil mg/kg before cleanup): NA MtBE, NA TBA, NA TAME, NA DIPE, NA EtOH
[6]Free Product as sheen detected in MW-3 on July 24, 1992.
NA – Not analyzed

Site History and Description of Corrective Actions:

ARCO Facility No 2185 is an operational self-service gasoline station and AM/PM Mini-mart located at the southeast corner of International Boulevard (formerly E 14th Street) and 98th Avenue in Oakland, California. The Site is a relatively flat asphalt and concrete-covered lot, except for the vegetation along the southwestern and southeastern property boundaries, at an elevation of approximately 25 feet msl. Topography in the area is nearly flat, sloping very gently towards the west. The land use in the immediate vicinity of the Site is mixed commercial and residential. The Site consists of a service station building and four gasoline underground storage tanks (USTs) with associated piping and dispensers.

In May 1991, ROUX Associates (ROUX) conducted a preliminary tank replacement assessment which included drilling four onsite soil borings and installing two onsite vadose zone wells (VW-1 and VW-2). Locations of borings and wells VW-1 and VW-2 are illustrated on Figure 2. Soil samples were collected at five and ten feet bgs in each of the borings. Laboratory analyses of the samples showed that soil near the existing USTs contained Total Petroleum Hydrocarbons as gasoline (TPH-g) and benzene at concentrations up to 350 and 19 milligrams per kilogram (mg/kg), respectively. In June 1991, ROUX conducted a one-day, vapor-extraction test on vadose wells VW-1 and VW-2. Based on the results of that test, ROUX concluded that vapor extraction would not be a suitable remedial alternative at the Site. Results of the assessment are detailed in the *Preliminary Tank Replacement Assessment, ARCO Facility No. 2185, 9800 E. 14th Street, Oakland, California* (ROUX, 8 August 1991). Soil sample analytical results are summarized on Table 1.

In September 1991, ROUX performed a limited subsurface investigation at the Site which included drilling four additional soil borings in the proposed location of the new UST complex, northeast of the original UST complex. Laboratory analysis of the soil samples indicated that samples collected from the borings on the eastern edge of the proposed UST complex

had not been impacted by petroleum hydrocarbons. Hydrocarbons were detected in the samples collected from the borings along the western edge of the proposed UST complex. Results of the investigation were documented in *Limited Subsurface Soil Investigation, ARCO Facility No. 2185, 9800 E. 14th Street, Oakland, California* (ROUX, 22 November, 1991). Boring locations are illustrated on Figure 3 and analytical results are summarized on Table 2.

Between October and November 1991, ROUX observed the excavation and removal of three gasoline USTs and associated product piping from the site. Twelve sidewall soil samples were collected from the former UST cavity and 14 soil samples were collected beneath the product line piping. Former UST cavity soil sample SW-7, collected at 14 feet bgs detected 1,100 mg/kg TPH-g and 5.9 mg/kg benzene. Product line sample Line-9 collected at 9.5 feet bgs contained 5,400 mg/kg TPH-g and 22 mg/kg benzene. Approximately 1,050 cubic yards of soil were excavated and disposed of during tank and product line removal. Water was pumped from the excavation on November 16, 1991 and again on February 5, 1992, totaling approximately 10,000 gallons, which was disposed of during tank removal activities. Details of the tank removal and sampling are documented in *Underground Storage Tank Removal and Soil Sampling, ARCO Facility No. 2185, 9800 E. 14th Street, Oakland, California* (ROUX, 17 June 1992). Sampling locations are illustrated on Figure 4 and analytical results are summarized on Table 2.

In July 1992, RESNA conducted a subsurface investigation at the site which included drilling and installing four ground-water monitoring wells (MW-1 through MW-4). Initial ground-water flow direction was determined to be towards the southwest. Laboratory analysis of soil and groundwater samples from the wells indicated that soil and groundwater immediately down-gradient from the former UST complex and dispenser islands were impacted by petroleum hydrocarbons. Sheen was observed in monitoring well MW-3. Results of the investigation were summarized in *Initial Subsurface Investigation at ARCO Station 2185, 9800 E. 14th Street, Oakland, California* (RESNA, 28 September 1992). Monitoring well locations are illustrated on Figure 5, groundwater flow direction is depicted on Figure 6, and soil and groundwater analytical data is summarized on Tables 2 and 3.

Between January and May 1993, RESNA conducted an initial off-site and additional on-site subsurface investigation which included the drilling and installation of two additional on-site wells (MW-5 and MW-6) and one off-site well (MW-7). Soil samples collected from well MW-7 and well MW-5 (located west of the northern pump island) did not exhibit detectable concentrations of petroleum hydrocarbons. Soil samples from well MW-6, located west of the former UST complex and southwest of the pump islands, exhibited contamination by petroleum hydrocarbons. In addition, petroleum hydrocarbons were detected above laboratory reporting limits in the groundwater sample collected from offsite well MW-7. However, subsequent monitoring at the Site has shown that several chlorinated solvents in the groundwater at MW-7 appear to be responsible for the chromatogram pattern originally quantified as TPH-g. In addition to the characterization, a limited off-site record search and on-site aquifer pumping test were conducted. A review of historical aerial photographs identified two properties on the northwest and southwest corners of the intersection of 98th Avenue and East 14th Street (International Blvd.) as former gasoline service stations. Off-site well MW-7 was installed within 15 feet of a former pump island at the historic service station southwest across East 14th Street from the Site. Results of the investigation were documented in *Initial Off-site and Additional On-site Subsurface Investigation and Pumping Test at ARCO Station 2185, 9800 East 14th Street, Oakland, California* (RESNA, 12 October 1993). Monitoring well locations are illustrated on Figure 7 and soil sample analytical results are summarized on Table 2.

RESNA conducted a step-drawdown test on March 8, 1993. Results indicate that the well could sustain a pumping rate of six gallons per minute. On March 10 and 11, 1993, RESNA conducted an 18 hour pumping and 1 hour recovery test. After 18 hours of pumping and at one hour recovery, 95% recovery had been measured.

In April 1994, RESNA installed one groundwater monitoring well at the site (MW-8). TPH-g was detected at a concentration of 4,800 micrograms per liter (µg/L). According to Broadbent, this well was installed so that the Site could be considered for Alternative Points of Compliance, under the Tentative Resolution of the California Regional Water Quality Control Board's (RWQCB) Basin and Amendment Plan (RWQCB, 20 November 1992). Well MW-8 was originally referred to as MW-10 by RESNA, but its identification was changed by EMCON to MW-8, to maintain chronological consistency with other wells at the site. Details of the well installation were summarized in the letter report *Installation of Compliance Well MW-10, ARCO Service Station 2185, 9800 East 14th Street, Oakland, California* (RESNA, 6 June 1994).

Periodic groundwater monitoring and sampling at the Site was initiated in July 1992. Off-site monitoring wells MW-9 and MW-10 were installed in August 1995 by EMCON (refer to Figure 8). TPH-g and benzene were not detected above the laboratory detection limit in groundwater samples collected from monitoring wells MW-9 or MW-10. Monitoring and sampling activities continued through October 1998. No environmental work has occurred on-site since October 1998. Historic water-level elevations have yielded potentiometric groundwater flow directions usually between the west and southwest at hydraulic gradients ranging from 0.001 ft/ft to 0.01 ft/ft. The maximum TPH-g concentration was detected in well MW-3 at a concentration of 44,000 µg/L in January 1993. The maximum concentrations of Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX) were detected in well MW-3 at 1,100 µg/L (January 1993), 1,100 µg/L (October 1992), 2,200 µg/L (January 1993), and 9,600 µg/L (January1993), respectively. The maximum concentration of Methyl tert-butyl ether (MTBE) was also detected in well MW-3 at 2,200 µg/L (August 1996). The wells have shown a decreasing trend with respect to TPH-g, BTEX, and MTBE concentrations between 1992 and 1998. TPH-g and BTEX have not been

detected above the laboratory reporting limits since 1992 in wells MW-1, MW-4, and MW-9. Historic soil analytical data and ground-water elevations and analytical data are provided in Tables 1 through 4.

On November 12, 2002, URS collected confirmation soil samples during product line and dispenser upgrades. Analytical results did not detect contaminants above the laboratory detection limit for all samples. Samples LS-4 (6 ft bgs) and sample DI-4 (5 ft bgs) were collected in the vicinity of the elevated concentrations detected in soil sample L-9 collected at 9.5 feet bgs in 1991. Although soil samples LS-4 and DI-4 were collected in the vicinity of soil sample L-9, it is likely that the subsequent shallower soil samples collected are indicative of fill material underneath the dispensers and not representative of residual benzene concentrations detected in soil sample L-9 collected at 9.5 feet.

In May and June 2008, Stratus conducted well redevelopment and groundwater monitoring and sampling at the Site. TPH-g was detected in two of the nine wells sampled at concentrations of 98 µg/L in well MW-3 and 360 µg/L in well MW-6. MTBE was detected in one of the nine wells sampled at a concentration of 1.8 µg/L in well MW-10 (see Figure 9). The remaining fuel additives and oxygenates were not detected above their respective laboratory reporting limits in the nine wells sampled (Well MW-1 was paved over and thus inaccessible). Groundwater sample analytical results are summarized on Tables 4 and 5, and Figure 9. On July 18, 2008, Stratus Environmental, under the scope of work proposed by Broadbent and Associates, oversaw the installation of one boring B-1 located in the vicinity of soil sample L-9. Soil samples were collected at 6, 7.5, and 9.5 feet bgs. Soil sample analytical results did not detect TPH-g, BTEX, fuel oxygenates, or lead scavengers above the laboratory detection limit. Analytical results are summarized on Table 6.

Based on the most recent soil investigation, it appears that elevated concentrations of hydrocarbons previously detected have either naturally attenuated or were very limited in their extent. This is evidenced by improved groundwater quality over time at the site, based on periodic groundwater sample analytical results. The groundwater contaminant plume appears defined and stable based on consecutive groundwater sampling events between July 1992 through October 1998. Although no active remediation besides excavation and groundwater pumping from the excavation pit occurred, groundwater sample analytical results have exhibited a stable and/or decreasing trend and confirmation soil samples collected in July 2008 did not detect soil contamination above the laboratory detection limit. Tables A and B compare site concentrations to applicable San Francisco Regional Water Quality Control Board Environmental Screening Levels (ESLs). All recent soil samples are below residential land-use scenario where potentially impacted groundwater is current or potential drinking water resource. TPH-g in groundwater is above the ESL while BTEX and MTBE are below their applicable ESLs.

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: City of Oakland Building Department has been notified that should excavation or development of the property be proposed that may encounter impacted soil or groundwater, Alameda County Environmental Health must be notified as required by Government Code Section 65850.2.2. Case closure for the fuel leak site is granted for the current commercial land use only. If a change in land use to any residential or other conservative land use scenario occurs at this site, Alameda County Environmental Health (ACEH) must be notified, as stated above. ACEH will re-evaluate the case upon receipt of approved development/construction plans. Excavation or construction activities in the areas of residual contamination require planning and implementation of appropriate health and safety procedures by the responsible party (or current property owner) prior to and during excavation construction activities. Therefore, the responsible party or current property owner/developer must submit a soil and groundwater management plan for review prior to any 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: 12
List Enforcement Actions Taken: None		
List Enforcement Actions Rescinded: --		

V. ADDITIONAL COMMENTS, DATA, ETC.

Considerations and/or Variances:
Residual soil contamination of TPH-g and benzene at concentrations of 5,400 mg/kg and 22 mg/kg, respectively, was left in place near the dispenser island in 1991. A confirmation soil sample located in the vicinity of the contamination collected in July 2008 did not detect hydrocarbon contamination above the laboratory detection limit. Therefore, the residual contamination does not appear to pose a significant risk to the current commercial use of the site or to groundwater resources in the area.

Residual concentrations of TPH-g and MtBE were was detected in groundwater at concentrations of up to 360 µg/L and 1.8 µg/L, respectively, of which TPH-g exceeds the ESLs where groundwater is a potential drinking water source in a residential land-use risk scenario. The concentrations of TPH-g are expected to decrease over time as a result of biodegradation and natural attenuation processes. Please note that EDB and EDC were not detected in soil sample collected from boring B-1 installed in July 2008 or groundwater samples collected at the site.

Conclusion:
Alameda County Environmental Health staff consider that the levels of residual contamination do not pose a significant threat to water resources, public health and safety, and the environment based upon the information available in our files to date. No further investigation or cleanup is necessary. ACEH staff recommend case closure for this site based on the current commercial use of the site.

VI. LOCAL AGENCY REPRESENTATIVE DATA

Prepared by: Paresh Khatri	Title: Hazardous Materials Specialist
Signature: Paresh Khatri	Date: August 24, 2009
Approved by: Donna L. Drogos, P.E.	Title: Supervising Hazardous Materials Specialist
Signature:	Date: 09/22/09

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
RB Response: Concur, based solely upon information contained in this case closure summary.	Date Submitted to RB: 12/9/09
Signature: Cherie McCaulou	Date: 1/5/10

VIII. MONITORING WELL DECOMMISSIONING

Date Requested by ACEH: 1/7/2010	Date of Well Decommissioning Report: 6/2/2010	
All Monitoring Wells Decommissioned: Yes	Number Decommissioned: 12	Number Retained: 0
Reason Wells Retained: No monitoring wells installed or retained.		
Additional requirements for submittal of groundwater data from retained wells: None		
ACEH Concurrence - Signature: Paresh Khatri		Date: 07/02/2010

Attachments:

1. Tables A & B (Comparison of residual contamination to applicable ESLs).
2. Site Vicinity Map & sampling locations (9 pages).
3. Well Survey Map (1 page)
4. Cross-sections (5 pages).
5. Cumulative Soil and Groundwater Analyses Data (16 pages).
6. Boring Logs (28 pages).

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.

Environmental Impacts in Soil

ARCO #2185

9800 International Boulevard, Oakland, California

Table A. Comparison of Maximum Residual Soil Concentrations at the Site to Relevant Cleanup Standards (mg/kg)

	TPH-g (mg/kg)	TPH-d (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl Benzene (mg/kg)	Xylenes (mg/kg)	MtBE (mg/kg)	EDC [1-2-dichloroethane] (mg/kg)	EDB [1-2-dibromoethane] (mg/kg)	Lead (mg/kg)
Maximum Residual Soil Concentrations at Site in milligrams per kilogram	<0.50[4]	--	<0.0010[4]	<0.0010[4]	<0.0010[4]	<0.0010[4]	<0.0010	<0.0010	<0.0010	56
RWQCB, Region 2 ESLs[1]	83[3]	83[3]	0.044[3]	2.9[3]	2.3[2]	2.3[3]	0.023[3]	0.00033[3]	0.0045[3]	200[5]

[1] Environmental Screening Levels (ESLs); Shallow Soil Screening Level for residential land use where potentially impacted groundwater is current or potential drinking water resource. Shallow soils defined as soils situated <3 meters below the ground surface. Depth to water ranges between 8.8 ft and 15.21 ft bgs.

[2] Lowest ESL value based on direct exposure scenario. Depth to water ranges between Depth to water ranges between 8.8 ft and 15.21 ft bgs.

[3] Lowest ESL value based on groundwater protection (soil leaching). Depth to water ranges between 8.8 ft and 15.21 ft bgs.

[4] Soil sample L-9 collected at 9.5 feet bgs in October 1991. B-1 installed in July 2008 located in the vicinity of L-9 did not detect TPH-g, BTEX, MTBE, Fuel Oxygenates, or Lead Scavengers above the laboratory detection limit. Depth to water ranges between 6.3 ft and 14.75 ft bgs.

[5] Lowest ESL value based on urban area ecotoxicity criteria.

Environmental Impacts in Groundwater

ARCO #2185

9800 International Boulevard, Oakland, California

Table B. Comparison of Maximum Residual Groundwater Concentrations at the Site to Relevant Cleanup Standards (µg/L)

	TPH-g (µg/L)	TPH-d (µg/L)	TPH-ss (µg/L)	Kerosene (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl Benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	EDC [1-2-dichloroethane] (µg/L)	EDB [1-2-dibromoethane] (µg/L)
Maximum Residual Groundwater Concentrations at Site	360[7]	--	--	--	<0.5[7]	<0.5[7]	<0.5[7]	<0.5[7]	1.8[7]	<0.5[7]	<0.5[7]
RWQCB Region 2 ESLs[2]	100[1] 100[2] 210[3] 210[6]	100[1] 100[2] 210[3] 210[6]	100[1] 100[2] 210[3] 210[6]	100[1] 100[2] 210[3] 210[6]	1.0[1] 170[2] 1.0[3] 540[4] 46[6]	40[1] 40[2] 150[3] 380,000[4] 130[6]	30[1] 30[2] 300[3] 170,000[4] 43[6]	20[1] 20[2] 1,800[3] 160,000[4] 100[6]	5[1] 5[2] 13[3] 24,000[4] 8,000[6]	0.05[1] 50,000[2] 0.05[3] 150[4] 1,400[6]	0.5[1] 7,000[2] 0.5[3] 200[4] 2,000[6]
ASTM Tier 1 Standard Human Health RBSL (Benzene)	NA	NA	NA	NA	11,000[4] 23.8[5]	32,800	77,500	NA	NA	NA	NA

[1] Environmental Screening Levels (ESLs) for impacted subsurface groundwater less than 10 feet, where groundwater IS a current or potential drinking water resource

[2] Final Groundwater Screening Level, based on ceiling value (taste and odor threshold)

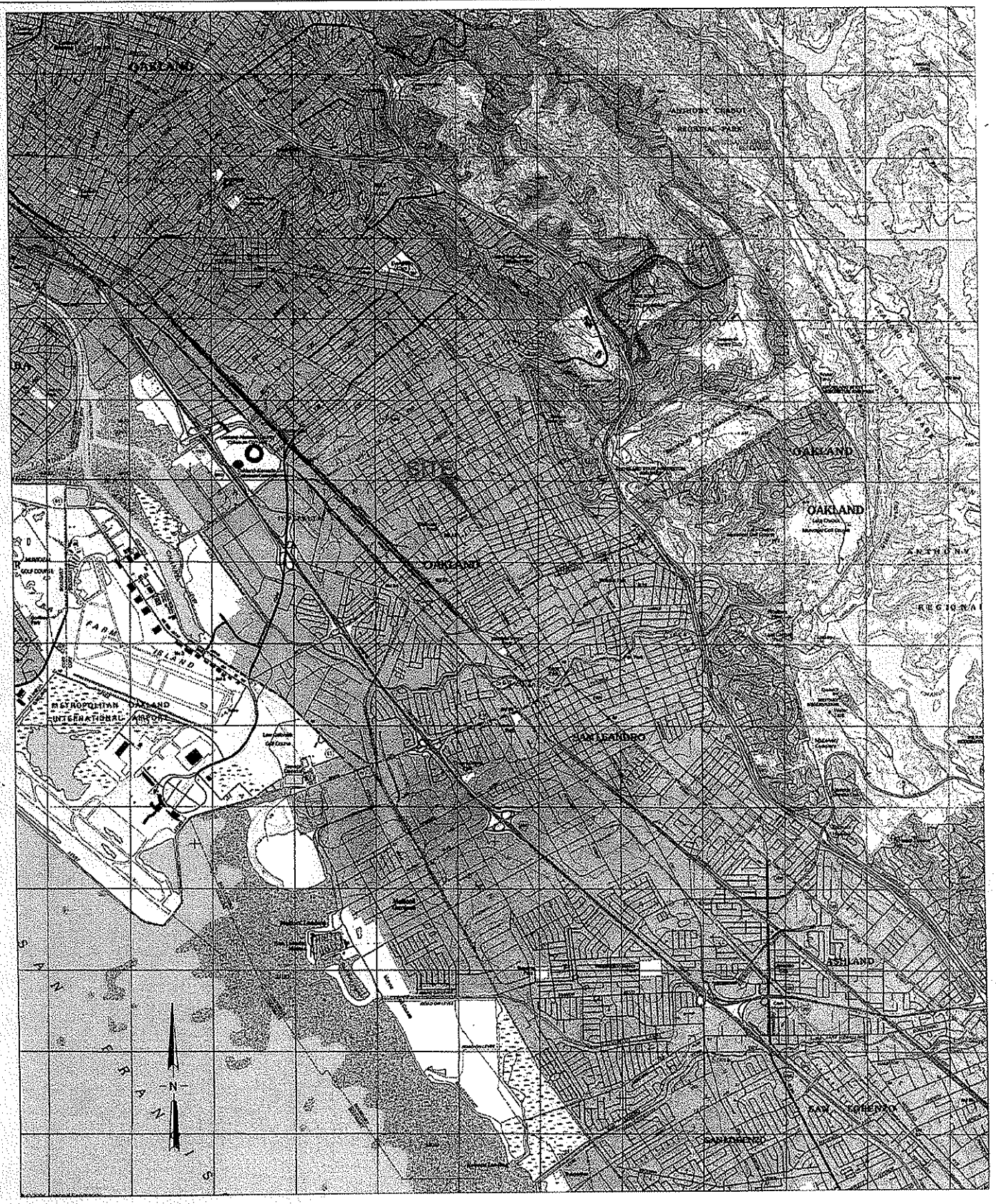
[3] Groundwater Screening Level, based on drinking water toxicity

[4] Groundwater Volatilization to indoor air (residential) Level,

[5] Groundwater Vapor Intrusion from groundwater to buildings (residential, chronic hazard quotient = 1)

[6] Final Groundwater Screening Level, based on Aquatic Habitat

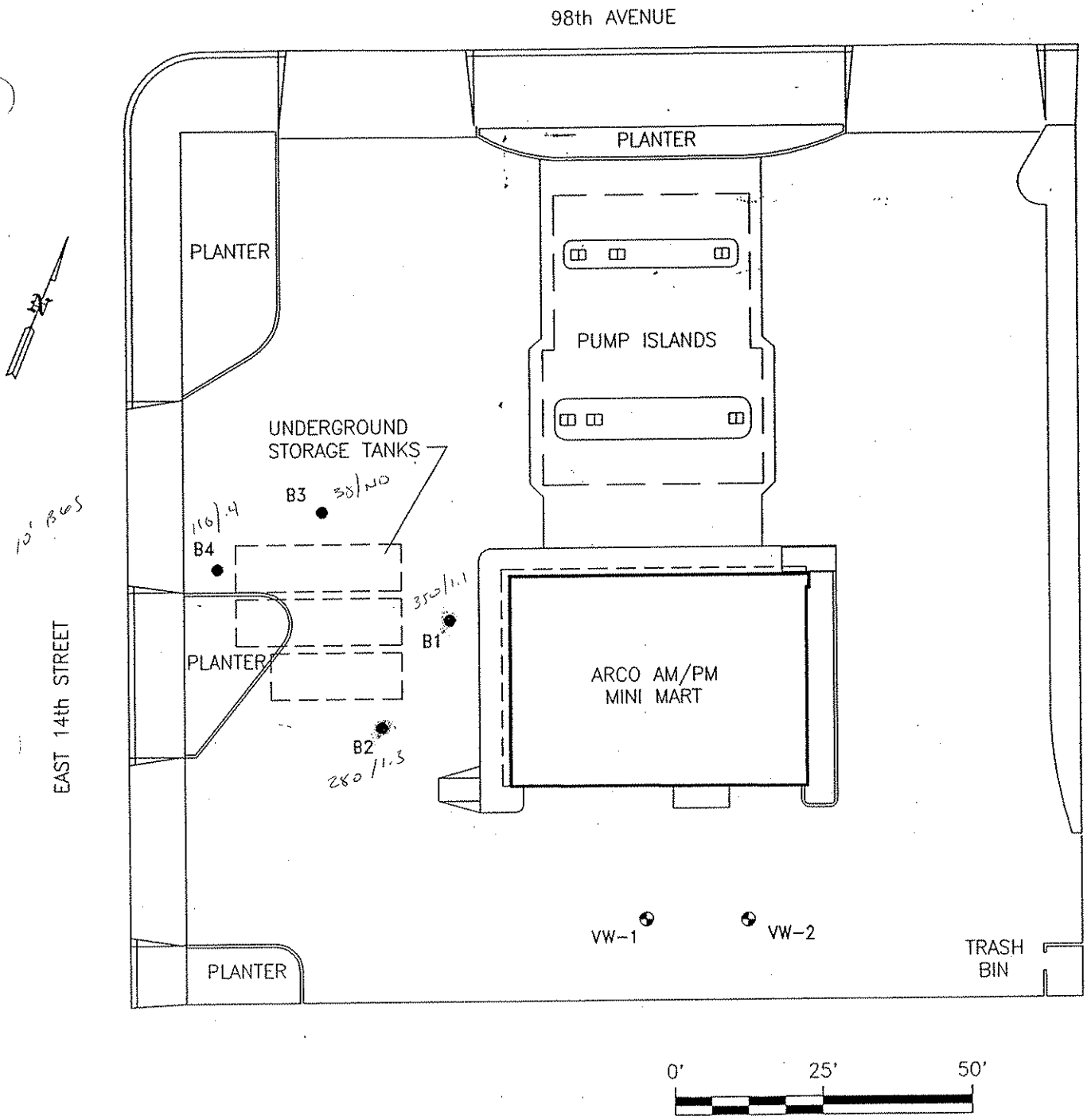
[7] Sample collected on 06/19/2008.



BROADBENT & ASSOCIATES, INC. ENGINEERING, WATER RESOURCES & ENVIRONMENTAL 1324 Mangrove Ave. Suite 212, Chico, California 95926 Project No.: 06-08-649 Date: 6/2/08	Station #2165 9800 International Blvd. Oakland, California	Site Location Map	Figure 1

FIGURE 1

Aug 8, 1991 Preliminary Tank Replacement Assessment



EXPLANATION

- ●B3 SOIL BORING LOCATION AND DESIGNATION
- ⊕VW-1 VAPOR EXTRACTION WELL LOCATION AND DESIGNATION

SOURCE:

MAP MODIFIED FROM BLUEPRINT PROVIDED BY BARGHAUSEN CONSULTING ENGINEERS (1986)

TITLE:

SITE PLAN

ARCO FACILITY NO. 2185

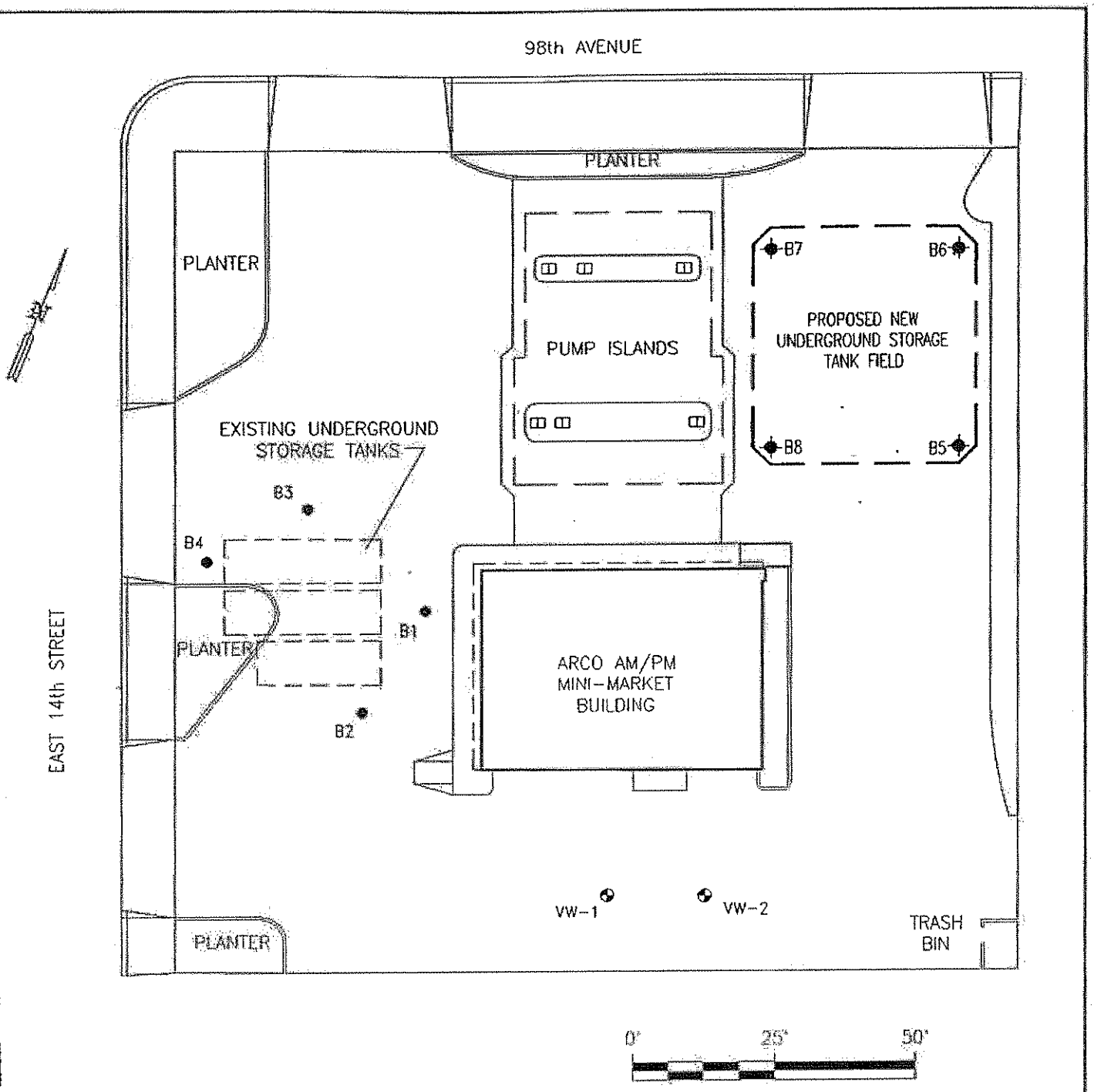
PREPARED FOR: ARCO PRODU

FIGURE 2

ROUX ASSOCIATES, INC.
ENVIRONMENTAL CONSULTING & MANAGEMENT

COMPILED BY:	T.R.	DATE:	05/91
PREPARED BY:	R.P.	SCALE:	AS SHOWN
PROJECT MANAGER:	B.T.	REVISION:	0
PROJECT NO.	A102W01		

FIGURE 2



EXPLANATION

- ● B1 — SOIL BORING LOCATION AND DESIGNATION (MAY, 1991)
- ◆ B5 — SOIL BORING LOCATION AND DESIGNATION (SEPTEMBER, 1991)
- ◉ VW-1 — VAPOR EXTRACTION WELL LOCATION AND DESIGNATION

SOURCE:

MAP MODIFIED FROM BLUEPRINT PROVIDED BY BARGHAUSEN CONSULTING ENGINEERS (1986)

TITLE:

SITE PLAN

ARCO FACILITY NO. 2185

PREPARED FOR:

ARCO PRODUCTS COMPANY

ROUX ASSOCIATES
ENVIRONMENTAL CONSULTING & MANAGEMENT

DRAWN BY: L.B. | DATE: 09/91 | FIGURE:

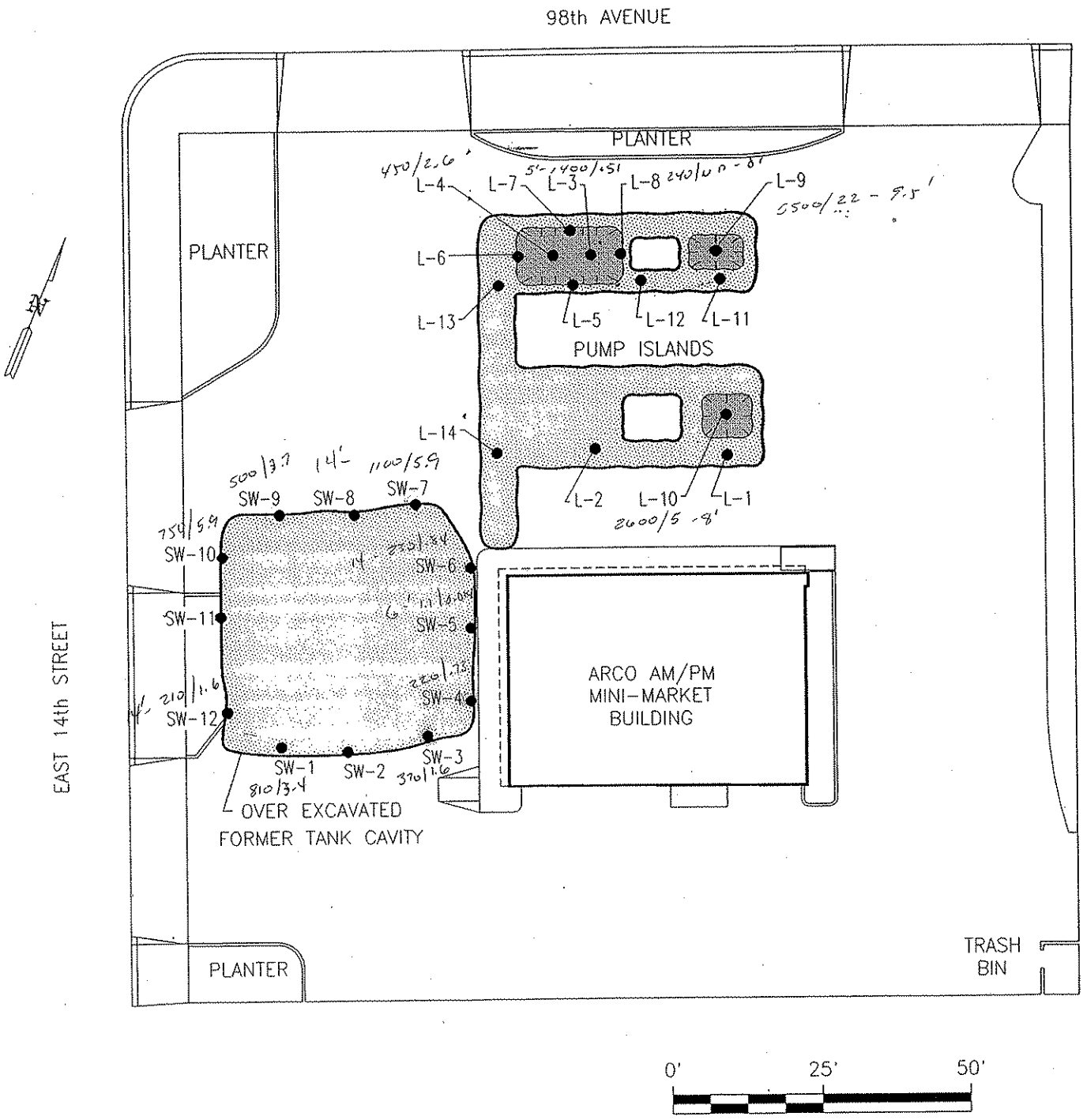
PREPARED BY:

PROJECT MANAGER:

PROJECT NO:

FIGURE 3

November 25, 1991, Tank & Line Replacement



EXPLANATION

- EXCAVATED AREAS
- EXTENDED EXCAVATED AREAS
- ● SW-11 TANK CAVITY SOIL SAMPLE LOCATION AND DESIGNATION.
- ● L-4 PRODUCT LINE TRENCH SOIL SAMPLE LOCATION AND DESIGNATION.

SOURCE:

MAP MODIFIED FROM BLUEPRINT PROVIDED BY BARGHAUSEN CONSULTING ENGINEERS (1986)

TITLE:

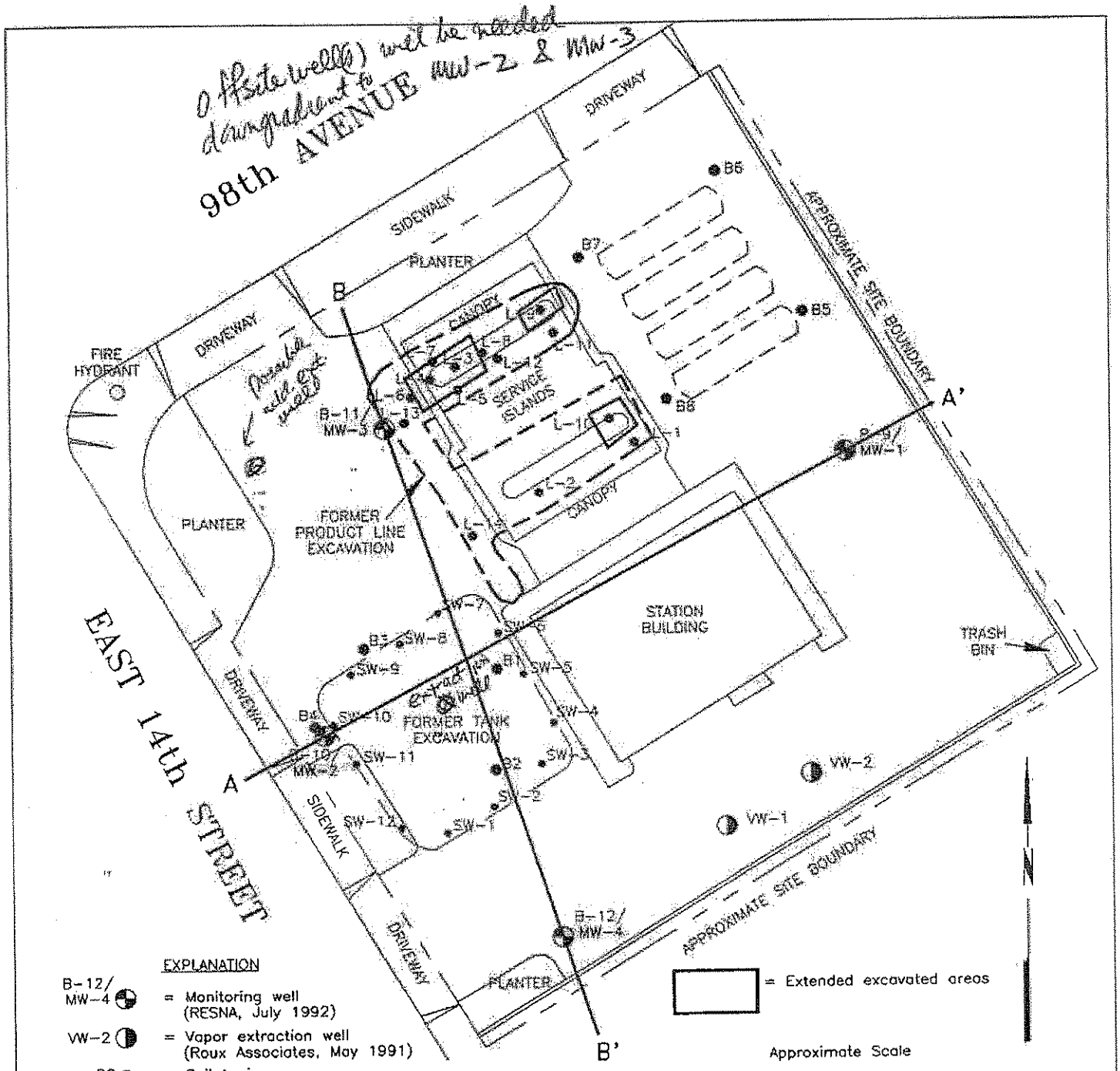
LOCATION OF EXCAVATED TANK CAVITY AND PRODUCT LINE TRENCH SOIL SAMPLES

ARCO FACILITY NO. 2185

PREPARED FOR: ARCO PRODUCTS COMPANY

ROUX ASSOCIATES
ENVIRONMENTAL CONSULTING & MANAGEMENT

COMPILED BY:	G.M.	DATE: 11/91	FIGURE
PREPARED BY:			
PROJECT MANAGER:			FIGURE 4
PROJECT NO.			



Source: Modified from a site plan provided by Roux Associates dated December 1991. Also surveyed by John Koch, Licensed Land Surveyor, July 1992.

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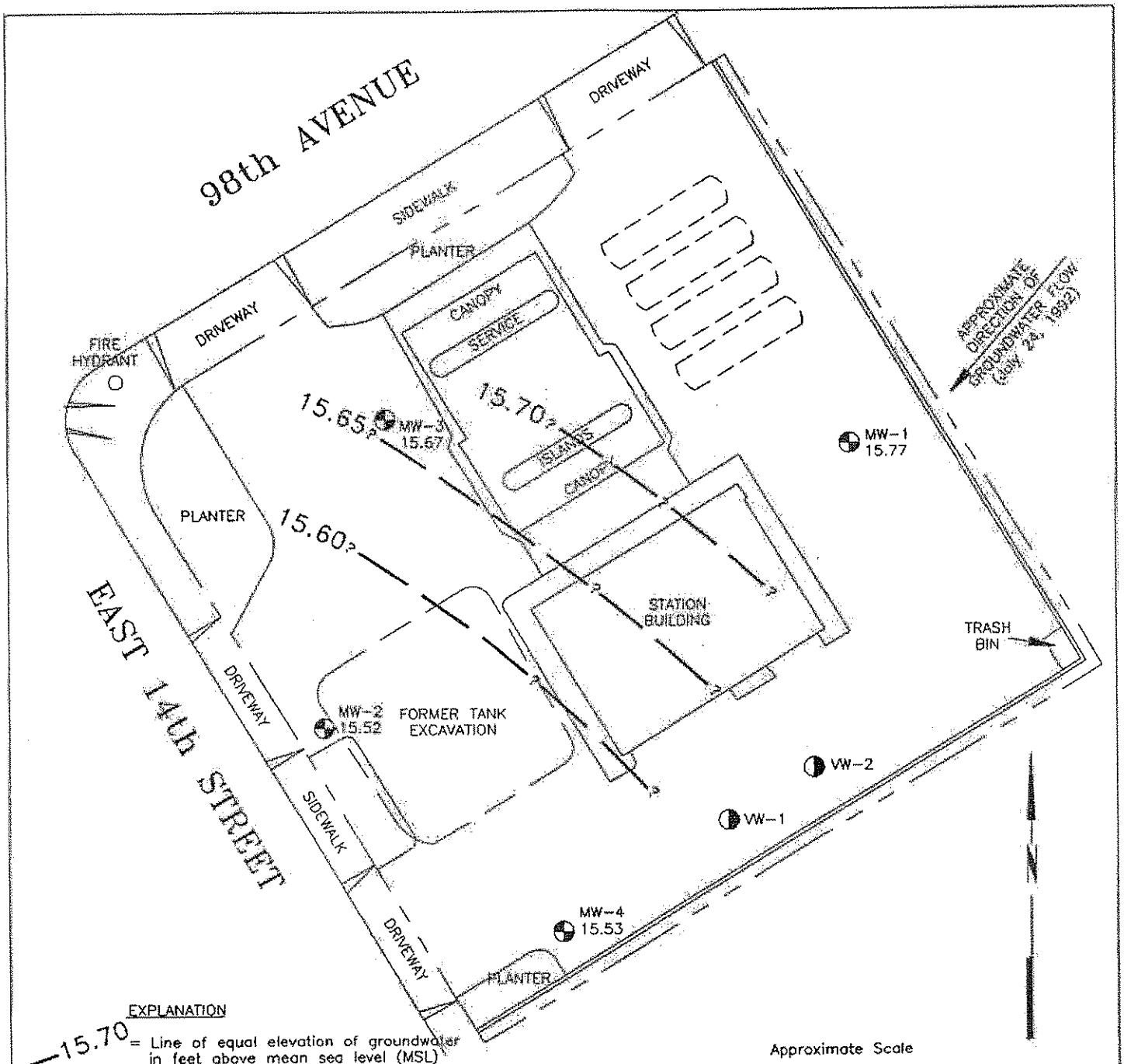
GENERALIZED SITE PLAN
ARCO Station 2185
9800 East 14th Stre
Oakland, California

PLATE

FIGURE 5



SOURCE: Modified from a site plan provided by ROUX Associates dated December 1991. Also surveyed by John Koch, Licensed Land Surveyor, July 1992.

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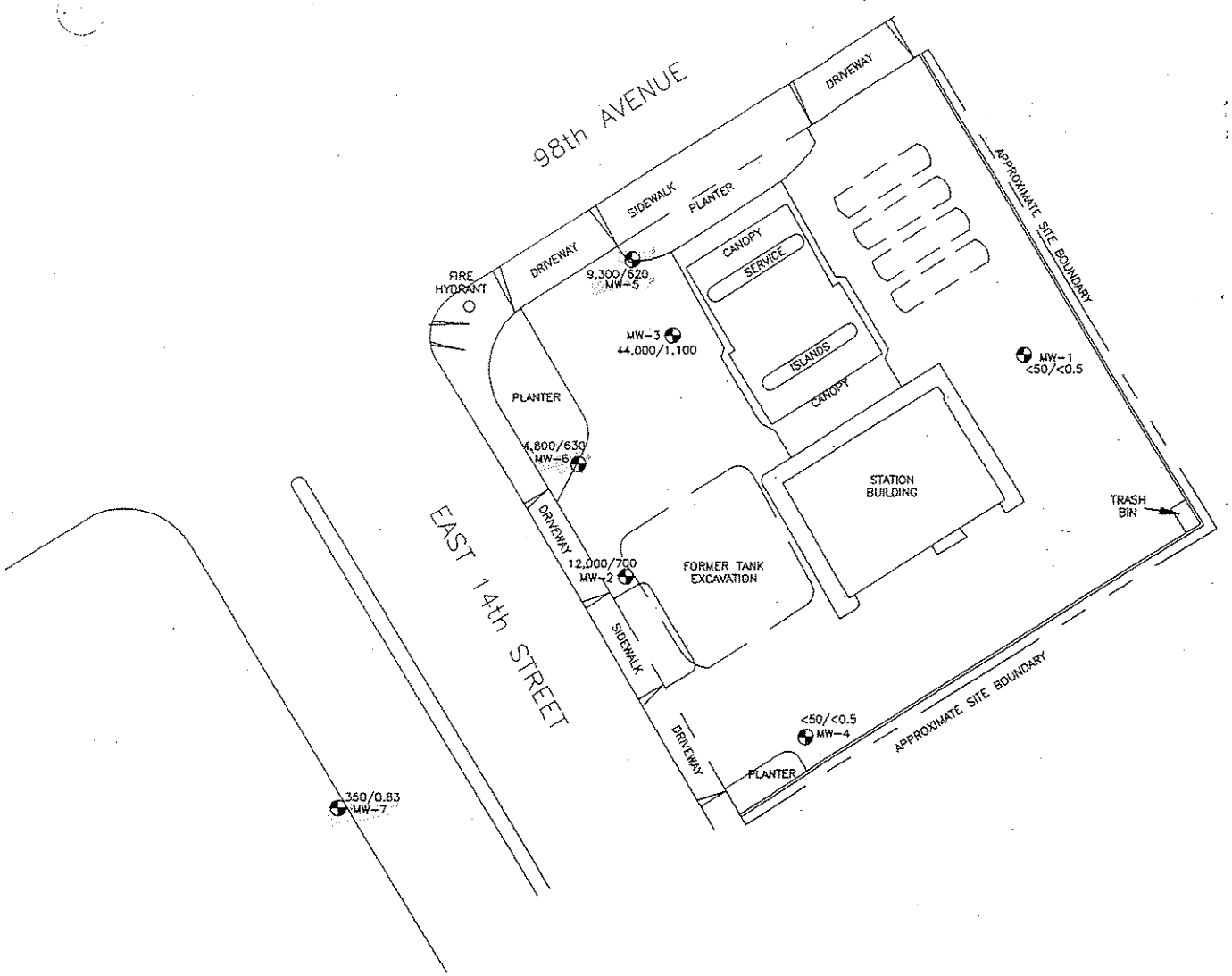
GROUNDWATER GRADIENT MAP
ARCO Station 2185
9800 East 14th Street
Oakland, California

PLATE

FIGURE 6



EXPLANATION

MW-7 = Monitoring well (RESNA, July 1992)

44,000/1,100 = Concentrations of TPHg/benzene in groundwater in parts per billion; wells MW-1 through MW-4 sampled on January 14, 1993; and wells MW-5 and MW-6 sampled on February 11, 1993

= Existing underground storage tanks

Approximate Scale

30 15 0 30 60

feet

Source: Modified from a site plan provided by Roux Associates dated December 1991. Also surveyed by John Koch, Licensed Land Surveyor, July 1992.

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TPHg/BENZENE CONCENTRATIONS IN GROUNDWATER
ARCO Station 2185
9800 East 14th Street
Oakland, California

PLATE 14

FIGURE 7

Oct 12, 1993 report of findings initial off-site 3 additional onsite wells + aquifer pumping test.

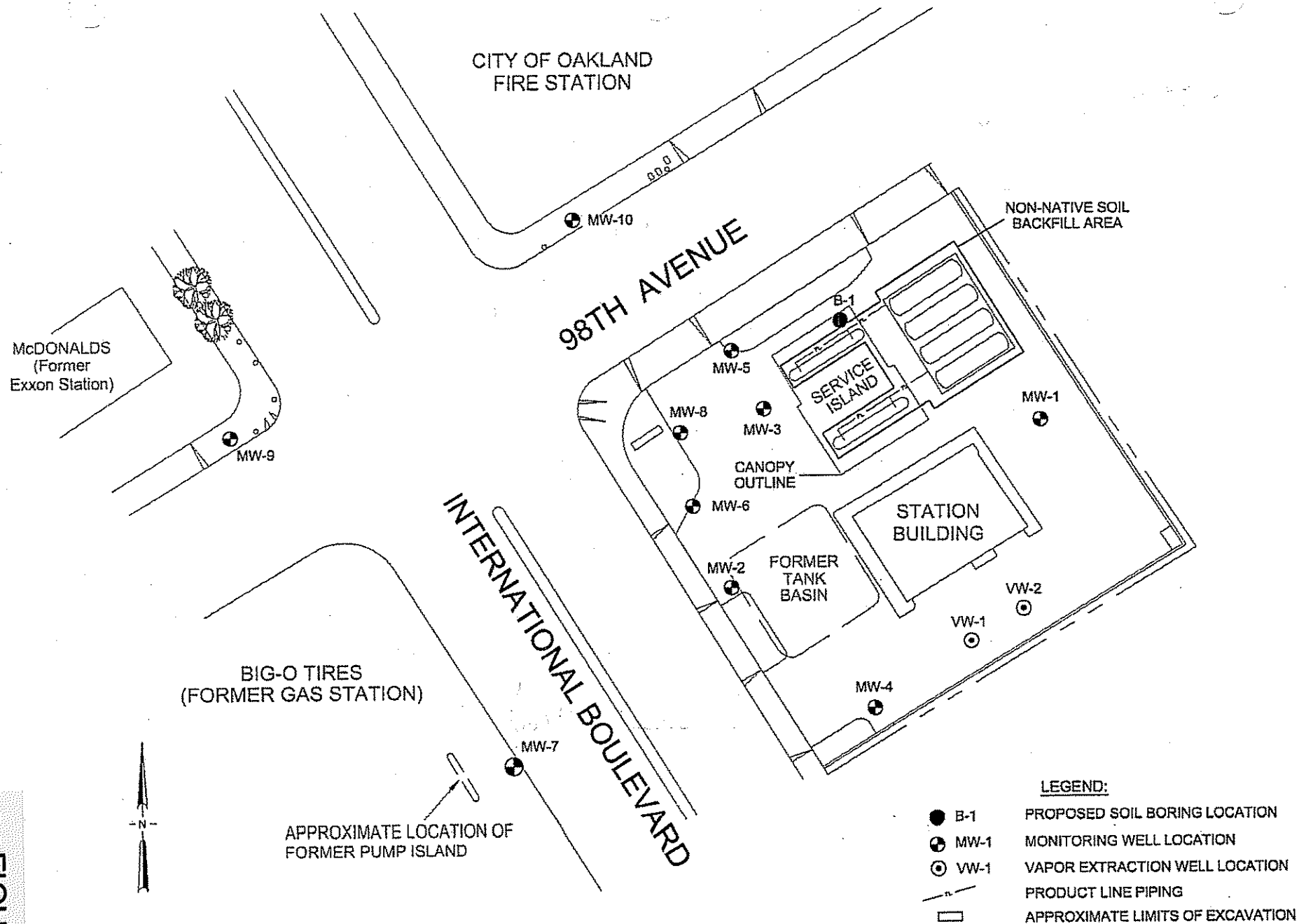


FIGURE 8

50 100
SCALE (ft)

BROADBENT & ASSOCIATES, INC.
ENGINEERING, WATER RESOURCES & ENVIRONMENTAL
1324 Mangrove Ave. Suite 212, Chico, California
Project No.: 06-08-622 Date: 5/29/08

Station #2185
9800 International Blvd.
Oakland, California

Site Layout Plan with Proposed Soil Boring Location

Drawing 2

RO 0000392

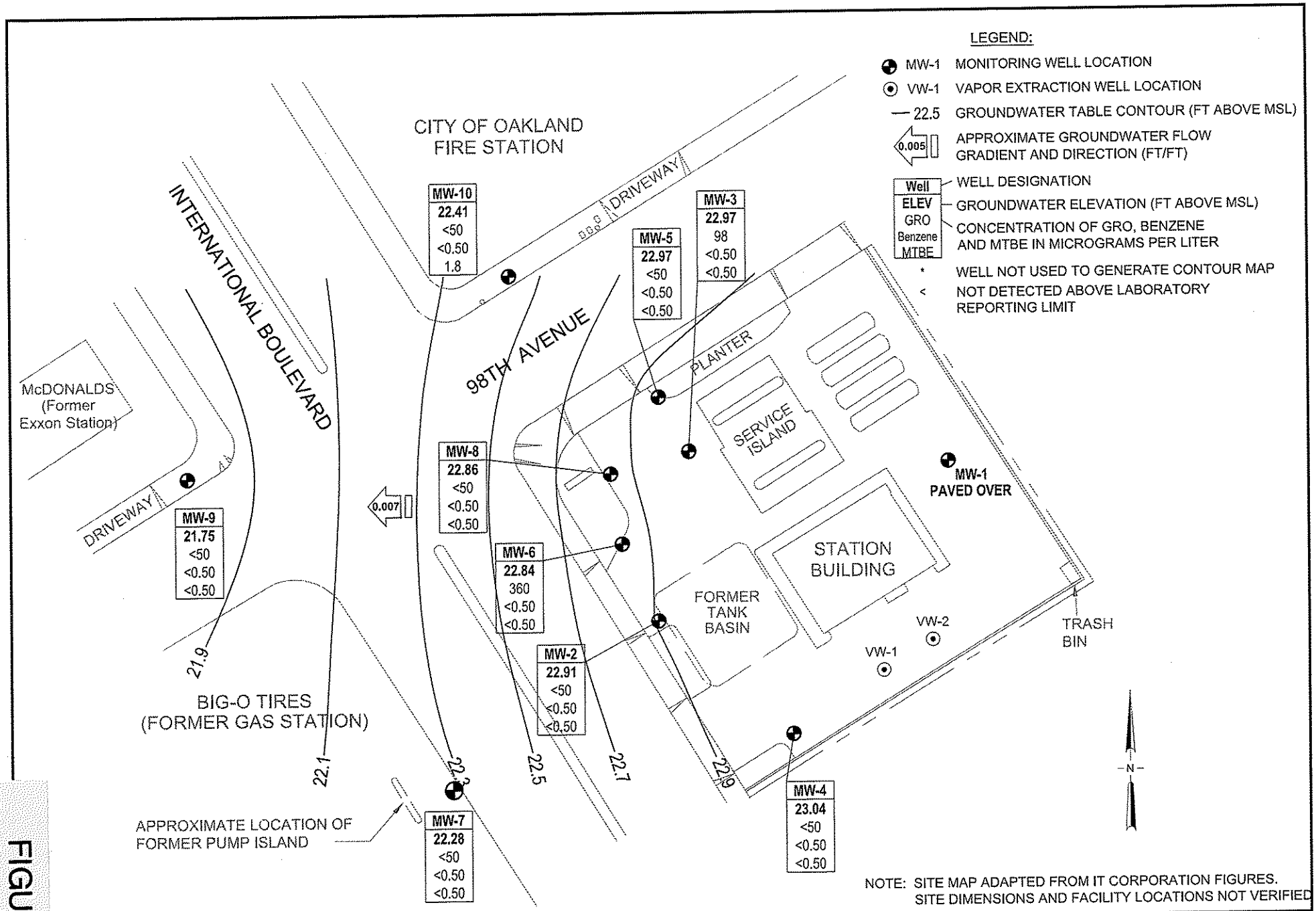


FIGURE 9

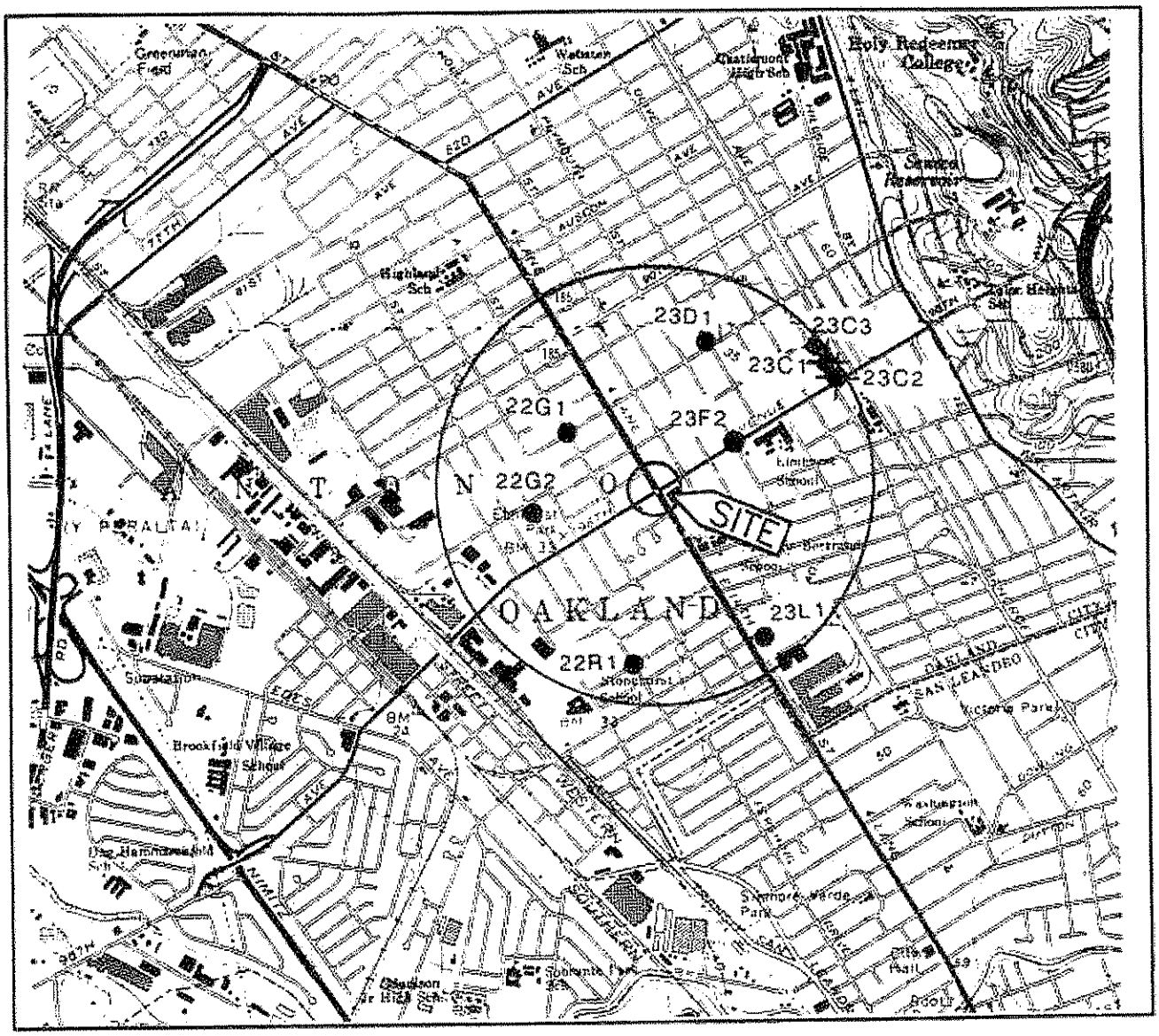
0 50 100
SCALE (ft)

BROADBENT & ASSOCIATES, INC.
ENGINEERING, WATER RESOURCES & ENVIRONMENTAL
1324 Mangrove Ave. Suite 212, Chico, California
Project No.: 06-08-622 Date: 6/19/08

Station #2185
9800 International Blvd.
Oakland, California

Ground-Water Elevation Contour and Analytical Summary Map
4 June 2008

Drawing 1



Base: U S Geological Survey
7 5-Minute Quadrangles
San Leandro/Oakland East, California.
Photorevised 1980

LEGEND

= Site Location

23L1 = Well

23C2 = Destroyed well

Approximate Scale

2000 1000 0 2000 4000

feet

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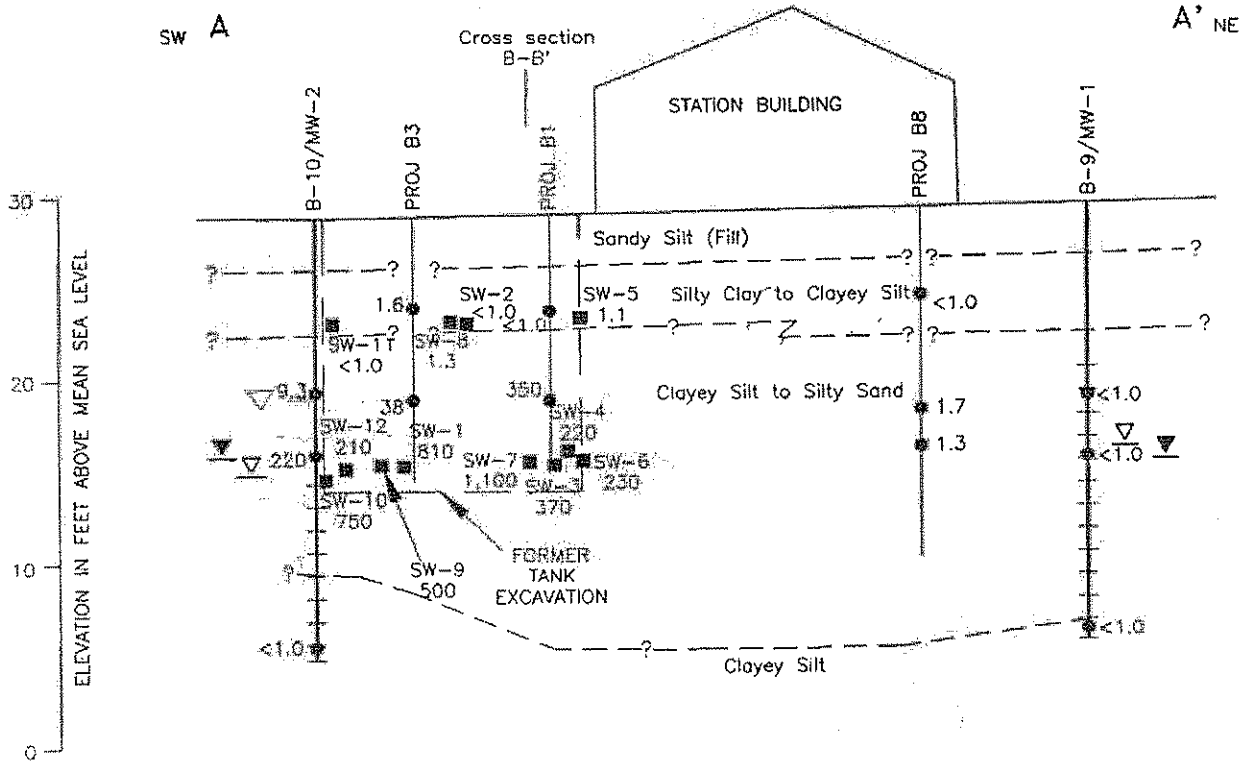
APPROXIMATE WELL LOCATION MAP **PLATE**
ARCO Station 2185
9800 East 14th Stre
Oakland, California

FIGURE 10

PROJECT **62026.02**



EXPLANATION

SW-10 1,100 = Laboratory analyzed tank pit soil sample (projected) showing concentration of TPHg in ppm

220 = Laboratory analyzed soil sample showing concentration of TPHg in ppm

= Well casing

= Well screen

= Boring

= Initial water level in boring

= Static water level in well (08/26/92)

Approximate Horizontal Scale

30 15 0 30 60

feet

Approximate Vertical Scale

10 5 0 10 20

feet

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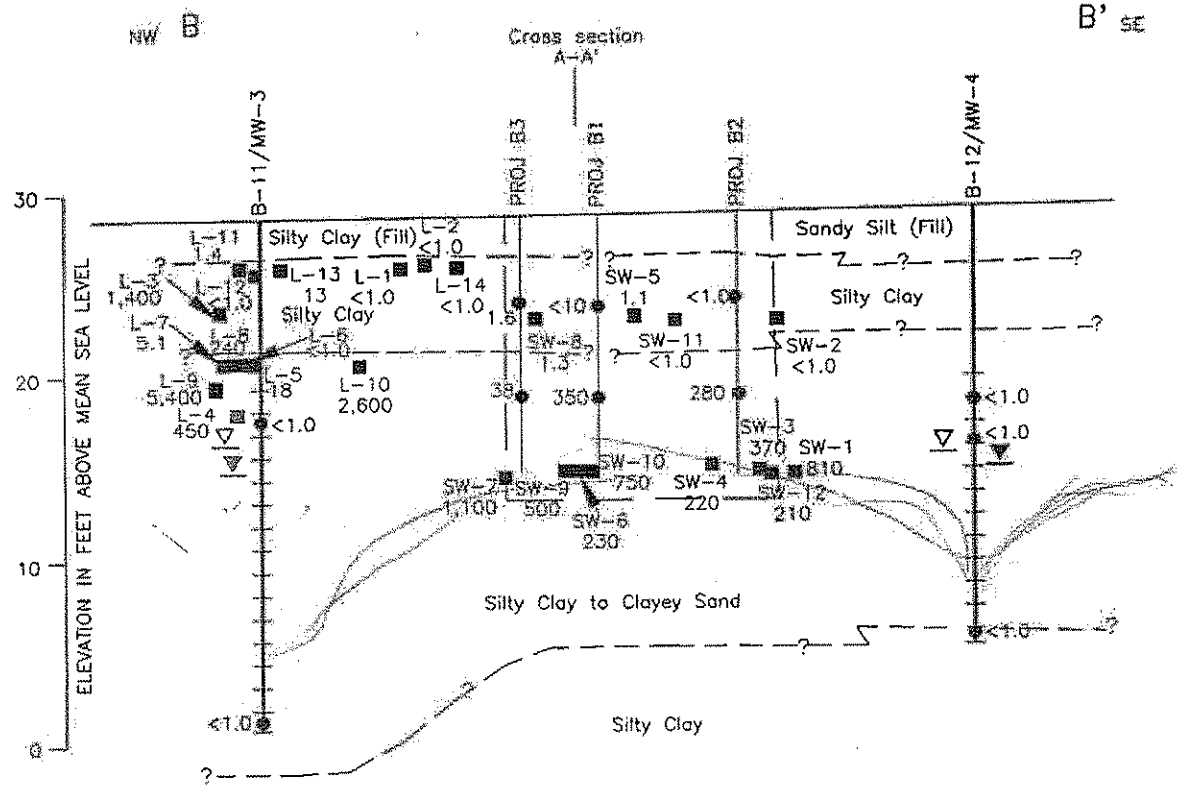
PROJECT 62026.01

GEOLOGIC CROSS SECTION A-A'
ARCO Station 2185
9800 East 14th Street
Oakland, California

PLATE 12



EXPLANATION

SW-7
1100 = Laboratory analyzed tank pit soil sample (projected) showing concentration of TPHg & product line in ppm

350 = Laboratory analyzed soil sample showing concentration of TPHg in ppm

= Well casing

= Well screen

= Boring

= Initial water level in boring

= Static water level in well (08/26/92)

Approximate Horizontal Scale

30 15 0 30 60

feet

Approximate Vertical Scale

10 5 0 10 20

feet

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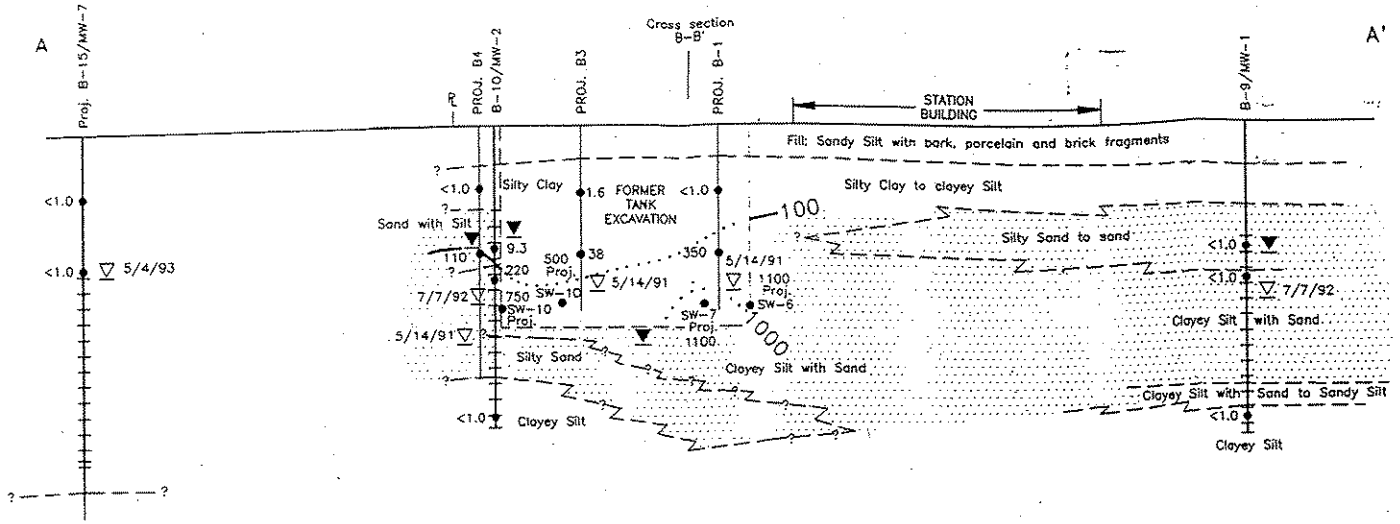
PROJECT 62026.01

GEOLOGIC CROSS SECTION B-B'
ARCO Station 2185
9800 East 14th Street
Oakland, California

PLATE 13



EXPLANATION

1000 = Line of equal concentration of TPHg in soil in parts per million (ppm)

<1.0 = Laboratory analyzed soil sample showing concentration of TPHg in ppm

= Well casing

= Well screen

= Boring

= Initial water level in boring

= Static water level in well (3/26/93)

= Hydrostratigraphic unit; consists of water bearing sands, silts, and clays with roothales

Approximate Horizontal Scale

20 10 0 20 40

feet

Approximate Vertical Scale

10 5 0 10 20

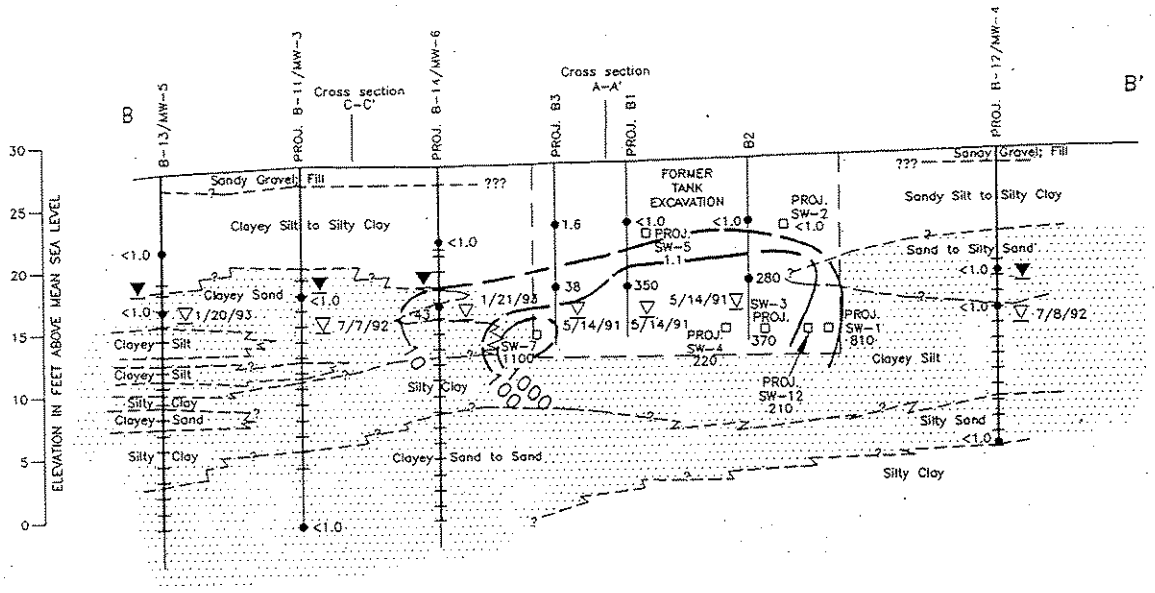
feet

RESNA
Working to Restore Nature

PROJECT 62026.02 620262A

GEOLOGIC CROSS SECTION A-A'
ARCO Station 2185
9800 East 14th Street
Oakland, California

PLATE
15



EXPLANATION

1000 = Line of equal concentration of TPHg in soil in parts per million (ppm)

SW-7 □ = Laboratory analyzed product line soil sample showing concentration of TPHg in ppm

<1.0 = Laboratory analyzed soil sample showing concentration of TPHg in ppm

= Well casing

= Well screen

= Boring

= Initial water level in boring

= Static water level in well (3/26/93)

= Hydrostratigraphic unit; consists of water bearing sands, silts, and clays with roothales

Approximate Horizontal Scale

20 10 0 20 40

feet

Approximate Vertical Scale

10 5 0 10 20

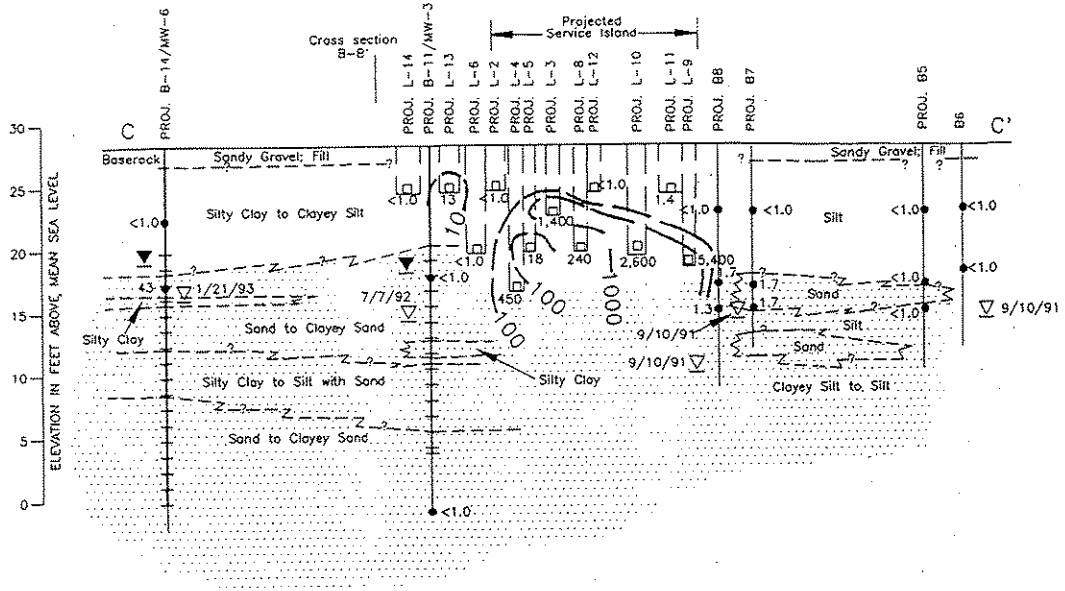
feet

RESNA
Working to Restore Nature

PROJECT 62026.02 6202628

GEOLOGIC CROSS SECTION B-B'
ARCO Station 2185
9800 East 14th Street
Oakland, California

PLATE
16



EXPLANATION

—1000 = Line of equal concentration of TPHg in soil in parts per million (ppm)

L-13 = Laboratory analyzed product line soil sample showing concentration of TPHg in ppm dashed line shows approximate location of product line trenches

<1.0 = Laboratory analyzed soil sample showing concentration of TPHg in ppm

= Well casing

= Well screen

= Boring

= Initial water level in boring

= Static water level in well (3/26/93)

= Hydrostratigraphic unit; consists of water bearing sands, silts, and clays with roothales

Approximate Horizontal Scale

20 10 0 20 40

feet

Approximate Vertical Scale

10 5 0 10 20

feet

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PROJECT 62026.02 620262C

GEOLOGIC CROSS SECTION C-C'
ARCO Station 2185
9800 East 14th Street
Oakland, California

PLATE
17

TABLE 1

TABLE 1: Summary of Soil Sample Analytical Data
ARCO Facility No. 2185, 9800 East 14th Street, Oakland, California

Sample Designation	Date	Depth (feet bgs)	TPH-G(1)	BTEX Distinction(1)			
				Benzene	Toluene	Ethylbenzene	Xylenes
B1-5	5/14/91	5	ND	0.021	ND	ND	0.012
B1-10	5/14/91	10	350	1.1	0.65	4.9	19
B2-5	5/14/91	5	ND	0.034	ND	ND	ND
B2-10	5/14/91	10	280	1.3	0.34	3.4	10
B3-5	5/14/91	5	1.6	0.015	ND	0.021	0.048
B3-10	5/14/91	10	38	ND	0.24	0.31	2
B4-5	5/14/91	5	ND	ND	ND	ND	0.017
B4-10	5/14/91	10	110	0.4	0.2	0.72	0.24

FOOTNOTES:

(1) = Concentrations reported in mg/kg (ppm)

TPH-G =Total Petroleum Fuel Hydrocarbons As Low/Medium Boiling Point Hydrocarbons (USEPA 8015)

BTEX Distinction (USEPA 8020)

ND = Not Detected (For detection limits see laboratory reports, Appendix D)

bgs = below ground surface

TABLE 2

CUMULATIVE RESULTS OF LABORATORY
ANALYSES OF SOIL SAMPLES
ARCO Station 2185
Oakland, California
(Page 1 of 3)

Sample ID	Depth	TPHg	B	T	E	X
May 1991						
B1-5	5	<1.0	0.021	<0.0050	<0.0050	<0.0050
B1-10	10	350	1.1	0.65	4.9	19
B2-5	5	<1.0	0.034	<0.0050	<0.0050	<0.0050
B2-10	10	280	1.3	0.34	3.4	10
B3-5	5	1.6	0.015	<0.0050	0.021	0.048
B3-10	10	38	<0.050	0.24	.031	2.0
B4-5	5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
B4-10	10	110	0.40	0.20	0.72	0.24
September 1991						
B5-5	5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
B5-11	11	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
B5-13	13	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
B6-5	5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
B6-10	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
B7-5	5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
B7-11	11	1.7	0.04	0.013	0.0079	0.078
B7-13	13	1.7	0.27	0.0083	0.04	0.028
B8-5	5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
B8-11	11	1.7	0.054	0.0094	0.012	0.019
B8-13	13	1.3	0.013	0.0073	0.0053	0.0069
Tank Excavation November 1991						
SW-1	14	810	3.4	1.0	13	50
SW-2	6	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
SW-3	14	370	1.6	17	8.8	53
SW-4	14	220	0.73	1.2	2.8	15
SW-5	6	1.1	0.014	0.0069	0.012	0.034
SW-6	14	230	0.84	2.3	2.4	15
SW-7	14	1100	5.9	28	15	90
SW-8	6	1.3	0.11	0.0054	<0.0050	0.016
SW-9	14	500	3.7	0.92	7.1	32
SW-10	14	750	5.9	5.3	10	61
SW-11	6	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
SW-12	14	210	1.6	0.26	3.2	5.0

See notes on page 3 of 3.

TABLE 3
CUMULATIVE RESULTS OF LABORATORY
ANALYSES OF SOIL SAMPLES
ARCO Station 2185
Oakland, California
(Page 2 of 3)

Sample ID	Depth	TPHg	B	T	E	X
Product Lines						
L-1	3	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
L-2	3	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
L-3	5	1,400	0.51	87	55	350
L-4	11	450	2.6	24	8.7	56
L-5	8	18	<0.0050	0.029	0.042	0.38
L-6	8	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
L-7	8	5.1	0.032	0.047	0.058	0.13
L-8	8	240	0.17	2.8	2.8	15
L-9	9.5	5,400	22	330	120	640
L-10	8	2,600	5	130	53	29
L-11	3	1.4	<0.0050	0.014	0.012	0.1
L-12	3	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
L-13	3	13	<0.0050	0.026	0.05	0.7
L-14	3	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
July 1992						
S-10.5-B9 MW-1	10.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
S-13-B9	13	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
S-23.5-B9	23.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
S-9.5-B10	9.5	9.3	0.034	0.023	0.014	0.059
S-12-B10 MW-2	12	220	1.1	0.75	5.1	6.3
S-23-B10	23	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
S-10.5-B11	10.5	<1.0	0.0060	<0.0050	<0.0050	<0.0050
S-29-B11 MW-3	29	<1.0	<0.0050	0.015	0.015	0.078
S-10-B12	10	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
S-13-B12	13	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
S-23.5-B12 MW-4	23.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
Composited Stockpile Sample						
SPA-SPD	NA	<1.0	<0.0050	<0.0050	0.010	0.012
Borings January 1993						
S-6-B13 / MW5	6	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
S-11-B13	11	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
S-6-B14 / MW6	6	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
S-11.5-B14	11.5	43	0.12	0.062	0.48	0.58

See notes on page 3 of 3.

RESNA
Working to Restore Nature

Subsurface Investigation and Pumping Test
ARCO Station 2185, Oakland, California

October 12, 1993
62026.02

TABLE 3
CUMULATIVE RESULTS OF LABORATORY
ANALYSES OF SOIL SAMPLES
ARCO Station 2185
Oakland, California
(Page 3 of 3)

Sample ID	Depth	TPHg	B	T	E	X
Composited Stockpile Sample						
0121-SPA-D	NA	14	0.021	0.022	0.10	0.13
Additional analyses: nondetectable STLC metals, except 0.15 ppm barium, pH of 7.4, flashpoint of 100° C, nondetectable reactivity with sulfide and cyanide, negative reaction with water.						
Boring May 1993						
S-5-B15 /MW7	5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
S-10.5-B15	10.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
Composited Stockpile Sample						
0504-SP(A-D)	NA	<1.0	<0.5	<0.5	<0.5	<0.5
Additional analyses: 0.18 ppm STLC lead, pH of 7.4, flashpoint of less than 100° C, nondetectable reactivity with sulfide and cyanide, negative reaction with water.						

Results in parts per million (ppm).
Depth in feet below ground surface.
TPHg = Total petroleum hydrocarbons as gasoline using EPA Method 5030/8020/8015
B = benzene, T = toluene, E = ethylbenzene, X = total xylenes (EPA Method 8020/8015)
< = Below indicated laboratory reporting limits.
NA = Not applicable
Sample Identification:

S-10-B12
- Boring number
- Sample depth in feet below ground surface
- Soil sample

SW-1
- Sample number
- Former tank cavity sample

B1-5
- Sample depth in feet below ground surface
- Boring number

SPA-SPD
- Composite sample
- Soil pile

Line-1
- Sample number
- Product line sample

TABLE 3

TABLE 3
RESULTS OF LABORATORY ANALYSES OF GROUNDWATER SAMPLES-TPHg AND BTEX
ARCO Station 2185
Oakland, California
(Page 1 of 1)

Well	TPHg	B	T	E	X
MW-1 7-24-92	<50	<0.5	<0.5	<0.5	<0.5
MW-2 7-24-92	5,900	510	<10*	370	430
MW-3 7-24-92	Not sampled -- sheen				
MW-4 7-24-92	<50	<0.5	<0.5	<0.5	<0.5
MCL	—	1.0	—	680	1,750
DWAL	—	—	100	—	—

Results in parts per billion (ppb).
TPHg = Total petroleum hydrocarbons as gasoline by EPA Method 5030/8020 DHS LUFT.
B = benzene, T = toluene, E = ethylbenzene, X = total xylenes
< = Below indicated laboratory detection limits.
* = Laboratory raised Method Reporting Limit (MRL) due to high analyte concentration requiring sample dilution.
MCL = State Maximum Contaminant Level (California Department of Health Services, October 1990).
DWAL = State Recommended Drinking Water Action Level (California Department of Health Services, October 1990).

TABLE 4

GROUNDWATER MONITORING DATA
ARCO Station 2185
Oakland, California
(Page 1 of 1)

Date Well Measured	Well Elevation	Depth to Water	Water Elevation	Floating Product
MW-1				
7-24-92	29.15	13.38	15.77	None
8-26-92		13.92	15.23	None
MW-2				
7-24-92	28.47	12.95	15.52	None
8-26-92		13.55	14.92	None
MW-3				
7-24-92	28.57	12.90	15.67	Sheen
8-26-92		13.51	15.06	None
MW-4				
7-24-92	29.21	13.68	15.53	None
8-26-92		14.12	15.09	None

Measurements in feet. Elevations in feet above mean sea level. Wells surveyed on July 23, 1992 (Benchmark #24/D, near the corner of 98th Avenue [5' feet west of west curb] and East 14th Street [7' feet east of the south curb] in Oakland).

Table 4
Historical Groundwater Analytical Data

ARCO Service Station 2185
9800 East 14th Street, Oakland, California

Date: 11-08-95

Well Designation	Water Sample Field Date	TPHG µg/L	Benzene µg/L	Toluene µg/L	Ethyl-benzene µg/L	Total Xylenes µg/L
MW-1	07-24-92	<50	<0.5	<0.5	<0.5	<0.5
MW-1	10-19-92	<50	<0.5	<0.5	<0.5	<0.5
MW-1	01-14-93	<50	<0.5	<0.5	<0.5	<0.5
MW-1	04-09-93	<50	<0.5	<0.5	<0.5	<0.5
MW-1	08-23-93	<50	<0.5	<0.5	<0.5	<0.5
MW-1	10-11-93	<50	<0.5	<0.5	<0.5	<0.5
MW-1	03-04-94	<50	<0.5	<0.5	<0.5	<0.5
MW-1	05-10-94	<50	<0.5	<0.5	<0.5	<0.5
MW-1	08-12-94	<50	<0.5	<0.5	<0.5	<0.5
MW-1	11-22-94	<50	<0.5	<0.5	<0.5	<0.5
MW-1	03-15-95	<50	<0.5	<0.5	<0.5	<0.5
MW-1	05-30-95	Not sampled: not scheduled for chemical analysis				
MW-1	09-20-95	Not sampled: not scheduled for chemical analysis				
MW-2	07-24-92	5900	510	<10	370	430
MW-2	10-19-92	4100	110	<10	100	62
MW-2	01-14-93	12000	700	10	720	680
MW-2	04-09-93	8400	220	<10	480	320
MW-2	08-23-93	3700	89	<5	230	150
MW-2	10-11-93	2700	50	<2.5	<140	68
MW-2	03-04-94	3100	49	<2.5	180	98
MW-2	05-10-94	3100	39	<2.5	220	99
MW-2	08-12-94	1800	13	<2.5	120	35
MW-2	11-22-94	2300	45	<0.5	190	93
MW-2	03-15-95	2100	7.4	<2.5	130	39
MW-2	05-30-95	1700	3.3	<2.5	120	31
MW-2	09-21-95	1200	1	<1	68	16
MW-3	07-24-92	Not sampled: well contained floating product				
MW-3	10-19-92	42000	740	1100	1500	5700
MW-3	01-14-93	44000	1100	840	2200	9600
MW-3	04-09-93	21000	33	69	350	1600
MW-3	08-23-93	13000	63	21	530	1300
MW-3	10-11-93	11000	56	13	530	1200
MW-3	03-04-94	17000	50	<10	790	1600
MW-3	05-10-94	14000	32	<10	710	1200
MW-3	08-12-94	13000	37	<10	640	970
MW-3	11-22-94	15000	150	<10	1300	2000
MW-3	03-15-95	2000	<2.5	<2.5	88	82
MW-3	05-30-95	2000	3.2	<2.5	70	46
MW-3	09-21-95	2100	12	<3	77	38

Table 4
Historical Groundwater Analytical Data

ARCO Service Station 2185
9800 East 14th Street, Oakland, California

Date: 11-08-95

Well Desig-nation	Water Sample Field Date	TPHG µg/L	Benzene µg/L	Toluene µg/L	Ethyl-benzene µg/L	Total Xylenes µg/L
MW-4	07-24-92	<50	<0.5	<0.5	<0.5	<0.5
MW-4	10-19-92	<50	<0.5	<0.5	<0.5	<0.5
MW-4	01-14-93	<50	<0.5	<0.5	<0.5	<0.5
MW-4	04-09-93	<50	<0.5	<0.5	<0.5	<0.5
MW-4	08-23-93	<50	<0.5	<0.5	<0.5	<0.5
MW-4	10-11-93	<50	<0.5	<0.5	<0.5	<0.5
MW-4	03-04-94	<50	<0.5	<0.5	<0.5	<0.5
MW-4	05-10-94	<50	<0.5	<0.5	<0.5	<0.5
MW-4	08-12-94	<50	<0.5	<0.5	<0.5	<0.5
MW-4	11-22-94	<50	<0.5	<0.5	<0.5	<0.5
MW-4	03-15-95	<50	<0.5	<0.5	<0.5	<0.5
MW-4	05-30-95	Not sampled: not scheduled for chemical analysis				
MW-4	09-20-95	Not sampled: not scheduled for chemical analysis				
MW-5	02-11-93	9300	620	<50	890	2200
MW-5	04-09-93	960	29	<1	100	96
MW-5	08-23-93	2700	50	<2.5	260	250
MW-5	10-11-93	840	9	<1	87	41
MW-5	03-04-94	540	0.9	0.6	16	6.3
MW-5	05-10-94	1300	11	<2.5	110	68
MW-5	08-12-94	1500	10	<2.5	110	30
MW-5	11-22-94	84	1	<0.5	5	2
MW-5	03-15-95	170	5.6	<0.5	17	11
MW-5	05-30-95	53	0.6	<0.5	4.8	2.8
MW-5	09-21-95	1500	47	2	120	86
MW-6	02-11-93	4800	630	<10	490	460
MW-6	04-09-93	13000	880	<10	1000	1000
MW-6	08-23-93	6300	390	<20	450	390
MW-6	10-11-93	2900	150	3.4	190	140
MW-6	03-04-94	5800	320	<5	510	360
MW-6	05-10-94	11000	470	<10	880	650
MW-6	08-12-94	4400	170	<10	390	210
MW-6	11-22-94	7300	390	<5	940	640
MW-6	03-15-95	3600	77	<5	420	180
MW-6	05-30-95	5000	68	<5	530	250
MW-6	09-21-95	3300	36	<5	360	120

Table 4
Historical Groundwater Analytical Data

ARCO Service Station 2185
9800 East 14th Street, Oakland, California

Date: 11-08-95

Well Designation	Water Sample Field Date	TPHG µg/L	Benzene µg/L	Toluene µg/L	Ethyl-benzene µg/L	Total Xylenes µg/L
MW-7	05-14-93	350	0.83	<0.5	<0.5	<0.5
MW-7	08-23-93	630*	7.3	<1	<1	<1
MW-7	10-11-93	620*	3.5	<0.5	<0.5	<0.5
MW-7	03-04-94	320*	<0.5	<0.5	<0.5	<0.5
MW-7	05-10-94	330*	0.6	<0.5	<0.5	<0.5
MW-7	08-12-94	360*	<0.5	<0.5	<0.5	<0.5
MW-7	11-22-94	<50	<0.5	<0.5	<0.5	<0.5
MW-7	03-15-95	150*	<0.5	<0.5	<0.5	<0.5
MW-7	05-30-95	110*	<0.5	<0.5	<0.5	<0.5
MW-7	09-20-95	<400*	<0.8	<0.5	<0.5	<0.5
MW-8	08-12-94	5100	12	<5	470	53
MW-8	11-22-94	2300	16	<0.5	140	4
MW-8	03-15-95	280	<0.5	<0.5	0.7	0.7
MW-8	05-30-95	390	<0.5	<0.5	<2	1.6
MW-8	09-21-95	470	<0.5	<0.5	3	1.2
MW-9	09-20-95	<50	<0.5	<0.5	<0.5	<0.5
MW-10	09-21-95	<50	<0.5	<0.5	<0.5	<0.5

TPHG: total petroleum hydrocarbons as gasoline
µg/l: micrograms per liter
*: chromatogram does not match the typical gasoline fingerprint

TABLE 5

Historical Groundwater Elevation and Analytical Data
Petroleum Hydrocarbons and Their Constituents
1995 - Present*

ARCO Service Station 2185
9800 East 14th Street, Oakland, California

Well Designation	Water Level Field Date	Top of Casing Elevation ft-MSL	Depth to Water feet	Groundwater Elevation ft-MSL	Floating Product Thickness feet	Groundwater Flow Direction MWN	Hydraulic Gradient ft/ft	Water Sample Field Date	TPHG LUFT Method µg/L	Benzene EPA 8020 µg/L	Toluene EPA 8020 µg/L	Ethylbenzene EPA 8020 µg/L	Total Xylenes EPA 8020 µg/L	MTBE EPA 8020 µg/L	MTBE EPA 8240/8260 µg/L
MW-1	03-15-95	29.15	8.50	20.65	ND	NW	0.01	03-15-95	<50	<0.5	<0.5	<0.5	<0.5	--	--
MW-1	05-30-95	29.15	10.28	18.87	ND	SW	0.005	05-30-95	Not sampled: well sampled annually, during the first quarter						
MW-1	09-20-95	29.15	11.70	17.45	ND	WSW	0.005	09-20-95	Not sampled: well sampled annually, during the first quarter						
MW-1	11-07-95	29.15	12.12	17.03	ND	WSW	0.004	11-07-95	Not sampled: well sampled annually, during the first quarter						
MW-1	02-28-96	29.15	8.54	20.61	ND	NW	0.009	02-28-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--
MW-1	05-30-96	29.15	10.05	19.10	ND	W	0.007	05-31-96	Not sampled: well sampled annually, during the first quarter						
MW-1	08-20-96	29.15	11.35	17.80	ND	SW	0.005	08-20-96	Not sampled: well sampled annually, during the first quarter						
MW-1	11-19-96	29.15	11.20	17.95	ND	WSW	0.005	11-19-96	Not sampled: well sampled annually, during the first quarter						
MW-1	03-25-97	29.15	10.12	19.03	ND	WNW	0.006	03-25-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--
MW-1	06-17-97	29.15	11.27	17.88	ND	W	0.001	06-17-97	Not sampled: well sampled annually, during the first quarter						
MW-1	08-07-97	29.15	11.83	17.32	ND	SW	0.005	08-07-97	Not sampled: well sampled annually, during the first quarter						
MW-1	11-18-97	29.15	11.80	17.35	ND	SW	0.004	11-18-97	Not sampled: well sampled annually, during the first quarter						
MW-1	02-25-98	29.15	7.02	22.13	ND	NW	0.011	02-25-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--
MW-1	05-11-98	29.15	9.17	19.98	ND	WNW	0.01	05-11-98	Not sampled: well sampled annually, during the first quarter						
MW-1	07-29-98	29.15	10.46	18.69	ND	W	0.009	07-29-98	Not sampled: well sampled annually, during the first quarter						
MW-1	10-12-98	29.15	11.27	17.88	ND	W	0.009	10-12-98	Not sampled: well sampled annually, during the first quarter						
MW-2	03-15-95	28.47	8.37	20.10	ND	NW	0.01	03-15-95	2100	7.4	<2.5	130	39	--	--
MW-2	05-30-95	28.47	9.95	18.52	ND	SW	0.005	05-30-95	1700	3.3	<2.5	120	31	--	--
MW-2	09-20-95	28.47	11.37	17.10	ND	WSW	0.005	09-21-95	1200	1	<1	68	16	<5	--
MW-2	11-07-95	28.47	11.73	16.74	ND	WSW	0.004	11-07-95	1100	<3	<3	74	14	<20	--
MW-2	02-28-96	28.47	8.12	20.35	ND	NW	0.009	02-29-96	2200	<3	<3	130	27	<20	--
MW-2	05-30-96	28.47	9.89	18.58	ND	W	0.007	05-31-96	970	<5	<1	29	3	<5	--
MW-2	08-20-96	28.47	11.05	17.42	ND	SW	0.005	08-20-96	670	<1	<1	16	1	<5	--
MW-2	11-19-96	28.47	10.96	17.51	ND	WSW	0.005	11-19-96	990	<1	<1	46	3	<5	--
MW-2	03-25-97	28.47	9.84	18.63	ND	WNW	0.006	03-25-97	540	<1	<1	<1	<1	<6	--
MW-2	06-17-97	28.47	10.99	17.48	ND	W	0.001	06-17-97	510	<7	0.9	1.1	<2	<3	--
MW-2	08-07-97	28.47	11.50	16.97	ND	SW	0.005	08-07-97	280	<0.5	<0.5	<0.5	<0.5	<3	--
MW-2	11-18-97	28.47	11.41	17.06	ND	SW	0.004	11-18-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--
MW-2	02-25-98	28.47	6.33	22.14	ND	NW	0.011	02-25-98	850	<0.5	1.1	13	1.4	<3	--
MW-2	05-11-98	28.47	8.89	19.58	ND	WNW	0.01	05-11-98	290	<0.5	<0.5	<0.5	<0.5	<3	--
MW-2	07-29-98	28.47	10.22	18.25	ND	W	0.009	07-29-98	310	<0.5	0.5	<0.5	1.1	<3	--
MW-2	10-12-98	28.47	10.95	17.52	ND	W	0.009	10-12-98	280	<0.5	<0.5	<0.5	<0.5	<3	--

Pinnacle

Table 1
Historical Groundwater Elevation and Analytical Data
Petroleum Hydrocarbons and Their Constituents
1995 - Present*

ARCO Service Station 2185
9800 East 14th Street, Oakland, California

Well Designation	Water Level Field Date	Top of Casing Elevation ft-MSL	Depth to Water feet	Groundwater Elevation ft-MSL	Floating Product Thickness feet	Groundwater Flow Direction MWN	Hydraulic Gradient ft/ft	Water Sample Field Date	TPHG LUFT Method µg/L	Benzene EPA 8020 µg/L	Toluene EPA 8020 µg/L	Ethylbenzene EPA 8020 µg/L	Total Xylenes EPA 8020 µg/L	MTBE EPA 8020 µg/L	MTBE EPA 8240/8260 µg/L
MW-3	03-15-95	28.57	8.47	20.10	ND	NW	0.01	03-15-95	2000	<2.5	<2.5	88	82	--	--
MW-3	05-30-95	28.57	10.03	18.54	ND	SW	0.005	05-30-95	2000	3.2	<2.5	70	46	--	--
MW-3	09-20-95	28.57	11.30	17.27	ND	WSW	0.005	09-21-95	2100	12	<3	77	38	280	--
MW-3	11-07-95	28.57	11.65	16.92	ND	WSW	0.004	11-07-95	3000	18	<3	120	62	--	430[1]
MW-3	02-28-96	28.57	8.35	20.22	ND	NW	0.009	02-29-96	5100	83	<5	160	57	640	--
MW-3	05-30-96	28.57	9.77	18.80	ND	W	0.007	05-31-96	2100	41	<5	57	15	390	--
MW-3	08-20-96	28.57	11.00	17.57	ND	SW	0.005	08-20-96	2500	94	<2.5	62	14	2200	--
MW-3	11-19-96	28.57	10.92	17.65	ND	WSW	0.005	11-19-96	2400	84	<2.5	73	22	1300	--
MW-3	03-25-97	28.57	9.90	18.67	ND	WNW	0.006	03-25-97	<50	<0.5	<0.5	<0.5	<0.5	48	--
MW-3	06-17-97	28.57	10.95	17.62	ND	W	0.001	06-17-97	<200	<2	<2	<2	<2	200	--
MW-3	08-07-97	28.57	11.44	17.13	ND	SW	0.005	08-07-97	<500	<5	<5	<5	<5	490	--
MW-3	11-18-97	28.57	11.35	17.22	ND	SW	0.004	11-18-97	200	9	<2	7	<2	360	--
MW-3	02-25-98	28.57	6.98	21.59	ND	NW	0.011	02-25-98	250	<2	<2	7	<2	370	--
MW-3	05-11-98	28.57	9.07	19.50	ND	WNW	0.01	05-11-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--
MW-3	07-29-98	28.57	10.06	18.51	ND	W	0.009	07-29-98	<50	<0.5	<0.5	<0.5	<0.5	51	--
MW-3	10-12-98	28.57	10.96	17.61	ND	W	0.009	10-12-98	<50	<0.5	<0.5	<0.5	<0.5	98	--
MW-4	03-15-95	29.21	8.69	20.52	ND	NW	0.01	03-15-95	<50	<0.5	<0.5	<0.5	<0.5	--	--
MW-4	05-30-95	29.21	10.57	18.64	ND	SW	0.005	05-30-95	Not sampled: well sampled annually, during the first quarter						
MW-4	09-20-95	29.21	12.02	17.19	ND	WSW	0.005	09-20-95	Not sampled: well sampled annually, during the first quarter						
MW-4	11-07-95	29.21	12.42	16.79	ND	WSW	0.004	11-07-95	Not sampled: well sampled annually, during the first quarter						
MW-4	02-28-96	29.21	8.66	20.55	ND	NW	0.009	02-28-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--
MW-4	05-30-96	29.21	10.34	18.87	ND	W	0.007	05-31-96	Not sampled: well sampled annually, during the first quarter						
MW-4	08-20-96	29.21	11.67	17.54	ND	SW	0.005	08-20-96	Not sampled: well sampled annually, during the first quarter						
MW-4	11-19-96	29.21	11.50	17.71	ND	WSW	0.005	11-19-96	Not sampled: well sampled annually, during the first quarter						
MW-4	03-25-97	29.21	10.42	18.79	ND	WNW	0.006	03-25-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--
MW-4	06-17-97	29.21	11.60	17.61	ND	W	0.001	06-17-97	Not sampled: well sampled annually, during the first quarter						
MW-4	08-07-97	29.21	12.17	17.04	ND	SW	0.005	08-07-97	Not sampled: well sampled annually, during the first quarter						
MW-4	11-18-97	29.21	12.05	17.16	ND	SW	0.004	11-18-97	Not sampled: well sampled annually, during the first quarter						
MW-4	02-25-98	29.21	6.91	22.30	ND	NW	0.011	02-25-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--
MW-4	05-11-98	29.21	9.45	19.76	ND	WNW	0.01	05-11-98	Not sampled: well sampled annually, during the first quarter						
MW-4	07-29-98	29.21	10.80	18.41	ND	W	0.009	07-29-98	Not sampled: well sampled annually, during the first quarter						
MW-4	10-12-98	29.21	11.58	17.63	ND	W	0.009	10-12-98	Not sampled: well sampled annually, during the first quarter						

Pinnacle

Table 1
Historical Groundwater Elevation and Analytical Data
Petroleum Hydrocarbons and Their Constituents
1995 - Present*

ARCO Service Station 2185
9800 East 14th Street, Oakland, California

Well Designation	Water Level Field Date	Top of Casing Elevation ft-MSL	Depth to Water feet	Groundwater Elevation ft-MSL	Floating Product Thickness feet	Groundwater Flow Direction MWN	Hydraulic Gradient ft/ft	Water Sample Field Date	TPHG LUFT Method µg/L	Benzene EPA 8020 µg/L	Toluene EPA 8020 µg/L	Ethylbenzene EPA 8020 µg/L	Total Xylenes EPA 8020 µg/L	MTBE EPA 8020 µg/L	MTBE EPA 8240/8260 µg/L
MW-5	03-15-95	28.12	8.47	19.65	ND	NW	0.01	03-15-95	170	5.6	<0.5	17	11	--	--
MW-5	05-30-95	28.12	9.69	18.43	ND	SW	0.005	05-30-95	53	0.6	<0.5	4.8	2.8	--	--
MW-5	09-20-95	28.12	10.90	17.22	ND	WSW	0.005	09-21-95	1500	47	2	120	86	70	--
MW-5	11-07-95	28.12	11.20	16.92	ND	WSW	0.004	11-07-95	140	4.5	<0.5	8.3	16	10	--
MW-5	02-28-96	28.12	8.15	19.97	ND	NW	0.009	02-29-96	900	11	<1	59	29	99	--
MW-5	05-30-96	28.12	9.48	18.64	ND	W	0.007	05-31-96	Not sampled: well sampled semi-annually, during the first and third quarters						
MW-5	08-20-96	28.12	10.58	17.54	ND	SW	0.005	08-20-96	67	0.7	<0.5	3.6	0.6	27	--
MW-5	11-19-96	28.12	10.50	17.62	ND	WSW	0.005	11-19-96	Not sampled: well sampled semi-annually, during the first and third quarters						
MW-5	03-25-97	28.12	9.58	18.54	ND	WNW	0.006	03-25-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--
MW-5	06-17-97	28.12	10.52	17.60	ND	W	0.001	06-17-97	Not sampled: well sampled semi-annually, during the first and third quarters						
MW-5	08-07-97	28.12	11.00	17.12	ND	SW	0.005	08-07-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--
MW-5	11-18-97	28.12	10.93	17.19	ND	SW	0.004	11-18-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--
MW-5	02-25-98	28.12	6.75	21.37	ND	NW	0.011	02-25-98	370	2	6	11	9	270	--
MW-5	05-11-98	28.12	9.11	19.01	ND	WNW	0.01	05-11-98	<50	<0.5	<0.5	<0.5	<0.5	9	--
MW-5	07-29-98	28.12	9.89	18.23	ND	W	0.009	07-29-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--
MW-5	10-12-98	28.12	10.52	17.60	ND	W	0.009	10-12-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--
MW-6	03-15-95	27.79	7.75	20.04	ND	NW	0.01	03-15-95	3600	77	<5	420	180	--	--
MW-6	05-30-95	27.79	9.48	18.31	ND	SW	0.005	05-30-95	5000	68	<5	530	250	--	--
MW-6	09-20-95	27.79	10.75	17.04	ND	WSW	0.005	09-21-95	3300	36	<5	360	120	<30	--
MW-6	11-07-95	27.79	11.06	16.73	ND	WSW	0.004	11-07-95	3500	33	<5	410	110	<30	--
MW-6	02-28-96	27.79	7.86	19.93	ND	NW	0.009	02-29-96	520	33	<5	480	160	<30	--
MW-6	05-30-96	27.79	9.35	18.44	ND	W	0.007	05-31-96	Not sampled: well sampled semi-annually, during the first and third quarters						
MW-6	08-20-96	27.79	10.43	17.36	ND	SW	0.005	08-20-96	1900	3.4	<2.5	150	21	<12	--
MW-6	11-19-96	27.79	10.36	17.43	ND	WSW	0.005	11-19-96	Not sampled: well sampled semi-annually, during the first and third quarters						
MW-6	03-25-97	27.79	9.35	18.44	ND	WNW	0.006	03-25-97	1100	<2	<2	5	5	<10	--
MW-6	06-17-97	27.79	10.37	17.42	ND	W	0.001	06-17-97	Not sampled: well sampled semi-annually, during the first and third quarters						
MW-6	08-07-97	27.79	10.85	16.94	ND	SW	0.005	08-07-97	53	<0.5	<0.5	<0.5	<0.5	<3	--
MW-6	11-18-97	27.79	10.75	17.04	ND	SW	0.004	11-18-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--
MW-6	02-25-98	27.79	6.30	21.49	ND	NW	0.011	02-25-98	3500	<5	18	190	54	<30	--
MW-6	05-11-98	27.79	8.55	19.24	ND	WNW	0.01	05-11-98	730	<1	<1	4	<1	<6	--
MW-6	07-29-98	27.79	9.71	18.08	ND	W	0.009	07-29-98	77	<0.5	<0.5	<0.5	<0.5	<3	--
MW-6	10-12-98	27.79	10.37	17.42	ND	W	0.009	10-12-98	<50	<0.5	<0.5	<0.5	<0.5	<3	--

Pinnacle

Table 1
Historical Groundwater Elevation and Analytical Data
Petroleum Hydrocarbons and Their Constituents
1995 - Present*

ARCO Service Station 2185
9800 East 14th Street, Oakland, California

Well Designation	Water Level Field Date	Top of Casing Elevation ft-MSL	Depth to Water feet	Groundwater Elevation ft-MSL	Floating Product Thickness feet	Groundwater Flow Direction MWN	Hydraulic Gradient ft/ft	Water Sample Field Date	TPHG LUFT Method µg/L	Benzene EPA 8020 µg/L	Toluene EPA 8020 µg/L	Ethylbenzene EPA 8020 µg/L	Total Xylenes EPA 8020 µg/L	MTBE EPA 8020 µg/L	MTBE EPA 8240/8260 µg/L
MW-7	03-15-95	27.88	8.13	19.75	ND	NW	0.01	03-15-95	150**	<0.5	<0.5	<0.5	<0.5	--	--
MW-7	05-30-95	27.88	10.14	17.74	ND	SW	0.005	05-30-95	110**	<0.5	<0.5	<0.5	<0.5	--	--
MW-7	09-20-95	27.88	11.52	16.36	ND	WSW	0.005	09-20-95	<400**	<0.8	<0.5	<0.5	<0.5	<7	--
MW-7	11-07-95	27.88	11.70	16.18	ND	WSW	0.004	11-07-95	<500	2	<1	<1	<1	<20	--
MW-7	02-28-96	27.88	8.19	19.69	ND	NW	0.009	02-29-96	<300**	<0.5	<0.5	<0.5	<0.5	<6	--
MW-7	05-30-96	27.88	9.98	17.90	ND	W	0.007	05-31-96	<100**	<0.5	<0.5	<0.5	<0.5	<3	--
MW-7	08-20-96	27.88	11.15	16.73	ND	SW	0.005	08-20-96	<200**	<0.5	<0.5	<0.5	<0.5	<5	--
MW-7	11-19-96	27.88	10.92	16.96	ND	WSW	0.005	11-19-96	Not sampled: well sampled annually, during the first quarter						
MW-7	03-25-97	27.88	9.88	18.00	ND	WNW	0.006	03-25-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--
MW-7	06-17-97	27.88	11.13	16.75	ND	W	0.001	06-17-97	Not sampled: well sampled annually, during the first quarter						
MW-7	08-07-97	27.88	11.65	16.23	ND	SW	0.005	08-07-97	Not sampled: well sampled annually, during the first quarter						
MW-7	11-18-97	27.88	11.46	16.42	ND	SW	0.004	11-18-97	Not sampled: well sampled annually, during the first quarter						
MW-7	02-25-98	27.88	6.35	21.53	ND	NW	0.011	02-25-98	<50	<0.5	0.5	<0.5	0.7	14	--
MW-7	05-11-98	27.88	9.15	18.73	ND	WNW	0.01	05-11-98	Not sampled: well sampled annually, during the first quarter						
MW-7	07-29-98	27.88	10.56	17.32	ND	W	0.009	07-29-98	Not sampled: well sampled annually, during the first quarter						
MW-7	10-12-98	27.88	11.22	16.66	ND	W	0.009	10-12-98	Not sampled: well sampled annually, during the first quarter						
MW-8	03-15-95	NR	8.43	NR	ND	NR	NR	03-15-95	280	<0.5	<0.5	0.7	0.7	--	--
MW-8	05-30-95	NR	9.86	NR	ND	NR	NR	05-30-95	390	<0.5	<0.5	<2	1.6	--	--
MW-8	09-20-95	28.08	11.07	17.01	ND	WSW	0.005	09-21-95	470	<0.5	<0.5	3	1.2	52	--
MW-8	11-07-95	28.08	11.40	16.68	ND	WSW	0.004	11-07-95	280	<0.5	<0.5	0.6	<0.5	94	--
MW-8	02-28-96	28.08	8.30	19.78	ND	NW	0.009	02-29-96	160	<0.5	<0.5	<0.9	<0.6	32	--
MW-8	05-30-96	28.08	9.68	18.40	ND	W	0.007	05-31-96	100	<0.5	<0.5	<0.6	<0.5	16	--
MW-8	08-20-96	28.08	10.72	17.36	ND	SW	0.005	08-20-96	140	<0.5	<0.5	<0.5	<0.5	190	--
MW-8	11-19-96	28.08	10.58	17.50	ND	WSW	0.005	11-19-96	Not sampled: well sampled semi-annually, during the first and third quarters						
MW-8	03-25-97	28.08	9.73	18.35	ND	WNW	0.006	03-25-97	63	<0.5	<0.5	<0.5	<0.5	38	--
MW-8	06-17-97	28.08	10.67	17.41	ND	W	0.001	06-17-97	Not sampled: well sampled semi-annually, during the first and third quarters						
MW-8	08-07-97	28.08	11.15	16.93	ND	SW	0.005	08-07-97	53	<0.5	<0.5	<0.5	<0.5	390	--
MW-8	11-18-97	28.08	11.05	17.03	ND	SW	0.004	11-18-97	<500	<5	<5	<5	<5	640	--
MW-8	02-25-98	28.08	7.25	20.83	ND	NW	0.011	02-25-98	<50	<0.5	<0.5	0.7	<0.5	56	--
MW-8	05-11-98	28.08	9.00	19.08	ND	WNW	0.01	05-11-98	<50	<0.5	<0.5	<0.5	<0.5	18	--
MW-8	07-29-98	28.08	10.03	18.05	ND	W	0.009	07-29-98	<50	<0.5	<0.5	<0.5	<0.5	19	21[2]
MW-8	10-12-98	28.08	10.70	17.38	ND	W	0.009	10-12-98	<100	<1	<1	<1	<1	81	--

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Table 1
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Petroleum Hydrocarbons and Their Constituents
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ARCO Service Station 2185
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Well Designation	Water Level Field Date	Top of Casing Elevation ft-MSL	Depth to Water feet	Groundwater Elevation ft-MSL	Floating Product Thickness feet	Groundwater Flow Direction MWN	Hydraulic Gradient ft/ft	Water Sample Field Date	TPHG LUFT Method µg/L	Benzene EPA 8020 µg/L	Toluene EPA 8020 µg/L	Ethylbenzene EPA 8020 µg/L	Total Xylenes EPA 8020 µg/L	MTBE EPA 8020 µg/L	MTBE EPA 8240/8260 µg/L
MW-9	09-20-95	27.73	11.67	16.06	ND	WSW	0.005	09-20-95	<50	<0.5	<0.5	<0.5	<0.5	<4	--
MW-9	11-07-95	27.73	11.70	16.03	ND	WSW	0.004	11-07-95	<50	<0.5	<0.5	<0.5	<0.5	<4	--
MW-9	02-28-96	27.73	9.23	18.50	ND	NW	0.009	02-29-96	<50	<0.5	<0.5	<0.5	<0.5	<5	--
MW-9	05-30-96	27.73	10.50	17.23	ND	W	0.007	05-31-96	<50	0.6	<0.5	<0.5	<0.5	<8	--
MW-9	08-20-96	27.73	11.33	16.40	ND	SW	0.005	08-20-96	<50	<0.5	<0.5	<0.5	<0.5	<7	--
MW-9	11-19-96	27.73	11.20	16.53	ND	WSW	0.005	11-19-96	Not sampled: well sampled annually, during the first quarter						
MW-9	03-25-97	27.73	10.41	17.32	ND	WNW	0.006	03-25-97	<50	<0.5	<0.5	<0.5	<0.5	<6	--
MW-9	06-17-97	27.73	11.30	16.43	ND	W	0.001	06-17-97	Not sampled: well sampled annually, during the first quarter						
MW-9	08-07-97	27.73	11.70	16.03	ND	SW	0.005	08-07-97	Not sampled: well sampled annually, during the first quarter						
MW-9	11-18-97	27.73	11.42	16.31	ND	SW	0.004	11-18-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--
MW-9	02-25-98	27.73	8.72	19.01	ND	NW	0.011	02-25-98	<50	<0.5	<0.5	<0.5	<0.5	<8	--
MW-9	05-11-98	27.73	10.05	17.68	ND	WNW	0.01	05-11-98	<50	<0.5	<0.5	<0.5	<0.5	5	--
MW-9	07-29-98	27.73	11.04	16.69	ND	W	0.009	07-29-98	<50	<0.5	<0.5	<0.5	<0.5	6	--
MW-9	10-12-98	27.73	11.55	16.18	ND	W	0.009	10-12-98	<50	<0.5	<0.5	<0.5	<0.5	5	--
MW-10	09-20-95	27.55	10.65	16.90	ND	WSW	0.005	09-21-95	<50	<0.5	<0.5	<0.5	<0.5	<3	--
MW-10	11-07-95	27.55	10.85	16.70	ND	WSW	0.004	11-07-95	<50	<0.5	<0.5	<0.5	<0.5	<3	--
MW-10	02-28-96	27.55	9.38	18.17	ND	NW	0.009	02-29-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--
MW-10	05-30-96	27.55	9.99	17.56	ND	W	0.007	05-31-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--
MW-10	08-20-96	27.55	10.47	17.08	ND	SW	0.005	08-20-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--
MW-10	11-19-96	27.55	10.44	17.11	ND	WSW	0.005	11-19-96	Not sampled: well sampled annually, during the first quarter						
MW-10	03-25-97	27.55	10.02	17.53	ND	WNW	0.006	03-25-97	<50	<0.5	<0.5	<0.5	<0.5	<3	--
MW-10	06-17-97	27.55	10.40	17.15	ND	W	0.001	06-17-97	Not sampled: well sampled annually, during the first quarter						
MW-10	08-07-97	27.55	10.75	16.80	ND	SW	0.005	08-07-97	Not sampled: well sampled annually, during the first quarter						
MW-10	11-18-97	27.55	10.67	16.88	ND	SW	0.004	11-18-97	Not sampled: well sampled annually, during the first quarter						
MW-10	02-25-98	27.55	9.02	18.53	ND	NW	0.011	02-25-98	<50	<0.5	1.4	<0.5	1.8	12	--
MW-10	05-11-98	27.55	9.63	17.92	ND	WNW	0.01	05-11-98	Not sampled: well sampled annually, during the first quarter						
MW-10	07-29-98	27.55	10.15	17.40	ND	W	0.009	07-29-98	Not sampled: well sampled annually, during the first quarter						
MW-10	10-12-98	27.55	10.55	17.00	ND	W	0.009	10-12-98	Not sampled: well sampled annually, during the first quarter						

Pinnacle

Table 1
Historical Groundwater Elevation and Analytical Data
Petroleum Hydrocarbons and Their Constituents
1995 - Present*

ARCO Service Station 2185
9800 East 14th Street, Oakland, California

Well Designation	Water Level Field Date	Top of Casing Elevation ft-MSL	Depth to Water feet	Groundwater Elevation ft-MSL	Floating Product Thickness feet	Groundwater Flow Direction MWN	Hydraulic Gradient ft/ft	Water Sample Field Date	TPHG LUFT Method µg/L	Benzene EPA 8020 µg/L	Toluene EPA 8020 µg/L	Ethylbenzene EPA 8020 µg/L	Total Xylenes EPA 8020 µg/L	MTBE EPA 8020 µg/L	MTBE EPA 8240/8260 µg/L

ft-MSL: elevation in feet, relative to mean sea level
MWN: ground-water flow direction and gradient apply to the entire monitoring well network
ft/ft: foot per foot
TPHG: total petroleum hydrocarbons as gasoline, California DHS LUFT Method
µg/L: micrograms per liter
EPA: United States Environmental Protection Agency
MTBE: Methyl tert-butyl ether
ND: none detected
NR: not reported; data not available or not measurable
W: west
- -: not analyzed or not applicable
[1]: confirmed by EPA method 8240
[2]: confirmed by EPA method 8260
*: For previous historical groundwater elevation and analytical data please refer to *Fourth Quarter 1995 Groundwater Monitoring Program Results, ARCO Service Station 2185, Oakland, California*. (EMCON, February 27, 1996).
**: chromatogram does not match the typical gasoline fingerprint

Pinnacle

TABLE 6

Table 1. Summary of Depth-Discrete Soil Sampling Data
Atlantic Richfield Company Service Station No. 2185
9800 International Boulevard, Oakland, California (ACEH Case No. RO0000392)

Boring I.D.	Date	Laboratory Analytical Results (mg/kg)												
		GRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	DIPE	ETBE	TBA	TAME	Ethanol	EDB	1,2 DCA
B-1 6'	7/18/2008	<0.50	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0020	<0.0020	<0.010	<0.0020	<0.10	<0.0010	<0.0010
B-1 7.5'	7/18/2008	<0.50	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0020	<0.0020	<0.010	<0.0020	<0.10	<0.0010	<0.0010
B-1 9.5'	7/18/2008	<0.50	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0020	<0.0020	<0.010	<0.0020	<0.10	<0.0010	<0.0010

EDB = 1,2-Dibromoethane
1,2 DCA = 1,2 Dichloroethane
TAME = Tertiary amyl methyl ether
TBA = Tertiary butyl alcohol

GRO = Gasoline Range Organics, C4-C12
DIPE = Di-isopropyl ether
ETBE = Ethyl tert-butyl ether
MTBE = Methyl tert-butyl ether

ROUX

Project: ARCO 2185 9800 East 14th Street, Oakland	Log of Well No. VW-1
Date Started: 5/14/91	Total Depth: 10.0-ft; Casing Elev: 25 feet; GW ATD: ft/ft
Date Completed: 5/14/91	Perforation: 0.020 Slot PVC — from 10 feet To 4.8 feet
Logged By: Jonathan Florez Checked By: T. R.	Pack: # 3 Sand Pack — from 10 feet To 4 feet
Drilling Co: Gregg Drilling Driller:	Seal: Bentonite — from 4 feet To 3 feet
Drilling Method: HSA	Cement/Bentonite Grout — from 3 feet To 0 feet
Drilling Equipment: Mobile B-61	Casing: 2-inch diameter PVC Drill Bit Diameter: 6.5
	Sampler: N/A

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Monitoring Well Construction	Sample	Blow Counts	OVM (ppm)	REMARKS
	Mottled olive-black silty CLAY and gravel fill.						
		CL					
5	Black silty CLAY, trace coarse sand.						
		ML					
	Medium brown clayey SILT, trace fine sand, no odor.						
10							
15							

ROUX

Project: ARCO 2185 9800 East 14th Street, Oakland	Log of Well No. VW-2
Date Started: 5/14/91	Total Depth: 10.0-ft; Casing Elev: 25 feet; GW ATD: ft/ft
Date Completed: 5/14/91	Perforation: 0.020 Slot PVC — from 10 feet To 4.2 feet
Logged By: Jonathan Florez; Checked By: T. R.	Pack: #3 Sand Pack — from 10 feet To 4 feet
Drilling Co: Gregg Drilling; Driller:	Seal: Bentonite — from 4 feet To 3 feet
Drilling Method: HSA	Cement/Bentonite Grout — from 3 feet To 0 feet
Drilling Equipment: Mobile B-61	Casing: 2-inch diameter PVC; Drill Bit Diameter: 6.5
	Sampler: N/A

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Monitoring Well Construction	Sample	Blow Counts	OVM (ppm)	REMARKS
	Coarse sand, little gravel fill.						
	Black silty CLAY, trace fine sand.	CL					
5	Light brown to black silty CLAY, trace fine sand, no odor.	CL					
10							
15							

ROUX

Project: ARCO 2185 9800 East 14th Street, Oakland		Log of Soil Boring No. B5	
Logged By: J. Florez	Checked By: P. Supple	Date Started: 9/10/91	Date Completed: 9/10/91
Drilling Co: Gregg Drilling Company		Drill Bit Diameter: 6.5	Total Depth: 18.0 ft
Driller: Mike Braman		Backfill Material: Bentonite Chips	from 2.0 ft to 18.0 ft
Drilling Method: Hollow Stem Auger		Sampler: Modified California	
Drilling Equipment: Mobile B-53		Depth to Water at Time of Drilling: Not Apparent	

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sample	Blow Counts	OVM (ppm)	Recovery (%)	REMARKS
	Asphalt and baserock.						
	SILT, dark brown with brown mottling; dump.	ML					
5	SILT, dark brown; medium stiff; damp; some brown flecks of soft silt; trace fine gravel.			6 9 22	69.9	78	
	SILT, brown with orange-brown mottling; soft; damp; trace coarse gravel.			6 10 16	9.9	100	
10	SAND, fine to medium, brown with iron oxide staining; and fine gravel; well graded.	SW		10 11 12	--	39	Insufficient recovery from sampler for OVM
	Clayey SILT, light brown with orange mottling; soft; damp; rootlets and rootlet voids present.	MH					
	SILT, brown with orange mottling; very stiff; damp.	ML		6 10 20	9.9	67	
15	Clayey SILT, brown with dark brown mottling; medium stiff; damp to moist; trace fine sand.	MH		6 15 15	9.9	56	
	Clayey SILT, brown with orange mottling; stiff; damp to moist.			10 15 20	29.9	56	
	Depth of Borehole = 18 feet.						
20							

Depth of boring: 24 feet Diameter of boring: 10.25 inches Date drilled: 07/08/92

Well depth: 24 feet Material type: Sch 40 PVC Casing diameter: 4 inches

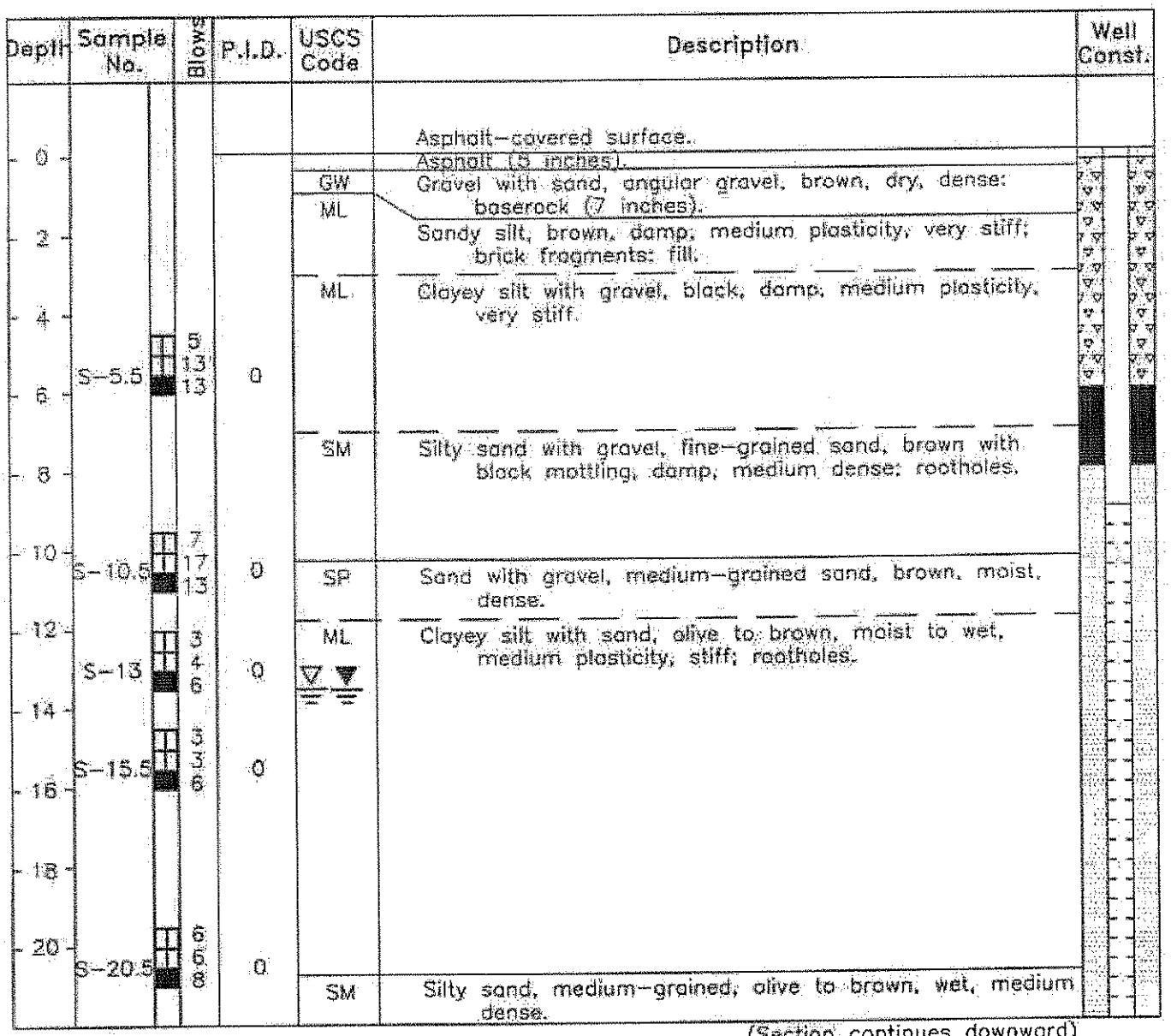
Screen interval: 9 to 24 feet Slot size: 0.020-inch

Drilling Company: Exploration Geoservices Driller: John and Dennis

Method Used: Hollow-Stem Auger Field Geologist: Erin McLucas

Signature of Registered Professional:

Registration No.: CEG 1463 State: CA



(Section continues downward)

RESNA
Working to Restore Nature

PROJECT: 62026.01

LOG OF BORING B-9/MW-1

ARCO Station 2185
9800 East 14th Street
Oakland, California

PLATE 4

Depth	Sample No.	BLOWS	P.I.D.	USCS Code	Description	Well Const.
22				ML	Clayey silt with sand, olive to brown, moist to wet, medium plasticity, stiff; rootholes.	
				SM	Silty sand, medium-grained sand, olive to brown, wet, medium dense.	
24				ML	Clayey silt with sand, olive to brown, damp, medium plasticity, stiff.	
					Total depth = 24 feet.	
26						
28						
30						
32						
34						
36						
38						
40						
42						
44						
46						
48						
50						

RESNA
Working to Restore Nature

PROJECT 62026.01

LOG OF BORING B-9/MW-1
ARCO Station 2185
9800 East 14th Street
Oakland, California

PLATE
5

Depth of boring: 24 feet Diameter of boring: 10.25 inches Date drilled: 07/07/92

Well depth: 24 feet Material type: Sch 40 PVC Casing diameter: 4 inches

Screen interval: 8 to 24 feet Slot size: 0.020-inch

Drilling Company: Exploration Geoservices Driller: John and Dennis

Method Used: Hollow-Stem Auger Field Geologist: Erin McLucas and Rob Campbell

Signature of Registered Professional:

Registration No.: CEG 1463 State: CA

Depth	Sample No.	Blows	P.I.D.	USCS Code	Description	Well Const.
					Asphalt-covered surface.	
0				[illegible]	Asphalt (2 inches).	
				MH	Sandy gravel, angular gravel, brown, damp, medium dense: baserock (4 inches).	
2					Sandy silt, damp, black, high plasticity, stiff; fragments of bark and porcelain: probable fill.	
4				CH	Silty clay with gravel, black, damp, high plasticity, very stiff.	
	S-5	7 15 16	0			
6				SP	Sand with silt, fine-grained, brown, damp, medium dense; root fibers and rootholes.	
8					Color change to olive with brown mottling at 8-1/2 feet; noticeable hydrocarbon odor.	
	S-9.5	3	18.5			
10	S-10	7 6			Becoming moist at 11 feet.	
	S-11.5	4 7	344			
12	S-12	8				
		3		MH	Clayey silt with sand, olive with brown mottling, very moist, high plasticity, stiff; encountered apparent free product at 14 feet.	
	S-13.5	7 9	148.8			
14						
	S-15	5 5	92			
	S-15.5	7				
16				SM	Silty sand, medium-grained, olive with brown mottling, wet, medium dense; rootholes.	
18		4				
	S-18.5	7	8			
	S-19	10				
20	S-20	4	9.7	ML	Clayey silt with coarse-grained sand lenses, brown, damp to moist, medium plasticity, stiff to very stiff.	
	S-20.5	7 9				

(Section continues downward)

RESNA Working to Restore Nature

PROJECT: 62026.01

LOG OF BORING B-10/MW-2

ARCO Station 2185
9800 East 14th Street
Oakland, California

PLATE 6

Depth	Sample No.	BLOWS	P.I.D.	USCS Code	Description	Well Const.
22	S-22 S-22.5 S-23	4 7 10 4 5 8	0 0	ML	Clayey silt with coarse-grained sand lenses, brown, damp to moist, medium plasticity, stiff to very stiff.	
24					Total depth = 24 feet.	
26						
28						
30						
32						
34						
36						
38						
40						
42						
44						
46						
48						
50						

RESNA
Working to Restore Nature

PROJECT 62026.01

LOG OF BORING B-10/MW-2
ARCO Station 2185
9800 East 14th Street
Oakland, California

PLATE
7

Depth of boring: 29 feet Diameter of boring: 10.25 inches Date drilled: 07/07/92

Well depth: 24 feet Material type: Sch 40 PVC Casing diameter: 4 inches

Screen interval: 9 to 24 feet Slot size: 0.020-inch

Drilling Company: Exploration Geoservices Driller: John and Dennis

Method Used: Hollow-Stem Auger Field Geologist: Erin McLucas and Rob Campbell

Signature of Registered Professional:

Registration No.: CEG 1463 State: CA

Depth	Sample No.	Blows	P.I.D.	USCS Code	Description	Well Const.
					Asphalt-covered surface.	
0					Asphalt (5 inches).	
				CL	Silty clay, black, damp, medium plasticity, very stiff; brick fragments: fill.	
2						
4		4			Increasing gravel.	
	S-5.5	7 12	0			
6						
8				SC	Clayey sand, fine-grained, light green, damp, medium dense; rootholes, slight hydrocarbon odor.	
10		6				
	S-10.5	7 9	0.2			
12						
			288		▽	
14						
	S-15	6 8	40			
	S-15.5	10		CH	Silty clay, gray with brown mottling, moist to wet, high plasticity, very stiff.	
16				SP		
	S-16.5	6 7	49		Sand, medium-grained, brown, wet, medium dense; no-ticeable hydrocarbon odor.	
		10		CH		
18					Silty clay, gray with brown mottling, moist, high plasticity, very stiff.	
20	S-20	20/12"	0	MH	Silt with clay and coarse-grained sand, brown, wet, high plasticity, stiff.	
	S-21	4				
	S-21.5	6 7	0			

(Section continues downward)

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PROJECT: 62026.01

LOG OF BORING B-11/MW-3

ARCO Station 2185
9800 East 14th Street
Oakland, California

PLATE 8

Depth	Sample No.	BLOWS	P.I.D.	USCS Code	Description	Well Const.
22	S-21	4 6 7	0	MH	Silt with clay and coarse-grained sand, brown, wet, high plasticity, stiff.	
	S-21.5					
	S-22.5	4 7 8	0	SM	Silty sand, fine-grained, brown, wet, medium dense.	
24	S-23					
	S-24.5	11	10			
	S-25	12	13			
	S-25.5	15				
26	S-26.5	7 11 14	0			
	S-27					
28	S-28.5	8 13 16	0	SP	Sand, medium-grained, gray, wet, medium dense.	
30					Total depth = 29 feet.	
32						
34						
36						
38						
40						
42						
44						
46						
48						
50						

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Working to Restore Nature

PROJECT 62026.01

LOG OF BORING B-11/MW-3

ARCO Station 2185
9800 East 14th Street
Oakland, California

PLATE 9

Depth of boring: 24 feet Diameter of boring: 10.25 inches Date drilled: 07/08/92

Well depth: 24 feet Material type: Sch 40 PVC Casing diameter: 4 inches

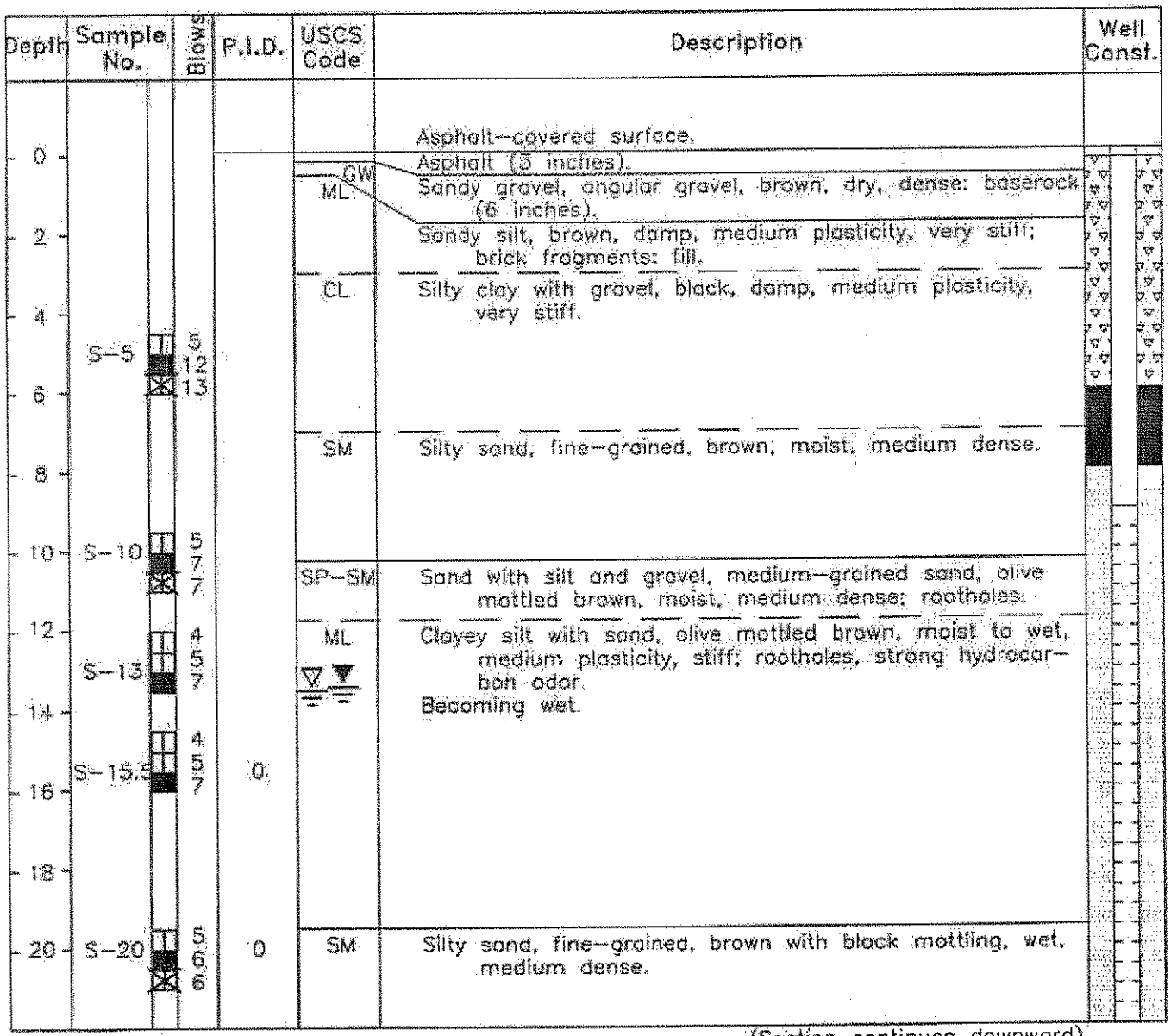
Screen interval: 9 to 24 feet Slot size: 0.020-inch

Drilling Company: Exploration Geoservices Driller: John and Dennis

Method Used: Hollow-Stem Auger Field Geologist: Erin McLucas

Signature of Registered Professional:

Registration No.: CEG 1463 State: CA



(Section continues downward)

RESNA
Working to Restore Nature

PROJECT: 62026.01

LOG OF BORING B-12/MW-4

ARCO Station 2185
9800 East 14th Street
Oakland, California

PLATE 10

Depth	Sample No.	BLOWS	P.I.D.	USCS Code	Description	Well Const.
22				SM	Silty sand, fine-grained, brown with black mottling, wet, medium dense.	
	S-23.5	4 4 5	0	CL	Silty clay with sand, brown, damp to moist, medium plasticity, stiff.	
24					Total depth = 24 feet.	
26						
28						
30						
32						
34						
36						
38						
40						
42						
44						
46						
48						
50						

RESNA
Working to Restore Nature

PROJECT 62026.01

LOG OF BORING B-12/MW-4
ARCO Station 2185
9800 East 14th Street
Oakland, California

PLATE
11

ROUX

Project: **ARCO 2185** **9800 East 14th Street, Oakland**		Log of Soil Boring No. **B6**	
Logged By: **J. Florez**	Checked By: **P. Supple**	Date Started: **9/10/91**	Date Completed: **9/10/91**
Drilling Co: **Gregg Drilling Company**		Drill Bit Diameter: **6.5**	Total Depth: **16.5 ft**
Driller: **Mike Braman**		Backfill Material: **Bentonite Chips**	from **2.0 ft** to **16.5 ft**
Drilling Method: Hollow Stem Auger		Sampler: Modified California	
Drilling Equipment: Mobile B-53		Depth to Water at Time of Drilling: 14.0 ft	

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sample	Blow Counts	OVM (ppm)	Recovery (%)	REMARKS
	Asphalt and basecrock.						
	SILT, black; soft; damp.	ML					
5	**SILT**, brown with red-brown mottling; soft; dry; some fine white gravel.			6 16 20	9.9	67	
10	**SILT**, brown with red-brown mottling; soft; moist. Shoe of sampler contained poorly graded fine sand.			5 8 10	9.9	67	
15	**SILT**, brown with red-brown mottling; soft; moist to damp; little fine sand.			6 8 15	29.9	67	Outside of sampler saturated with water
	Depth of Borehole = 16.5 feet.						
20							

ROUX

Project: ARCO 2185 9800 East 14th Street, Oakland		Log of Soil Boring No. B7	
Logged By: J. Florez	Checked By: P. Supple	Date Started: 9/10/91	Date Completed: 9/10/91
Drilling Co: Gregg Drilling Company		Drill Bit Diameter: 6.5	Total Depth: 16.5 ft
Driller: Mike Braman		Backfill Material: Bentonite Chips	from 2.0 ft to 14.0 ft
Drilling Method: Hollow Stem Auger		Sampler: Modified California	
Drilling Equipment: Mobile B-53		Depth to Water at Time of Drilling: 14.0 ft	

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sample	Blow Counts	OVM (ppm)	Recovery (%)	REMARKS
	Asphalt and baserock.						
	SILT, black; damp.	ML					
5	SILT, dark brown; soft; dry; little fine sand; little fine gravel.			5 12 17	29.9	56	
	SILT, grey-green; soft; moist to damp.			10 12 15	—	33	Insufficient recovery from sampler for OVM
10		SW					
	SAND, fine to medium, grey-green; very loose; damp; and fine gravel.			10 10 10	—	33	Insufficient recovery from sampler for OVM
	SILT, brown with red-orange mottling; stiff; damp; trace fine gravel.	ML		6 8 14	189.9	67	
15	SAND, fine poorly graded, brown with orange-brown mottling; very loose; wet to moist; some silt.	SP		4 8 12	9.9	67	
	Depth of Borehole = 16.5 feet.						
20							

ROUX

Project: **ARCO 2185** **9800 East 14th Street, Oakland**		**Log of Soil Boring No. B8**	
Logged By: **J. Florez**	Checked By: **P. Supple**	Date Started: **9/10/91**	Date Completed: **9/10/91**
Drilling Co: **Gregg Drilling Company**		Drill Bit Diameter: **6.5**	Total Depth: **19.5 ft**
Driller: **Mike Braman**		Backfill Material: **Bentonite Chips**	from **2.0 ft** to **19.5 ft**
Drilling Method: **Hollow Stem Auger**		Sampler: **Modified California**	
Drilling Equipment: **Mobile B-53**		Depth to Water at Time of Drilling: **Not Apparent**	

Depth (feet)	LITHOLOGIC DESCRIPTION	Lithology	Sample	Blow Counts	OVM (ppm)	Recovery (%)	REMARKS
	Asphalt and baserock.						
	SILT, black; soft; damp.	ML					
5	SILT, brown with orange mottling; very stiff; damp; some fine white gravel.			7 12 25	29.9	83	
	SILT, grey-green with orange mottling; medium stiff; damp.			10 15 25	29.9	56	
10	SILT, grey-green with orange mottling; medium stiff; damp to moist; slight hydrocarbon odor .			10 12 16	69.9	72	
	SILT, brown with orange and dark brown mottling; soft; moist.			7 9 9	9.9	50	
15	SILT, brown with orange-brown mottling; stiff; moist; trace fine gravel.			8 10 14	9.9	50	
	SILT, grey-brown with orange mottling; stiff; moist; trace fine gravel-sized charcoal present.			10 10 13	9.9	100	1.5 ft. of ground water in bottom of borehole prior to backfilling
20	Depth of Borehole = 19.5 feet.						

Depth of boring: 31 1/2 feet Diameter of boring: 10 inches Date drilled: 1-20-93

Well Depth: 29 feet Material type: Sch 40 PVC Casing diameter: 4 inches

Screen interval: 9 to 29 feet Slot size: 0.010-inch

Drilling Company: Bayland Drilling Driller: John and Dwayne

Method Used: Hollow-Stem Auger Field Geologist: Erin McLucas

Signature of Registered Professional:

Registration No.: CEG 1463 State: CA

Depth	Sample No.	Blows	P.I.D.	USCS Code	Description	Well Const.
0					Asphalt (4 inches).	
				GP	Sandy gravel, brown, damp, dense; baserock.	
2				CL	Silty clay, black, damp, medium plasticity, stiff;	
4						
6	S-6	3 5 7			trace sand.	
				ML	Clayey silt, olive, damp, medium plasticity, stiff;	
8						
	S-9.5	3 5 7		SC	Clayey sand, fine-grained, brown, very moist to wet, medium dense;	
10	S-11	1 2 2 3 3 4			▽	
12				ML	Clayey silt, olive with brown mottling, wet, medium plasticity, firm;	
14				SC	Clayey sand, fine-grained, brown, wet, medium dense;	
				ML	Clayey silt, olive with brown mottling, very moist, medium plasticity, firm;	
16	S-16	3 4 5 3 5 7		SC	Clayey sand, fine-grained, olive, wet, medium dense;	
				CL	Silty clay, brown with reddish mottling, very moist to wet, medium plasticity, stiff;	
18				SC	Clayey sand, medium-grained, brown, very moist to wet, medium dense;	
20				CL	Silty clay, olive, very moist, medium plasticity, stiff;	

(Section continues downward)

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PROJECT 62026.02

LOG OF BORING B-13/MW-5
ARCO Station 2185
9800 East 14TH Street
Oakland, California

PLATE 5

Depth	Sample No.	BLOWS	P.I.D.	USCS Code	Description	Well Const.
22				CL	Silty clay, olive, very moist, medium plasticity, stiff;	
24						
26	S-26	7 10 12		SC	Clayey sand, fine-grained, brown, moist to wet, medium dense;	
28						
30	S-31	12 17 29				
32					Total depth = 31 1/2 feet.	
34						
36						
38						
40						
42						
44						
46						
48						
50						

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Working to Restore Nature

PROJECT 62026.02

LOG OF BORING B-13/MW-5

ARCO Station 2185
9800 East 14TH Street
Oakland, California

PLATE 6

Depth of boring: 30 1/2 feet Diameter of boring: 10 inches Date drilled: 1-21-93

Well Depth: 28 1/2 feet Material type: Sch 40 PVC Casing diameter: 4 inches

Screen interval: 8 1/2 to 28 1/2 feet Slot size: 0.010-inch

Drilling Company: Bayland Drilling Driller: John and Dwayne

Method Used: Hollow-Stem Auger Field Geologist: Erin McLucas

Signature of Registered Professional:

Registration No.: CEG 1463 State: CA

Depth	Sample No.	Blows	P.I.D.	USCS Code	Description	Well Const.
0					Asphalt (4 inches).	
				GP	Sandy gravel, brown, damp, dense; baserock.	
2				CL	Silty clay, black, damp, medium plasticity, very stiff;	
4					increasing gravel.	
6	S-6	7 10 15				
				ML	Clayey silt, damp, brown, medium plasticity, stiff;	
8						
10	S-10	5 5 8		SP	Sand, fine-grained, very moist, olive, medium dense; hydrocarbon odor.	
	S-11.5	4 6 6		▽CL	Silty clay, very moist, olive with brown mottling, medium plasticity, stiff; odor.	
12				SP	Sand, fine-grained with gravel, wet, olive, loose; odor	
	S-13	3 3 3		SC	Clayey sand, very moist, olive with brown mottling; medium dense;	
14						
16	S-16	1 3 5		CL	Silty clay, moist to very moist, olive with brown mottling, medium plasticity, stiff; wet root holes	
18						
20				SC	Clayey sand, brown with reddish mottling, very moist to wet, loose; root holes.	
	S-21	3 4 5				

(Section continues downward)

RESNA
Working to Restore Nature

PROJECT 62026.02

LOG OF BORING B-14/MW-6

ARCO Station 2185
9800 East 14TH Street
Oakland, California

PLATE 7

Depth	Sample No.	BLOWS	P.I.D.	USCS Code	Description	Well Const.
22	S-24	3 4 5		SC	Clayey sand, brown with reddish mottling, very moist to wet, loose; root holes	
24						
26	S-26	3 4 5				
28					olive	
30	S-30	0 2 3				
					Total depth = 30 1/2 feet.	
32						
34						
36						
38						
40						
42						
44						
46						
48						
50						

RESNA
Working to Restore Nature

PROJECT 62026.02

LOG OF BORING B-14/MW-6
ARCO Station 2185
9800 East 14TH Street
Oakland, California

PLATE 8

Depth of boring: 30-1/4 feet. Diameter of boring: 8 inches Date drilled: 05/04/93

Well depth: 26 feet Material type: Sch 40 PVC Casing diameter: 2 inches

Screen interval: 11 to 26 feet Slot size: 0.010-inch

Drilling Company: Exploration Geoservices Driller: John and Danny

Method Used: Hollow-Stem Auger Field Geologist: Eric McLucas

Signature of Registered Professional:

Registration No.: CEG 1463 State: CA

Depth	Sample No.	Blows	P.I.D.	USCS Code	Description	Well Const.
0						
					Concrete sidewalk (4 inches).	
				ML	Clayey silt, dark brown, damp, medium plasticity, stiff; fill.	
2				ML	Clayey silt with coarse sand and fine gravel, black, damp, medium plasticity, stiff; roots.	
4		8				
	S-5	11				
6		26		SC	Clayey sand, fine grained, trace gravel, brown, damp, dense.	
8				SM	Silty sand, tan, moist to very moist, dense.	
10		14				
		9		▽ CL	Silty clay, grayish-tan with orange mottling, damp, medium plasticity, very stiff; rootholes, blocky structure.	
	S-10.5	22		SP		
		13				
12		14		CL	Sand, medium grained, tan, moist to wet, medium dense.	
	S-12	22				
		11			Silty clay, grayish-tan with orange mottling, damp to moist with wet rootholes, medium plasticity, very stiff; rootholes, blocky structure.	
14		13				
		21				
		10				
		21				
		22			Trace sand.	
16		10				
		22				
		25				
		8		CL	Sandy clay, grayish-tan with orange mottling, damp with wet rootholes, hard; rootholes and blocky structure.	
		15				
18		22				
20				CL	Silty clay, grayish-tan with orange mottling, moist with wet rootholes, medium plasticity, very stiff; rootholes, blocky structure.	

RESNA
Working to Restore Nature

PROJECT: 62026.02

LOG OF BORING B-15/MW-7
ARCO Station 2185
9800 East 14th Street
Oakland, California

PLATE 9

Depth	Sample No.	BLOWS	P.I.D.	USCS Code	Description	Well Const.
22		9 15 15		CL	Silty clay, grayish-tan with orange mottling, moist with wet rootholes, medium plasticity, very stiff; rootholes, blocky structure.	
24				SM	Silty sand, gray with orange mottling, very moist with wet rootholes, dense; rootholes and roots.	
26		12 25 21				
28				GP	Sandy gravel, fine with coarse sand, gray, wet, very dense.	
30		23 50/ 3"			Total Depth = 30-1/4 feet.	
32						
34						
36						
38						
40						
42						
44						
46						
48						
50						

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Working to Restore Nature

PROJECT 62026.02

LOG OF BORING B-15/MW-7
ARCO Station 2185
9800 East 14th Street
Oakland, California

PLATE
10

Total depth of boring: 25-1/2 feet
Diameter of boring: 12 inches
Date drilled: 4-6-94
Drilling Company: Exploration Geoservices
Driller: Dave
Drilling method: Hollow-Stem Auger

Casing diameter: 4 inches
Casing material: Sch 40 PVC
Slot size: 0.020-inch
Sand size: No. 3 Sand
Screen Interval: 8 feet to 23 feet
Field Geologist: Erin Krueger

Signature of Registered Professional:
Registration No.: RG 4313 State: CA

P.I.D.	Sample No.	Blows	Depth	USCS Code	Description	Well Const.
					Asphalt (4-6 inches).	
			2	GP	Sandy gravel, brown, damp, dense; baserock.	
				CL	Silty clay, black, damp, medium plasticity, stiff.	
			4			
		6 8		ML	Clayey silt, trace sand and fine gravel, black, damp, medium plasticity, very stiff; rootholes.	
0	S-5.5	10 15	6		With fine gravel, brown, rootholes with orange oxidation.	
0	S-7	21 29				
		8 10	8	ML	Clayey silt with sand, gray to olive, damp, medium plasticity, very stiff; rootholes.	
0	S-8.5	11 5		SM	Fine-grained silty sand, gray to olive, damp, medium dense.	
0	S-10	8 11	10			
0	S-11	4 5		ML	Clayey silt, trace sand, gray, damp to moist, medium plasticity, stiff; abundant rootholes with orange oxidation, water in rootholes and along blocky fractures.	
		9 3	12			
		5 3				
		4 4	14			
		6 10				
0	S-14.5	7 7				
0	S-16	11 3	16			
		7 8				
0	S-17.5	4 6	18	SM	Fine-grained silty sand, brown with black and orange mottling, wet, medium dense.	
		8 5				
		7 8	20	ML	Clayey silt, brown and gray with black mottling, damp to wet along blocky fractures, medium plasticity, stiff.	
		6 5				
0	S-22	8 9	22		Brown with orange and black mottling, damp to moist; fewer rootholes.	
0	S-23.5	10 12	24	SP	Fine-grained sand, tan with orange mottling, wet, dense.	
		14				
			26		Total Depth = 25-1/2 feet.	
			28			
			30			
			32			
			34			
			36			
			38			
			40			

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Working to Restore Nature

PROJECT: 62026.05

LOG OF BORING B-17/MW-10

ARCO Station 2185
9800 East 14th Street
Oakland, California

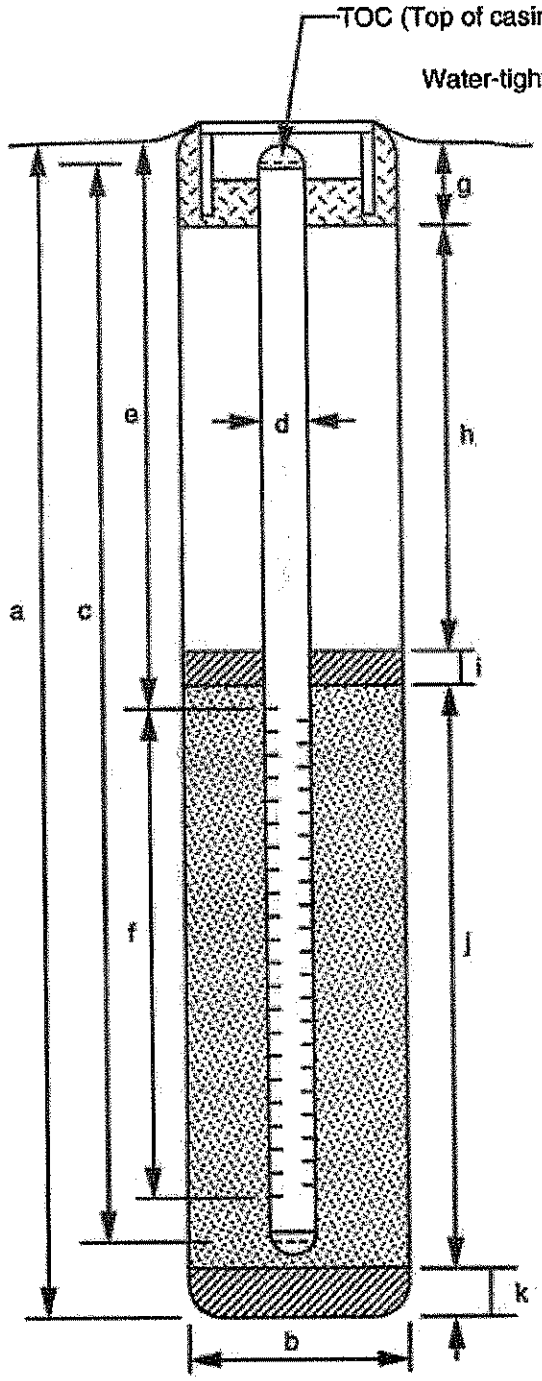
PLATE 4

WELL DETAILS

EMCON ASSOCIATES

PROJECT NUMBER 0805-130.02
PROJECT NAME ARCO 2185
LOCATION 9800 E. 14th Street, Oakland
WELL PERMIT NO. 95308

BORING / WELL NO. MW-9
TOP OF CASING ELEV. 27.73
GROUND SURFACE ELEV. 27.9
DATUM M.S.L.
INSTALLATION DATE 8/17/95



EXPLORATORY BORING

a. Total depth 23.5 ft.
b. Diameter 8.0 in.
Drilling method Hollow Stem Auger

WELL CONSTRUCTION

c. Total casing length 22.75 ft.
Material Schedule 40 PVC
d. Diameter 2.0 in.
e. Depth to top perforations 7.5 ft.
f. Perforated length 14.0 ft.
Perforated interval from 7.5 to 21.5 ft.
Perforation type Machine Slotted
Perforation size 0.020 inch
g. Surface seal 1.0 ft.
Material Concrete
h. Backfill 4.0 ft.
Material Cement
i. Seal 1.5 ft.
Material Bentonite
j. Gravel pack 17.0 ft.
Gravel pack interval from 6.5 to 23.5 ft.
Material 2/12 Sand
k. Bottom seal/fill na ft.
Material

Form prepared by R. Davis

LOG OF EXPLORATORY BORING

PROJECT NUMBER: **0805-130.02**

BORING NO.: **MW-9**

PROJECT NAME: **ARCO 2185**

PAGE: **1 of 2**

BY: R. Davis

DATE: 8/17/95

SURFACE ELEVATION: **27.93 ft.**

RECOVERY (ft/ft)	PID (ppm)	PENETRATION (blws/ft)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
							CONCRETE, sidewalk.	
85%	0			5			SANDY CLAY (CL), very dark grayish brown (2.5Y, 3/2); 65-70% medium-plasticity fines; 30-35% fine to coarse sand; trace organic fragments; very stiff; damp; no odor.	
	0	28						
60%	0			10			SILTY CLAY (CL), mottled olive brown and light yellowish brown (2.5Y, 5/4 and 10YR, 6/4); 90-95% low- to medium-plasticity fines; 5-10% fine to coarse sand; very stiff; moist; no odor.	
	0	38	8/17/95				CLAYEY SAND (SC), yellowish brown (10YR, 5/4); 15-30% medium- plasticity fines; 70-85% fine to medium sand; % fines increasing with depth; dense; wet; no odor.	
75%	0			15			CLAY (CL), light olive brown (2.5Y, 5/4); with yellowish brown (10YR, 5/4) mottling; 95% medium-plasticity fines trace to 5% fine sand; blocky structure; very stiff; moist, wet in rootholes and fractures; no product odor.	
	0	36						
				20				

EMCON ASSOCIATES

REMARKS

Boring drilled with 8-inch-diameter hollow-stem auger equipment. Boring sampled every 5 feet using a 2-inch-diameter modified California split-spoon sampler. Boring completed as a 2-inch-diameter PVC monitoring well. Well construction information is presented in Well Details and shown graphically on this log. See explanation sheet for definition of symbols in Well Detail and Samples columns on this log.

LOG OF EXPLORATORY BORING

PROJECT NUMBER: 0805-130.02 | BORING NO.: MW-9

PROJECT NAME: ARCO 2165 | PAGE: 2 of 2

BY: R. Davis | DATE: 8/17/95 | SURFACE ELEVATION: 27.93 ft.

RECOVERY (ft/ft)	PID (ppm)	PENETRATION (blws/ft)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
95%	0	45					CLAY (CL), continued. @20.0-21.5': as above.	
95%		47		25			BORING SAMPLED TO 25.0 FEET, REAMED TO 23.5 FEET.	
				30				
				35				
				40				

EMCON ASSOCIATES

REMARKS

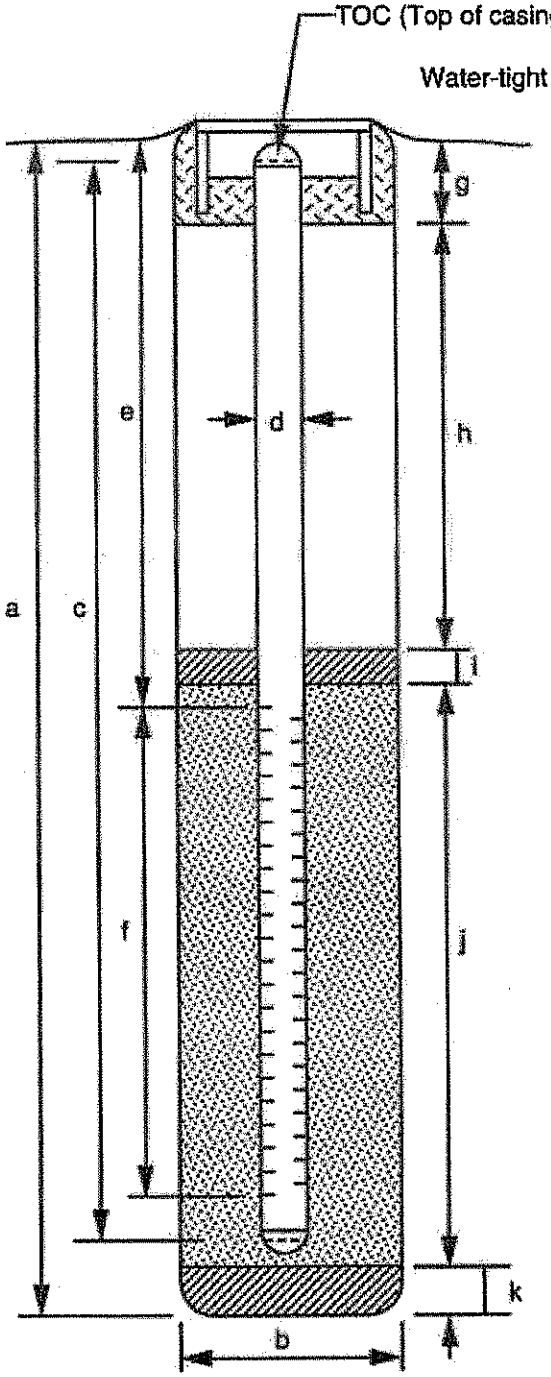
Boring drilled with 8-inch-diameter hollow-stem auger equipment. Boring sampled every 5 feet using a 2-inch-diameter modified California split-spoon sampler. Boring completed as a 2-inch-diameter PVC monitoring well. Well construction information is presented in Well Details and shown graphically on this log. See explanation sheet for definition of symbols in Well Detail and Samples columns on this log.

WELL DETAILS

EMCON ASSOCIATES

PROJECT NUMBER 0805-130.02
PROJECT NAME ARCO 2185
LOCATION 9800 E. 14th Street, Oakland
WELL PERMIT NO. 95308

BORING / WELL NO. MW-10
TOP OF CASING ELEV. 27.55
GROUND SURFACE ELEV. 27.9
DATUM M.S.L.
INSTALLATION DATE 8/16/95



EXPLORATORY BORING

a. Total depth 25.0 ft.
b. Diameter 8.0 in.
Drilling method Hollow Stem Auger

WELL CONSTRUCTION

c. Total casing length 23.1 ft.
Material Schedule 40 PVC
d. Diameter 2.0 in.
e. Depth to top perforations 8.5 ft.
f. Perforated length 14.0 ft.
Perforated interval from 8.5 to 22.5 ft.
Perforation type Machine Slotted
Perforation size 0.020 inch
g. Surface seal 1.0 ft.
Material Concrete
h. Backfill 4.0 ft.
Material Cement
i. Seal 1.5 ft.
Material Bentonite
j. Gravel pack 18.5 ft.
Gravel pack interval from 6.5 to 25.0 ft.
Material 2/12 Sand
k. Bottom seal/fill na ft.
Material

Form prepared by R. Davis

LOG OF EXPLORATORY BORING

PROJECT NUMBER: 0805-130.02 | BORING NO.: MW-10

PROJECT NAME: ARCO 2185 | PAGE: 1 of 2

BY: R. Davis | DATE: 8/18/85 | SURFACE ELEVATION: 27.93 ft.

RECOVERY (ft/ft)	PID (ppm)	PENETRATION (blws/ft)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
				0			CONCRETE, sidewalk.	
							SILTY GRAVEL, baserock.	
90%	0	26		5			CLAY TO SANDY CLAY (CL), black (10YR, 2/1); 75-90% medium- plasticity fines; 10-25% fine to coarse sand; hard; damp; no product odor. @5.5-6.5': 10% fine gravel.	
80%	0	48	▽ 8/18/85	10			@8.5': driller noted tougher drilling conditions. @10.0-10.2': light olive brown (2.5Y, 5/4); 90% medium-plasticity fines; 10% fine sand; moist. CLAYEY SAND (SC), light olive brown (2.5Y, 5/4); 15-25% medium- plasticity fines; 75-85% fine to coarse sand, f:m:c=4:2:1; trace fine gravel; unit coarsens with depth; dense; moist to wet; no odor. CLAY (CL), light olive brown (2.5Y, 5/4); medium-plasticity fines ; trace fine sand; very stiff; moist; no product odor. fines; 10% fine sand; moist.	
80%	0	41		15			CLAYEY SAND (SC), light olive brown (2.5Y, 5/4); 35-45% medium- plasticity fines; 55-65% fine to medium sand; medium dense; wet; no odor. CLAY (CL), mottled olive brown and yellowish brown (2.5Y, 5/4 and 10YR, 5/3); 95-100% medium-plasticity fines; very stiff; moist, wet in voids; no product odor.]	
				20				

EMCON ASSOCIATES

REMARKS

Boring drilled with 8-inch-diameter hollow-stem auger equipment through the existing sidewalk. Boring sampled every 5 feet using a 2-inch-diameter modified California split-spoon sampler. Boring completed as a 2-inch-diameter PVC monitoring well. Well construction information is presented in Well Details and shown graphically on this log. See explanation sheet for definition of symbols in Well Detail and Sample columns on this log.

LOG OF EXPLORATORY BORING

PROJECT NUMBER: 0805-130.02 | BORING NO.: MW-10

PROJECT NAME: ARCO 2165 | PAGE: 2 of 2

BY: R. Davis | DATE: 8/18/95 | SURFACE ELEVATION: 27.93 ft.

RECOVERY (ft/ft)	PID (ppm)	PENETRATION (blws/ft)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
65%	0	25					SANDY CLAY (CL), mottled olive brown and yellowish brown (2.5Y, 5/4 and 10YR, 5/3); 85% medium-plasticity fines; 15% fine to medium sand; very stiff; wet; no product odor.	
							@23.5-25.0': as above.	
45%		35		25			BORING TERMINATED AT TO 25.0 FEET.	
				30				
				35				
				40				

EMCON ASSOCIATES

REMARKS

Boring drilled with 8-inch-diameter hollow-stem auger equipment through the existing sidewalk. Boring sampled every 5 feet using a 2-inch-diameter modified California split-spoon sampler. Boring completed as a 2-inch-diameter PVC monitoring well. Well construction information is presented in Well Details and shown graphically on this log. See explanation sheet for definition of symbols in Well Detail and Sample columns on this log.

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

Client	ARCO 2185	Date	July 18, 2008
Address	9800 International Blvd.	Drilling Co.	RSI rig type: Geoprobe 6600
	Oakland, Ca.	Driller	Arturo
Project No.	E2185	Method	Direct Push borehole diameter: 3"
Logged By:	Levi Ford	Sampler:	Acetate Liner
Well Pack	grout: 10 ft. to 0 ft.		

Sample Type	Sample No.	Blow Count	Sample Time	Sample Recov.	Well Details	Depth Scale	Lithologic Column	Descriptions of Materials and Conditions	PID (PPM)
						1			
						2			
						3		Airknife to 5' bgs.	
						4			
						5			
S	B-1 6'		1025			6		Clay, CL, black (5Y 2.5/1), low plasticity, moist, 100% clay (5'-7.5')	N/A
						7			
S	B-1 7.5'		1028			8	CL	Silty Clay, CL, dark olive brown (2.5Y 3/3), low plasticity, moist, 90% clay 10% silt. (7.5'-9')	N/A
						9			
S	B-1 9.5'		1031			10		Sandy Clay with trace silt, CL, light olive brown (2.5Y 5/4), low plasticity, wet, 65% clay, 30% sand, 5% silt. (9'-10')	N/A
						11			
						12			
						13			
						14			
						15			
						16			
						17			
						18			
						19			
						20			

Recovery

Sample

Comments: total depth = 10'
Borehole located 9.25' from center of fuel dispenser.

STRATUS ENVIRONMENTAL, INC.