ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Director

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

August 20, 2014

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

M & S Mini Mart Inc.
c/o Joel Gutierrez
13411 Imperial Highway
Whittier, CA 90605-4236

Subject: Case Closure for Fuel Leak Case No. RO0000044 and GeoTracker Global ID T0600100083, ARCO #2112, 1260 Park Street, Alameda, CA 94501

Dear Mr. Carmel and Mr. Gutierrez:

This letter transmits the enclosed underground storage tank (UST) case closure letter in accordance with Chapter 6.75 (Article 4, Section 25296.10[g]). 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. This case closure letter and the case closure summary can also be viewed on the State Water Resources Control Board's Geotracker website (http://geotracker.swrcb.ca.gov) and the Alameda County Environmental Health website (http://www.acgov.org/aceh/index.htm).

If you have any questions, please call Jerry Wickham at (510) 567-6791. Thank you.

Sincerely,

Jerry Wickham
for Dilan Roe

Dilan Roe, P.E.
LOP and SCP Program Manager

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

Cc w/enc.:

Kristene Tidwell, Broadbent, 875 Cotting Lane, Suite G, Vacaville, CA 95688 (*Sent via E-mail to: ktidwell@broadbentinc.com*)

City of Alameda Community Development, 2263 Santa Clara Avenue, Room 190, Alameda, CA 94501

Jerry Wickham, ACEH (*Sent via E-mail to: jerry.wickham@acgov.org*)

GeoTracker
eFile (w/orig enc)

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Agency Director

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

REMEDIAL ACTION COMPLETION CERTIFICATION

August 20, 2014

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

M & S Mini Mart Inc.
c/o Joel Gutierrez
13411 Imperial Highway
Whittier, CA 90605-4236

Subject: Case Closure for Fuel Leak Case No. RO0000044 and GeoTracker Global ID T0600100083, ARCO #2112, 1260 Park Street, Alameda, CA 94501

Dear Mr. Carmel and Mr. Gutierrez:

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.

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

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

This notice is issued pursuant to subdivision (g) of Section 25296.10 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: January 8, 2014

Agency Name: Alameda County Environmental Health	Address: 1131 Harbor Bay Parkway
City/State/Zip: Alameda, CA 94502-6577	Phone: (510) 567-6791
Responsible Staff Person: Jerry Wickham	Title: Senior Hazardous Materials Specialist

II. CASE INFORMATION

Site Facility Name: ARCO #2112		
Site Facility Address: 1260 Park Street, Alameda, CA 94501		
RB Case No.: 01-0090	STiD No.: 779	LOP Case No.: RO0000044
URF Filing Date: 06/30/1987	Geotracker ID: T0600100083	APN: 70-184-1-3
Current Land Use: Active Fueling Station		

Responsible Parties	Addresses	Phone Numbers
Charles Carmel Atlantic Richfield Company	PO Box 1257 San Ramon, CA 94583	(925) 275-3803
M & S Mini Mart c/o Joel Gutierrez	13411 Imperial Highway Whittier, CA 90605-4236	No Phone Number

Tank I.D. No	Size in Gallons	Contents	Closed In Place/Removed?	Date
----	6,000 gallons	Gasoline	Removed	07/26/1990
----	6,000 gallons	Gasoline	Removed	07/26/1990
----	4,000 gallons	Gasoline	Removed	07/26/1990
----	4,000 gallons	Gasoline	Removed	07/26/1990
----	10,000 gallons	Gasoline	Removed	07/26/1990
Piping			Removed	07/26/1990

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and Type of Release: Release from underground storage tank (UST) system.		
Site characterization complete? Yes		
Monitoring wells installed? Yes	Number: 7	Proper screened interval? Yes
Highest GW Depth Below Ground Surface: 7.66 feet bgs	Lowest Depth: 18.43 feet bgs	Flow Direction: West to Northwest
Most Sensitive Current Groundwater Use: Potential drinking water source		

Summary of Production Wells in Vicinity: No water supply wells have been identified within 1,000 feet of the site.	
Are drinking water wells affected? No	Aquifer Name: East Bay Plain
Is surface water affected? No	Nearest Surface Water Name: An unnamed lagoon is approximately 2,600 feet southwest (crossgradient) from the site
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
Free Product	----	----	----
Soil	340 cubic yards	Transported to Lockern Road Disposal Site in Buttonwillow, CA for disposal	July 1990
	650 cubic yards	Transported to Redwood Landfill in Novato, CA for disposal	August 1990
	350 cubic yards	Aerated on-site and transported to Redwood Landfill in Novato, CA for disposal	August 1990
Groundwater	----	----	----

LTCP GROUNDWATER SPECIFIC CRITERIA						
LTCP Groundwater Specific Scenario under which case was closed: Scenario 1						
Site Data			LTCP Scenario 1 Criteria (ppb)	LTCP Scenario 2 Criteria (ppb)	LTCP Scenario 3 Criteria (ppb)	LTCP Scenario 4 Criteria (ppb)
Plume Length	<100 feet		<100 feet	<250 feet	<250 feet	<1,000 feet
Free Product	No free product		No free product	No free product	Removed to maximum extent practicable	No free product
Plume Stable or Decreasing	Stable		Stable or decreasing	Stable or decreasing	Stable or decreasing for minimum of 5 Years	Stable or decreasing
Distance to Nearest Water Supply Well	>1,000 feet		>250 feet	>1,000 feet	>1,000 feet	>1,000 feet
Distance to Nearest Surface Water and Direction	2,600 feet southwest (crossgradient)		>250 feet	>1,000 feet	>1,000 feet	>1,000 feet
Property Owner Willing to Accept a Land Use Restriction?	Not applicable		Not applicable	Not applicable	Yes	Not applicable
GROUNDWATER CONCENTRATIONS						
Constituent	Historic Site Maximum (ppb)	Current Site Maximum (ppb)	LTCP Scenario 1 Criteria (ppb)	LTCP Scenario 2 Criteria (ppb)	LTCP Scenario 3 Criteria (ppb)	LTCP Scenario 4 Criteria (ppb)
Benzene	1,900	<0.5	No criteria	3,000	No criteria	1,000
MTBE	22	<0.5	No criteria	1,000	No criteria	1,000
Scenario 5: If the site does not meet scenarios 1 through 4, has a determination been made that under current and reasonably expected future scenarios, the contaminant plume poses a low threat to human health and safety and to the environment and water quality objectives will be achieved within a reasonable time frame?			----			

LTCP VAPOR SPECIFIC CRITERIA							
LTCP Vapor Specific Scenario under which case was closed: Active fueling station exempt from vapor specific criteria							
Active Fueling Station	Active as of 12/13/2013						
Site Data		LTCP Scenario 1 Criteria	LTCP Scenario 2 Criteria	LTCP Scenario 3A Criteria	LTCP Scenario 3B Criteria	LTCP Scenario 3C Criteria	LTCP Scenario 4 Criteria
Unweathered NAPL	No NAPL	LNAPL in groundwater	LNAPL in soil	No NAPL	No NAPL	No NAPL	No criteria
Thickness of Bioattenuation Zone Beneath Foundation	>5 feet	≥30 feet	≥30 feet	≥5 feet	≥10 feet	≥5 feet	≥5 feet
Total TPH in Bioattenuation Zone	<100 ppm	<100 ppm	<100 ppm	<100 ppm	<100 ppm	<100 ppm	<100 ppm
Maximum Current Benzene Concentration in Groundwater	<0.5 ppb	No criteria	No criteria	<100 ppb	≥100 and <1,000 ppb	<1,000 ppb	No criteria
Oxygen Data within Bioattenuation Zone	17%	No criteria	No criteria	No oxygen data or <4%	No oxygen data or <4%	≥4% at lower end of zone	≥4% at lower end of zone
Depth of soil vapor measurement beneath foundation	5.5 to 6.0 feet	No criteria	No criteria	No criteria	No criteria	No criteria	≥5 feet

SCENARIO 4 DIRECT MEASUREMENT OF SOIL VAPOR CONCENTRATIONS						
Site Soil Vapor Data			No Bioattenuation Zone		Bioattenuation Zone	
Constituent	Historic Maximum ($\mu g/m^3$)	Current Maximum ($\mu g/m^3$)	Residential	Commercial	Residential	Commercial
Benzene	2.2	2.2	<85	<280	<85,000	<280,000
Ethylbenzene	3.1	3.1	<1,100	<3,600	<1,100,000	<3,600,000
Naphthalene	----	----	<93	<310	<93,000	<310,000
If the site does not meet scenarios 1 through 4, does a site-specific risk assessment for the vapor intrusion pathway demonstrate that human health is protected?				----		
If the site does not meet scenarios 1 through 4, has a determination been made that petroleum vapors from soil or groundwater will have no significant risk of adversely affecting human health as a result of controlling exposure through the use of mitigation measures or through the use of institutional controls?				----		

LTCP DIRECT CONTACT AND OUTDOOR AIR EXPOSURE CRITERIA						
LTCP Direct Contact and Outdoor Air Exposure Specific Scenario under which case was closed: *Maximum concentrations of petroleum hydrocarbons are less than or equal to those in Table 1 below.						
Are maximum concentrations less than those in Table 1 below?		*Yes				
Constituent		Residential		Commercial/Industrial		Utility Worker
		0 to 5 feet bgs (ppm)	Volatilization to outdoor air (5 to 10 feet bgs) ppm	0 to 5 feet bgs (ppm)	Volatilization to outdoor air (5 to 10 feet bgs) ppm	0 to 10 feet bgs (ppm)
Site Maximum	Benzene	<0.1	<0.1	<0.1	<0.1	<0.1
LTCP Criteria	Benzene	≤1.9	≤2.8	≤8.2	≤12	≤14
Site Maximum	Ethylbenzene	0.31	0.31	0.31	0.31	0.31
LTCP Criteria	Ethylbenzene	≤21	≤32	≤89	≤134	≤314
Site Maximum	Naphthalene	----	----	----	----	----
LTCP Criteria	Naphthalene	≤9.7	≤9.7	≤45	≤45	≤219
Site Maximum	PAHs	----	----	----	----	----
LTCP Criteria	PAHs	≤0.063	NA	≤0.68	NA	≤4.5
If maximum concentrations are greater than those in Table 1, are they less than levels from a site-specific risk assessment?		----				
If maximum concentrations are greater than those in Table 1, has a determination been made that the concentrations of petroleum in soil will have no significant risk of adversely affecting human health as a result of controlling exposure through the use of mitigation measures or through the use of institutional controls?		Yes				

*The maximum concentrations of benzene and ethylbenzene from 0 to 5 feet bgs were 71 and 200 ppm, respectively. The maximum concentrations of benzene and ethylbenzene from 5 to 10 feet bgs were 130 and 330 ppm, respectively. The maximum concentrations of these constituents were detected in soil samples collected in 1990. A soil vapor extraction and groundwater extraction system operated in this area from 1993 to 1995. Three confirmation soil borings were advanced at the site in 2009 to assess the effectiveness of remediation. The table above uses the analytical data from the 2009 soil borings since results from these 2009 borings are considered more representative of current conditions.

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, closure of this site appears to be consistent with the policies established by the State Water Resources Control Board Low-Threat Underground Storage Tank Closure Policy which became effective on August 17, 2012.		
Site Management Requirements: This fuel leak case has been evaluated for closure consistent with the State Water Resources Control Board Low-Threat Underground Storage Tank Closure Policy (LTCP). Based on this evaluation, no site management requirements appear to be necessary. However, excavation or construction activities in areas of residual contamination require planning and implementation of appropriate health and safety procedures by the responsible party prior to and during excavation and construction activities.		
Should corrective action be reviewed if land use changes? No		
Was a deed restriction or deed notification filed? No		Date Recorded: ----
Monitoring Wells Decommissioned: No	Number Decommissioned: 0	Number Retained: 7

V. ADDITIONAL COMMENTS AND CONCLUSION

Additional Comments:

A confirmation soil sample (AX-1-3-10) collected at a depth of 10 feet bgs from the southwestern sidewall of the former tank pit excavation contained 15,000 ppm Total Petroleum Hydrocarbons as gasoline (TPHg) and 130 ppm benzene. A confirmation soil sample (AX-1-3-6) collected from the same sample location but at a shallower depth of 6 feet bgs did not contain TPHg or benzene at concentrations above reporting limits. The AX-1-3 sample location is approximately 10 feet from the southwestern property boundary. A soil vapor extraction and groundwater extraction system operated in this area from 1993 to 1995. Soil boring B-7 was advanced near the former excavation sidewall in 2009 to assess the effectiveness of remediation. TPHg and benzene were not detected at concentrations above the reporting limits in two soil samples collected at depths of 5 and 8 feet bgs. Therefore, there appears to be a vertical bioattenuation zone of at least 6 feet in the southwestern portion of the site. Benzene concentrations in groundwater are less than 2.2 ppb. Based on these results, the site does not pose a vapor intrusion risk to the adjacent properties.

Naphthalene was not an analyte in shallow soil samples. However, since the release at the site consisted primarily of gasoline and benzene and ethylbenzene concentrations in shallow soil do not exceed media-specific criteria for direct contact, naphthalene concentrations in shallow soil are not likely to exceed the LTCP media-specific criteria.

Conclusion:

Alameda County Environmental Health staff believe that the site meets the conditions for case closure under the State Water Resources Control Board Low-Threat Underground Storage Tank Closure Policy. Based upon the information available in our files to date, no further investigation or cleanup for the fuel leak case is necessary at this time.

Prepared by: Jerry Wickham, P.G.	Title: Senior Hazardous Materials Specialist
Signature: Jerry Wickham	Date: 01/09/14
Approved by: Dilan Roe	Title: LOP and SCP Program Manager
Signature: Dilan Roe	Date: January 9, 2014

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 AND PUBLIC NOTIFICATION

Regional Board Staff Name: Cherie McCaulou	Title: Engineering Geologist
Regional Board Notification Date: 11/19/2013	
Public Notification Date: 11/19/2013	

VIII. MONITORING WELL DECOMMISSIONING

Date Requested by ACEH: 03/11/14	Date of Well Decommissioning Report: 06/18/14	
All Monitoring Wells Decommissioned: Yes	Number Decommissioned: 18	Number Retained: 0
Reason Wells Retained: NA		
Additional requirements for submittal of groundwater data from retained wells: None		
ACEH Concurrence - Signature: Jerry Wickham		Date: 08/20/14

Attachments:

1. Site Vicinity Maps (2 p)
2. Site Plans (3 pp)
3. Groundwater Contour Maps (2 pp)
4. Soil Analytical Data (2 pp)
5. Soil Vapor Analytical Data (1 p)
6. Groundwater Analytical Data (10 pp)

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

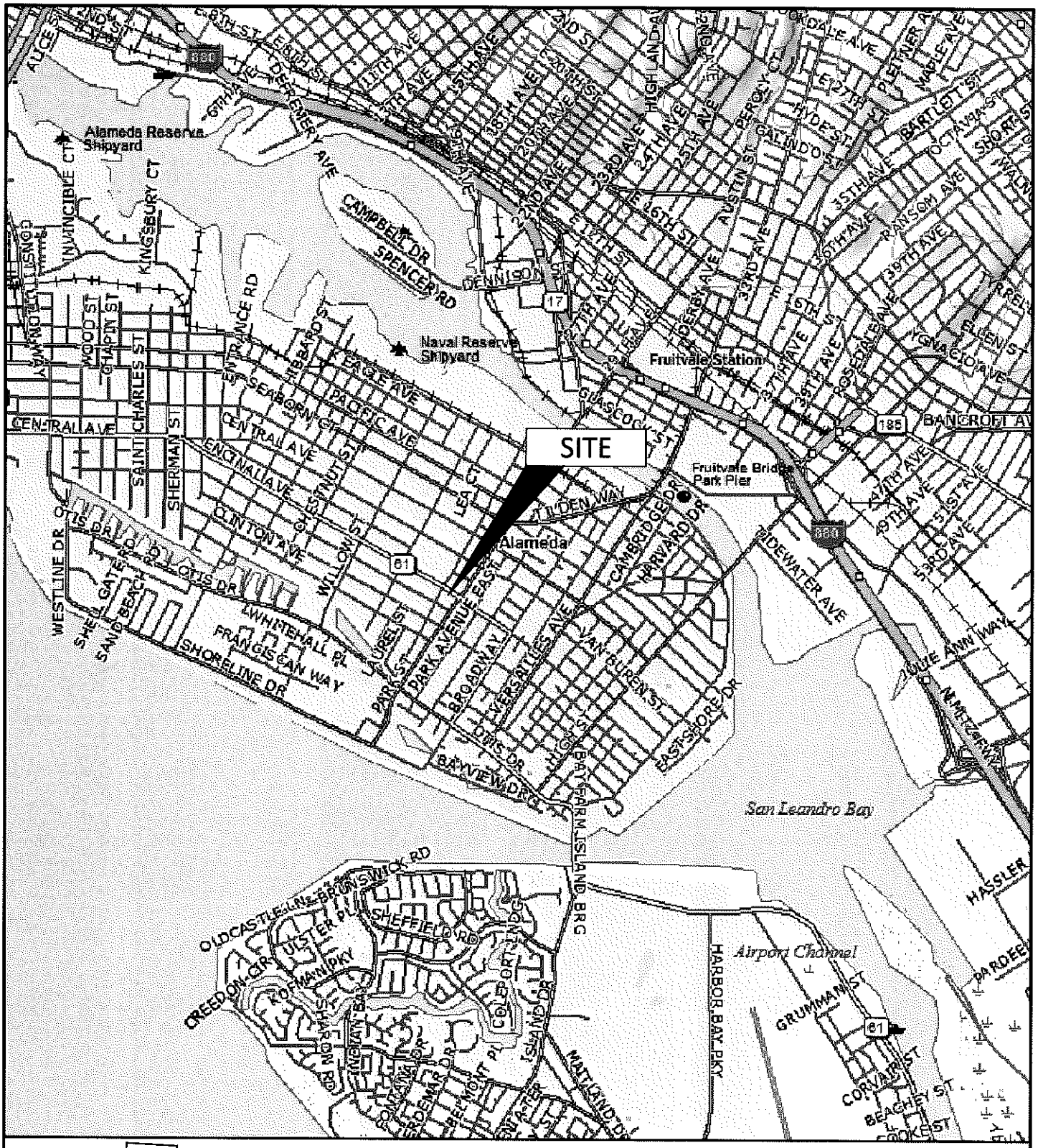


IMAGE SOURCE: USGS

BROADBENT
1370 Ridgewood Dr., Suite 5
Chico, California 95973
Project No.: 06-88-616 Date: 4/8/2013

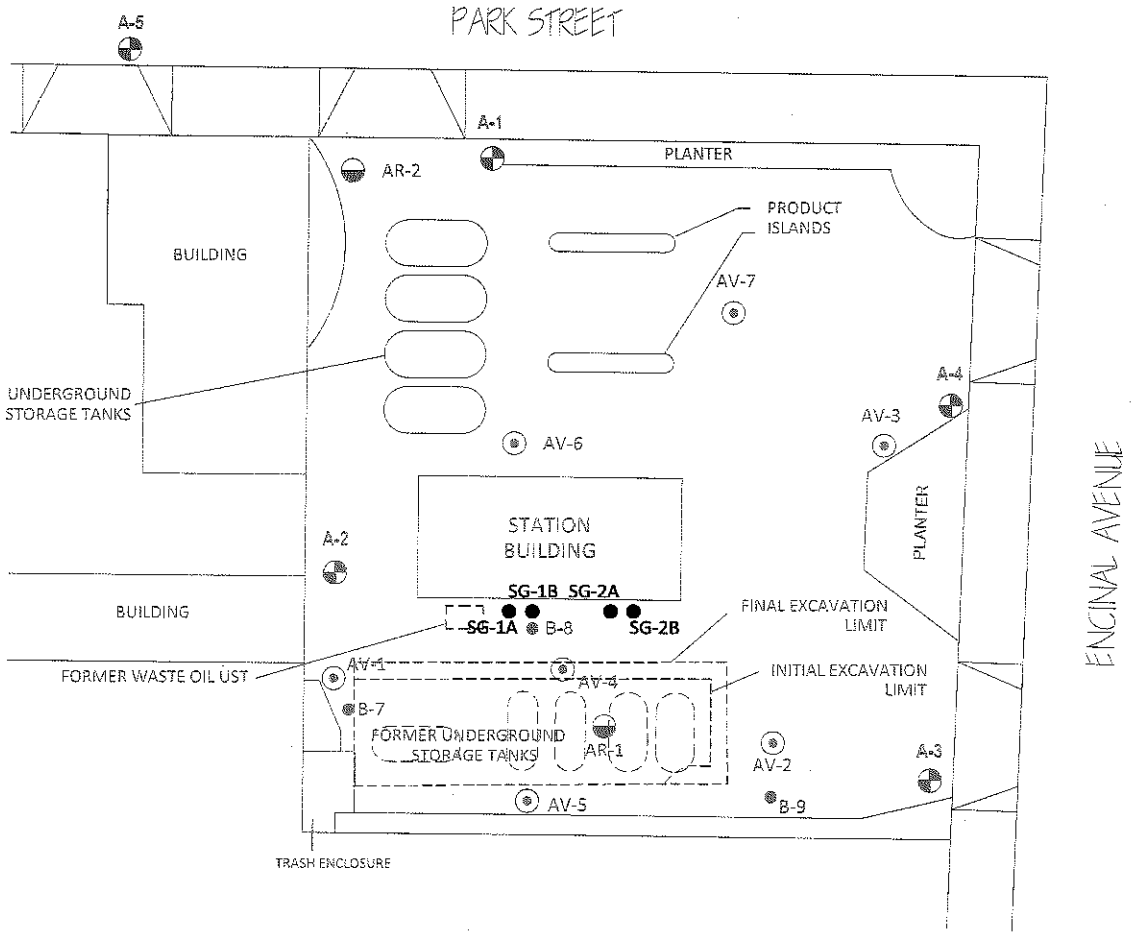
Station #2112
1260 Park Street
Alameda, California

Site Location Map

Drawing 1

ATTACHMENT 1

0 50 100 SCALE (ft)	BROADBENT 875 Cotting Lane, Suite G Vacaville, California 95688 Project No.: 07-10-101 Date: 9/11/2013	Station #2112 1260 Park Street Alameda, California	Sorrounding Site Use Map	Drawing 3



LEGEND:

SG-2B	SOIL-GAS MONITORING IMPLANT
A-1	MONITORING WELL LOCATION
AR-1	GROUND-WATER EXTRACTION WELL LOCATION
AV-1	VAPOR EXTRACTION WELL LOCATION
B-9	RECENT BORING LOCATION
------	EXCAVATED AREA

0 40 80

SCALE (ft)

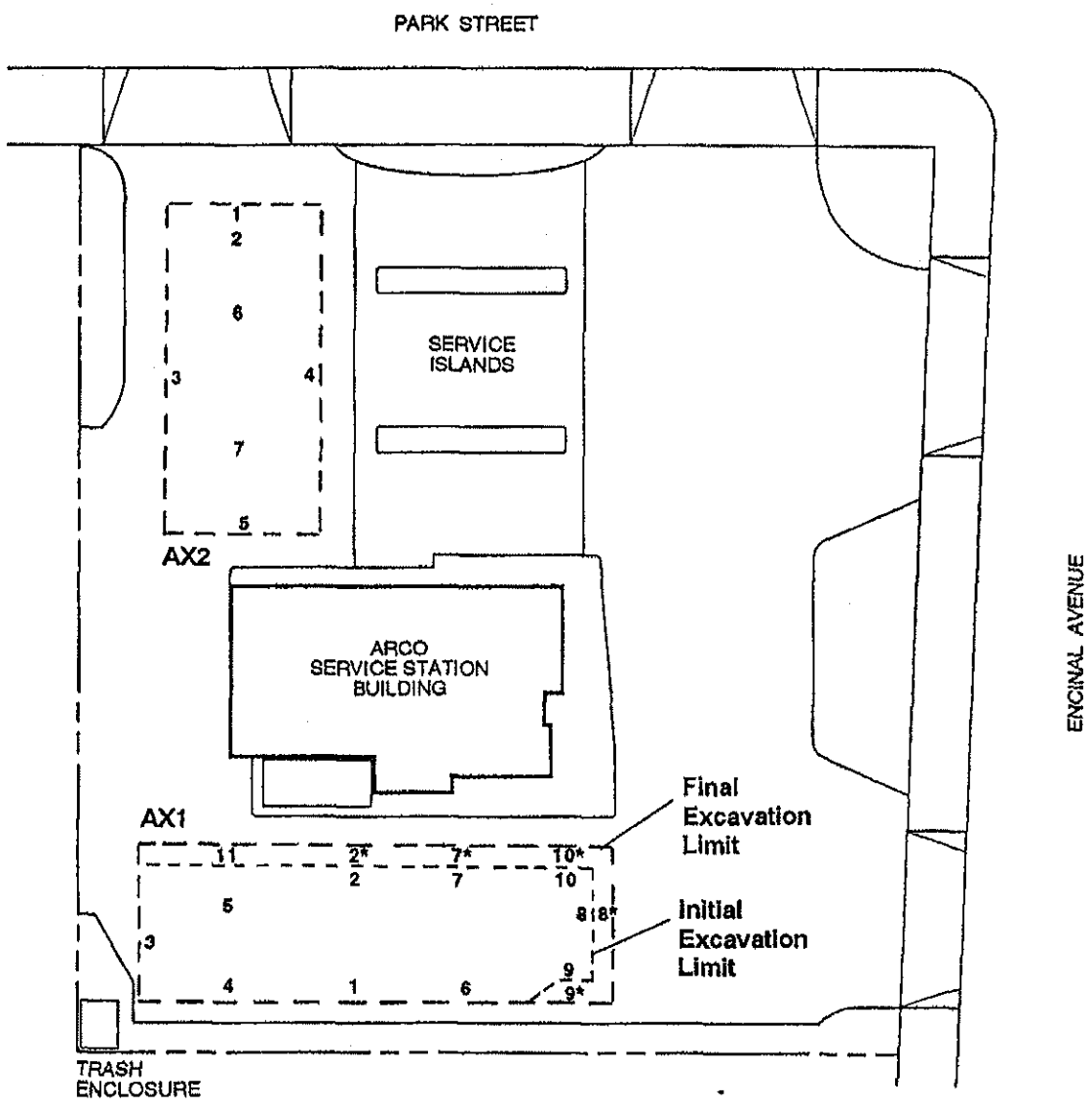
BROADBENT
1370 Ridgewood Dr., Suite 5
Chico, California 95973
Project No.: 06-88-616 Date: 5/13/2013

Station #2112
1260 Park Street
Alameda, California

Site Map with Monitor Well, Soil Boring, and Soil-Gas Monitor Implant Locations

Drawing 3

ATTACHMENT 2

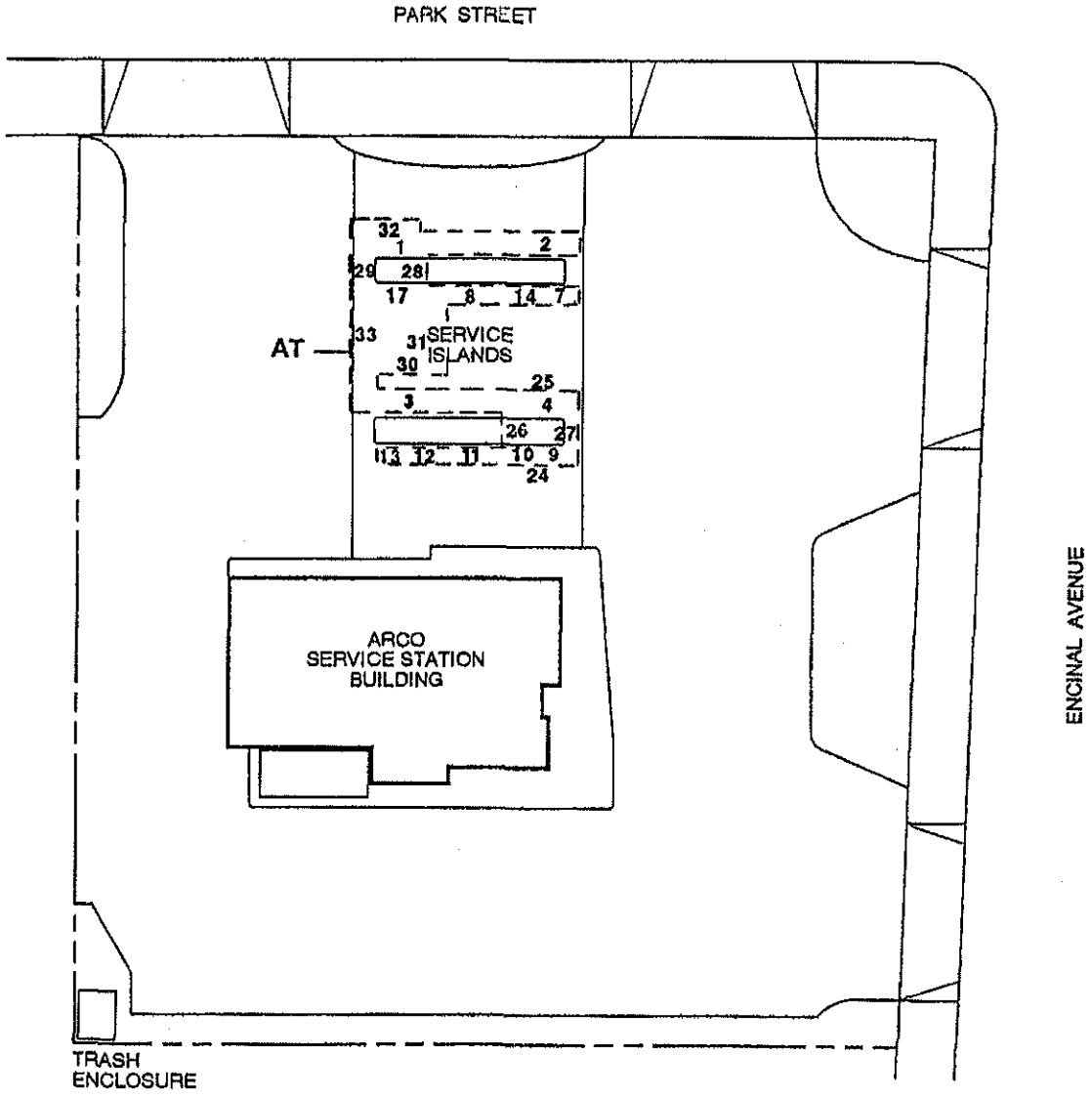


GeoStrategies Inc.

Excavation Soil Sample Map
ARCO Service Station #2112
1260 Park Street
Alameda, California

PLATE **3**

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7920	RG CEG 12/62	10/90		



EXPLANATION

AT — Trench excavation and designation

1 — Sample location and designation

N

0 30 60

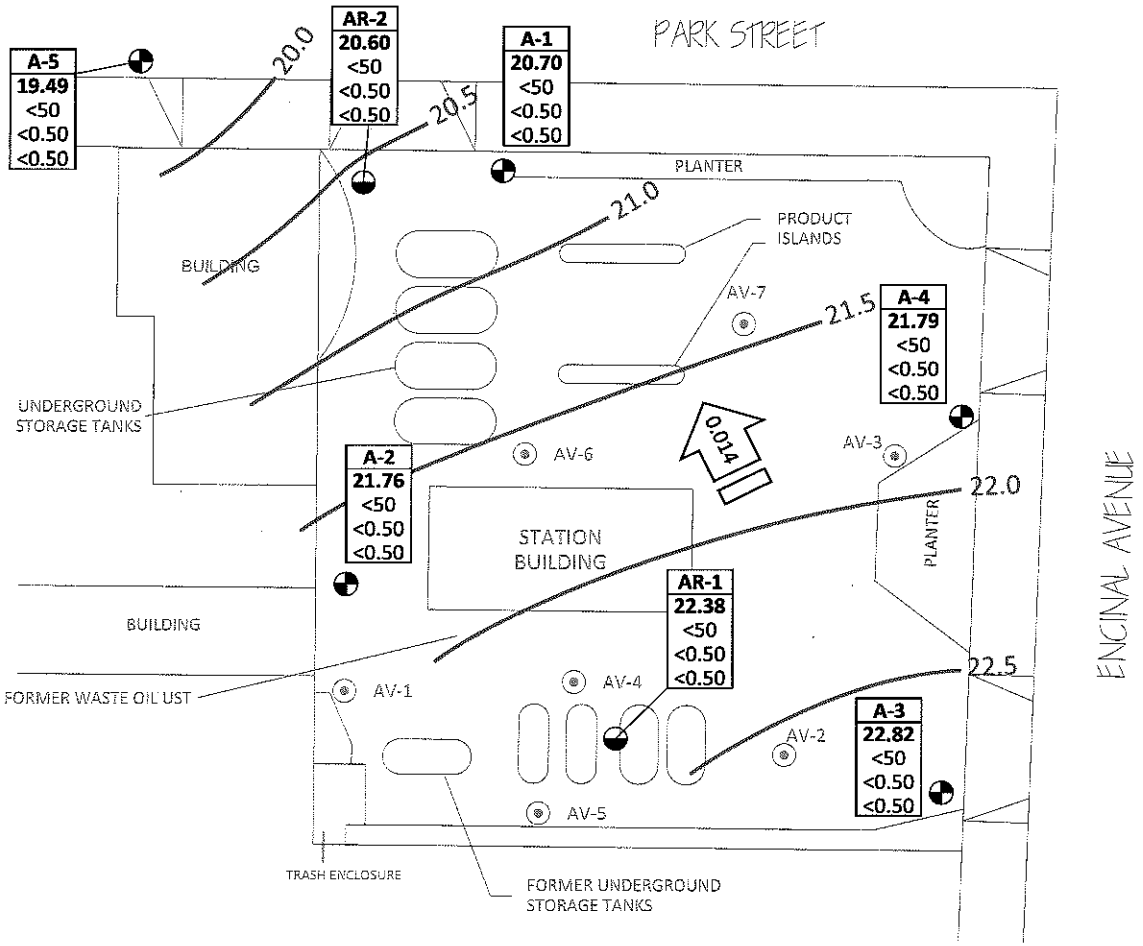
Scale in Feet

GeoStrategies Inc.

Trench Soil Sample Map
ARCO Service Station #2112
1260 Park Street
Alameda, California

PLATE
4

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7920	CEG 12/07	10/90		



LEGEND:

A-1	MONITORING WELL LOCATION
AR-1	GROUNDWATER EXTRACTION WELL LOCATION
AV-1	VAPOR EXTRACTION WELL LOCATION
20.50	GROUNDWATER ELEVATION CONTOURS (FT MSL)
0.014	GROUNDWATER FLOW DIRECTION AND GRADIENT (FT/FT)
Well	WELL DESIGNATION
ELEV	GROUNDWATER ELEVATION (FT MSL)
GRO / Benzene / MTBE	GRO, BENZENE AND MTBE CONCENTRATIONS IN GROUNDWATER (µg/L)
NM/MS	NOT MEASURED/NOT SAMPLED
<	NOT DETECTED AT OR ABOVE LABORATORY REPORTING LIMITS
OT	ONE TIME, PER ACEH REQUEST

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

ATTACHMENT 3

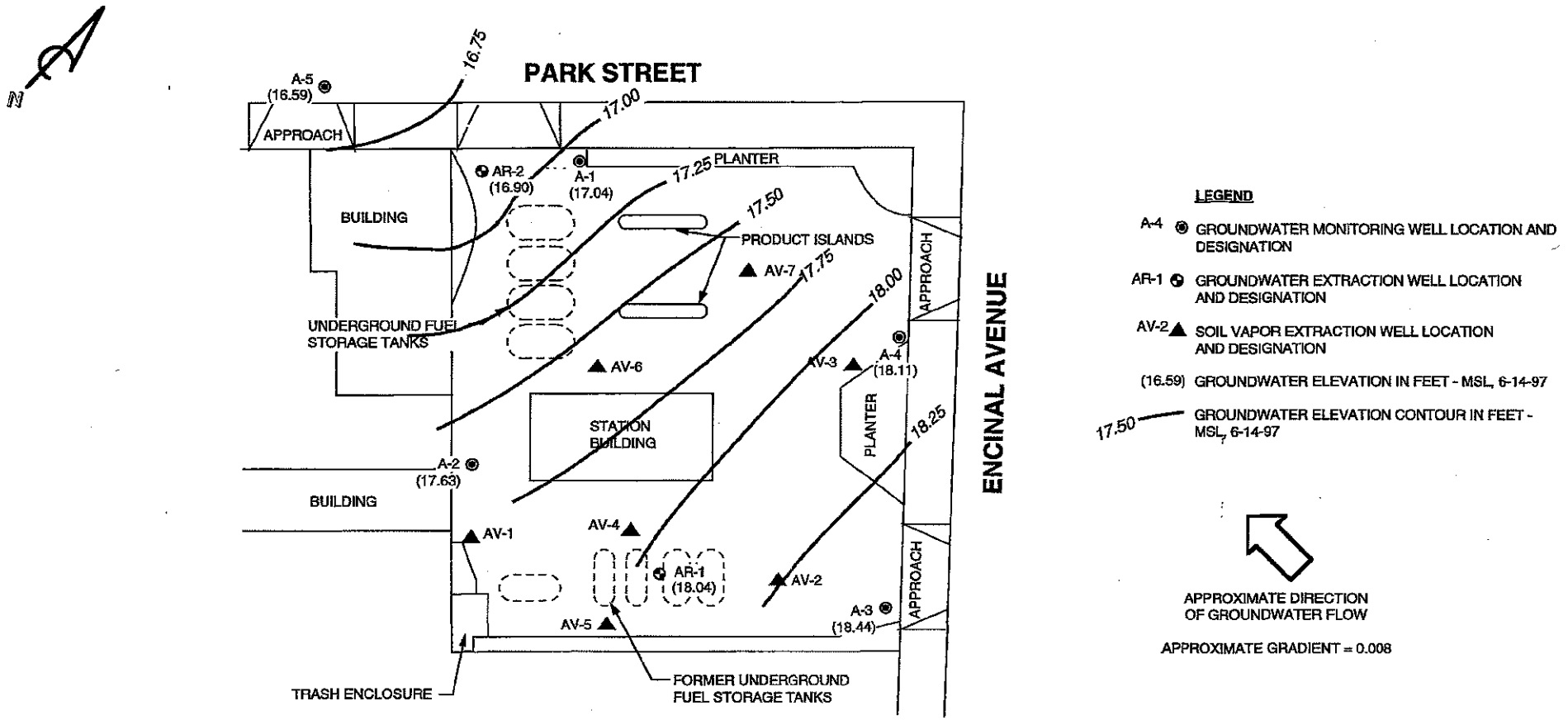
0 40 80
SCALE (ft)

BROADBENT
1370 Ridgewood Dr., Suite 5
Chico, California 95973
Project No.: 06-88-616 Date: 4/8/2013

Station #2112
1260 Park Street
Alameda, California

Groundwater Elevation Contours and Analytical Summary Map
8 February 2011

Drawing
2



PACIFIC ENVIRONMENTAL GROUP, INC.

SCALE
0 30 60 FEET

ARCO SERVICE STATION 2112
1260 Park Street at Encinal Avenue
Alameda, California

GROUNDWATER ELEVATION CONTOUR MAP

FIGURE: 1
PROJECT: 330-106.2D

Table 3
Historical Soil Analytical Data
Station No. 2112
1260 Park Street
Alameda, California

Sample Number	Depth (ft)	Sample Date	Gasoline Range Organics/ Total Petrolem Hydrocarbons as Gasoline	Benzene	Toluene	Ethylbenzene	Total Xylenes
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
S-6-B1	6	2/20/1990	12	0.16	0.34	0.14	1.3
S-10-B1	10	2/20/1990	1,700	15	72	22	180
S-6-B2	6	2/20/1990	<2.0	<0.050	<0.050	<0.050	<0.050
S-11-B2	11	2/20/1990	570	3.9	13	11	82
S-6-B3	6	2/20/1990	<2.0	0.097	<0.050	<0.050	0.20
S-11-B3	11	2/20/1990	10,000	47	350	120	940
S-6-B4	6	2/20/1990	<2.0	0.063	0.096	<0.050	0.20
S-11-B4	11	2/20/1990	21,000	210	1,100	320	2,600
S-6-B5	6	2/20/1990	3.7	<0.050	0.081	<0.050	0.18
S-11-B5	11	2/20/1990	5,400	8.8	27	66	160
S-5.5-B6	5.5	2/20/1990	<2.0	<0.050	<0.050	<0.050	<0.050
S-10-B6	10	2/20/1990	<2.0	<0.050	<0.050	<0.050	<0.050
AX1-1	6	7/26/1990	14	<0.005	<0.005	<0.005	1
AX1-1	10	8/10/1990	27	0.12	1.1	0.7	4.4
AX1-2	6	7/26/1990	1,700	<0.005	16	4.8	76
AX1-2[a]	10	8/10/1990	7,700	60	360	150	930
AX1-3	6	7/26/1990	<1	<0.005	<0.005	<0.005	<0.005
AX1-3	10	8/9/1990	15,000	130	850	330	1,900
AX1-3	12	7/26/1990	23,000	150	490	940	2,700
AX1-4	6	7/26/1990	<1	<0.005	<0.005	<0.005	<0.005
AX1-4	12	7/26/1990	1.2	<0.005	0.011	0.018	0.062
AX1-5	6	7/26/1990	<1	0.019	<0.005	<0.005	0.032
AX1-6	6	7/26/1990	<1	0.067	0.011	0.042	0.055
AX1-6	12	8/10/1990	1,000	2.0	24	18	110
AX1-7	6	7/26/1990	50	<0.005	<0.005	<0.005	<0.005
AX1-7[a]	10	8/10/1990	9,400	96	570	200	1,200
AX1-8	10	7/27/1990	*7,300*	***20***	*130*	*98*	*650*
AX1-8[a]	10	8/10/1990	320	<0.4	<0.4	3.8	12
AX1-9	10	7/27/1990	<1	0.014	<0.005	0.02	0.017
AX1-9a	10	8/10/1990	1.6	0.037	0.057	0.01	0.051
AX1-10	10	7/27/1990	*2,700*	***36***	*51*	***180***	*320*
AX1-10[a]	10	8/10/1990	120	0.56	4.3	2.5	15
AX1-11	10	7/27/1990	<1	12	6	14	35
AX2-1	6	7/31/1990	<1	<0.005	<0.005	0.007	0.007
AX2-1	12	7/31/1990	2.0	0.024	0.073	0.048	0.110
AX2-2	11	7/31/1990	2.0	0.470	0.180	0.005	0.013
AX2-3	6	7/31/1990	<1	<0.005	<0.005	<0.005	<0.005
AX2-3	11.5	7/31/1990	<1	<0.005	<0.005	<0.005	<0.005
AX2-4	6	7/31/1990	<1	<0.005	<0.005	<0.005	<0.005
AX2-4	11	7/31/1990	<1	<0.005	<0.005	<0.005	<0.005
AX2-5	6	7/31/1990	<1	<0.005	<0.005	<0.005	<0.005
AX2-5	11	7/31/1990	<1	<0.005	<0.005	<0.005	<0.005
AX2-6	11	7/31/1990	<1	0.013	0.011	<0.005	<0.005
AX2-7	11	7/31/1990	<1	<0.005	<0.005	<0.005	<0.005
AT-1	3.5	8/17/1990	2,000	<0.8	23	28	210
AT-2	2.5	8/17/1990	6.7	0.023	0.088	0.11	0.84
AT-3	3.5	8/17/1990	<1	<0.005	<0.005	<0.005	<0.005
AT-4	2.5	8/17/1990	5.8	0.034	0.12	0.057	0.52
AT-7	2	8/8/1990	2.0	0.008	0.017	0.008	0.061
AT-8	2.5	8/8/1990	14	0.11	0.15	0.28	1.6
AT-9	9.5	8/20/1990	<1	<0.01	<0.01	<0.01	<0.01
AT-10	2.5	8/15/1990	<1	<0.003	<0.003	<0.003	<0.003
AT-10	9.5	8/20/1990	<1	<0.005	<0.005	0.008	0.014
AT-11	2.5	8/15/1990	<1	<0.003	<0.003	<0.003	<0.003
AT-12	2.5	8/15/1990	<1	<0.003	<0.003	<0.003	<0.003
AT-34	3.0	8/25/1990	<1.0	<0.003	<0.003	<0.003	<0.003
AT-35	3.0	8/25/1990	<1.0	<0.003	<0.003	<0.003	<0.003
AT-36	3.0	8/25/1990	15,000	71	710	200	1,300
UT-37	4.0	3/5/1991	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
UT-38	4.0	3/5/1991	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
UT-39	4.0	3/5/1991	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
UT-40	3.5	3/5/1991	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
UT-41	3.5	3/5/1991	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
AV-1	5.5	9/23/1991	<1.0	<0.005	<0.005	<0.005	<0.005

ATTACHMENT 4

Table 3
Historical Soil Analytical Data
Station No. 2112
1260 Park Street
Alameda, California

Sample Number	Depth (ft)	Sample Date	Gasoline Range Organics/ Total Petrolem Hydrocarbons as Gasoline	Benzene	Toluene	Ethylbenzene	Total Xylenes
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
AV-1	11	9/23/1991	2,900	<5.0	12	6.0	34
AV-2	6	9/24/1991	**<1.0**	**<0.005**	**<0.005**	**<0.005**	**<0.005**
AV-2	11	9/24/1991	<1.0	<0.005	<0.005	<0.005	<0.005
AV-3	6.5	9/25/1991	**<1.0**	**<0.005**	**<0.005**	**<0.005**	**<0.005**
AV-3	11.5	9/25/1991	540	5.3	12	7.6	35
A-1	5	9/25/1991	**<1.0**	**<0.005**	**<0.005**	**<0.005**	**<0.005**
A-1	11	9/25/1991	730	6.4	24	11	56
A-2	12	9/24/1991	<1.0	0.038	0.038	0.038	0.038
A-3	11.5	9/24/1991	<1.0	<0.005	<0.005	<0.005	<0.005
A-4	11	9/25/1991	<1.0	<0.005	<0.005	<0.005	<0.005
AV-4	10.5	1/2/1992	21,000	190	860	290	1,700
AV-5	10.5	1/2/1992	<1	0.0070	0.018	0.0060	0.031
AV-6	10.5	1/2/1992	<1	<0.0050	<0.0050	<0.0050	<0.0050
AV-7	10.5	1/2/1992	<1	<0.0050	<0.0050	<0.0050	<0.0050
B-7	5	6/10/2009	**<0.50**	**<0.001**	**<0.001**	**<0.001**	**<0.001**
B-7	8	6/10/2009	**<0.50**	**<0.001**	**<0.001**	**<0.001**	**<0.001**
B-7	11	6/10/2009	2.8	<0.10	0.14	<0.10	<0.10
B-7	14	6/10/2009	8.6	<0.001	0.0016	0.0063	0.04
B-8	5	6/10/2009	**<0.50**	**<0.001**	**<0.001**	**<0.001**	**<0.001**
B-8	8	6/10/2009	**<0.50**	**<0.001**	**<0.001**	**<0.001**	**0.0015**
B-8	11	6/10/2009	2,000	0.23	14	18	210
B-8	14	6/10/2009	3.2	<0.001	0.005	0.0044	0.0031
B-9	5	6/10/2009	**26**	**<0.10**	**<0.10**	**0.31**	**2.8**
B-9	8	6/10/2009	**<0.50**	**<0.001**	**<0.001**	**<0.001**	**0.0015**
B-9	11	6/10/2009	<0.50	<0.001	<0.001	<0.001	0.0022
B-9	14	6/10/2009	<0.50	<0.001	<0.001	<0.001	0.0023
LTCP Maximum Concentrations - Shallow Soil*			NA	8.2	NA	89	NA
LTCP Maximum Concentrations - Deeper Soil**			NA	12	NA	134	NA
LTCP Maximum Concentrations - Utility Worker			NA	14	NA	314	NA
ESL - Shallow Soil[I]			100	0.044	2.9	3.3	2.3
ESL - Deeper Soil[II]			100	0.044	2.9	3.3	2.3

Notes:

TPHg = total petroluem hydrocarbons as gasoline

mg/kg = milligrams per kilogram

[a]confirmation samples collected after additional overexcavation activities

grey = Samples deeper than 10 feet bgs and not included in the LTCP

bold = samples that exceed their LTCP value for their depth

Italics = removed by overexcavation

LTCP - Low Threat UST Closure Policy

***LTCP Shallow Soils - defined as 0-5 feet below ground surface (bgs)**

****LTCP Deeper Soils - defined as 5-10 feet bgs**

ESLs = Environmental Screening Levels assuming commercial/industrial exposure scenario and groundwater is a potential drinking water resource

[I]ESL Shallow Soils - Defined as 0 -3 meters (approxima +

[II]ESL Shallow Soils - Defined a sgreater than 3 meters (below approximatley 10 feet bgs)

References:

Low Threat UST Closure Policy **(August 17, 2013), California State Water Resources Control Board,**
http://www.swrcb.ca.gov/ust/lt_cls_plcy.shtml#policy081712

Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater (**February 2005), San Francisco Bay Regional Groundwater Quality Control Board, California EPA, http://www.waterboards.ca.gov/sanfranciscobay/esl.htm**

Table 2 - Soil Gas Sampling Laboratory Analytical Results
Station #2112, 1260 Park Street, Alameda, California

Sample ID	Sample Date	GRO (C6-C12) (mg/m^3)	Benzene ($\mu g/m^3$)	Toluene ($\mu g/m^3$)	Ethyl-benzene ($\mu g/m^3$)	Total Xylenes ($\mu g/m^3$)	MTBE ($\mu g/m^3$)	ETBE ($\mu g/m^3$)	DIPE ($\mu g/m^3$)	TAME ($\mu g/m^3$)	TBA ($\mu g/m^3$)	Ethanol ($\mu g/m^3$)	IPA ($\mu g/m^3$)	Helium (%)	Oxygen + Argon (%)	Carbon Dioxide (%)	Methane (%)
SG-1A	6/29/2012	<38	**2.2**	<1.9	<2.2	<8.7	<7.2	<8.4	<8.4	<8.4	<6.1	<9.4	**140**	<0.0100	**20.0**	**2.00**	<0.500
SG-1B	6/29/2012	<38	<1.6	**3.3**	<2.2	<8.7	<7.2	<8.4	<8.4	<8.4	**11**	<9.4	**370**	<0.0100	**19.1**	**3.28**	<0.500
SG-2A	6/28/2012	<38	**1.6**	<1.9	**3.1**	<8.7	<7.2	<8.4	<8.4	<8.4	**36**	<9.4	<12	**0.0324**	**18.7**	**3.29**	<0.500
SG-2B	6/28/2012	<38	<1.6	<1.9	<2.2	<8.7	<7.2	<8.4	<8.4	<8.4	<6.1	<9.4	<12	**0.0668**	**17.1**	**5.32**	<0.500
Ambient	6/28/2012	<38	**1.7**	**11**	**2.4**	<8.7	<7.2	<8.4	<8.4	<8.4	<6.1	**16**	<12	<0.0100	**22.1**	<0.500	<0.500
ESL-Residential		10 mg/m^3	84	63,000	980	21,000	9,400	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
ESL-Commercial		29 mg/m^3	280	180,000	3,300	58,000	31,000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Notes:
(1) GRO analysis by EPA TO-3; Benzene through Isopropanol (IPA) analysis by EPA TO-15; $He/C_2+Ar/CO_2/CH_4$ analysis by ASTM D-1946.
(2) <X = Not detected above the given laboratory reporting limit (X) in milligrams per cubic meter (mg/m^3) or micrograms per cubic meter ($\mu g/m^3$)
(3) ESL-Res = Environmental Screening Level for shallow soil gas (residential land use); from California Regional Water Quality Control Board, San Francisco Bay Region (SFBRWQCB), May 2008.
(4) ESL-Comm = Environmental Screening Level for shallow soil gas (commercial or industrial land use); from SFBRWQCB, May 2008.
(5) n/a = ESL not available or not applicable.

ATTACHMENT 5

Table 2. Summary of Groundwater Monitoring Data: Relative Water Elevations and Laboratory Analyses

ARCO Service Station #2112, 1260 Park Street, Alameda, CA

Well ID and Date Monitored	P/NP	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in µg/L						DO (mg/L)	pH	Footnote
							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
A-1															
10/7/1991	--	28.39	8.00	30.00	16.47	11.92	470	48	34	7.5	82	--	--	--	
2/18/1992	--		8.00	30.00	17.16	11.23	<30	5.4	0.82	<0.3	<0.3	--	--	--	
5/22/1992	--		8.00	30.00	17.14	11.25	38	15	0.92	1.3	0.51	--	--	--	
8/14/1992	--		8.00	30.00	16.63	11.76	<50	14	<0.5	1.5	<0.5	--	--	--	
10/23/1992	--		8.00	30.00	16.28	12.11	66	22	4.6	2	4.3	--	--	--	
1/28/1993	--		8.00	30.00	17.34	11.05	750	120	120	16	96	--	--	--	
2/24/1993	--		8.00	30.00	18.43	9.96	--	--	--	--	--	--	--	--	
4/28/1993	--		8.00	30.00	17.71	10.68	6,700	1,900	1,700	240	1,300	--	--	--	
5/28/1993	--		8.00	30.00	17.18	11.21	--	--	--	--	--	--	--	--	
6/16/1993	--		8.00	30.00	16.63	11.76	--	--	--	--	--	--	--	--	
7/27/1993	--		8.00	30.00	16.60	11.79	--	--	--	--	--	--	--	--	
8/24/1993	--		8.00	30.00	16.44	11.95	1,800	230	88	34	160	--	--	--	
9/28/1993	--		8.00	30.00	16.66	11.73	--	--	--	--	--	--	--	--	
10/22/1993	--		8.00	30.00	16.67	11.72	2,500	79	<10	<10	160	--	--	--	
11/16/1993	--		8.00	30.00	16.56	11.83	--	--	--	--	--	--	--	--	
12/16/1993	--		8.00	30.00	16.96	11.43	--	--	--	--	--	--	--	--	
2/7/1994	--		8.00	30.00	17.62	10.77	61	24	<0.5	2.1	0.8	--	--	--	
5/2/1994	--		8.00	30.00	17.17	11.22	58	17	0.7	2.2	4.2	--	--	--	
8/5/1994	--		8.00	30.00	11.40	16.99	<50	5.1	1.4	0.6	2.5	--	--	--	
11/30/1994	--		8.00	30.00	9.43	18.96	130	16	8.4	0.6	27	--	--	--	
2/22/1995	--		8.00	30.00	10.76	17.63	<50	1.2	<0.50	<0.50	<0.50	--	--	--	
5/23/1995	--		8.00	30.00	9.25	19.14	<50	4.9	0.95	0.61	3.9	--	--	--	
8/9/1995	--		8.00	30.00	11.33	17.06	<50	2.3	<0.50	<0.50	0.53	<2.5	--	--	
11/16/1995	--		8.00	30.00	12.11	16.28	<50	3.3	1.5	<0.50	1.9	--	--	--	
1/15/1996	--		8.00	30.00	11.18	17.21	<50	<0.50	<0.50	<0.50	<0.50	--	--	--	
4/8/1996	--		8.00	30.00	10.61	17.78	<50	<0.50	<0.50	<0.50	<0.50	--	--	--	
7/2/1996	--		8.00	30.00	11.28	17.11	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--	
10/1/1996	--		8.00	30.00	11.70	16.69	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--	
4/8/1997	--		8.00	30.00	10.98	17.41	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--	
6/14/1997	--		8.00	30.00	11.35	17.04	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--	

ATTACHMENT 6

Table 2. Summary of Groundwater Monitoring Data: Relative Water Elevations and Laboratory Analyses

ARCO Service Station #2112, 1260 Park Street, Alameda, CA

Well ID and Date Monitored	P/NP	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in µg/L						DO (mg/L)	pH	Footnote
							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
A-1 Cont.															
7/17/2006	--	30.81	8.00	30.00	10.92	19.89	<50	<0.50	<0.50	<0.50	<0.50	22	--	6.6	a
9/10/2010	P		8.00	30.00	10.90	19.91	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	6.9	
2/8/2011	**P**		**8.00**	**30.00**	**10.11**	**20.70**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**0.39**	**7.1**	
A-2															
10/7/1991	--	29.28	8.00	30.00	12.74	16.54	31	7.4	0.39	<0.3	0.93	--	--	--	
2/18/1992	--		8.00	30.00	11.55	17.73	490	120	<1.5	<1.5	17	--	--	--	
5/22/1992	--		8.00	30.00	11.71	17.57	100	2.4	<0.3	<0.3	0.89	--	--	--	
8/14/1992	--		8.00	30.00	12.54	16.74	110	5	<0.5	<0.5	<0.5	--	--	--	
10/23/1992	--		8.00	30.00	12.64	16.64	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	
1/28/1993	--		8.00	30.00	10.29	18.99	280	130	<2.5	<2.5	<2.5	--	--	--	
2/24/1993	--		8.00	30.00	11.05	18.23	--	--	--	--	--	--	--	--	
4/28/1993	--		8.00	30.00	10.91	18.37	210	32	0.89	5.2	2.3	--	--	--	
5/28/1993	--		8.00	30.00	11.27	18.01	--	--	--	--	--	--	--	--	
6/16/1993	--		8.00	30.00	12.20	17.08	--	--	--	--	--	--	--	--	
7/27/1993	--		8.00	30.00	11.27	18.01	--	--	--	--	--	--	--	--	
8/24/1993	--		8.00	30.00	12.25	17.03	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	
9/28/1993	--		8.00	30.00	12.36	16.92	--	--	--	--	--	--	--	--	
10/22/1993	--		8.00	30.00	12.18	17.10	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	
11/16/1993	--		8.00	30.00	12.34	16.94	--	--	--	--	--	--	--	--	
12/16/1993	--		8.00	30.00	11.74	17.54	--	--	--	--	--	--	--	--	
2/7/1994	--		8.00	30.00	10.56	18.72	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	
5/2/1994	--		8.00	30.00	11.48	17.80	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	
8/5/1994	--		8.00	30.00	12.26	17.02	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	
11/30/1994	--		8.00	30.00	10.93	18.35	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	
2/22/1995	--		8.00	30.00	10.55	18.73	<50	0.68	1.3	<0.5	0.52	--	--	--	
5/23/1995	--		8.00	30.00	11.05	18.23	<50	<0.50	<0.50	<0.50	<0.50	--	--	--	
8/9/1995	--		8.00	30.00	11.70	17.58	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--	
11/16/1995	--		8.00	30.00	12.64	16.64	<50	<0.50	<0.50	<0.50	<0.50	--	--	--	
1/15/1996	--		8.00	30.00	11.17	18.11	<50	<0.50	<0.50	<0.50	<0.50	--	--	--	
4/8/1996	--		8.00	30.00	10.45	18.83	<50	<0.50	<0.50	<0.50	<0.50	--	--	--	

Table 2. Summary of Groundwater Monitoring Data: Relative Water Elevations and Laboratory Analyses

ARCO Service Station #2112, 1260 Park Street, Alameda, CA

Well ID and Date Monitored	P/NP	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in µg/L						DO (mg/L)	pH	Footnote
							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
A-2 Cont.															
7/2/1996	--	29.28	8.00	30.00	11.40	17.88	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--	
10/1/1996	--		8.00	30.00	12.10	17.18	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--	
4/8/1997	--		8.00	30.00	11.05	18.23	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--	
6/14/1997	--		8.00	30.00	11.65	17.63	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--	
7/17/2006	--	31.26	8.00	30.00	11.00	20.26	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	7.1	
9/10/2010	P		8.00	30.00	10.84	20.42	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	6.8	
2/8/2011	**P**		**8.00**	**30.00**	**9.50**	**21.76**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**1.15**	**7.0**	
A-3															
10/7/1991	--	27.87	8.00	30.00	10.55	17.32	<30	<0.3	<0.3	<0.3	<0.3	--	--	--	
2/18/1992	--		8.00	30.00	9.12	18.75	<30	<0.3	<0.3	<0.3	<0.3	--	--	--	
5/22/1992	--		8.00	30.00	9.41	18.46	<30	<0.3	<0.3	<0.3	<0.3	--	--	--	
8/14/1992	--		8.00	30.00	10.31	17.56	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	
10/23/1992	--		8.00	30.00	10.57	17.30	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	
1/28/1993	--		8.00	30.00	7.66	20.21	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	
2/24/1993	--		8.00	30.00	8.28	19.59	--	--	--	--	--	--	--	--	
4/28/1993	--		8.00	30.00	6.76	21.11	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	
5/28/1993	--		8.00	30.00	8.98	18.89	--	--	--	--	--	--	--	--	
6/16/1993	--		8.00	30.00	9.69	18.18	--	--	--	--	--	--	--	--	
7/27/1993	--		8.00	30.00	9.66	18.21	--	--	--	--	--	--	--	--	
8/24/1993	--		8.00	30.00	9.85	18.02	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	
9/28/1993	--		8.00	30.00	10.21	17.66	--	--	--	--	--	--	--	--	
10/22/1993	--		8.00	30.00	10.05	17.82	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	
11/16/1993	--		8.00	30.00	9.42	18.45	--	--	--	--	--	--	--	--	d
11/16/1993	--		8.00	30.00	11.20	16.67	--	--	--	--	--	--	--	--	
11/16/1993	--		8.00	30.00	9.42	18.45	--	--	--	--	--	--	--	--	
11/16/1993	--		8.00	30.00	11.20	16.67	--	--	--	--	--	--	--	--	d
2/7/1994	--		8.00	30.00	8.29	19.58	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	
5/2/1994	--		8.00	30.00	9.08	18.79	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	
8/5/1994	--		8.00	30.00	10.02	17.85	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	
11/30/1994	--		8.00	30.00	8.53	19.34	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	

Table 2. Summary of Groundwater Monitoring Data: Relative Water Elevations and Laboratory Analyses

ARCO Service Station #2112, 1260 Park Street, Alameda, CA

Well ID and Date Monitored	P/NP	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in µg/L						DO (mg/L)	pH	Footnote
							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
A-3 Cont.															
2/22/1995	--	27.87	8.00	30.00	7.90	19.97	<50	<0.50	<0.50	<0.50	<0.50	--	--	--	
5/23/1995	--		8.00	30.00	8.60	19.27	<50	<0.50	<0.50	<0.50	<0.50	--	--	--	
8/9/1995	--		8.00	30.00	9.30	18.57	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--	
11/16/1995	--		8.00	30.00	--	--	--	--	--	--	--	--	--	--	e
1/15/1996	--		8.00	30.00	8.66	19.21	--	--	--	--	--	--	--	--	e
4/8/1996	--		8.00	30.00	7.86	20.01	--	--	--	--	--	--	--	--	e
7/2/1996	--		8.00	30.00	9.03	18.84	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--	
10/1/1996	--		8.00	30.00	9.88	17.99	--	--	--	--	--	--	--	--	e
4/8/1997	--		8.00	30.00	8.55	19.32	--	--	--	--	--	--	--	--	e
6/14/1997	--		8.00	30.00	9.43	18.44	--	--	--	--	--	--	--	--	e
7/17/2006	--	30.20	8.00	30.00	--	--	--	--	--	--	--	--	--	--	c
9/10/2010	--		8.00	30.00	--	--	--	--	--	--	--	--	--	--	c
2/8/2011	**NP**		**8.00**	**30.00**	**7.38**	**22.82**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**1.05**	**6.7**	**f**
A-4															
10/7/1991	--	28.54	8.00	30.00	11.40	17.14	<30	0.32	0.69	<0.3	1.1	--	--	--	
2/18/1992	--		8.00	30.00	10.52	18.02	<30	<0.3	<0.3	<0.3	<0.3	--	--	--	
5/22/1992	--		8.00	30.00	10.45	18.09	<30	<0.3	<0.3	<0.3	<0.3	--	--	--	
8/14/1992	--		8.00	30.00	11.22	17.32	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	
10/23/1992	--		8.00	30.00	11.44	17.10	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	
1/28/1993	--		8.00	30.00	9.12	19.42	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	
2/24/1993	--		8.00	30.00	9.91	18.63	--	--	--	--	--	--	--	--	
4/28/1993	--		8.00	30.00	8.29	20.25	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	
5/28/1993	--		8.00	30.00	9.92	18.62	--	--	--	--	--	--	--	--	
6/16/1993	--		8.00	30.00	10.64	17.90	--	--	--	--	--	--	--	--	
7/27/1993	--		8.00	30.00	10.81	17.73	--	--	--	--	--	--	--	--	
8/24/1993	--		8.00	30.00	10.98	17.56	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	
9/28/1993	--		8.00	30.00	11.08	17.46	--	--	--	--	--	--	--	--	
10/22/1993	--		8.00	30.00	11.06	17.48	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	
11/16/1993	--		8.00	30.00	10.27	18.27	--	--	--	--	--	--	--	--	
12/16/1993	--		8.00	30.00	10.64	17.90	--	--	--	--	--	--	--	--	

Table 2. Summary of Groundwater Monitoring Data: Relative Water Elevations and Laboratory Analyses

ARCO Service Station #2112, 1260 Park Street, Alameda, CA

Well ID and Date Monitored	P/NP	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in µg/L						DO (mg/L)	pH	Footnote
							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
A-4 Cont.															
2/7/1994	--	28.54	8.00	30.00	9.42	19.12	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	
5/2/1994	--		8.00	30.00	10.33	18.21	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	
8/5/1994	--		8.00	30.00	10.94	17.60	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	
11/30/1994	--		8.00	30.00	9.89	18.65	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	
2/22/1995	--		8.00	30.00	9.44	19.10	<50	<0.50	<0.50	<0.50	<0.50	--	--	--	
5/23/1995	--		8.00	30.00	9.80	18.74	<50	<0.50	0.59	<0.50	<0.50	--	--	--	
8/9/1995	--		8.00	30.00	10.39	18.15	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--	
11/16/1995	--		8.00	30.00	--	--	--	--	--	--	--	--	--	--	e
1/15/1996	--		8.00	30.00	10.00	18.54	--	--	--	--	--	--	--	--	e
4/8/1996	--		8.00	30.00	9.34	19.20	--	--	--	--	--	--	--	--	e
7/2/1996	--		8.00	30.00	10.22	18.32	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--	
10/1/1996	--		8.00	30.00	10.85	17.69	--	--	--	--	--	--	--	--	e
4/8/1997	--		8.00	30.00	9.88	18.66	--	--	--	--	--	--	--	--	e
6/14/1997	--		8.00	30.00	10.43	18.11	--	--	--	--	--	--	--	--	e
7/17/2006	--	30.73	8.00	30.00	9.02	21.71	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	7.0	a,b
9/10/2010	P		8.00	30.00	9.96	20.77	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	6.8	
2/8/2011	**P**		**8.00**	**30.00**	**8.94**	**21.79**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**0.59**	**7.0**	
A-5															
6/26/1992	--	27.29	10.00	30.00	10.77	16.52	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	
8/14/1992	--		10.00	30.00	11.04	16.25	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	
10/23/1992	--		10.00	30.00	11.12	16.17	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	
1/28/1993	--		10.00	30.00	9.94	17.35	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	
2/24/1993	--		10.00	30.00	10.63	16.66	--	--	--	--	--	--	--	--	
4/28/1993	--		10.00	30.00	10.70	16.59	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	
5/28/1993	--		10.00	30.00	10.35	16.94	--	--	--	--	--	--	--	--	
6/16/1993	--		10.00	30.00	10.76	16.53	--	--	--	--	--	--	--	--	
7/27/1993	--		10.00	30.00	10.78	16.51	--	--	--	--	--	--	--	--	
8/24/1993	--		10.00	30.00	10.97	16.32	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	
9/28/1993	--		10.00	30.00	10.90	16.39	--	--	--	--	--	--	--	--	
10/22/1993	--		10.00	30.00	10.82	16.47	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	

Table 2. Summary of Groundwater Monitoring Data: Relative Water Elevations and Laboratory Analyses

ARCO Service Station #2112, 1260 Park Street, Alameda, CA

Well ID and Date Monitored	P/NP	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Water Level Elevation (feet)	Concentrations in µg/L						DO (mg/L)	pH	Footnote
							GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
A-5 Cont.															
11/16/1993	--	27.29	10.00	30.00	10.98	16.31	--	--	--	--	--	--	--	--	
12/16/1993	--		10.00	30.00	10.70	16.59	--	--	--	--	--	--	--	--	
2/7/1994	--		10.00	30.00	9.96	17.33	<50	<0.5	0.9	<0.5	0.7	--	--	--	
5/2/1994	--		10.00	30.00	10.59	16.70	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	
8/5/1994	--		10.00	30.00	10.91	16.38	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	
11/30/1994	--		10.00	30.00	10.69	16.60	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	
2/22/1995	--		10.00	30.00	10.71	16.58	<50	<0.50	<0.50	<0.50	<0.50	--	--	--	
5/23/1995	--		10.00	30.00	10.75	18.33	<50	<0.50	<0.50	<0.50	<0.50	--	--	--	
8/9/1995	--		10.00	30.00	10.78	18.30	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--	
11/16/1995	--		10.00	30.00	11.33	15.96	<50	<0.50	<0.50	<0.50	<0.50	--	--	--	
1/15/1996	--		10.00	30.00	10.61	16.68	<50	<0.50	<0.50	<0.50	<0.50	--	--	--	
4/8/1996	--		10.00	30.00	10.59	16.70	<50	<0.50	<0.50	<0.50	<0.50	--	--	--	
7/2/1996	--		10.00	30.00	10.73	16.56	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--	
10/1/1996	--		10.00	30.00	10.84	16.45	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--	
4/8/1997	--		10.00	30.00	10.68	16.61	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--	
6/14/1997	--		10.00	30.00	10.70	16.59	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--	
7/17/2006	--	29.53	10.00	30.00	10.67	18.86	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	7.0	a
9/10/2010	P		10.00	30.00	10.21	19.32	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	7.0	
2/8/2011	**P**		**10.00**	**30.00**	**10.04**	**19.49**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**0.55**	**7.5**	
AR-1															
9/10/2010	P	31.17	9.00	30.00	10.24	20.93	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	6.6	
2/8/2011	**P**		**9.00**	**30.00**	**8.79**	**22.38**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**0.82**	**6.9**	
AR-2															
9/10/2010	P	30.19	10.00	30.00	10.37	19.82	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	7.0	
2/8/2011	**P**		**10.00**	**30.00**	**9.59**	**20.60**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**0.93**	**7.5**	

Symbols & Abbreviations:
-- = Not analyzed/applicable/measured/available
< = Not detected at or above laboratory reporting limit
ft bgs = Feet below ground surface
BTEX = Benzene, toluene, ethylbenzene and xylenes
DO = Dissolved oxygen
DTW = Depth to water in ft bgs
GRO = Gasoline range organics, range C4-C12
GWE = Groundwater elevation measured in ft
mg/L = Milligrams per liter
MTBE = Methyl tert butyl ether
NP = Not purged before sampling
P = Purged before sampling
TOC = Top of casing measured in ft
TPH-g = Total petroleum hydrocarbons as gasoline, analyzed using EPA Method 8015, Modified
µg/L = Micrograms per liter
SEQ/SEQM = Sequoia Analytical/Sequoia Morgan Hill Laboratories

Footnotes:
a = Hydrocarb. in req. fuel range, but doesn't resemble req. fuel
b = Surrogate recovery above the acceptance limits. Matrix interference suspected
c = Well obstructed
d = Date believed to be erroneous; date likely to be 12/16/1993
e = Well sampled annually
f = NP due to blockage

Notes:
GRO analysis was completed by EPA method 8260B (C4-C12) for samples collected from the time period April 2006 through February 4, 2008. The analysis for GRO was changed to EPA method 8015B (C6-C12) for samples collected from the time period February 5, 2008 through the present

The data within this table collected prior to April 2006 was provided to Broadbent & Associates, Inc. by Atlantic Richfield Company and their previous consultants. Broadbent & Associates, Inc. has not verified the accuracy of this information

Table 3. Summary of Fuel Additives Analytical Data

ARCO Service Station #2112, 1260 Park Street, Alameda, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
A-1									
8/9/1995	--	--	<2.5	--	--	--	--	--	
7/2/1996	--	--	<2.5	--	--	--	--	--	
10/1/1996	--	--	<2.5	--	--	--	--	--	
4/8/1997	--	--	<2.5	--	--	--	--	--	
6/14/1997	--	--	<2.5	--	--	--	--	--	
7/17/2006	<300	<20	22	<0.50	<0.50	3.3	0.76	<0.50	
9/10/2010	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
2/8/2011	**<300**	**<10**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	
A-2									
8/9/1995	--	--	<2.5	--	--	--	--	--	
7/2/1996	--	--	<2.5	--	--	--	--	--	
10/1/1996	--	--	<2.5	--	--	--	--	--	
4/8/1997	--	--	<2.5	--	--	--	--	--	
6/14/1997	--	--	<2.5	--	--	--	--	--	
7/17/2006	<300	<20	<0.50	<0.50	<0.50	<0.50	1.2	<0.50	
9/10/2010	<300	<10	<0.50	<0.50	<0.50	<0.50	0.72	<0.50	
2/8/2011	**<300**	**<10**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**0.96**	**<0.50**	
A-3									
8/9/1995	--	--	<2.5	--	--	--	--	--	
7/2/1996	--	--	<2.5	--	--	--	--	--	
2/8/2011	**<300**	**<10**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	
A-4									
8/9/1995	--	--	<2.5	--	--	--	--	--	
7/2/1996	--	--	<2.5	--	--	--	--	--	
7/17/2006	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
9/10/2010	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
2/8/2011	**<300**	**<10**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	
A-5									
8/9/1995	--	--	<2.5	--	--	--	--	--	

Table 3. Summary of Fuel Additives Analytical Data

ARCO Service Station #2112, 1260 Park Street, Alameda, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
A-5 Cont.									
7/2/1996	--	--	<2.5	--	--	--	--	--	
10/1/1996	--	--	<2.5	--	--	--	--	--	
4/8/1997	--	--	<2.5	--	--	--	--	--	
6/14/1997	--	--	<2.5	--	--	--	--	--	
7/17/2006	<300	<20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
9/10/2010	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
2/8/2011	**<300**	**<10**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	
AR-1									
9/10/2010	<300	<10	<0.50	<0.50	<0.50	<0.50	1.2	<0.50	
2/8/2011	**<300**	**<10**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**1.2**	**<0.50**	
AR-2									
9/10/2010	<300	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
2/8/2011	**<300**	**<10**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	

Symbols & Abbreviations:
< = Not detected at or above specified laboratory reporting limit
1,2-DCA = 1,2-Dichloroethane
DIPE = Diisopropyl ether
EDB = 1,2-Dibromoethane
ETBE = Ethyl tert-butyl ether
MTBE = Methyl tert-butyl ether
TAME = tert-Amyl methyl ether
TBA = tert-Butyl alcohol
µg/L = micrograms per liter

Notes:
The data within this table collected prior to April 2006 was provided to Broadbent & Associates, Inc. by Atlantic Richfield Company and their previous consultants. Broadbent & Associates, Inc. has not verified the accuracy of this information