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

October 10, 2014

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

Subject: Case Closure for Fuel Leak Case No. RO0002526 and GeoTracker Global ID T06019734306, ARCO #2107, 3310 Park Boulevard, Oakland, CA 94610

Dear Mr. Carmel:

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).

Due to residual contamination, the site was closed with Site Management Requirements that limit future land use to the current commercial land use. Site Management Requirements are further described in section IV of the attached Case Closure Summary.

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

Sincerely,

Dilan Roe

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

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

Cc w/enc.:

Leroy Griffin, Oakland Fire Department, 250 Frank H. Ogawa Plaza, Ste. 3341, Oakland, CA 94612-2032 2032 (*Sent via E-mail to: lgriffin@oaklandnet.com*)

Kristene Tidwell, Broadbent, 4820 Business Center Drive, Suite 110, Fairfield, CA 94534 (*Sent via E-mail to: ktidwell@broadbentinc.com*)

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

October 10, 2014

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

Subject: Case Closure for Fuel Leak Case No. RO0002526 and GeoTracker Global ID T06019734306, ARCO #2107, 3310 Park Boulevard, Oakland, CA 94610

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.

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: May 6, 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 #2107		
Site Facility Address: 3310 Park Boulevard, Oakland, CA 94610		
RB Case No.: ----	STID No. ----	LOP Case No.: RO0002526
GeoTracker ID: T06019734306		APN: 23-394-2-1
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

This Case Closure Summary along with the Case Closure Transmittal letter and the Remedial Action Completion Certification provides documentation of the case closure. 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. Additional information on the case can be viewed in the online case file. The entire case file can be viewed over the Internet on the Alameda County Environmental Health (ACEH) website (http://www.acgov.org/aceh/lop/ust.htm) or the State of California Water Resources Control Board GeoTracker website (http://geotracker.waterboards.ca.gov). Not all historic documents for the fuel leak case may be available on GeoTracker. A more complete historic case file for this site is located on the ACEH website.

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and Type of Release: Release from underground storage tank (UST) system		
Number of monitoring wells installed: 17	Number of monitoring wells destroyed: 11	Number of monitoring wells remaining: 6
Highest Groundwater Depth Below Ground Surface: 1.3 feet bgs	Lowest Depth: 20 feet bgs	Flow Direction: Northwest to west norhtwest
Most Sensitive Current Groundwater Use: Potential drinking water source		

Summary of Production Wells in Vicinity: No water supply wells were 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: Lake Merritt is approximately 4,5000 feet southwest of the site

LTCP GROUNDWATER SPECIFIC CRITERIA						
LTCP Groundwater Specific Scenario under which case was closed: Scenario 4						
Site Data			LTCP Scenario 1 Criteria (ppb)	LTCP Scenario 2 Criteria (ppb)	LTCP Scenario 3 Criteria (ppb)	LTCP Scenario 4 Criteria (ppb)
Plume Length	300 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	4,500 feet downgradient		>250 feet	>1,000 feet	>1,000 feet	>1,000 feet
Property Owner Willing to Accept a Land Use Restriction?	Not applicable for groundwater specific criteria		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	1,500	3.3	No criteria	3,000	No criteria	1,000
MTBE	3,700	200	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 April 30, 2014						
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	<1 foot	≥30 feet	≥30 feet	≥5 feet	≥10 feet	≥5 feet	≥5 feet
Total TPH in Bioattenuation Zone	350 ppm	<100 ppm	<100 ppm	<100 ppm	<100 ppm	<100 ppm	<100 ppm
Maximum Current Benzene Concentration in Groundwater	3.3 ppb	No criteria	No criteria	<100 ppb	≥100 and <1,000 ppb	<1,000 ppb	No criteria
Oxygen Data within Bioattenuation Zone	No oxygen data	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	----	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	----	----	<85	<280	<85,000	<280,000
Ethylbenzene	----	----	<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: A determination has been made that the concentrations of petroleum in soil will have not 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.						
Are maximum concentrations less than those in Table 1 below?		No				
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	0.89	0.89	0.89	0.89	0.89
LTCP Criteria	Benzene	≤1.9	≤2.8	≤8.2	≤12	≤14
Site Maximum	Ethylbenzene	150	150	150	150	150
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				

IV. CLOSURE

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 Resource Control Board Low-Threat Underground Storage Tank Closure Policy (LTCP). Strong hydrocarbon odors were encountered at depths of less than one foot in soil borings SB-4 and SB-6, which were advanced in the sidewalk along Park Boulevard. Groundwater was encountered in the soil borings at depths of less than two feet bgs. No soil vapor sampling has been conducted at the site. The site has not been evaluated for potential vapor intrusion because the site is not required to meet media-specific criteria for vapor intrusion to indoor air under the current land use as an active fueling station. Therefore, case closure is granted for the current commercial land use as an active fueling station.

If a change in land use to any residential, commercial other than as a commercial fueling station, other conservative land use, or if any redevelopment occurs, Alameda County Environmental health (ACEH) must be notified as required by Government Code Section 65850.2.2. Due to the potential for vapor intrusion to indoor air for future buildings, ACEH will re-evaluate the case upon receipt of approved development/construction plans.

Excavation or construction activities in areas of residual contamination require planning and implementation of appropriate health and safety procedures by the responsible party prior to and during excavation and construction activities.

This site is to be entered into the City of Oakland Permit Tracking System due to the residual contamination on site.

Should corrective action be reviewed if land use changes? Yes

Was a deed restriction or deed notification filed? No	Date Recorded: ----

V. ADDITIONAL COMMENTS AND CONCLUSION

Additional Comments:

The depth to groundwater can apparently be less than 2 feet bgs in the northern portions of the site adjacent to Park Boulevard. Soil analytical data do not indicate significant concentrations of benzene, toluene, ethylbenzene, or xylenes in the shallow soil; however, the number of soil samples collected within the upper five feet is limited. Petroleum hydrocarbons released in the area of the underground storage tanks and dispensers may have been transported downgradient (northwest to west northwest) within the zone of water level fluctuation. Residual contamination may remain within this shallow zone. If the site is redeveloped in the future, the shallow soil should be re-evaluated.

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. However, as specified in the Site Management Requirements, re-evaluation of this case is required if land uses changes to any residential or other conservative land use, or any redevelopment occurs.

VI. LOCAL AGENCY REPRESENTATIVE DATA

Prepared by: Jerry Wickham	Title: Senior Hazardous Materials Specialist
Signature: Jerry Wickham	Date: 05/15/2014
Approved by: Dilan Roe	Title: LOP and SCP Program Manager
Signature: Dilan Roe	Date: 5/15/2014

VII. REGIONAL BOARD AND PUBLIC NOTIFICATION

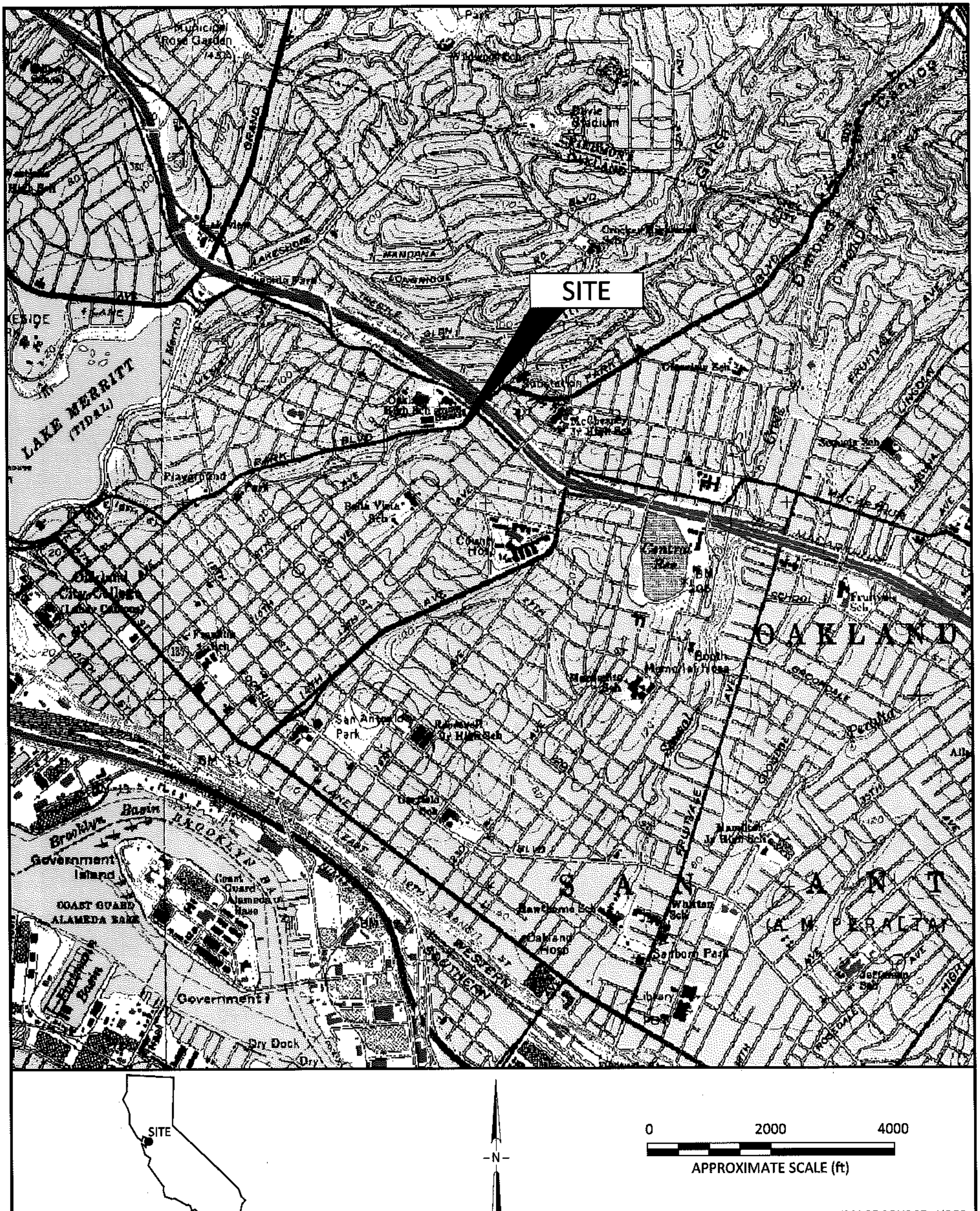
Regional Board Staff Name: Cherie McCaulou	Title: Engineering Geologist
Regional Board Notification Date: 05/15/2014	
Public Notification Date: 05/15/2014	

VIII. MONITORING WELL DESTRUCTION

Date Requested by ACEH: 07/22/2014	Date of Well Decommissioning Report: 10/08/14	
All Monitoring Wells Destroyed: Yes	Number Destroyed: 6	Number Retained: Ø
Reason Wells Retained: N A		
Additional requirements for submittal of groundwater data from retained wells: None		
ACEH Concurrence - Signature: Jerry Wickham		Date: 10/09/14

Attachments:

1. Site Vicinity Map and Aerial Photo (3 pp)
2. Groundwater Contour and Chemical Concentration Maps (4 pp)
3. Soil Analytical Data (7 pp)
4. Groundwater Analytical Data (10 pp)
5. Cross Sections (5 pp)



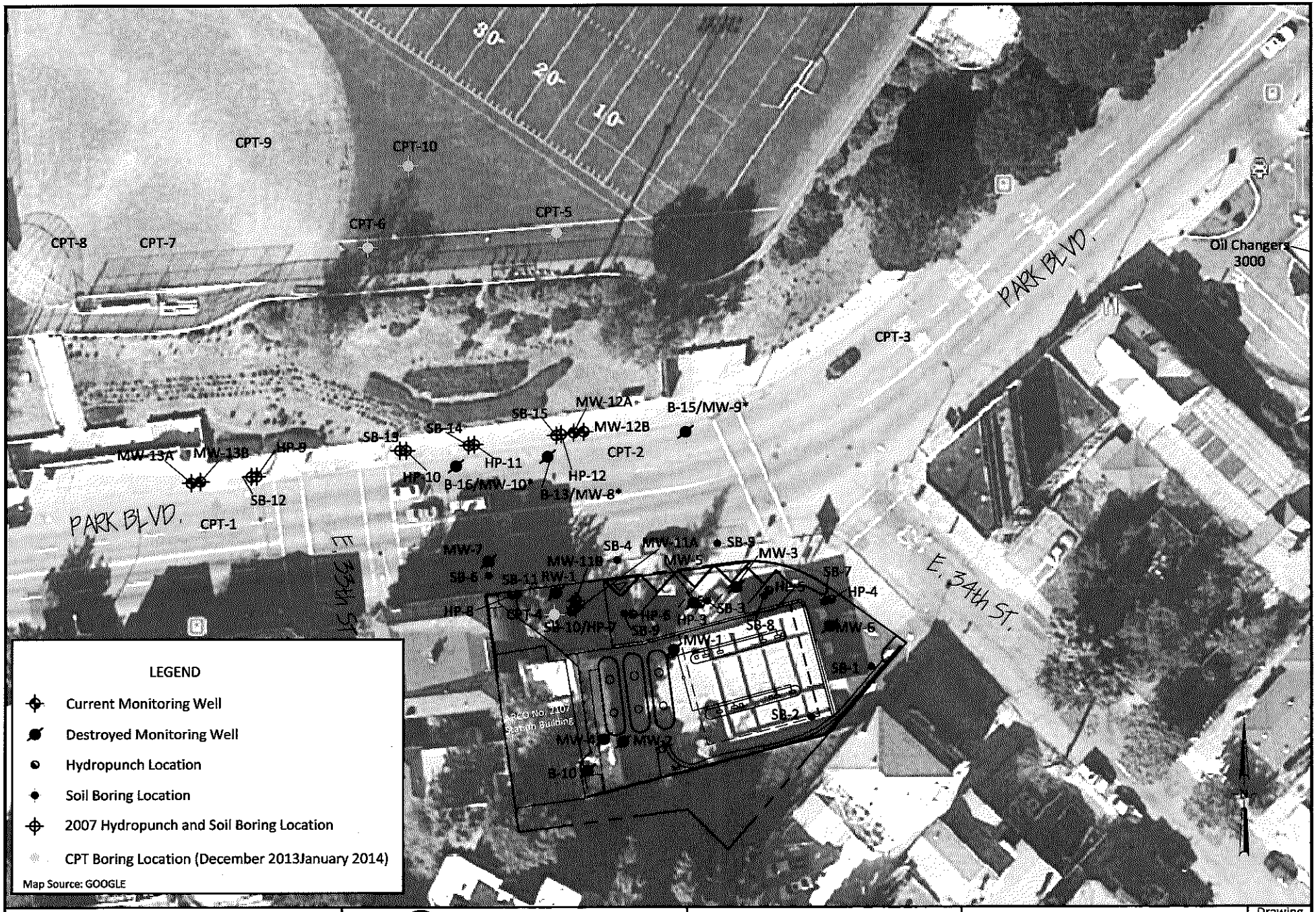
BROADBENT
1370 Ridgewood Dr., Suite 5
Chico, California 95973
Project No.: 06-88-614 Date: 10/08/2013

Station No.2107
3310 Park Boulevard
Oakland, California

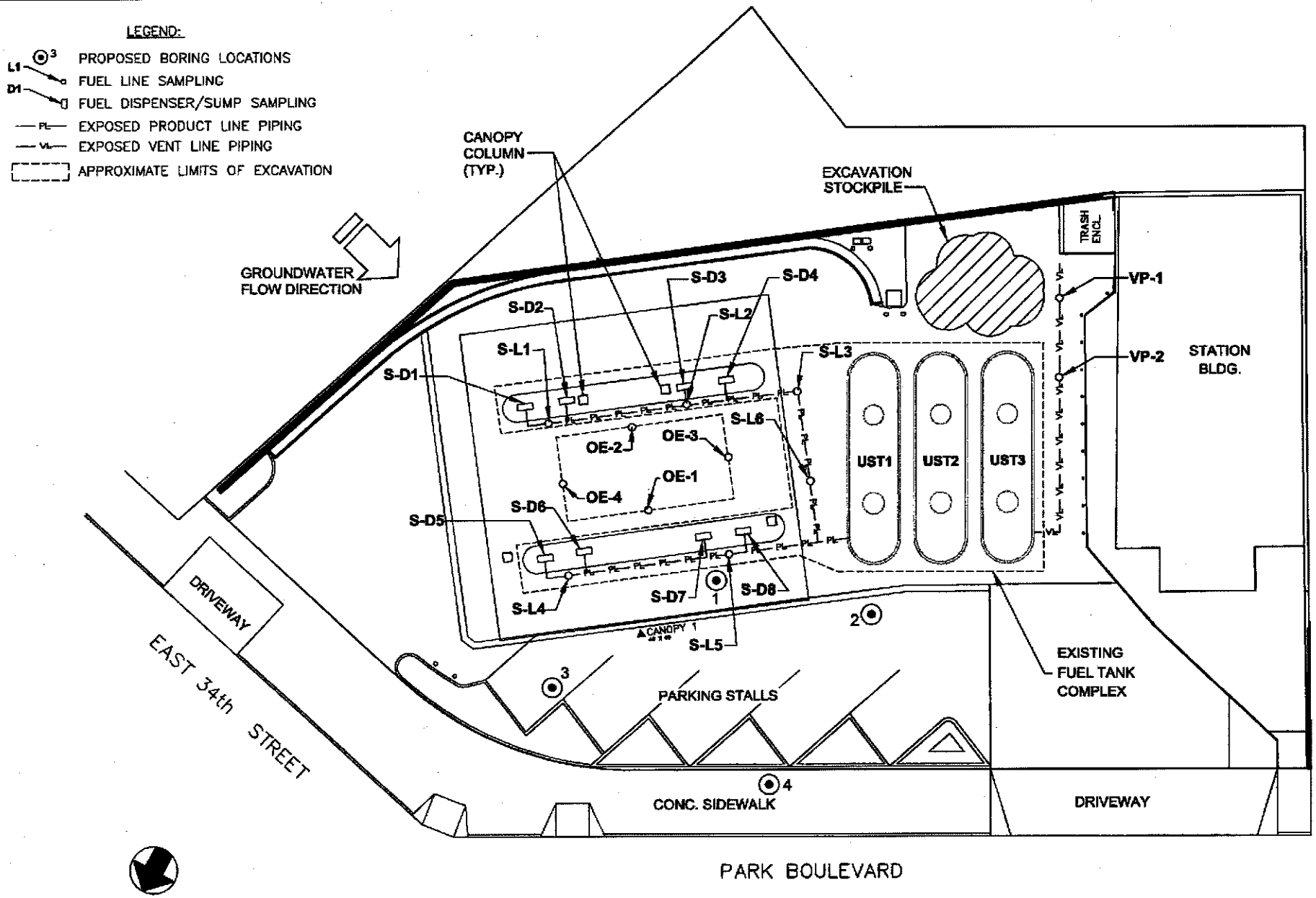
Site Location Map

Drawing
1

ATTACHMENT 1

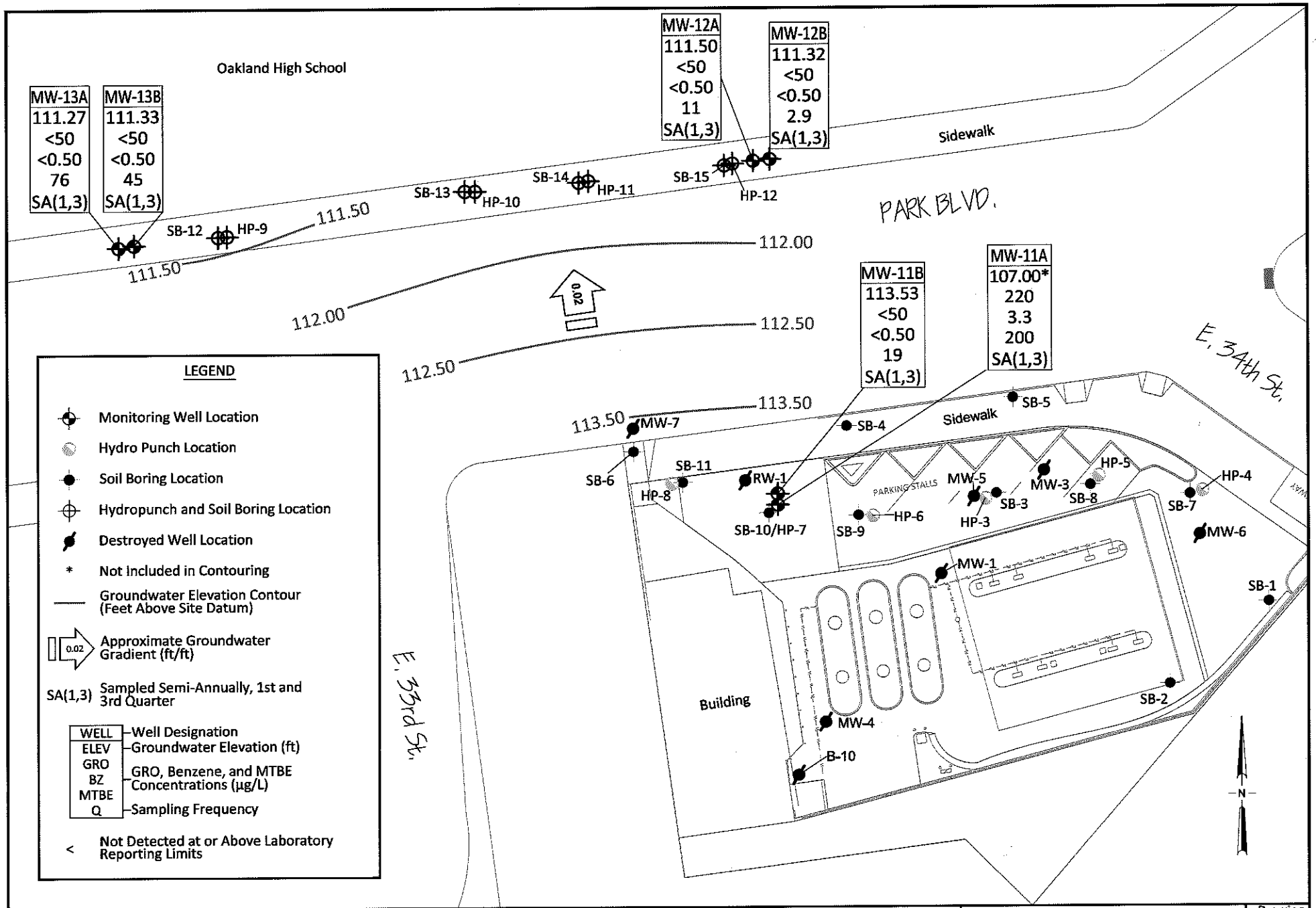

CPT-9
CPT-10
CPT-5
CPT-6
CPT-8
CPT-7
CPT-3
CPT-2
CPT-1
PARK BLVD.
PARK BLVD.
E. 34th ST.
Oil Changers 3000
MW-12A
MW-12B
B-15/MW-9*
SB-15
SB-14
SB-13
HP-9
MW-13A
MW-13B
HP-11
HP-10
B-16/MW-10*
HP-12
B-13/MW-8*
SB-12
MW-7
SB-6
SB-11
MW-11B
SB-4
MW-11A
SB-5
MW-5
MW-3
SB-7
RW-1
HP-5
HP-4
HP-8
SB-1
CPT-4
SB-10/HP-7
SB-9
HP-6
HP-3
SB-8
MW-1
MW-6
SB-1
SB-2
MW-4
MW-2
B-10
LEGEND
Current Monitoring Well
Destroyed Monitoring Well
Hydropunch Location
Soil Boring Location
2007 Hydropunch and Soil Boring Location
CPT Boring Location (December 2013January 2014)
Map Source: GOOGLE
0
50
100
SCALE (ft)
BROADBENT
875 Cotting Lane, Suite G
Vacaville, California 95688
Project No.: 06-88-614 Date: 2/19/2014
Station No. 2107
3310 Park Boulevard
Oakland, California
Site Map with
CPT Boring Locations
Drawing
2

X:\x_env_waste\BP GEM\Sites\Scott Robinson\Paul Supple\2107\Work Plan\FWIL.dwg



URS	Project No. 38486013 ARCO Service Station 2107 3310 Park Boulevard Oakland, California	**PROPOSED WELL INSTALLATION LOCATIONS**

FIGURE 2



0 30 60
SCALE (ft)

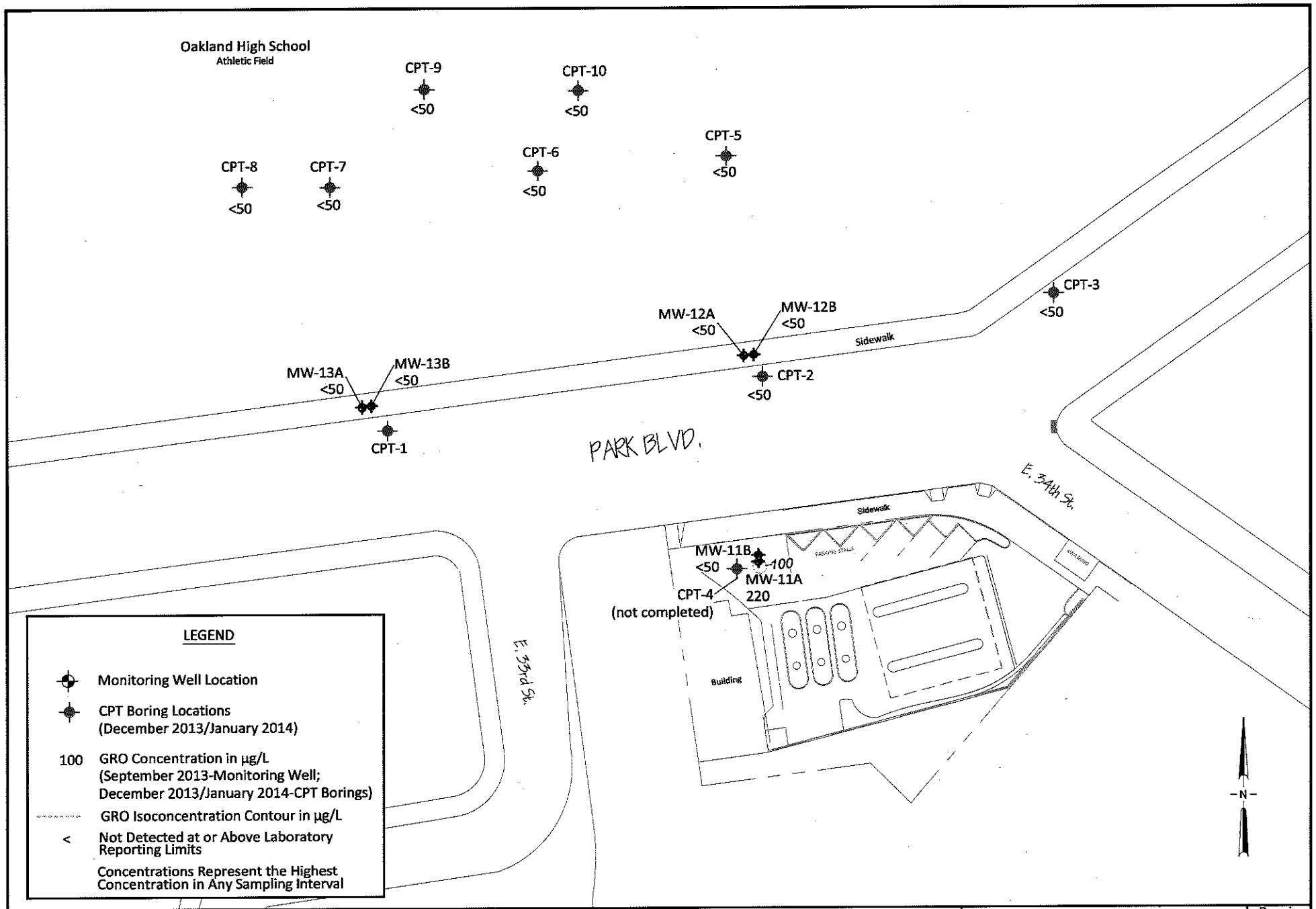
BROADBENT
1370 Ridgewood Dr., Suite 5
Chico, California 95973
Project No.: 06-88-614 Date: 03/08/2014

Station No. 2107
3310 Park Boulevard
Oakland, California

Groundwater Elevation Contour and Analytical Summary Map
September 4, 2013

Drawing 3

ATTACHMENT 2

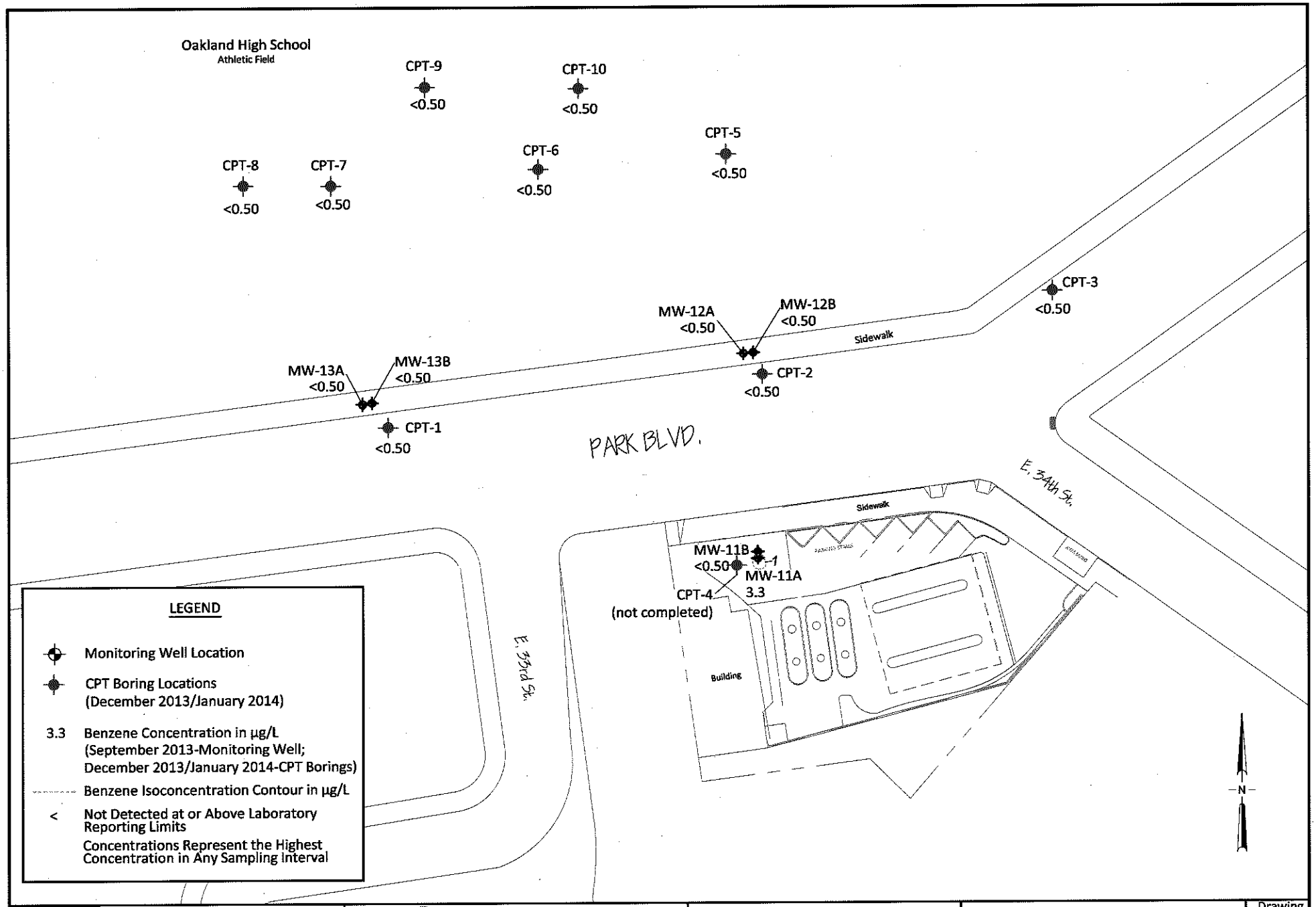


BROADBENT
875 Cotting Lane., Suite G
Vacaville, California 95688
Project No.: 06-88-614 Date: 02/25/2014

Station No.2107
3310 Park Boulevard
Oakland, California

GRO Isoconcentration Contour Map
September 4, 2013 and
December 2013/January 2014

Drawing
10

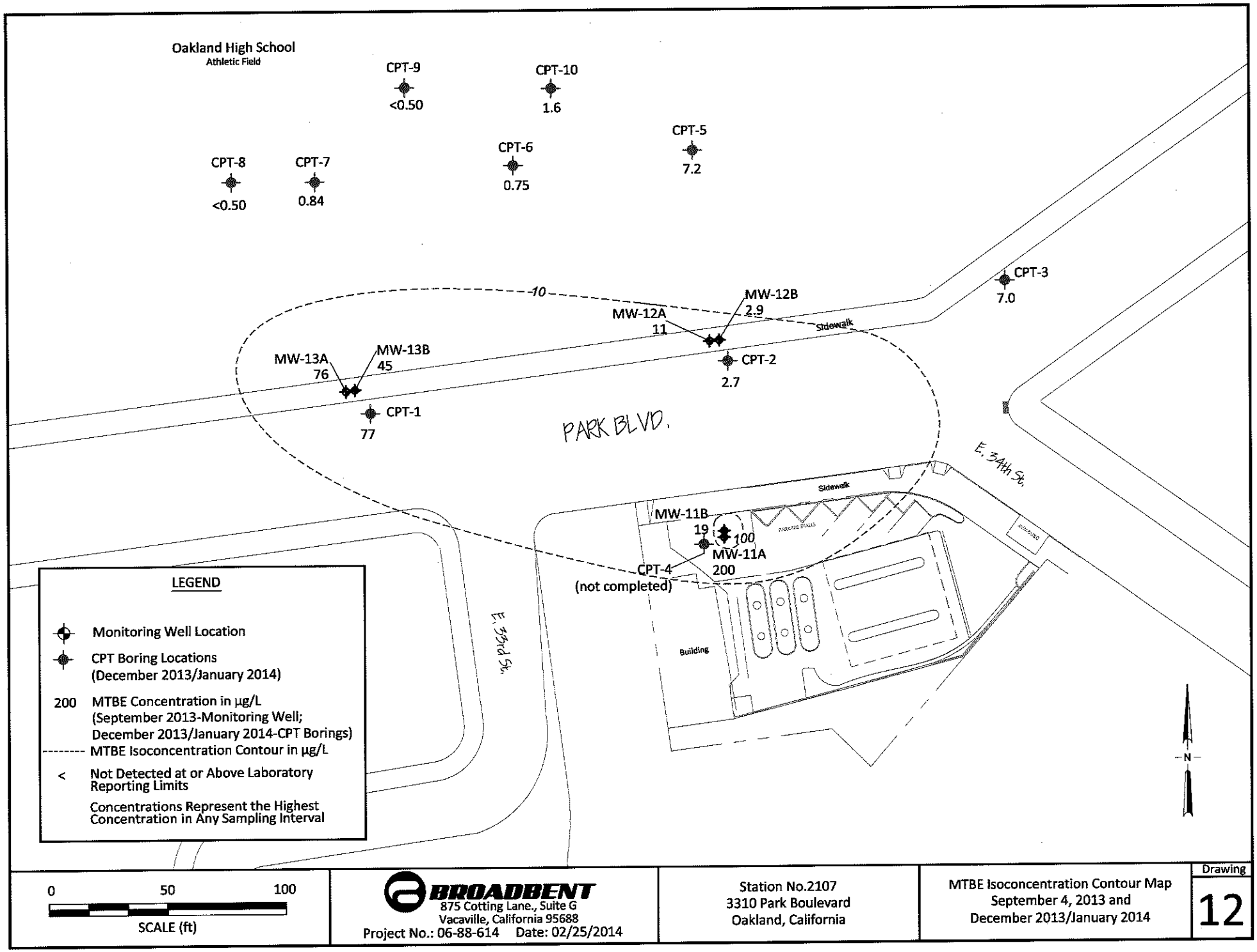


BROADBENT
875 Cotting Lane., Suite G
Vacaville, California 95688
Project No.: 06-88-614 Date: 02/25/2014

Station No.2107
3310 Park Boulevard
Oakland, California

Benzene Isoconcentration Contour Map
September 4, 2013 and
December 2013/January 2014

Drawing
11



BROADBENT
875 Cotting Lane., Suite G
Vacaville, California 95688
Project No.: 06-88-614 Date: 02/25/2014

Station No.2107
3310 Park Boulevard
Oakland, California

MTBE Isoconcentration Contour Map
September 4, 2013 and
December 2013/January 2014

Drawing
12

Table 1

Soil Analytical Data

ARCO Service Station #2107

3310 Park Blvd, Oakland, CA

Soil Sample ID	Sample Depth (feet bgs)	Sample Elevation (feet msl)	Date Sampled	GRO/ TPH-g (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Xylenes (mg/kg)	t-Butyl Alcohol (TBA) (mg/kg)	Methyl-tert butyl-ether (MTBE) (mg/kg)	Di-isopropal ether (DIPE) (mg/kg)	Ethyl-t-Butyl-Ether (ETBE) (mg/kg)	t-Amyl Methyl Ether (TAME) (mg/kg)	Ethanol (mg/kg)
SB-1-5	5	123.26	3/30/04	ND<1.2	ND<0.0061	**0.096**	ND<0.0061	**0.016**	ND<0.012	ND<0.0061	ND<0.012	ND<0.0061	ND<0.0061	ND<0.1
SB-1-10	10	118.26	3/30/04	ND<1.3	ND<0.0063	ND<0.0063	ND<0.0063	ND<0.0063	ND<0.013	ND<0.0063	ND<0.013	ND<0.0063	ND<0.0063	ND<0.1
SB-1-15	15	113.26	3/30/04	ND<1.2	ND<0.0059	ND<0.0059	ND<0.0059	ND<0.0059	ND<0.012	ND<0.0059	ND<0.012	ND<0.0059	ND<0.0059	ND<0.1
SB-1-18	18	110.26	3/30/04	ND<1.2	ND<0.0059	ND<0.0059	ND<0.0059	ND<0.0059	ND<0.012	ND<0.0059	ND<0.012	ND<0.0059	ND<0.0059	ND<0.1
SB-2-5	5	121.53	3/30/04	ND<1.3	ND<0.0067	ND<0.0067	ND<0.0067	ND<0.0067	ND<0.013	ND<0.0067	ND<0.013	ND<0.0067	ND<0.0067	ND<0.1
SB-2-10	10	116.53	3/30/04	ND<1.2	ND<0.0061	ND<0.0061	ND<0.0061	ND<0.0061	ND<0.012	ND<0.0061	ND<0.012	ND<0.0061	ND<0.0061	ND<0.1
SB-2-15	15	111.53	3/30/04	ND<1.2	ND<0.0060	ND<0.0060	ND<0.0060	ND<0.0060	ND<0.012	ND<0.0060	ND<0.012	ND<0.0060	ND<0.0060	ND<0.1
SB-2-20	20	106.53	3/30/04	ND<1.2	ND<0.0062	ND<0.0062	ND<0.0062	ND<0.0062	ND<0.012	ND<0.0062	ND<0.012	ND<0.0062	ND<0.0062	ND<0.1
SB-2-23	23	103.53	3/30/04	ND<1.2	ND<0.0060	ND<0.0060	ND<0.0060	ND<0.0060	ND<0.012	ND<0.0060	ND<0.012	ND<0.0060	ND<0.0060	ND<0.1
SB-3-8.0	8	115.87	5/7/04	ND< 1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.010	**0.024**	ND<0.01	ND<0.0050	ND<0.0050	ND<0.1
SB-3-13	13	110.87	5/7/04	ND< 1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.010	**0.027**	ND<0.01	ND<0.0050	ND<0.0050	ND<0.1
SB-3-18	18	105.87	5/7/04	ND< 1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	**0.19**	ND<0.0050	ND<0.01	ND<0.0050	ND<0.0050	ND<0.1
SB-3-23.0	23	100.87	5/7/04	ND< 1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	**0.29**	**0.027**	ND<0.01	ND<0.0050	ND<0.0050	ND<0.1
SB-3-26.5	26.5	97.37	5/7/04	ND< 1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.010	ND<0.0050	ND<0.01	ND<0.0050	ND<0.0050	ND<0.1
SB-3-31.0	31	92.87	5/7/04	ND< 1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.010	ND<0.0050	ND<0.01	ND<0.0050	ND<0.0050	ND<0.1
HP-3-39.5	39.5	84.37	10/15/04	ND<0.1	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	NA
HP-3-46	46	77.87	10/15/04	ND<0.1	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	NA
SB-4-1.0	1	NM	5/7/04	**350**	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5	ND<0.50	ND<1.0	ND<0.50	ND<0.50	ND<25
SB-5-8	8	114.96	3/30/04	ND<1.1	ND<0.0056	ND<0.0056	ND<0.0056	ND<0.0056	ND<0.011	ND<0.0056	ND<0.011	ND<0.0056	ND<0.0056	ND<0.1
SB-5-16	16	106.96	3/30/04	ND<1.3	ND<0.0065	ND<0.0065	ND<0.0065	ND<0.0065	**0.016**	ND<0.0065	ND<0.013	ND<0.0065	0.0066	ND<0.1
SB-5-19	19	103.96	3/30/04	ND<1.2	ND<0.0059	ND<0.0059	ND<0.0059	ND<0.0059	ND<0.012	ND<0.0059	ND<0.012	ND<0.0059	ND<0.0059	ND<0.1
SB-6-1.0	1	NM	5/7/04	ND< 1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.010	ND<0.0050	ND<0.01	ND<0.0050	ND<0.0050	ND<0.1
SB-7- 6.0	6	120.22	10/14/04	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	NA
SB-7- 11.5	11.5	114.72	10/14/04	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	NA
SB-7- 16.0	16	110.22	10/14/04	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	**0.0056**	ND<0.0050	ND<0.0050	NA
SB-7- 19.5	19.5	106.72	10/14/04	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	NA
SB-8-6.0	6	118.82	10/15/04	ND<0.1	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	**0.048**	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	NA
SB-8-14.0	14	110.82	10/15/04	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	NA
SB-8-16.0	16	108.82	10/15/04	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	NA
SB-8-25.0	25	99.82	10/15/04	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	NA

ATTACHMENT 3

Table 1

Soil Analytical Data

ARCO Service Station #2107
3310 Park Blvd, Oakland, CA

Soil Sample ID	Sample Depth (feet bgs)	Sample Elevation (feet msl)	Date Sampled	GRO/ TPH-g (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Xylenes (mg/kg)	t-Butyl Alcohol (TBA) (mg/kg)	Methyl-tert butyl-ether (MTBE) (mg/kg)	Di-isopropal ether (DIPE) (mg/kg)	Ethyl-t-Butyl-Ether (ETBE) (mg/kg)	t-Amyl Methyl Ether (TAME) (mg/kg)	Ethanol (mg/kg)
SB-8-29.5	29.5	95.32	10/15/04	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	**0.011**	ND<0.020	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	NA
SB-9-10.5	10.5	112.29	10/14/04	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	NA
SB-9-13.5	13.5	109.29	10/14/04	ND<2.5	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<5.0	**0.56**	ND<0.025	ND<0.025	ND<0.025	NA
SB-9-17.5	17.5	105.29	10/14/04	ND<0.50	ND<0.025	ND<0.025	ND<0.025	ND<0.025	ND<0.10	**0.22**	ND<0.025	ND<0.025	ND<0.025	NA
SB-9-19.5	19.5	103.29	10/14/04	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	**0.026**	**0.0069**	ND<0.0050	ND<0.0050	ND<0.0050	NA
SB-10-6.5	6.5	115.29	10/20/04	**0.51**	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	**0.025**	ND<0.0050	ND<0.0050	ND<0.0050	NA
SB-10-14.0	14	107.79	10/20/04	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	**0.048**	**0.034**	ND<0.0050	ND<0.0050	ND<0.0050	NA
SB-10-20.5	20.5	101.29	10/20/04	ND<2.5	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<5.0	**0.21**	ND<0.025	ND<0.025	ND<0.025	NA
SB-10-22.5	22.5	99.29	10/20/04	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	**0.059**	ND<0.0050	ND<0.0050	ND<0.0050	NA
SB-10-31.5	31.5	90.29	10/20/04	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	**0.011**	ND<0.0050	ND<0.0050	ND<0.0050	NA
SB-11-6.5	6.5	113.73	10/14/04	**0.31**	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	NA
SB-11-11.5	11.5	108.73	10/14/04	**220**	ND<0.25	ND<0.25	ND<0.25	ND<0.25	ND<0.25	ND<0.12	ND<0.12	ND<0.12	ND<0.12	NA
SB-11-16.5	16.5	103.73	10/14/04	**14**	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<5.0	ND<0.025	ND<0.025	ND<0.025	ND<0.025	NA
SB-11-21.5	21.5	98.73	10/14/04	**24**	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<5.0	ND<0.025	ND<0.025	ND<0.025	ND<0.025	NA
SB-11-26.0	26	94.23	10/14/04	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.020	**0.012**	ND<0.0050	ND<0.0050	ND<0.0050	NA
SB-11-28.5	28.5	91.73	10/14/04	ND<0.10	ND<0.0050	ND<0.0050	ND<0.0050	**0.012**	ND<0.020	**0.022**	ND<0.0050	ND<0.0050	ND<0.0050	NA

Notes:

1) Samples analyzed by EPA method 8260B.
2) Concentrations above laboratory reporting limits in **bold**.

bgs = below ground surface
GRO = Gasoline Range Organics
mg/kg = milligrams per kilogram
msl = mean sea level
NA = Not analyzed
ND< = Not detected below stated laboratory reporting limit
NM = Not measured
TPH-g = Total petroleum hydrocarbons as gasoline

Table 1. Summary of Depth-Discrete Soil Sampling Data
BP Service Station No. 2107
3310 Park Boulevard, Oakland, California (ACEH Case No. RO0002526)

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
SB12-9	6/26/2007	<0.10	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.020	<0.0050	<0.10	<0.0050	<0.0050
SB12-15	6/26/2007	<0.10	<0.0050	<0.0050	<0.0050	<0.0050	0.0087	<0.0050	<0.0050	<0.020	<0.0050	<0.10	<0.0050	<0.0050
SB12-23	6/26/2007	<0.10	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.020	<0.0050	<0.10	<0.0050	<0.0050
SB12-27	6/26/2007	<0.10	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.020	<0.0050	<0.10	<0.0050	<0.0050
SB13-11	6/25/2007	<0.10	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.020	<0.0050	<0.10	<0.0050	<0.0050
SB13-15	6/25/2007	<0.10	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.020	<0.0050	<0.10	<0.0050	<0.0050
SB13-21	6/25/2007	<0.10	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.020	<0.0050	<0.10	<0.0050	<0.0050
SB13-29	6/25/2007	<0.10	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.020	<0.0050	<0.10	<0.0050	<0.0050
SB14-9	6/26/2007	<0.10	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.020	<0.0050	<0.10	<0.0050	<0.0050
SB14-15	6/26/2007	<0.10	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.020	<0.0050	<0.10	<0.0050	<0.0050
SB14-19	6/26/2007	<0.10	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.020	<0.0050	<0.10	<0.0050	<0.0050
SB14-29	6/26/2007	<0.10	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.020	<0.0050	<0.10	<0.0050	<0.0050
SB15-9	6/25/2007	<0.10	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.020	<0.0050	<0.10	<0.0050	<0.0050
SB15-17	6/25/2007	<0.10	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.020	<0.0050	<0.10	<0.0050	<0.0050
SB15-23	6/25/2007	<0.10	<0.0050	<0.0050	<0.0050	<0.0050	0.0065	<0.0050	<0.0050	<0.020	<0.0050	<0.10	<0.0050	<0.0050
SB15-29	6/25/2007	<0.10	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.020	<0.0050	<0.10	<0.0050	<0.0050
Soil Quality Objectives*		5.0	1.0	42	29	17	5.0	0.8	13	12	13	—	0.05	0.5

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
* = Water Quality Objectives compiled from the CRWQCB's *A Compilation of Water Quality Goals - August 2003* and from other CRWQCB sources.

Table 1
Soil Analytical Data
Product Line Removal and Upgrade
ARCO Service Station 2107
3310 Park Boulevard
Oakland, California

Soil Sample ID	Sample Depth (feet)	Date Sampled	TPHg as Gasoline (ppm)	Benzene (ppm)	Toluene (ppm)	Ethyl-benzene (ppm)	Xylenes (ppm)	MTBE (ppm)	Pb (ppm)
Dispenser and Product Line Soil Sample Results									
S-D1	4	10/18/2002	ND<0.5	ND<1.8	ND<1.8	ND<1.8	ND<1.8	**0.061**	**6.7**
S-D2	4	10/18/2002	ND<0.5	ND<1.6	ND<1.6	ND<1.6	ND<1.6	ND<1.6	**36**
S-D3	3.5	10/18/2002	ND<0.5	ND<0.78	ND<0.78	ND<0.78	ND<0.78	**34**	**8.2**
S-D4	3.5	10/18/2002	ND<0.5	ND<1.1	ND<1.1	ND<1.1	ND<1.1	**11**	**29**
S-D5	5	10/18/2002	ND<0.5	ND<0.98	ND<0.98	ND<0.98	ND<0.98	**8.9**	ND<5.0
S-D6	5	10/18/2002	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<1.0	**17**	ND<5.0
S-D7	5	10/18/2002	**4,000**	ND<10.0	**220**	**150**	**1,100**	**19**	**7.6**
S-D8	5	10/18/2002	**2,900**	ND<10.0	**52**	**46**	**400**	**6.7**	**8.9**
S-L1	4.5	10/18/2002	ND<0.5	ND<1.2	ND<1.2	ND<1.2	ND<1.2	**19**	ND<5.0
S-L2	4	10/18/2002	ND<0.5	**0.89**	ND<0.62	ND<0.62	ND<0.62	**19**	ND<5.0
S-L3	4.5	10/18/2002	ND<0.5	ND<1.0	ND<1.0	ND<1.0	**2.3**	**83**	**10**
S-L4	5	10/18/2002	ND<0.5	ND<0.84	ND<0.84	ND<0.84	ND<0.84	**37**	ND<5.0
S-L5	5	10/18/2002	**450**	ND<2.5	**3.4**	**4.9**	**44**	ND<1.2	ND<5.0
S-L6	6.5	10/18/2002	**37**	ND<0.79	ND<0.79	ND<0.79	ND<0.79	**0.099**	**6.7**
VP-1	4	10/21/2002	ND<0.5	ND<0.005	ND<0.005	ND<0.005	ND<0.01	ND<0.025	--
VP-2	4	10/21/2002	ND<0.5	ND<0.005	ND<0.005	ND<0.005	ND<0.01	ND<0.025	--
Over-excavation Sample Results									
S-OE1	7.5	10/18/2002	**2,200**	ND<2.5	**7.9**	**7.1**	**40**	**3.4**	**5.5**
S-OE2	7.5	10/18/2002	**21**	ND<0.5	ND<0.5	ND<0.5	ND<0.5	**3.4**	**8.1**
OE-3	7	10/21/2002	ND<0.5	ND<0.005	ND<0.005	ND<0.005	ND<0.01	ND<0.025	--
OE-4	7	10/21/2002	ND<0.5	ND<0.005	ND<0.005	ND<0.005	ND<0.01	ND<0.025	--

TPH	= Total purgeable petroleum hydrocarbons using EPA Method 8015, modified.
BTEX	= Benzene, toluene, ethylbenzene, total xylenes using EPA Method 8021B.
MTBE	= Methyl Tertiary Butyl Ether.
ppm	= Parts per million.
ND<	= Less than stated laboratory detection limit.

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Subsurface Environmental Investigation
ARCO Station 2107, Oakland, California

December 30, 1992
69021.10

TABLE 1
CUMULATIVE RESULTS OF LABORATORY ANALYSES OF SOIL SAMPLES
ARCO Station 2107
Oakland, California
(Page 1 of 3)

Sample-Date	TPHg	TPHd	B	T	E	X	TOG	BNAs	VOCs	Cd	Cr	Pb	Zn
Former Waste-Oil UST Pit-January 1987													
*J-1	NA	140	0.79	5.8	2.5	14.0	NA	NA	**	NA	NA	NA	NA
Former Gasoline UST Pit-January 1987													
*S.E.	<10	<10	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA
*S.W.	<10	<10	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA
*N.E.	<10	<10	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA
*N.W.	<10	<10	NA	NA	NA	NA	<10	NA	NA	NA	NA	NA	NA
Borings-April 1990													
S-5-B3	<2.0	NA	<0.050	<0.050	<0.050	<0.050	NA	ND	ND	ND	ND	ND	ND
S-10-B3	<2.0	NA	<0.050	<0.050	<0.050	0.057	NA	ND	ND	ND	ND	ND	ND
S-20-B3	<2.0	NA	<0.050	<0.050	<0.050	<0.050	NA	ND	ND	ND	ND	ND	ND
S-10-B4	<2.0	NA	<0.050	<0.050	<0.050	<0.050	NA	ND	ND	ND	ND	ND	ND
S-5-B6	<2.0	NA	<0.050	<0.050	<0.050	<0.050	NA	ND	ND	ND	ND	ND	ND
S-7-B6	<2.0	NA	<0.050	<0.050	<0.050	<0.050	NA	ND	ND	ND	ND	ND	ND
S-13-B6	<2.0	NA	<0.050	<0.050	<0.050	<0.050	NA	ND	ND	ND	ND	ND	ND
S-20-B6	<2.0	NA	<0.050	<0.050	<0.050	<0.050	NA	ND	ND	ND	ND	ND	ND
Borings-July 1990													
S-8.5-B7	<2.0	110	<0.050	<0.050	<0.050	<0.050	<50	ND	ND	0.507	18.3	9.48	41.8
S-14-B7	<2.0	110	<0.050	<0.050	<0.050	<0.050	90	ND	ND	0.565	16.8	9.95	49.8
S-5-B8	<2.0	NA	<0.050	0.10	0.064	0.29	NA	ND	ND	ND	ND	ND	ND
S-7.5-B8	<2.0	NA	<0.050	<0.050	<0.050	<0.050	NA	NA	NA	NA	NA	<1.0*	NA
S-14.5-B8	<2.0	NA	<0.050	<0.050	<0.050	<0.050	NA	ND	ND	ND	ND	ND	ND
Borings-May 1991													
S-15.5-B9	<1.0	<1.0	<0.005	<0.005	<0.005	0.028	<30	NA	NA	NA	NA	NA	NA
S-21-B9	<1.0	<1.0	<0.008	<0.005	<0.005	0.033	<30	NA	NA	NA	NA	NA	NA
S-25.5-B9	<1.0	<1.0	<0.005	<0.005	<0.005	0.007	<30	NA	NA	NA	NA	NA	NA
S-5-B10	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<30	NA	NA	NA	NA	NA	NA
S-10-B10	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<30	NA	NA	NA	NA	NA	NA
S-15.5-B10	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<30	NA	NA	NA	NA	NA	NA
S-20.5-B10	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<30	NA	NA	NA	NA	NA	NA

See notes on page 3 of 3.

RESNA
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TABLE 1
CUMULATIVE RESULTS OF LABORATORY ANALYSES OF SOIL SAMPLES
ARCO Station 2107
Oakland, California
(Page 2 of 3)

Sample	TPHg	TPHd	B	T	E	X	TOG	BNAs	VOCs	Cd	Cr	Pb	Zn
Borings (continued)													
S-8-B11	90	43	0.18	0.050	0.16	1.1	130	NA	NA	NA	NA	NA	NA
S-12.5-B11	<1.0	3.1	<0.005	<0.005	<0.005	<0.005	<30	NA	NA	NA	NA	NA	NA
S-20-B11	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<30	NA	NA	NA	NA	NA	NA
Borings-August 1991													
S-4.5-B12	<1.0	3.3	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	NA
S-10-B12	<1.0	1.2	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	NA
S-5-B13	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	NA
Borings-October 1992													
S-9-B14	1,700	2,500	<0.0050	<0.0050	25	130	NA	NA	NA	NA	NA	NA	NA
S-11-B14	2.5	<1.0	0.023	0.0050	0.12	0.31	NA	NA	NA	NA	NA	NA	NA
S-15-B14	140	230	<0.0050	<0.0050	2.0	10	NA	NA	NA	NA	NA	NA	NA
S-20-B14	3.6	2.4	0.043	<0.0050	0.16	0.26	NA	NA	NA	NA	NA	NA	NA
Borings-June 1992													
S-5-B15	<1.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA	NA	NA	NA	NA
S-8-B15	<1.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA	NA	NA	NA	NA
S-9.5-B15	<1.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA	NA	NA	NA	NA
S-31.5-B15	<1.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA	NA	NA	NA	NA
S-5-B16	<1.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA	NA	NA	NA	NA
S-25-B16	<1.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA	NA	NA	NA	NA
Composite Stockpile													
S-0823-SP(a-d)	<1.0	NA	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA	NA	NA	NA	NA
S-0615-SP A-B6		24	<0.050	0.12	0.12	0.11	NA	NA	NA	NA	NA	NA	NA
SP-1019-A-D	55	28	0.26	0.24	0.92	3.4	NA	NA	NA	NA	NA	NA	NA
TTLC										100	2,500	1,000	5,000

See notes on page 3 of 3.

TABLE 1
CUMULATIVE RESULTS OF LABORATORY ANALYSES OF SOIL SAMPLES
ARCO Station 2107
Oakland, California
(Page 3 of 3)

Results are in parts per million (ppm)
TPHg = total petroleum hydrocarbons as gasoline
B: benzene T: toluene E: ethylbenzene X: total xylenes
BNAs = base neutral and acid extractables including polynuclear aromatics
(^c = naphthalene, ^b = 2-methylnaphthalene)
VOCs = volatile organics except for BTEX
< = Below indicated laboratory reporting limit
* = Soil sampling performed by SCS during UST removal and replacement (SCS, January 22, 1987).
** Results of VOC analysis:
2,400 ppb Acetone
65 ppb 2-Butone
790 ppb Benzene
10 Tetrachloroethene
5,800 ppb Toluene
2,500 ppb ethylbenzene
14,000 ppb Total xylenes
Nondetectable for 33 additional VOCs.

Estimated Concentrations of Tentatively Identified Extra Compounds:
2200 ppb 2-methylbutane
790 ppb methylcyclopentane
770 ppb methylcyclohexane
670 ppb 3-methylhexane
800 ppb 2,5,6-trimethyloctane

NA = Not Analyzed
* = Organic lead by DHS Method.
TTLC = Total threshold limit concentration values (Title 22 of the California Administrative Code, January 1988)

Sample Number explanation:
S-7.5-B8
S = Soil sample
7.5 = Sample depth in feet below ground surface
B8 = Boring number

Table 3. Summary of Groundwater Monitoring Data: Relative Water Elevations and Laboratory Analyses

ARCO Service Station #2107, 3310 Park Boulevard, Oakland, 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			
MW-11A															
3/9/2009	P	120.85	16.00	20.00	12.41	108.44	1,000	1.5	<1.0	13	4.8	60	9.20	12.74	
6/18/2009	P		16.00	20.00	14.58	106.27	260	11	<5.0	6.8	<5.0	280	--	9.83	a
9/1/2009	P		16.00	20.00	8.75	112.10	1,400	28	20	61	6.7	340	1.40	7.84	
11/11/2009	--		16.00	20.00	10.40	110.45	--	--	--	--	--	--	1.55	12.5	
2/19/2010	P		16.00	20.00	8.90	111.95	1,300	20	17	25	<5.0	340	2.01	12.13	
7/23/2010	P		16.00	20.00	8.37	112.48	1,300	20	22	23	<5.0	350	1.11	12.0	
3/10/2011	P		16.00	20.00	--	--	250	<5.0	5.4	<5.0	<5.0	76	4.17	12.3	b, c (GRO)
8/8/2011	NP		16.00	20.00	14.88	105.97	730	7.3	16	11	<5.0	310	1.47	12.1	
1/16/2012	P		16.00	20.00	14.08	106.77	--	--	--	--	--	--	1.43	13.77	
9/11/2012	P		16.00	20.00	14.91	105.94	220	4.4	11	6.4	<2.0	280	1.36	12.76	
3/26/2013	P		16.00	20.00	13.70	107.15	260	<2.5	4.2	<2.5	<5.0	330	5.03	12.75	
9/4/2013	**P**		**16.00**	**20.00**	**13.85**	**107.00**	**220**	**3.3**	**8.8**	**5.5**	**1.0**	**200**	**1.21**	**12.35**	
MW-11B															
3/9/2009	P	121.31	26.00	30.00	7.33	113.98	280	1.3	1.3	7.6	<0.50	240	9.56	7.14	
6/18/2009	P		26.00	30.00	7.38	113.93	130	<5.0	<5.0	<5.0	<5.0	200	--	6.96	a
9/1/2009	P		26.00	30.00	7.66	113.65	69	<5.0	<5.0	<5.0	<5.0	210	1.01	7.01	
11/11/2009	P		26.00	30.00	7.70	113.61	55	<5.0	<5.0	<5.0	<5.0	200	0.38	6.7	
2/19/2010	P		26.00	30.00	7.59	113.72	68	<2.5	<2.5	<2.5	<2.5	180	2.38	7.44	
7/23/2010	P		26.00	30.00	7.42	113.89	<50	<2.5	<2.5	<2.5	<2.5	110	1.57	7.02	
3/10/2011	P		26.00	30.00	7.25	114.06	<50	<1.0	<1.0	<1.0	<1.0	58	1.86	6.8	
8/8/2011	P		26.00	30.00	7.24	114.07	<50	<1.0	<1.0	<1.0	<1.0	60	1.33	7.8	
1/16/2012	P		26.00	30.00	7.96	113.35	<50	<1.0	<1.0	<1.0	<1.0	47	4.33	8.8	
9/11/2012	P		26.00	30.00	7.61	113.70	<50	<0.50	<0.50	<0.50	<1.0	27	1.17	7.07	
3/26/2013	P		26.00	30.00	7.57	113.74	<50	<0.50	<0.50	<0.50	<1.0	26	1.95	6.85	
9/4/2013	**P**		**26.00**	**30.00**	**7.78**	**113.53**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**19**	**1.62**	**6.92**	
MW-12A															
3/9/2009	P	120.64	13.00	18.00	8.70	111.94	<50	<0.50	<0.50	<0.50	<0.50	41	4.62	6.76	
6/18/2009	P		13.00	18.00	8.58	112.06	<50	<1.0	<1.0	<1.0	<1.0	40	--	7.92	a
9/1/2009	P		13.00	18.00	9.21	111.43	<50	<0.50	<0.50	<0.50	<0.50	39	1.06	6.97	

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Table 3. Summary of Groundwater Monitoring Data: Relative Water Elevations and Laboratory Analyses

ARCO Service Station #2107, 3310 Park Boulevard, Oakland, 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			
MW-12A Cont.															
11/11/2009	P	120.64	13.00	18.00	9.15	111.49	<50	<1.0	<1.0	<1.0	<1.0	41	0.51	6.2	
2/19/2010	P		13.00	18.00	9.13	111.51	<50	<0.50	<0.50	<0.50	<0.50	32	0.38	6.58	
7/23/2010	P		13.00	18.00	9.18	111.46	<50	<0.50	<0.50	<0.50	<0.50	34	0.68	7.6	
3/10/2011	P		13.00	18.00	8.43	112.21	<50	<0.50	<0.50	<0.50	<0.50	27	1.66	6.7	
8/8/2011	P		13.00	18.00	8.33	112.31	<50	<0.50	<0.50	<0.50	<0.50	32	3.40	7.5	
1/16/2012	P		13.00	18.00	9.12	111.52	<50	<0.50	<0.50	<0.50	<0.50	18	0.84	7.32	
9/11/2012	P		13.00	18.00	8.95	111.69	<50	<0.50	<0.50	<0.50	<1.0	22	1.20	6.99	
3/26/2013	P		13.00	18.00	8.68	111.96	<50	<0.50	<0.50	<0.50	<1.0	17	1.07	6.76	
9/4/2013	**P**		**13.00**	**18.00**	**9.14**	**111.50**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**11**	**2.91**	**6.85**	
MW-12B															
3/9/2009	P	120.84	27.00	30.00	14.89	105.95	<50	<0.50	0.55	<0.50	<0.50	150	5.87	7.74	
6/18/2009	P		27.00	30.00	13.51	107.33	140	<2.5	<2.5	<2.5	<2.5	380	--	8.60	a
9/1/2009	P		27.00	30.00	9.54	111.30	89	<10	<10	<10	<10	460	0.99	6.88	
11/11/2009	P		27.00	30.00	11.53	109.31	<50	<5.0	<5.0	<5.0	<5.0	600	1.00	6.46	
2/19/2010	P		27.00	30.00	11.07	109.77	52	<5.0	<5.0	<5.0	<5.0	620	3.32	6.89	
7/23/2010	P		27.00	30.00	10.75	110.09	<50	<10	<10	<10	<10	510	1.70	7.54	
3/10/2011	P		27.00	30.00	10.05	110.79	<50	<10	<10	<10	<10	700	2.71	6.9	
8/8/2011	P		27.00	30.00	9.35	111.49	<50	<10	<10	<10	<10	510	1.70	6.9	
1/16/2012	P		27.00	30.00	9.45	111.39	<50	<12	<12	<12	<12	840	3.36	7.0	
9/11/2012	P		27.00	30.00	9.31	111.53	<50	<5.0	<5.0	<5.0	<10	790	1.13	7.13	
3/26/2013	p		27.00	30.00	8.86	111.98	<50	<0.50	<0.50	<0.50	<1.0	34	4.93	7.03	
9/4/2013	**P**		**27.00**	**30.00**	**9.52**	**111.32**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**2.9**	**2.96**	**6.97**	
MW-13A															
3/9/2009	P	114.55	11.50	16.50	9.53	105.02	<50	<0.50	<0.50	<0.50	<0.50	13	9.39	7.64	
6/18/2009	P		11.50	16.50	2.88	111.67	<50	<0.50	<0.50	<0.50	<0.50	23	--	7.21	a
9/1/2009	P		11.50	16.50	3.31	111.24	<50	<0.50	<0.50	<0.50	<0.50	34	0.96	6.90	
11/11/2009	P		11.50	16.50	3.66	110.89	<50	<0.50	<0.50	<0.50	<0.50	21	1.79	6.5	
2/19/2010	P		11.50	16.50	3.43	111.12	<50	<0.50	<0.50	<0.50	<0.50	15	0.92	6.69	
7/23/2010	P		11.50	16.50	3.22	111.33	<50	<0.50	<0.50	<0.50	<0.50	24	1.4	7.0	

Table 3. Summary of Groundwater Monitoring Data: Relative Water Elevations and Laboratory Analyses

ARCO Service Station #2107, 3310 Park Boulevard, Oakland, 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			
MW-13A Cont.															
3/10/2011	P	114.55	11.50	16.50	2.57	111.98	<50	<0.50	<0.50	<0.50	<0.50	12	0.76	6.7	
8/8/2011	P		11.50	16.50	8.43	106.12	<50	<0.50	<0.50	<0.50	<0.50	29	3.59	7.2	
1/16/2012	P		11.50	16.50	3.11	111.44	<50	<0.50	<0.50	<0.50	<0.50	37	1.25	7.08	
9/11/2012	P		11.50	16.50	3.03	111.52	<50	<0.50	<0.50	<0.50	<1.0	64	1.50	6.98	
3/26/2013	p		11.50	16.50	2.74	111.81	<50	<0.50	<0.50	<0.50	<1.0	51	1.19	6.76	
9/4/2013	**P**		**11.50**	**16.50**	**3.28**	**111.27**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**76**	**3.18**	**6.81**	
MW-13B															
3/9/2009	P	114.75	18.50	22.50	2.96	111.79	<50	<0.50	<0.50	<0.50	<0.50	13	8.44	6.99	
6/18/2009	P		18.50	22.50	2.85	111.90	<50	<0.50	<0.50	<0.50	<0.50	12	--	6.92	a
9/1/2009	P		18.50	22.50	3.36	111.39	<50	<0.50	<0.50	<0.50	<0.50	17	0.96	7.29	
11/11/2009	P		18.50	22.50	3.49	111.26	<50	<0.50	<0.50	<0.50	<0.50	21	2.45	6.39	
2/19/2010	P		18.50	22.50	3.10	111.65	<50	<0.50	<0.50	<0.50	<0.50	19	1.46	6.50	
7/23/2010	P		18.50	22.50	2.74	112.01	<50	<0.50	<0.50	<0.50	<0.50	15	1.16	7.19	
3/10/2011	P		18.50	22.50	3.72	111.03	<50	<0.50	<0.50	<0.50	<0.50	31	0.72	6.6	
8/8/2011	P		18.50	22.50	2.48	112.27	<50	<0.50	<0.50	<0.50	<0.50	32	1.51	6.8	
1/16/2012	P		18.50	22.50	3.47	111.28	<50	<0.50	<0.50	<0.50	<0.50	49	0.86	6.8	
9/11/2012	P		18.50	22.50	3.15	111.60	<50	<0.50	<0.50	<0.50	<1.0	63	1.62	7.05	
3/26/2013	p		18.50	22.50	2.92	111.83	<50	<0.50	<0.50	<0.50	<1.0	62	1.37	6.86	
9/4/2013	**P**		**18.50**	**22.50**	**3.42**	**111.33**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**45**	**3.41**	**7.07**	

Symbols & Abbreviations:
-- = Not measured/applicable/analyzed/sampled
µg/L = Micrograms per liter
DO = Dissolved oxygen
DTW = Depth to water in ft below TOC
GRO = Gasoline range organics
mg/L = Milligrams per liter
MTBE = Methyl tert butyl ether
< = Not detected at or above specified laboratory reporting limit
NP = Well not purged prior to sampling
P = Well purged prior to sampling
TOC = Top of casing in ft above NAVD88 datum

Footnotes:
a = DO meter not working
b = Well full of water
c = Quantitation of unknown hydrocarbons(s) in sample based on gasoline

Notes:
Values for DO and pH were obtained through field measurements

Table 4. Summary of Fuel Additives Analytical Data

ARCO Service Station #2107, 3310 Park Boulevard, Oakland, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
MW-11A									
3/9/2009	--	<20	60	<1.0	<1.0	<1.0	--	--	
6/18/2009	<3,000	<100	280	<5.0	<5.0	<5.0	<5.0	<5.0	
9/1/2009	<3,000	<100	340	<5.0	<5.0	5.3	<5.0	<5.0	
2/19/2010	<3,000	<100	340	<5.0	<5.0	6.1	<5.0	<5.0	
7/23/2010	<3,000	<100	350	<5.0	<5.0	6.5	<5.0	<5.0	
3/10/2011	<6,000	<100	76	<5.0	<5.0	<5.0	<5.0	<5.0	
8/8/2011	<3,000	<100	310	<5.0	<5.0	<5.0	<5.0	<5.0	
9/11/2012	<300	<20	280	<1.0	<1.0	4.1	<1.0	<1.0	
3/26/2013	<750	<50	330	<2.5	<2.5	3.9	<2.5	<2.5	
9/4/2013	**<150**	**22**	**200**	**<0.50**	**<0.50**	**3.5**	**<0.50**	**<0.50**	
MW-11B									
3/9/2009	--	<10	240	<0.50	<0.50	3.1	--	--	
6/18/2009	<3,000	<100	200	<5.0	<5.0	<5.0	<5.0	<5.0	
9/1/2009	<3,000	<100	210	<5.0	<5.0	<5.0	<5.0	<5.0	
11/11/2009	<3,000	<100	200	<5.0	<5.0	<5.0	<5.0	<5.0	
2/19/2010	<1,500	<50	180	<2.5	<2.5	<2.5	<2.5	<2.5	
7/23/2010	<1,500	<50	110	<2.5	<2.5	<2.5	<2.5	<2.5	
3/10/2011	<600	<20	58	<1.0	<1.0	<1.0	<1.0	<1.0	
8/8/2011	<600	<20	60	<1.0	<1.0	<1.0	<1.0	<1.0	
1/16/2012	<600	33	47	<1.0	<1.0	<1.0	<1.0	<1.0	
9/11/2012	<150	<10	27	<0.50	<0.50	<0.50	<0.50	<0.50	
3/26/2013	<150	<10	26	<0.50	<0.50	<0.50	<0.50	<0.50	
9/4/2013	**<150**	**<10**	**19**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	
MW-12A									
3/9/2009	--	<10	41	<0.50	<0.50	<0.50	--	--	
6/18/2009	<600	<20	40	<1.0	<1.0	<1.0	<1.0	<1.0	
9/1/2009	<300	<10	39	<0.50	<0.50	<0.50	<0.50	<0.50	
11/11/2009	<600	<20	41	<1.0	<1.0	<1.0	<1.0	<1.0	
2/19/2010	<300	<10	32	<0.50	<0.50	<0.50	<0.50	<0.50	
7/23/2010	<300	<10	34	<0.50	<0.50	<0.50	<0.50	<0.50	

Table 4. Summary of Fuel Additives Analytical Data

ARCO Service Station #2107, 3310 Park Boulevard, Oakland, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
MW-12A Cont.									
3/10/2011	<300	<10	27	<0.50	<0.50	<0.50	<0.50	<0.50	
8/8/2011	<300	<10	32	<0.50	<0.50	<0.50	<0.50	<0.50	
1/16/2012	<300	19	18	<0.50	<0.50	<0.50	<0.50	<0.50	
9/11/2012	<150	<10	22	<0.50	<0.50	<0.50	<0.50	<0.50	
3/26/2013	<150	<10	17	<0.50	<0.50	<0.50	<0.50	<0.50	
9/4/2013	**<150**	**<10**	**11**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	
MW-12B									
3/9/2009	--	<10	150	<0.50	<0.50	<0.50	--	--	
6/18/2009	<1,500	<50	380	<2.5	<2.5	<2.5	<2.5	<2.5	
9/1/2009	<6,000	<200	460	<10	<10	<10	<10	<10	
11/11/2009	<3,000	<100	600	<5.0	<5.0	<5.0	<5.0	<5.0	
2/19/2010	<3,000	<100	620	<5.0	<5.0	5.1	<5.0	<5.0	
7/23/2010	<6,000	<200	510	<10	<10	<10	<10	<10	
3/10/2011	<6,000	<200	700	<10	<10	<10	<10	<10	
8/8/2011	<6,000	<200	510	<10	<10	<10	<10	<10	
1/16/2012	<7,500	320	840	<12	<12	<12	<12	<12	
9/11/2012	<1,500	<100	790	<5.0	<5.0	8.7	<5.0	<5.0	
3/26/2013	<150	<10	34	<0.50	<0.50	<0.50	<0.50	<0.50	
9/4/2013	**<150**	**<10**	**2.9**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	
MW-13A									
3/9/2009	--	<10	13	<0.50	<0.50	<0.50	--	--	
6/18/2009	<300	<10	23	<0.50	<0.50	<0.50	<0.50	<0.50	
9/1/2009	<300	<10	34	<0.50	<0.50	<0.50	<0.50	<0.50	
11/11/2009	<300	<10	21	<0.50	<0.50	<0.50	<0.50	<0.50	
2/19/2010	<300	<10	15	<0.50	<0.50	<0.50	<0.50	<0.50	
7/23/2010	<300	<10	24	<0.50	<0.50	<0.50	<0.50	<0.50	
3/10/2011	<300	<10	12	<0.50	<0.50	<0.50	<0.50	<0.50	
8/8/2011	<300	<10	29	<0.50	<0.50	<0.50	<0.50	<0.50	
1/16/2012	<300	26	37	<0.50	<0.50	<0.50	<0.50	<0.50	
9/11/2012	<150	<10	64	<0.50	<0.50	<0.50	<0.50	<0.50	

Table 4. Summary of Fuel Additives Analytical Data

ARCO Service Station #2107, 3310 Park Boulevard, Oakland, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
MW-13A Cont.									
3/26/2013	<150	<10	51	<0.50	<0.50	<0.50	<0.50	<0.50	
9/4/2013	**<150**	**<10**	**76**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	
MW-13B									
3/9/2009	--	<10	13	<0.50	<0.50	<0.50	--	--	
6/18/2009	<300	<10	12	<0.50	<0.50	<0.50	<0.50	<0.50	
9/1/2009	<300	<10	17	<0.50	<0.50	<0.50	<0.50	<0.50	
11/11/2009	<300	<10	21	<0.50	<0.50	<0.50	<0.50	<0.50	
2/19/2010	<300	<10	19	<0.50	<0.50	<0.50	<0.50	<0.50	
7/23/2010	<300	<10	15	<0.50	<0.50	<0.50	<0.50	<0.50	
3/10/2011	<300	<10	31	<0.50	<0.50	<0.50	<0.50	<0.50	
8/8/2011	<300	<10	32	<0.50	<0.50	<0.50	<0.50	<0.50	
1/16/2012	<300	19	49	<0.50	<0.50	<0.50	<0.50	<0.50	
9/11/2012	<150	<10	63	<0.50	<0.50	<0.50	<0.50	<0.50	
3/26/2013	<150	<10	62	<0.50	<0.50	<0.50	<0.50	<0.50	
9/4/2013	**<150**	**<10**	**45**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	

Symbols & Abbreviations:
-- = Not analyzed/applicable/measurable
< = Not detected above reported detection limit
1,2-DCA = 1,2-Dichloroethane
µg/L = Micrograms per Liter
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

Notes:
All volatile organic compounds analyzed using EPA Method 8260B

Table 2
Grab-Groundwater Analytical Results
December 2013 and January 2014 CPT Investigation
ARCO Station No. 2107
3310 Park Boulevard, Oakland, California

Boring Identification	Grab-Groundwater Sample Depth (feet bgs)	Date Collected	GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TBA (µg/L)	DIPE (µg/L)	1,2-DCA (µg/L)	Ethanol (µg/L)
CPT-1	14	1/2/2014	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	77	ND<0.50	ND<0.50	ND<10	ND<0.50	ND<0.50	ND<150
CPT-2	15	1/2/2014	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	2.7	ND<0.50	ND<0.50	ND<10	ND<0.50	ND<0.50	ND<150
CPT-3	13	1/2/2014	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	7.0	ND<0.50	ND<0.50	ND<10	ND<0.50	ND<0.50	ND<150
CPT-3	22	1/2/2014	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	1.6	ND<0.50	ND<0.50	ND<10	ND<0.50	ND<0.50	ND<150
CPT-5	30	1/3/2014	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50	ND<0.50	ND<10	ND<0.50	ND<0.50	ND<150
CPT-5	42	1/3/2014	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	7.2	ND<0.50	ND<0.50	ND<10	ND<0.50	ND<0.50	ND<150
CPT-6	28	12/30/2013	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50	ND<0.50	ND<10	ND<0.50	ND<0.50	ND<150
CPT-6	40	12/30/2013	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	0.75	ND<0.50	ND<0.50	ND<10	ND<0.50	ND<0.50	ND<150
CPT-7	34	12/30/2013	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50	ND<0.50	ND<10	ND<0.50	ND<0.50	ND<150
CPT-7	44	12/30/2013	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	0.84	ND<0.50	ND<0.50	ND<10	ND<0.50	ND<0.50	ND<150
CPT-8	40	12/30/2013	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50	ND<0.50	ND<10	ND<0.50	ND<0.50	ND<150
CPT-8	55	12/30/2013	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50	ND<0.50	ND<10	ND<0.50	ND<0.50	ND<150
CPT-9	40	1/3/2014	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50	ND<0.50	ND<10	ND<0.50	ND<0.50	ND<150
CPT-10	31	12/27/2013	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	1.6	ND<0.50	ND<0.50	ND<10	ND<0.50	ND<0.50	ND<150
CPT-10	43	12/27/2013	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50	ND<0.50	ND<10	ND<0.50	ND<0.50	ND<150
ESLs			100	1.0	40	30	20	5	NA	NA	NA	NA	0.5	5000

Notes:

feet bgs = feet below ground surface
µg/L = micrograms per liter
GRO = gasoline range organics (C6-C12)
MTBE = methyl tert-butyl ether
ETBE = ethyl tert-butyl ether
TAME = tert-amyl methyl ether
TBA = tert butyl alcohol
DIPE = di isopropyl ether
1,2-DCA = 1,2-dichloroethane

ND<X.XX = not detected above reporting limit of X.XX µg/L
ESLs = Environmental Screening Levels as presented in *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater - Interim Final December 2013* assuming a commercial/industrial exposure scenrio where groundwater is a potential drinking water resource

Table 2
Groundwater Analytical Data
ARCO Service Station #2107
3310 Park Blvd, Oakland, CA

Sample ID	Elevation (msl)	Sample Depth/ Interval (feet bgs)	Sample elevation (msl)	Date Sampled	GRO/ TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	t-Butyl Alcohol (TBA) (µg/L)	MTBE (µg/L)	Di-isopropal ether (DIPE) (µg/L)	Ethyl-t-Butyl-Ether (ETBE) (µg/L)	tert-Amyl Methyl Ether (TAME) (µg/L)	Ethanol (µg/L)
SB-1	128.26	18.5	109.8	03/30/04	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	ND<0.50	ND<1.0	ND<0.50	ND<0.50	ND<50
SB-2	126.532	23	103.532	03/30/04	ND<50	ND<0.50	**1.4**	ND<0.50	ND<1.0	ND<5.0	ND<0.50	ND<1.0	ND<0.50	ND<0.50	ND<50
SB-3	123.867	32	91.867	05/07/04	**88**	ND<0.50	ND<0.50	ND<0.50	ND<1.0	**110**	**34**	ND<1.0	ND<0.50	**1.1**	ND<50
SB-5	122.964	19.5	103.464	03/30/04	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	**45**	**34**	ND<1.0	ND<0.50	ND<0.50	ND<50
HP-3-35	123.867	31-35	88.9- 92.9	10/15/04	ND<50	**0.64**	**10**	**1.5**	**8.9**	ND<5.0	**3.8**	ND<1.0	ND<0.50	ND<0.50	ND<50
HP-4-18	126.217	18-22	104.2- 108.2	10/14/04	**140**	**1.6**	**38**	**5.4**	**27**	ND<20	ND<0.50	ND<0.50	ND<0.50	ND<0.50	NA
HP-4-30	126.217	26-30	96.2- 100.2	10/14/04	**96**	**0.91**	**23**	**3.5**	**17**	ND<20	ND<0.50	ND<0.50	ND<0.50	ND<0.50	NA
HP-5-18	124.821	18-22	102.8- 106.8	10/20/04	ND<50	ND<0.50	**7**	**0.94**	**6.2**	ND<20	ND<0.50	ND<0.50	ND<0.50	ND<0.50	NA
HP-5-29	124.821	25-29	95.8- 99.8	10/20/04	ND<50	ND<0.50	**9.2**	**1.2**	**7**	ND<20	ND<0.50	ND<0.50	ND<0.50	ND<0.50	NA
HP-6-8	122.792	8-12	110.8- 114.8	10/14/04	ND<250	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<100	**92**	ND<2.5	ND<2.5	ND<2.5	NA
HP-6-20	122.792	16-20	102.8- 106.8	10/14/04	**170**	ND<1.0	**15**	**2.9**	**16**	**76**	**82**	ND<1.0	ND<1.0	ND<1.0	NA
HP-6-30	122.792	26-30	92.8- 96.8	10/14/04	**72**	ND<0.50	**13**	**2.2**	**13**	ND<20	**6.6**	ND<0.50	ND<0.50	ND<0.50	NA
HP-7-20	121.791	16-20	101.8- 105.8	10/20/04	**1300**	ND<10	ND<10	ND<10	ND<10	ND<400	**1200**	ND<10	ND<10	ND<10	NA
HP-7-30	121.791	26-30	91.8- 95.8	10/20/04	ND<5,000	ND<50	ND<50	ND<50	ND<50	ND<2,000	**3700**	ND<50	ND<50	ND<50	NA
HP-8-27	120.229	23-27	93.2- 97.2	10/15/04	ND<2,500	ND<25	28	ND<25	28	ND<1,000	**2100**	ND<25	ND<25	ND<25	NA
HP-8-34	120.229	30-34	86.2- 90.2	10/15/04	ND<2,500	ND<25	ND<25	ND<25	ND<25	ND<1,000	**880**	ND<25	ND<25	ND<25	NA

Notes:

1) Groundwater samples analyzed by EPA method 8260B.

2) Concentrations above laboratory reporting limits in **bold**.

3) SB- indicates groundwater grab sample from bottom of soil boring. HP- indicates depth distrete groundwater sample using a hydropunch.

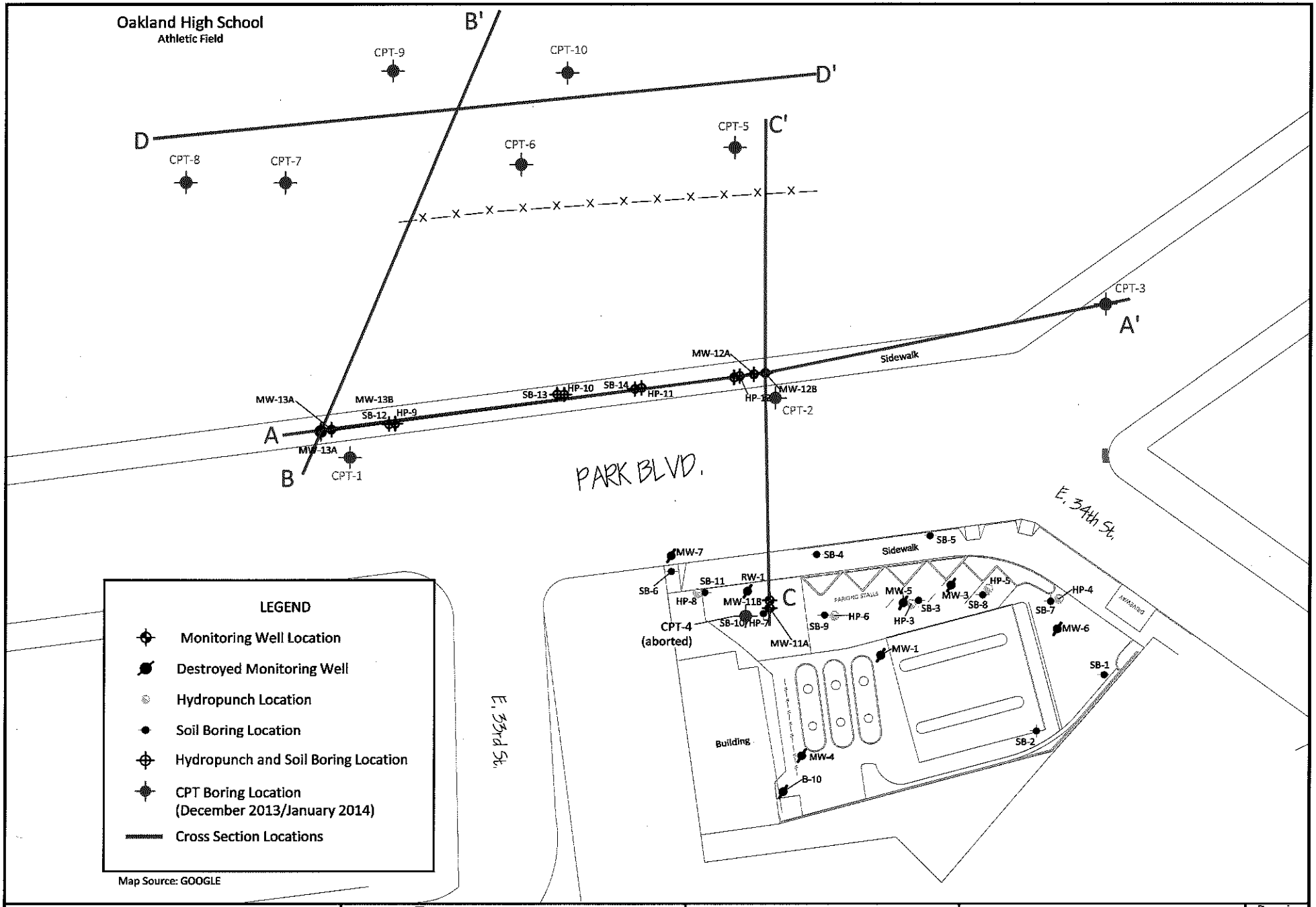
bgs = below ground surface
ESL =Environmental Screening Level
GRO = Gasoline Range Organics
(mg/L) = micrograms per litre
msl =Mean sea level
MTBE = methyl tertiary butyl ether.
NA = Not Analyzed
ND< = Not detected below stated laboratory reporting limit
TPH-g = Total petroleum hydrocarbons as gasoline

Table 2. Summary of Depth-Discrete Ground-Water Sampling Data
BP Service Station No. 2107
3310 Park Boulevard, Oakland, California (ACEH Case No. RO0002526)

Boring I.D.	Date	Laboratory Analytical Results (µg/l)												
		GRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	DIPE	ETBE	TBA	TAME	Ethanol	EDB	1,2 DCA
HP9-13	6/26/2007	51 [1]	<0.50	<0.50	<0.50	<0.50	67	<0.50	<0.50	<20	<0.50	<300	<0.50	<0.50
HP9-21	6/26/2007	<50	<0.50	<0.50	<0.50	<0.50	7.4	<0.50	<0.50	<20	<0.50	<300	<0.50	<0.50
HP10-16	6/26/2007	<50	<0.50	<0.50	<0.50	<0.50	0.78	<0.50	<0.50	<20	<0.50	<300	<0.50	<0.50
HP10-24	6/26/2007	<50	0.80	<0.50	<0.50	<0.50	50	<0.50	<0.50	<20	<0.50	<300	<0.50	<0.50
HP11-24	6/26/2007	59	0.63	<0.50	<0.50	<0.50	66	<0.50	<0.50	<20	<0.50	<300	<0.50	<0.50
HP12-19	6/25/2007	<50	<0.50	<0.50	<0.50	<0.50	30	<0.50	<0.50	<20	<0.50	<300	<0.50	<0.50
HP12-25	6/25/2007	84 [1]	<1.0	<1.0	<1.0	<1.0	110	<1.0	<1.0	<40	<1.0	<600	<1.0	<1.0
Water Quality Objectives*		5.0	1.0	42	29	17	5.0	0.8	1.8	12	1.8	1,800	0.05	0.5

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

[1] = Hydrocarbon result partly due to individual peak(s) in quantitation range
* = Water Quality Objectives compiled from the CRWQCB's *A Compilation of Water Quality Goals - August 2003* and from other CRWQCB sources.



0 30 60

SCALE (ft)

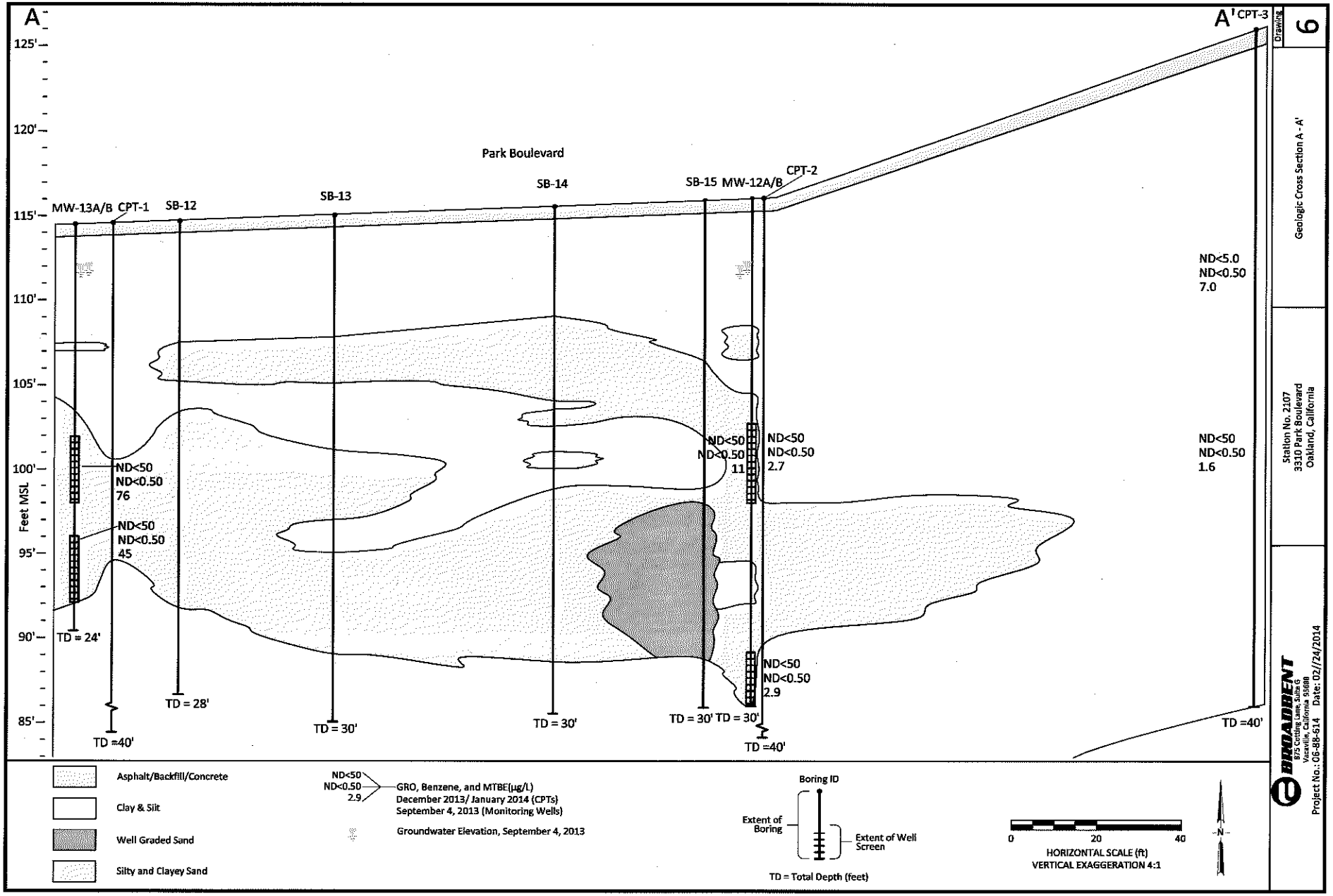
BROADBENT
875 Cotting Lane, Suite G
Vacaville, California 95688
Project No.: 06-88-614 Date: 02/25/2014

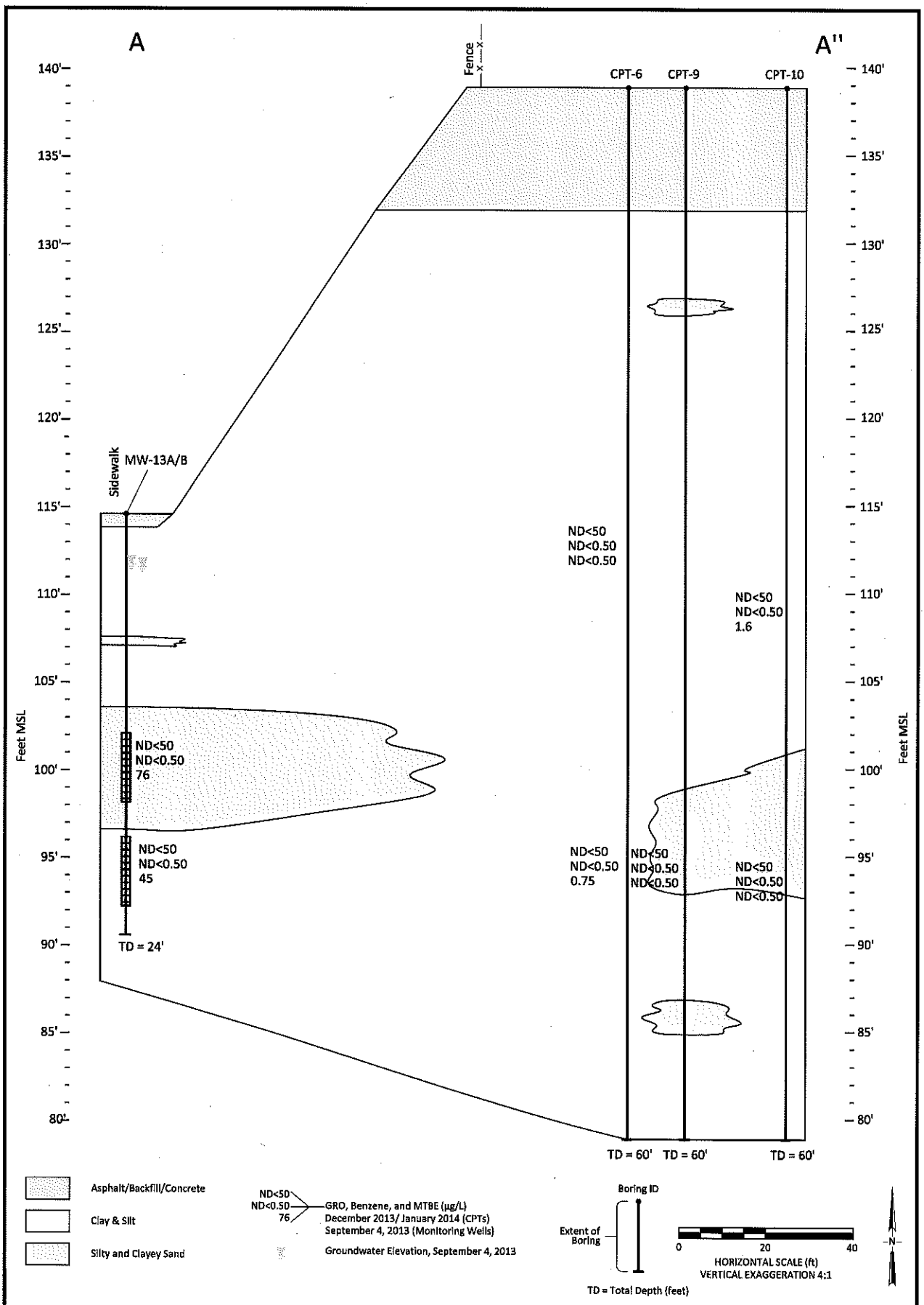
Station No. 2107
3310 Park Boulevard
Oakland, California

Cross Section Location Map

Drawing 5

ATTACHMENT 5


A
A'
125'
120'
115'
110'
105'
100'
95'
90'
85'
Feet MSL
Park Boulevard
MW-13A/B
CPT-1
SB-12
SB-13
SB-14
SB-15
MW-12A/B
CPT-2
CPT-3
ND<50
ND<0.50
76
ND<50
ND<0.50
45
TD = 24'
TD =40'
TD = 28'
TD = 30'
TD = 30'
TD = 30'
TD = 30'
TD =40'
ND<50
ND<0.50
11
ND<50
ND<0.50
2.7
ND<50
ND<0.50
2.9
ND<5.0
ND<0.50
7.0
ND<50
ND<0.50
1.6
TD =40'
Asphalt/Backfill/Concrete
Clay & Silt
Well Graded Sand
Silty and Clayey Sand
ND<50
ND<0.50
2.9
GRO, Benzene, and MTBE(µg/L)
December 2013/ January 2014 (CPTs)
September 4, 2013 (Monitoring Wells)
Groundwater Elevation, September 4, 2013
Boring ID
Extent of Boring
Extent of Well Screen
TD = Total Depth (feet)
0
20
40
HORIZONTAL SCALE (ft)
VERTICAL EXAGGERATION 4:1
N
Drawing
6
Geologic Cross Section A - A'
Station No. 2107
3310 Park Boulevard
Oakland, California
BROADBENT
875 Cotting Lane, Suite G
Vacaville, California 95688
Project No.: 06-88-614 Date: 02//24/2014



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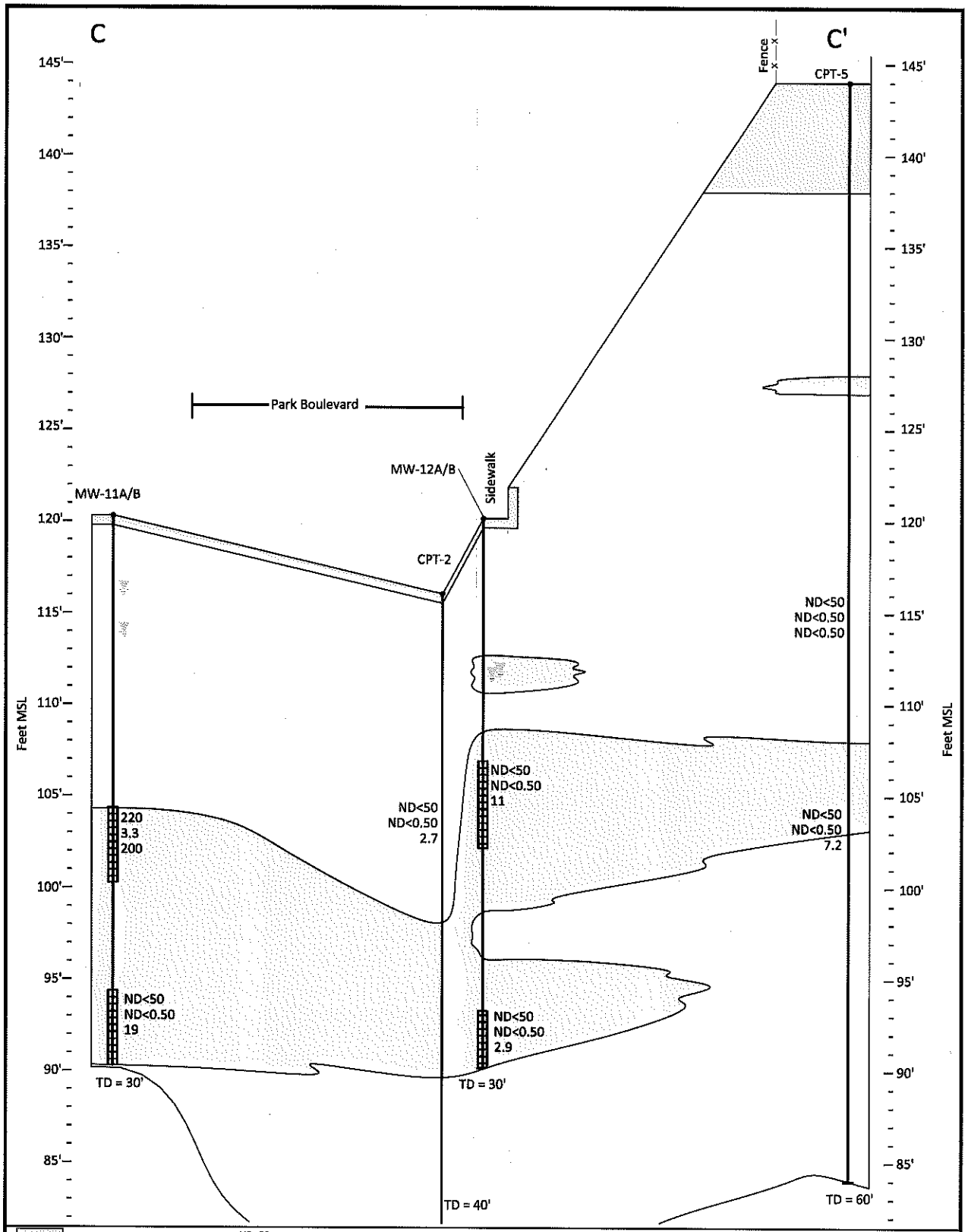
Station No. 2107
3310 Park Boulevard
Oakland, California

Geologic Cross Section A-A'''

Drawing
7



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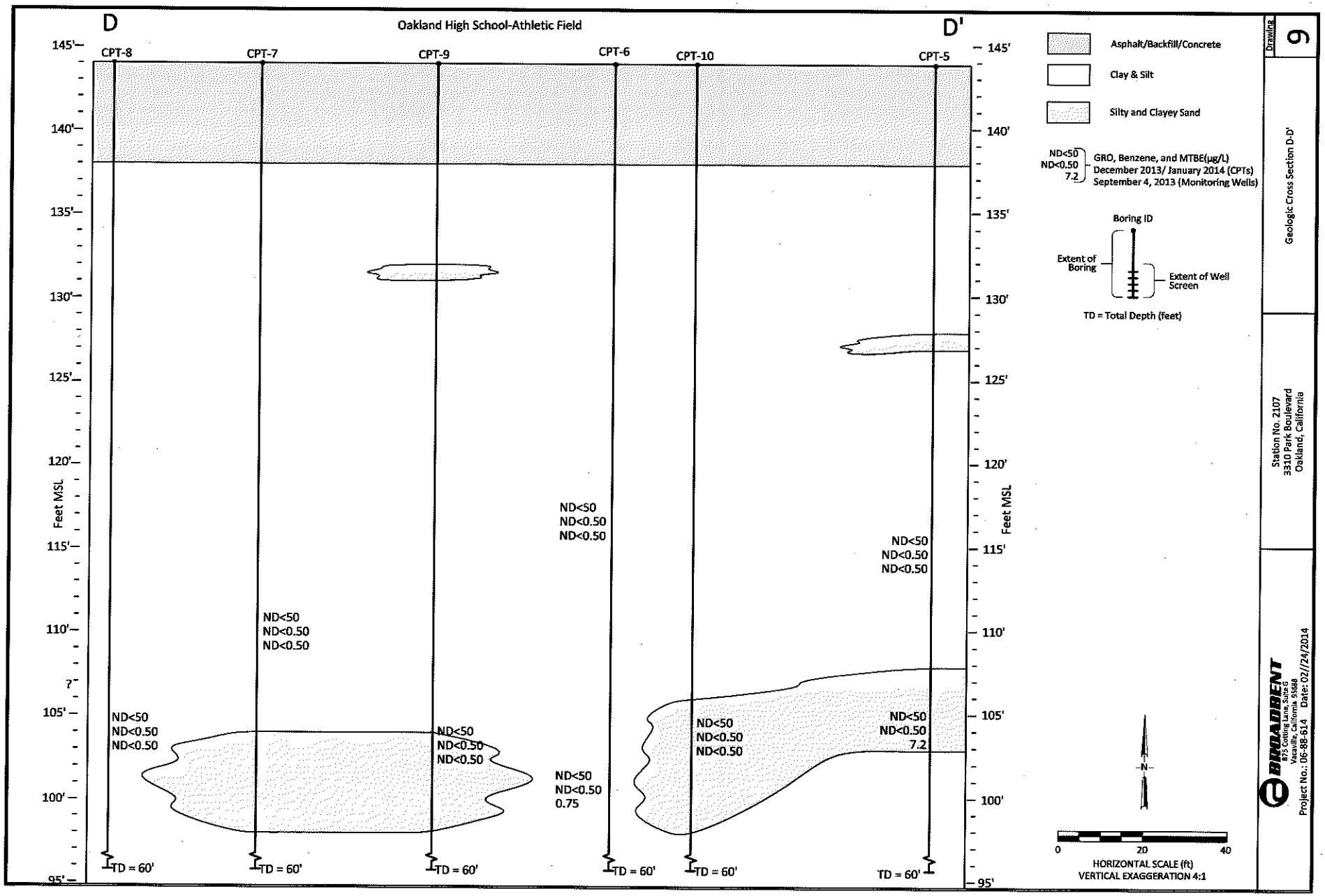
Station No. 2107
3310 Park Boulevard
Oakland, California

Geologic Cross Section C-C'

Drawing
8


D
Oakland High School-Athletic Field
D'
CPT-8
CPT-7
CPT-9
CPT-6
CPT-10
CPT-5
145'
140'
135'
130'
125'
120'
115'
110'
105'
100'
95'
Feet MSL
ND<50
ND<0.50
ND<0.50
ND<50
ND<0.50
ND<0.50
ND<50
ND<0.50
ND<0.50
ND<50
ND<0.50
0.75
ND<50
ND<0.50
ND<0.50
ND<50
ND<0.50
7.2
ND<50
ND<0.50
ND<0.50
TD = 60'
TD = 60'
TD = 60'
TD = 60'
TD = 60'
TD = 60'
Asphalt/Backfill/Concrete
Clay & Silt
Silty and Clayey Sand
ND<50
ND<0.50
7.2
GRO, Benzene, and MTBE(µg/L)
December 2013/ January 2014 (CPTs)
September 4, 2013 (Monitoring Wells)
Boring ID
Extent of Boring
Extent of Well Screen
TD = Total Depth (feet)
N
0
20
40
HORIZONTAL SCALE (ft)
VERTICAL EXAGGERATION 4:1
Drawing
9
Geologic Cross Section D-D'
Station No. 2107
3310 Park Boulevard
Oakland, California
BROADBENT
875 Cotting Lane, Suite G
Vacaville, California 95688
Project No.: 06-88-614 Date: 02//24/2014