ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Director

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

November 17, 2015

Chuck Carmel
BP Remediation Management
4 Centerpointe Drive, Suite 200
Room LPR 4-222
La Palma, CA 90623
(*Sent via E-mail to: charles.carmel@bp.com*)

Choonghun Chun
286 South Livermore Avenue
Livermore, CA 94550-4652

Subject: Case Closure for Fuel Leak Case No. RO0002873 and GeoTracker Global ID T0600124081, ARCO #0498, 286 South Livermore Avenue, Livermore, CA 94550

Dear Mr. Carmel and Choonghun Chun:

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.waterboards.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,

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

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

Cc w/enc.:

Danielle Stefani, Livermore Pleasanton Fire Department, 3560 Nevada St, Pleasanton, CA 94566 (*Sent via E-mail to: dstefani@lpfire.org*)

Colleen Winey (QIC 8021), Zone 7 Water Agency, 100 North Canyons Pkwy, Livermore, CA 94551 (*Sent via E-mail to: cwiney@zone7water.com*)

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

City of Livermore Planning Division, 1052 South Livermore Avenue, Livermore, CA 94550 (*Sent via E-mail to: planning@cityof livermore.net*)

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

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

November 17, 2015

Chuck Carmel
BP Remediation Management
4 Centerpointe Drive, Suite 200
Room LPR 4-222
La Palma, CA 90623
(*Sent via E-mail to: charles.carmel@bp.com*)

Choonghun Chun
286 South Livermore Avenue
Livermore, CA 94550-4652

Subject: Case Closure for Fuel Leak Case No. RO0002873 and GeoTracker Global ID T0600124081, ARCO #0498, 286 South Livermore Avenue, Livermore, CA 94550

Dear Mr. Carmel and Choonghun Chun:

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,

Ronald Browder
Acting Director
Department of Environmental Health

UST Case Closure Summary Form

Agency Information Date: May 27, 2015

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

Case Information

Facility Name: ARCO #0498		
Facility Address: 286 South Livermore Avenue, Livermore, CA 94550		
RB LUSTIS Case No: ----	Local Case No.: ---	LOP Case No.: RO0002873
URF Filing Date: 2/15/2005	GeoTracker Global ID: T0600124081	
APN: 97-109-6	Current Land Use: Active fueling station	
Responsible Party(s):	Address:	Phone:
Chuck Carmel BP Remediation Management	4 Centerpointe Drive, Suite 200 Room LPR 4-222 La Palma, CA 90623	
Choonghun Chun	286 South Livermore Avenue Livermore, CA 94550-4652	

Conceptual Site Model (Attachment 1, 4 pages)

Closure Criteria Met (Attachment 2, 2 pages)

LTCP Groundwater Specific Criteria (Attachment 3, 1 page)

LTCP Vapor Specific Criteria (Attachment 4, 1 page)

LTCP Direct Contact and Outdoor Air Exposure Criteria (Attachment 5, 1 page)

Optional Site Maps (Attachment 6, 13 pages)

Analytical Data (Attachment 7, 18 pages)

UST Case Closure Summary Form

Additional Information:

The unauthorized discharge was discovered during a product piping and dispenser upgrade in January 2005.

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). 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.

RWQCB Notification

Notification Date: May 27, 2015

RWQCB Staff Name: Cherie McCaulou	Title: Engineering Geologist

Local Agency Representative

Prepared by: Jerry Wickham	Title: Senior Hazardous Materials Specialist
Signature: Jerry Wickham	Date: 5/28/2015
Approved by: Dilan Roe	Title: LOP and SCP Program Manager
Signature: Dilan Roe	Date: 5/28/2015

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. The Conceptual Site Model may not contain all available data. 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.

ATTACHMENT 1

ARCO #0498 (T0600124081) - MAP THIS SITE

OPEN - ELIGIBLE FOR CLOSURE

286 LIVERMORE
LIVERMORE , CA 94550
ALAMEDA COUNTY

VIEW PRINTABLE CASE SUMMARY FOR THIS SITE

ACTIVITIES REPORT

PUBLIC WEBPAGE

CLEANUP OVERSIGHT AGENCIES

ALAMEDA COUNTY LOP *(LEAD)* - *CASE #: RO0002873*
CASEWORKER: *Jerry Wickham* - ***SUPERVISOR:*** *DILAN ROE*
SAN FRANCISCO BAY RWQCB (REGION 2) - *CASE #: NA*
CASEWORKER: *Cherie McCaulou* - ***SUPERVISOR:*** *Cheryl L. Prowell*

CR Site ID #: NOT SPECIFIED

THIS PROJECT WAS LAST MODIFIED BY ***JERRY WICKHAM*** ON 5/27/2015 5:31:37 PM - HISTORY

THIS SITE HAS SUBMITTALS. CLICK HERE TO OPEN A NEW WINDOW WITH THE SUBMITTAL APPROVAL PAGE FOR THIS SITE.

CSM REPORT - VIEW PUBLIC NOTICING VERSION OF THIS REPORT

UST CLEANUP FUND CLAIM INFORMATION (DATA PULLED FROM SCUFIIS)

CLAIM NO	PRIORITY	CLAIMANT	SITE ADDRESS	AMT REIMB TO DATE	AGE OF LOC	IMPACTED WELLS?	FIVE YEAR REVIEW INFORMATION				
							REVIEW NUM	REVIEWER	FUND RECOMMENDATION	TO OVERSIGHT DATE	TO CLAIMANT DATE

PROJECT INFORMATION (DATA PULLED FROM GEOTRACKER) - MAP THIS SITE

SITE NAME / ADDRESS	STATUS	STATUS DATE	RELEASE REPORT DATE	AGE OF CASE	CLEANUP OVERSIGHT AGENCIES
ARCO #0498 (Global ID: T0600124081) 286 LIVERMORE LIVERMORE, CA 94550	Open - Eligible for Closure	5/27/2015	2/15/2005	10	ALAMEDA COUNTY LOP *(LEAD)* - *CASE #: RO0002873* ***CASEWORKER:*** *Jerry Wickham* - ***SUPERVISOR:*** *DILAN ROE* SAN FRANCISCO BAY RWQCB (REGION 2) - *CASE #: NA* ***CASEWORKER:*** *Cherie McCaulou* - ***SUPERVISOR:*** *Cheryl L. Prowell*

STAFF NOTES (INTERNAL)
<NO STAFF NOTES ENTERED>

SITE HISTORY

In June 2001, product lines and dispensers were upgraded at the site. Confirmation soil samples detected TPH, benzene and MTBE confirming that a unauthorized release had occurred. In January 2005, as part of a site investigation, eight borings were installed. Soil sample analytical results detected MTBE and TBA. To verify potential impact to groundwater, four groundwater monitoring wells were installed at the site in November 2008. Soil and groundwater samples detected elevated concentrations of petroleum hydrocarbons.

Eight borings were advanced at the site in March 2013 using CPT drilling technology and ultra-violet optical screening tool (UVOST). A TPH and BTEX plume was identified within the southeastern portion of the property. A plume consisting largely of MTBE and TBA was detected in the northwestern portion of the property and likely extends off-site in the downgradient direction. Further investigation to define the extent of contamination was completed in April 2014. Groundwater monitoring to establish concentration and gradient trends was completed in 2015.. The case is currently under review for case closure.

RESPONSIBLE PARTIES

NAME	ORGANIZATION	ADDRESS	CITY	EMAIL
CHARLES CARMEL	ATLANTIC RICHFIELD COMPANY	P.O. BOX 1257	SAN RAMON	charles.carmel@bp.com

CHOONGHUN CHUN | UNK2533 | 286 S LIVERMORE AVE | LIVERMORE

CLEANUP ACTION INFO

NO CLEANUP ACTIONS HAVE BEEN REPORTED

RISK INFORMATION VIEW LTCP CHECKLIST VIEW PATH TO CLOSURE PLAN VIEW CASE REVIEWS

CONTAMINANTS OF CONCERN	CURRENT LAND USE	BENEFICIAL USE	DISCHARGE SOURCE	DATE REPORTED	STOP METHOD	NEARBY / IMPACTED WELLS
Gasoline	Commercial	GW - Municipal and Domestic Supply	Dispenser	2/15/2005	Replace product piping	0

FREE PRODUCT	OTHER CONSTITUENTS	NAME OF WATER SYSTEM	LAST REGULATORY ACTIVITY	LAST ESI UPLOAD	LAST EDF UPLOAD	EXPECTED CLOSURE DATE	MOST RECENT CLOSURE REQUEST
NO	NO	City of Livermore; however, groundwater in the area is used for drinking water	5/27/2015	5/15/2015	1/16/2015		4/30/2015

CDPH WELLS WITHIN 1500 FEET OF THIS SITE

WELL NAME	STATE WELL #	STATUS	SOURCE	# TIMES SAMPLED	DIST TO WELL
WELL 12-01	0110003-009	Active Raw	G	319	1382 feet

CALCULATED FIELDS (BASED ON LATITUDE / LONGITUDE)

APN
097 010900600

GW BASIN NAME
Livermore Valley (2-10)

WATERSHED NAME
South Bay - Alameda Creek (204.30)

COUNTY
Alameda

PUBLIC WATER SYSTEM(S)
- **CALIFORNIA WATER SERVICE - LIVERMORE** - 195 SOUTH N STREET, LIVERMORE, CA 94550
- **CITY OF LIVERMORE** - 101 W JACK LONDON BLVD, LIVERMORE, CA 94551-763
- **ZONE 7 WATER AGENCY** - 100 N CANYON PKWY, LIVERMORE, CA 94551-948

MOST RECENT CONCENTRATIONS OF PETROLEUM CONSTITUENTS IN GROUNDWATER - HIDE VIEW ESI SUBMITTALS

FIELD PT NAME	DATE	TPHg	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	MTBE	TBA
MW-1	5/21/2014	OTHER	ND	ND	ND	ND	1 UG/L	12 UG/L
MW-2	8/19/2014	OTHER	ND	ND	ND	ND	0.6 UG/L	ND
MW-3	8/19/2014	OTHER	160 UG/L	8.9 UG/L	220 UG/L	70 UG/L	25 UG/L	ND
MW-4	2/21/2014	OTHER	ND	ND	ND	ND	ND	37 UG/L
MW-5A	5/21/2014	OTHER	ND	ND	ND	ND	ND	ND
MW-5B	11/20/2014	OTHER	ND	ND	ND	ND	ND	ND
MW-6A	5/21/2014	OTHER	ND	ND	ND	ND	880 UG/L	130 UG/L
MW-6B	11/20/2014	OTHER	ND	ND	ND	ND	ND	ND
QCTB	3/21/2013	OTHER	ND	ND	ND	ND	ND	ND
SB-10	3/18/2013	OTHER	ND	ND	ND	ND	520 UG/L	67 UG/L
SB-11	3/20/2013	OTHER	ND	ND	ND	ND	1700 UG/L	570 UG/L
SB-12	3/20/2013	OTHER	ND	ND	ND	ND	570 UG/L	21 UG/L
SB-13	3/21/2013	OTHER	ND	ND	ND	ND	100 UG/L	ND
SB-14	3/22/2013	OTHER	ND	ND	ND	ND	ND	ND
SB-15	3/21/2013	OTHER	4.7 UG/L	8.2 UG/L	110 UG/L	52 UG/L	ND	ND
SB-16	3/21/2013	OTHER	180 UG/L	360 UG/L	1500 UG/L	9300 UG/L	ND	ND
SB-17-65	1/8/2014	OTHER	0.71 UG/L	8.7 UG/L	13 UG/L	60 UG/L	ND	ND
SB-18-40	1/8/2014	OTHER	ND	ND	ND	ND	3000 UG/L	660 UG/L
SB-18-65	1/8/2014	OTHER	ND	ND	ND	ND	ND	ND
SB-19-63	1/7/2014	OTHER	ND	ND	ND	ND	ND	ND
SB-20-48	1/7/2014	OTHER	ND	ND	ND	ND	ND	ND

SB-20-65	1/7/2014	OTHER	ND	ND	ND	ND	ND	ND
SB-9	3/22/2013	OTHER	ND	ND	ND	ND	1.9 UG/L	ND

MOST RECENT CONCENTRATIONS OF PETROLEUM CONSTITUENTS IN SOIL - HIDE VIEW ESI SUBMITTALS

FIELD PT NAME	DATE	TPHg	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	MTBE	TBA
MW-1 25	11/24/2008		<1 UG/KG	<1 UG/KG	<1 UG/KG	<1 UG/KG	<1 UG/KG	<10 UG/KG
MW-1 30	11/24/2008		<1 UG/KG	<1 UG/KG	<1 UG/KG	<1 UG/KG	<1 UG/KG	<10 UG/KG
MW-1 40	11/25/2008		<1 UG/KG	<1 UG/KG	<1 UG/KG	<1 UG/KG	160 UG/KG	36 UG/KG
MW-2 40	11/24/2008		<1 UG/KG	<1 UG/KG	<1 UG/KG	<1 UG/KG	10 UG/KG	22 UG/KG
MW-2 45	11/24/2008		<1 UG/KG	<1 UG/KG	<1 UG/KG	<1 UG/KG	1.9 UG/KG	22 UG/KG
MW-2 50	11/24/2008		<1 UG/KG	<1 UG/KG	<1 UG/KG	<1 UG/KG	<1 UG/KG	<10 UG/KG
MW-3 15	11/25/2008		<1 UG/KG	<1 UG/KG	<1 UG/KG	<1 UG/KG	<1 UG/KG	140 UG/KG
MW-3 20	11/25/2008		<100 UG/KG	<100 UG/KG	880 UG/KG	<100 UG/KG	<100 UG/KG	<1000 UG/KG
MW-3 25	11/25/2008		<100 UG/KG	<100 UG/KG	1500 UG/KG	170 UG/KG	<100 UG/KG	<1000 UG/KG
MW-3 30	11/25/2008		<1 UG/KG	<1 UG/KG	<1 UG/KG	<1 UG/KG	<1 UG/KG	<10 UG/KG
MW-3 35	11/25/2008		<1 UG/KG	<1 UG/KG	<1 UG/KG	<1 UG/KG	<1 UG/KG	28 UG/KG
MW-3 40	11/25/2008		<1 UG/KG	<1 UG/KG	<1 UG/KG	<1 UG/KG	13 UG/KG	14 UG/KG
MW-4 30	11/25/2008		<1 UG/KG	<1 UG/KG	<1 UG/KG	<1 UG/KG	<1 UG/KG	54 UG/KG
MW-4 35	11/25/2008		<1 UG/KG	<1 UG/KG	<1 UG/KG	<1 UG/KG	3 UG/KG	650 UG/KG
MW-4 40	11/25/2008		<1 UG/KG	<1 UG/KG	<1 UG/KG	<1 UG/KG	<1 UG/KG	140 UG/KG
SB-10	3/18/2013		ND	ND	ND	ND	ND	ND
SB-11	3/20/2013		ND	ND	ND	ND	ND	ND
SB-12	3/20/2013		ND	ND	ND	ND	ND	ND
SB-13	3/21/2013		ND	ND	ND	ND	ND	ND
SB-14	3/22/2013		ND	ND	ND	ND	ND	ND
SB-15	3/21/2013		4.8 MG/KG	53 MG/KG	35 MG/KG	230 MG/KG	ND	ND
SB-16	3/21/2013		ND	ND	ND	ND	ND	ND
SB-9	3/22/2013		ND	ND	ND	ND	ND	ND
SB1-12`	1/20/2005		ND	ND	ND	ND	ND	ND
SB1-17`	1/20/2005		ND	ND	ND	ND	ND	ND
SB1-22`	1/20/2005		ND	ND	ND	ND	0.015 MG/KG	0.031 MG/KG
SB1-24`	1/20/2005		ND	ND	ND	ND	0.006 MG/KG	0.025 MG/KG
SB1-7`	1/20/2005		ND	ND	ND	ND	ND	ND
SB2-10`	1/19/2005		ND	ND	ND	ND	ND	ND
SB2-15`	1/19/2005		ND	ND	ND	ND	ND	ND
SB2-18.5`	1/19/2005		ND	ND	ND	ND	ND	ND
SB3-10`	1/19/2005		ND	ND	ND	ND	ND	ND
SB3-15`	1/19/2005		ND	ND	ND	ND	ND	ND
SB3-20`	1/19/2005		ND	ND	ND	ND	ND	ND
SB3-25`	1/19/2005		ND	ND	ND	ND	0.011 MG/KG	0.021 MG/KG
SB4-12`	1/19/2005		ND	ND	ND	ND	ND	ND
SB4-17`	1/19/2005		ND	ND	ND	ND	ND	ND
SB4-22`	1/19/2005		ND	ND	ND	ND	ND	ND
SB4-7`	1/19/2005		ND	ND	ND	ND	ND	ND
SB5-10`	1/20/2005		ND	ND	ND	ND	ND	ND
SB5-15`	1/20/2005		ND	ND	ND	ND	ND	ND
SB6-10`	1/20/2005		ND	ND	ND	ND	ND	ND
SB6-15`	1/20/2005		ND	ND	ND	ND	ND	ND
SB6-22`	1/20/2005		ND	ND	ND	ND	ND	ND
SB6-24`	1/20/2005		ND	ND	ND	ND	ND	ND
SB7-10`	1/20/2005		ND	ND	ND	ND	ND	ND
SB7-14.5`	1/20/2005		ND	ND	ND	ND	ND	ND
SB7-20`	1/20/2005		ND	ND	ND	ND	ND	ND
SB8-10`	1/20/2005		ND	ND	ND	ND	ND	ND
SB8-15`	1/20/2005		ND	ND	ND	ND	ND	ND
SB8-20`	1/20/2005		ND	ND	ND	ND	ND	ND
SB8-25`	1/20/2005		ND	ND	ND	ND	0.022 MG/KG	0.012 MG/KG

SWC	11/21/2008	<1 UG/KG	<1 UG/KG	<1 UG/KG	<1 UG/KG	<1 UG/KG

MOST RECENT GEO_WELL DATA - HIDE VIEW ESI SUBMITTALS

FIELD PT NAME	DATE	DEPTH TO WATER (FT)	SHEEN	DEPTH TO FREE PRODUCT (FT)
MW-1	8/19/2014	39.67	N	
MW-2	8/19/2014	51.54	N	
MW-3	8/19/2014	51.01	N	
MW-4	8/19/2014	39.82	N	
MW-5A	8/19/2014	49.26	N	
MW-5B	8/19/2014	50.85	N	
MW-6A	8/19/2014	49.3	N	
MW-6B	8/19/2014	52.25	N	

LOGGED IN AS JWICKHAM

CONTACT GEOTRACKER HELP

ATTACHMENT 2

LTCP Checklist ▼ Go

ARCO #0498 (T0600124081) - MAP THIS SITE

OPEN - ELIGIBLE FOR CLOSURE

286 LIVERMORE
LIVERMORE , CA 94550
ALAMEDA COUNTY

VIEW PRINTABLE CASE SUMMARY FOR THIS SITE

ACTIVITIES REPORT

PUBLIC WEBPAGE

CLEANUP OVERSIGHT AGENCIES

ALAMEDA COUNTY LOP *(LEAD)* - *CASE #: RO0002873*
CASEWORKER: *Jerry Wickham* - ***SUPERVISOR:*** *DILAN ROE*
SAN FRANCISCO BAY RWQCB (REGION 2) - *CASE #: NA*
CASEWORKER: *Cherie McCaulou* - ***SUPERVISOR:*** *Cheryl L. Prowell*

CR Site ID #: NOT SPECIFIED

THIS PROJECT WAS LAST MODIFIED BY ***JERRY WICKHAM*** ON 5/27/2015 5:31:37 PM - HISTORY

THIS SITE HAS SUBMITTALS. CLICK HERE TO OPEN A NEW WINDOW WITH THE SUBMITTAL APPROVAL PAGE FOR THIS SITE.

CLOSURE POLICY

THIS VERSION IS FINAL AS OF 5/27/2015 *CHECKLIST INITIATED ON 12/24/2012* CLOSURE POLICY HISTORY

General Criteria - *The site satisfies the policy general criteria* - CLEAR SECTION ANSWERS — **YES**

a. Is the unauthorized release located within the service area of a public water system? — ● YES ○ NO

Name of Water System : City of Livermore; however, groundwater in the area is used for drinking water

b. The unauthorized release consists only of petroleum (info). — ● YES ○ NO

c. The unauthorized ("primary") release from the UST system has been stopped. — ● YES ○ NO

d. Free product has been removed to the maximum extent practicable (info). — ● FP Not Encountered ○ YES ○ NO

e. A conceptual site model that assesses the nature, extent, and mobility of the release has been developed (info). — ● YES ○ NO

f. Secondary source has been removed to the extent practicable (info). — ● YES ○ NO

g. Soil or groundwater has been tested for MTBE and results reported in accordance with Health and Safety Code Section 25296.15. — ○ Not Required ● YES ○ NO

h. Does a nuisance exist, as defined by Water Code section 13050. — ○ YES ● NO

1. Media-Specific Criteria: Groundwater - *The contaminant plume that exceeds water quality objectives is stable or decreasing in areal extent, and meets all of the additional characteristics of one of the five classes of sites listed below.* - CLEAR SECTION ANSWERS — **YES**

EXEMPTION - Soil Only Case (Release has not Affected Groundwater - Info) — ○ YES ● NO

Does the site meet any of the Groundwater specific criteria scenarios? — ● YES ○ NO

1.5 - The regulatory agency determines, based on an analysis of site specific conditions, that the site under current and reasonably anticipated near-term 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. — ● YES ○ NO

2. Media Specific Criteria: Petroleum Vapor Intrusion to Indoor Air - *The site is considered low-threat for the vapor-intrusion-to-air pathway if site-specific conditions satisfy items 2a, 2b, or 2c* - CLEAR SECTION ANSWERS — **YES**

EXEMPTION - Active Commercial Petroleum Fueling Facility — ● YES ○ NO

3. Media Specific Criteria: Direct Contact and Outdoor Air Exposure - *The site is considered low-threat for direct contact and outdoor air exposure if it meets 1, 2, or 3 below.* - CLEAR SECTION ANSWERS — **YES**

EXEMPTION - The upper 10 feet of soil is free of petroleum contamination — ○ YES ● NO

Does the site meet any of the Direct Contact and Outdoor Air Exposure criteria scenarios? — ● YES ○ NO

3.1 - Maximum concentrations of petroleum constituents in soil are less than or equal to those listed in the following table (LINK) for the specified depth below ground surface.	(•) YES ( ) NO

Additional Information	
This case should be kept OPEN in spite of meeting policy criteria.	( ) YES (•) NO
Has this LTCP Checklist been updated for FY 14/15?	(•) YES ( ) NO

SPELL CHECK

Save Form as Partially Completed | Save Form as Complete

LOGGED IN AS JWICKHAM

CONTACT GEOTRACKER HELP

ATTACHMENT 3

ATTACHMENT 3
LTCP GROUNDWATER SPECIFIC CRITERIA

LTCP Groundwater Specific Scenario under which case was closed: Scenario 5

Site Data		LTCP Scenario 1 Criteria	LTCP Scenario 2 Criteria	LTCP Scenario 3 Criteria	LTCP Scenario 4 Criteria
Plume Length	100 to 250 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 or Decreasing	Stable or decreasing	Stable or decreasing	Stable or decreasing for minimum of 5 Years	Stable or decreasing
Distance to Nearest Water Supply Well	1,350 feet	>250 feet	>1,000 feet	>1,000 feet	>1,000 feet
Distance to Nearest Surface Water and Direction	3,300 feet crossgradient	>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 (µg/L)	Current Site Maximum (µg/L)	LTCP Scenario 1 Criteria (µg/L)	LTCP Scenario 2 Criteria (µg/L)	LTCP Scenario 3 Criteria (µg/L)	LTCP Scenario 4 Criteria (µg/L)
Benzene	960	350	No criteria	<3,000	No criteria	<1,000
MTBE	3,000	1,700	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?	Yes. The site meets all criteria for Scenario 1 except plume length. The site meets all the criteria for Scenario 3 except the concentration of MTBE in groundwater in the area of monitoring well MW-6A is greater than 1,000 µg/L. Based on the trends in groundwater concentrations over time, the plume is expected to decrease in size and concentration over the next several years. Therefore, case closure under the groundwater-specific criteria appears to be appropriate.

Attachment 3 Comments: Water Supply Wells in Vicinity: The nearest water supply well appears to be a municipal water supply well located approximately 1,350 feet northeast of the site. Based on the crossgradient location and distance from the site, the well does not appear to be a receptor for the site. No other water supply wells were identified within 2,000 feet of the site in the downgradient direction.

ATTACHMENT 4

ATTACHMENT 4

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 May 27, 2015

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 LNAPL	No LNAPL	LNAPL in groundwater	LNAPL in soil	No LNAPL	No LNAPL	No LNAPL	No criteria
Thickness of Bioattenuation Zone Beneath Foundation	> 10 feet	≥30 feet	≥30 feet	≥5 feet	≥10 feet	≥5 feet	≥5 feet
Total TPH in Soil in Bioattenuation Zone	< 87 mg/kg	<100 mg/kg	<100 mg/kg	<100 mg/kg	<100 mg/kg	<100 mg/kg	<100 mg/kg
Maximum Current Benzene Concentration in Groundwater	350 µg/L	No criteria	No criteria	<100 µg/L	≥100 and <1,000 µg/L	<1,000 µg/L	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?	----

Attachment 4 Comments: The site does not appear to pose a vapor intrusion risk to surrounding properties.

ATTACHMENT 5

ATTACHMENT 5
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

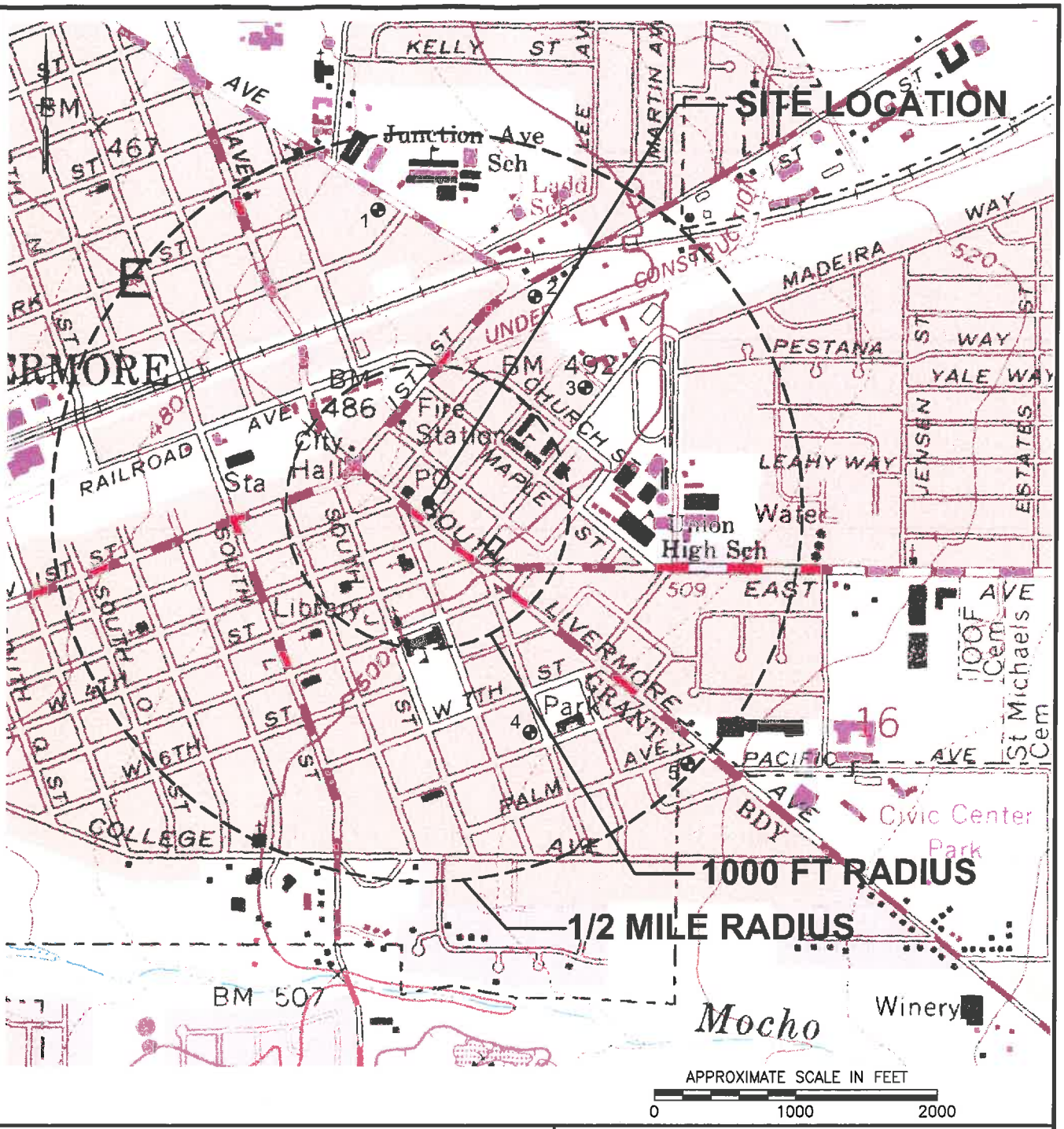
Are maximum concentrations less than those in Table 1 below?	Yes, No, or ----

Constituent		Residential		Commercial/Industrial		Utility Worker
		0 to 5 feet bgs (mg/kg)	Volatilization to outdoor air (5 to 10 feet bgs) mg/kg	0 to 5 feet bgs (mg/kg)	Volatilization to outdoor air (5 to 10 feet bgs) mg/kg	0 to 10 feet bgs (mg/kg)
Site Maximum	Benzene	0.11	----	0.11	----	0.11
LTCP Criteria	Benzene	≤1.9	≤2.8	≤8.2	≤12	≤14
Site Maximum	Ethylbenzene	1.2	----	1.2	----	1.2
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?	----

Attachment 5 Comments: ----

ATTACHMENT 6



LEGEND:

- APPROXIMATE WATER SUPPLY WELL LOCATION
- APPROXIMATE LOCATION OF STORYLAND PRE-SCHOOL AND CHILD CARE

REFERENCE:
USGS 7.5 MIN QUAD MAP TITLED: LIVERMORE, CALIFORNIA DATED: 1961 REVISED 1980

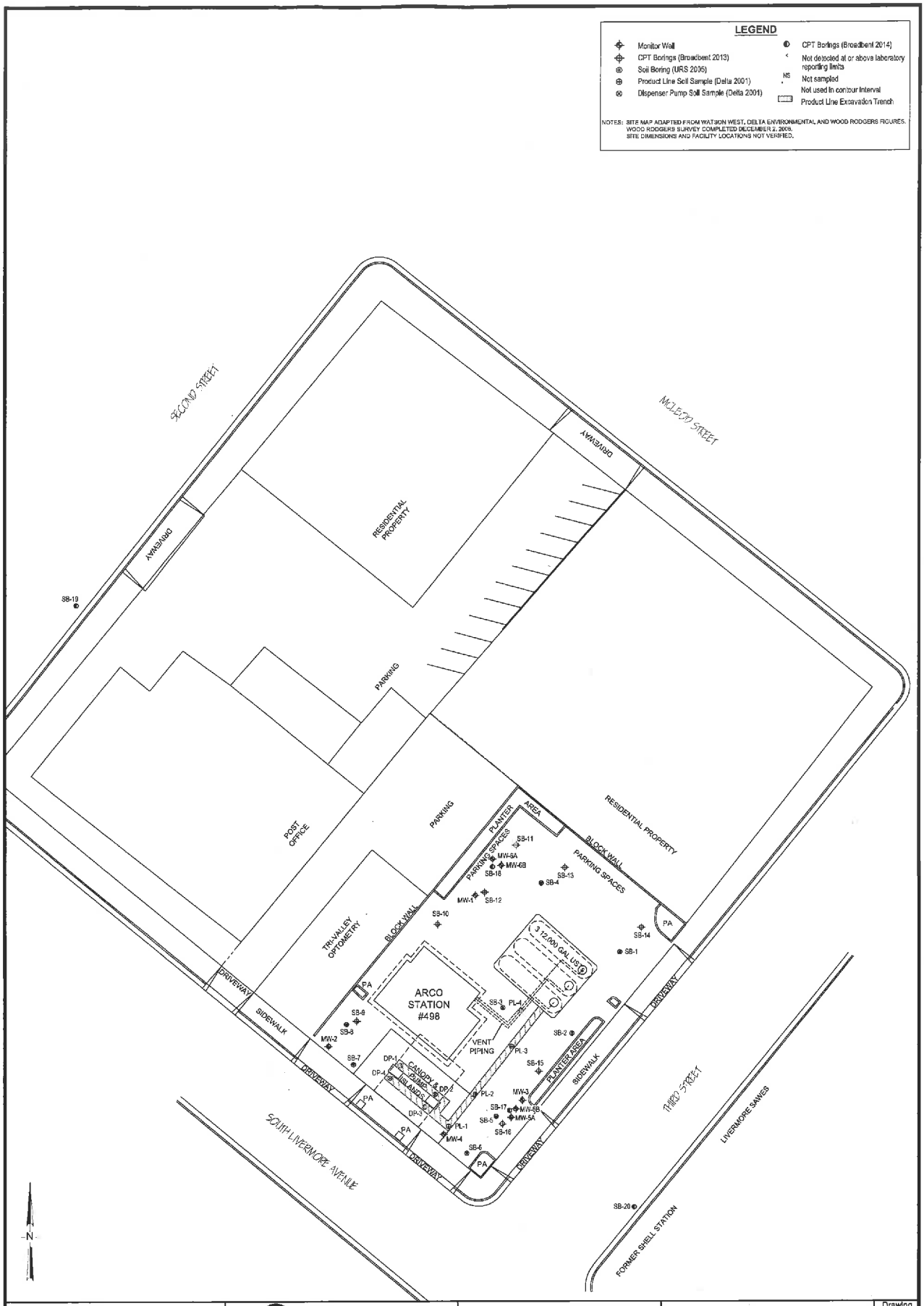
FIGURE 1

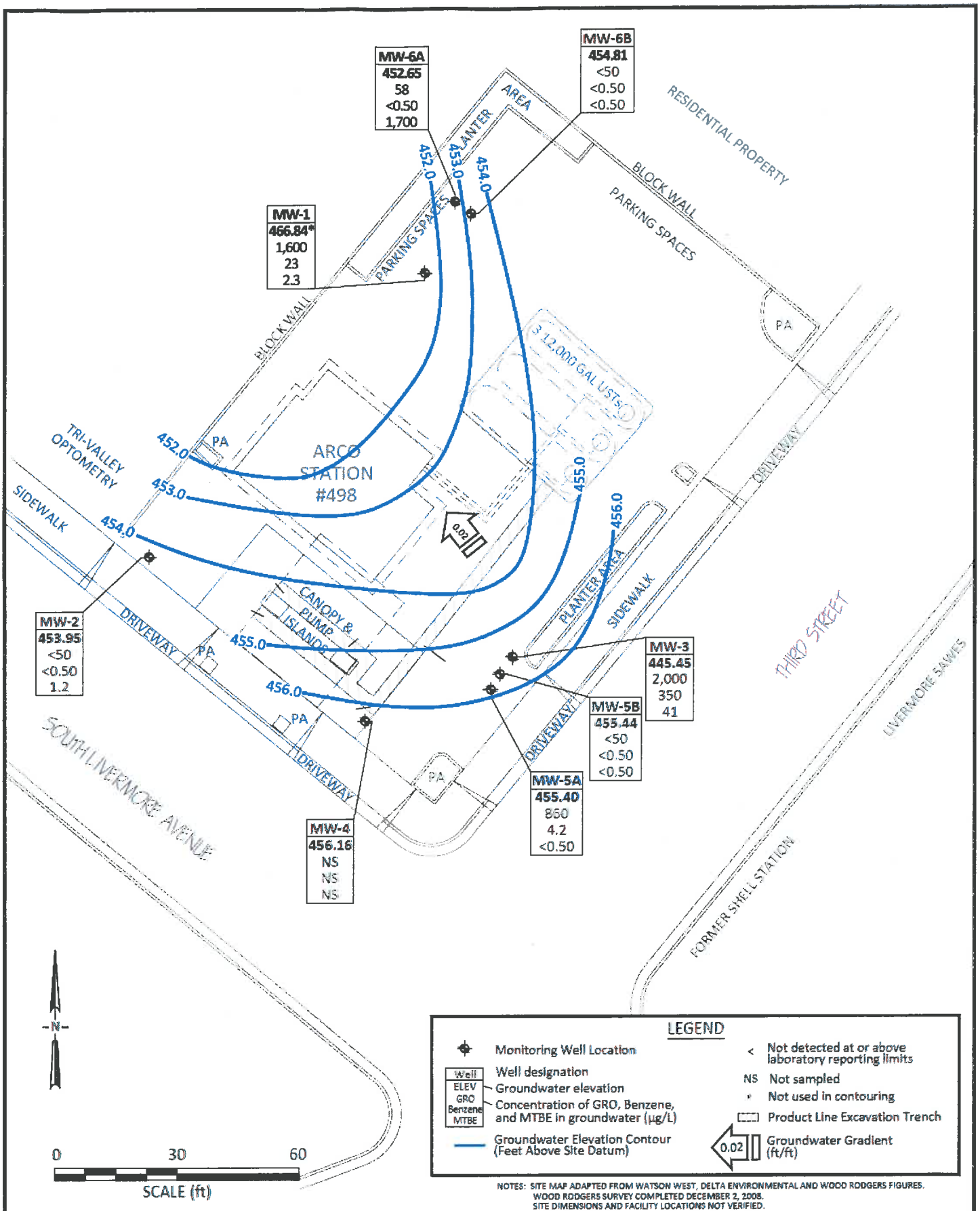
WELL SURVEY MAP

ARCO STATION #0498
286 S. LIVERMORE AVENUE
LIVERMORE, CALIFORNIA

CLOSURE SOLUTIONS, INC.
4600 Northgate Boulevard • Suite 230
Sacramento • California • 95834
Phone: (800) 988-7880

20130107.14180031 D:\Client Drawings\Closure\ARCO\0498\ARCO 0498 WELL SURVEY.dwg

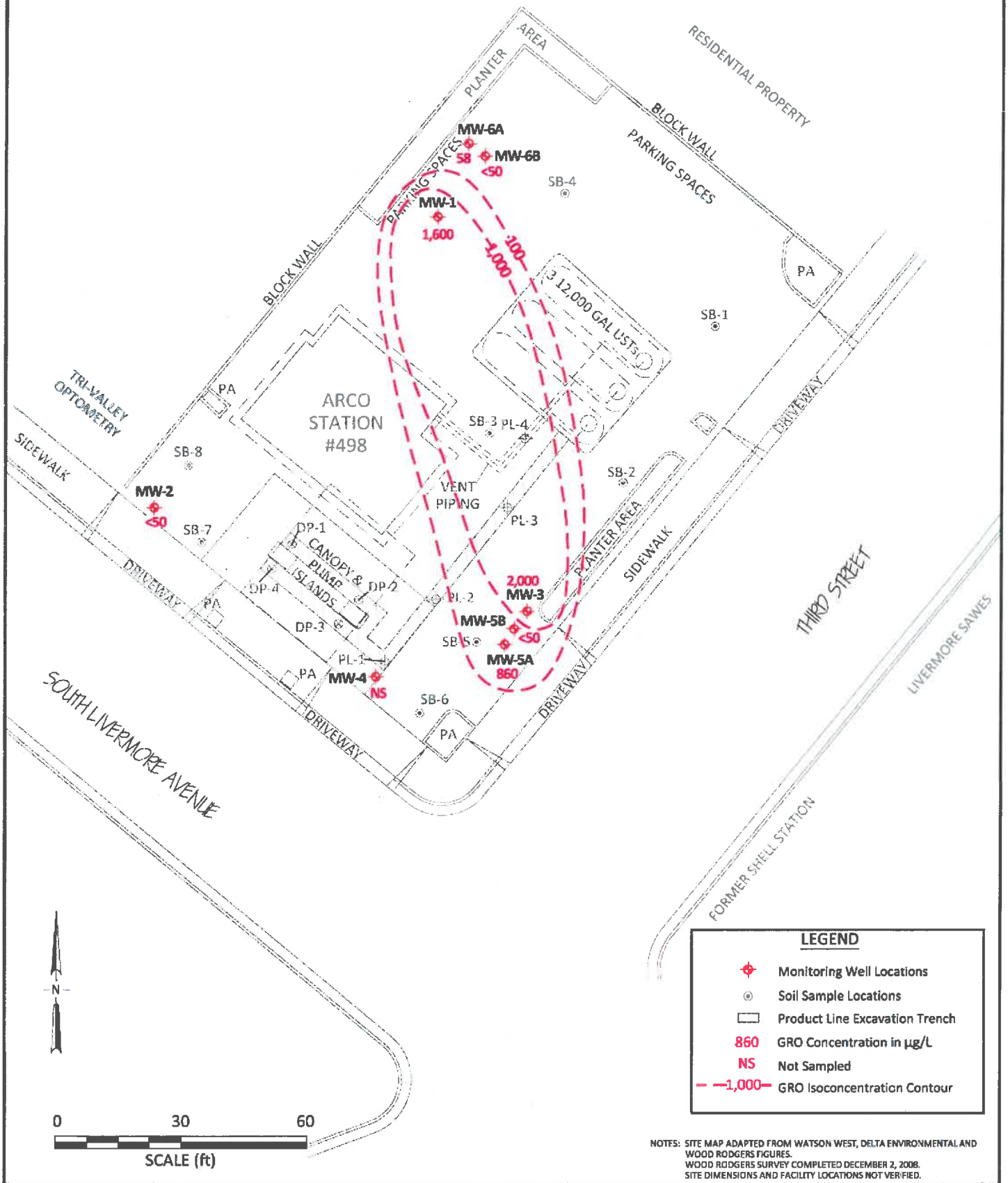

LEGEND
Monitor Well
CPT Borings (Broadbent 2013)
Soil Boring (URS 2005)
Product Line Soil Sample (Delta 2001)
Dispenser Pump Soil Sample (Delta 2001)
CPT Borings (Broadbent 2014)
Not detected at or above laboratory reporting limits
NS Not sampled
Not used in contour interval
Product Line Excavation Trench
NOTES: SITE MAP ADAPTED FROM WATSON WEST, DELTA ENVIRONMENTAL AND WOOD RODGERS FIGURES.
WOOD RODGERS SURVEY COMPLETED DECEMBER 2, 2008.
SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.
SECOND STREET
MCLEOD STREET
THIRD STREET
SOUTH LIVERMORE AVENUE
LIVERMORE SAWES
FORMER SHELL STATION
DRIVEWAY
RESIDENTIAL PROPERTY
PARKING
POST OFFICE
TRI-VALLEY OPTOMETRY
BLOCK WALL
PLANTER AREA
PARKING SPACES
ARCO STATION #498
12,000 GAL UST
VENT PIPING
CANOPY & PUMP ISLANDS
SIDEWALK
PLANTER AREA
PA
SB-19
SB-20
MW-1
MW-2
MW-3
MW-4
MW-5A
MW-5B
MW-6A
MW-6B
SB-1
SB-2
SB-3
SB-4
SB-5
SB-6
SB-7
SB-8
SB-9
SB-10
SB-11
SB-12
SB-13
SB-14
SB-15
SB-16
SB-17
SB-18
DP-1
DP-2
DP-3
DP-4
PL-1
PL-2
PL-3
PL-4
N
0
40
80
SCALE (ft)
BROADBENT
1370 Ridgewood Dr., Suite 5
Chico, California 95973
Project No.: 08-82-103 Date: 7/24/2013
Station #498
286 South Livermore Avenue
Livermore, California
Site Map with Boring and Well Locations
Drawing
2



NOTES: SITE MAP ADAPTED FROM WATSON WEST, DELTA ENVIRONMENTAL AND WOOD RODGERS FIGURES.
WOOD RODGERS SURVEY COMPLETED DECEMBER 2, 2008.
SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.

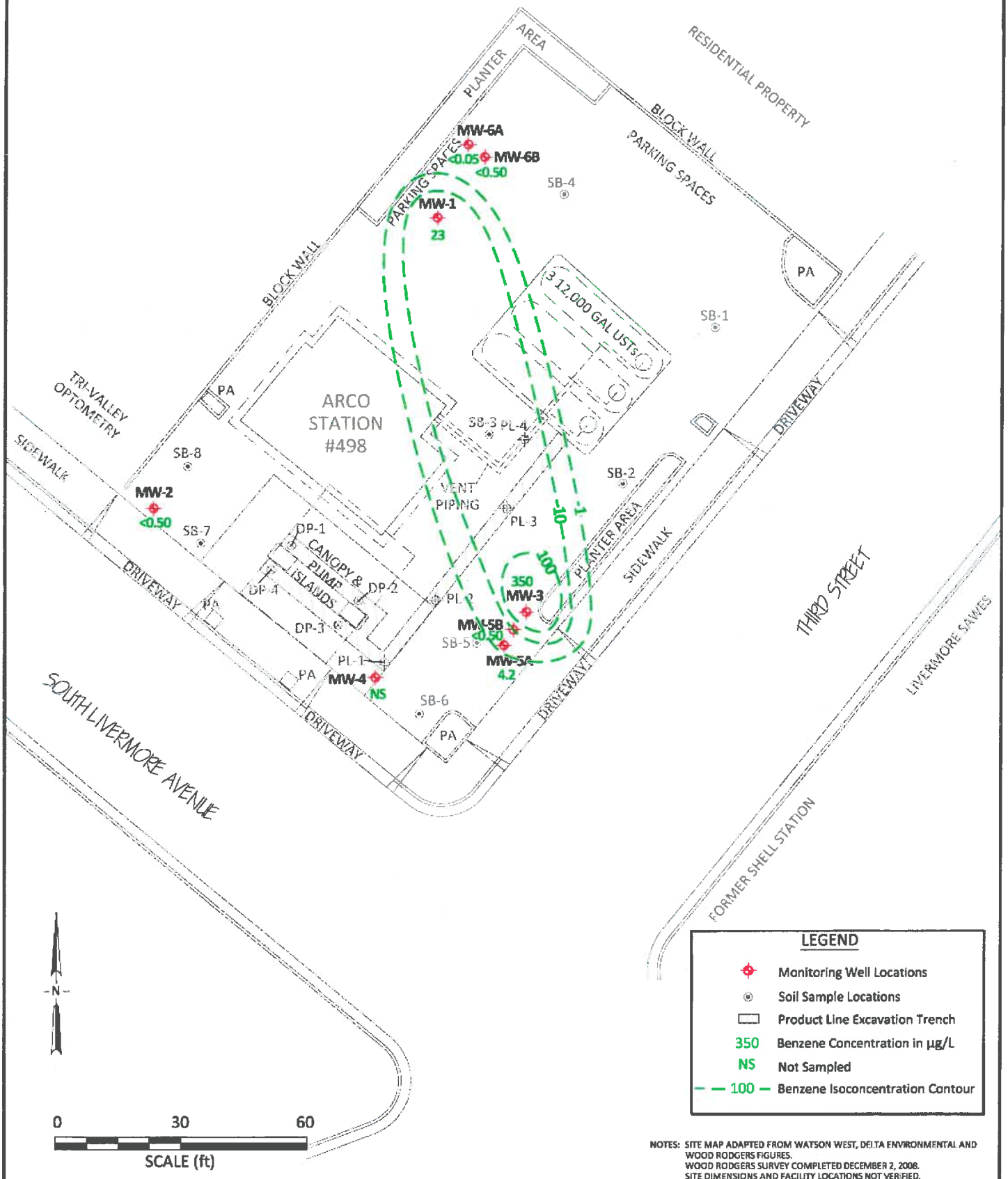
BROADBENT 4820 Business Center Drive, Suite 110 Fairfield, CA 94534 Project No.: 08-82-603 Date: 03/27/2015	Station #498 286 South Livermore Avenue Livermore, California	Groundwater Elevation Contour and Analytical Summary Map First Quarter, 2015

Drawing 3



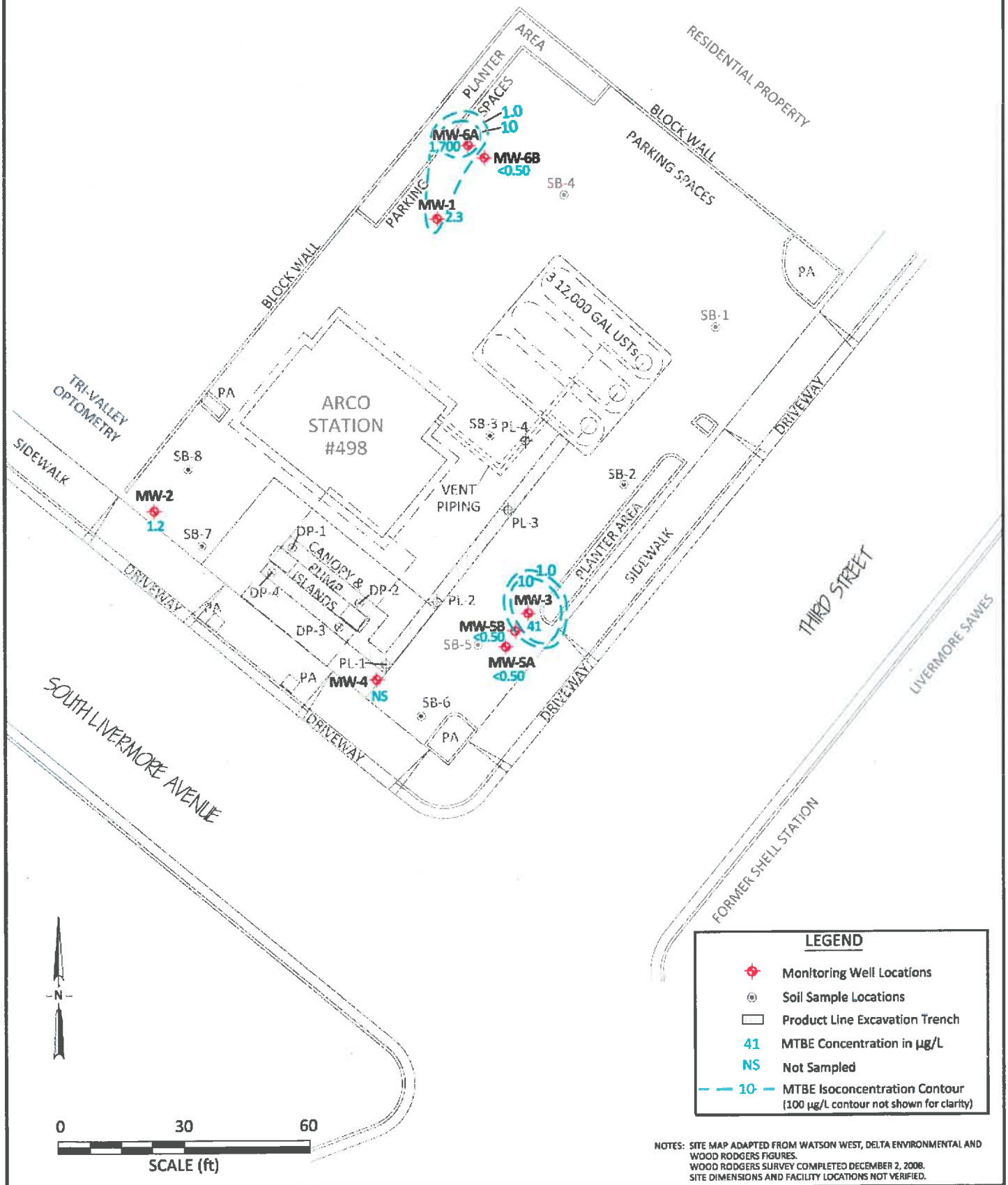
NOTES: SITE MAP ADAPTED FROM WATSON WEST, DELTA ENVIRONMENTAL AND WOOD RODGERS FIGURES.
WOOD RODGERS SURVEY COMPLETED DECEMBER 2, 2008.
SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.

BROADBENT 4820 Business Center Drive, Suite 110 Fairfield, CA 94534 Project No.: 08-82-603 Date: 10/20/2014	Station #498 286 South Livermore Avenue Livermore, California	GRO Isoconcentration Contour February 10, 2015	Drawing 4



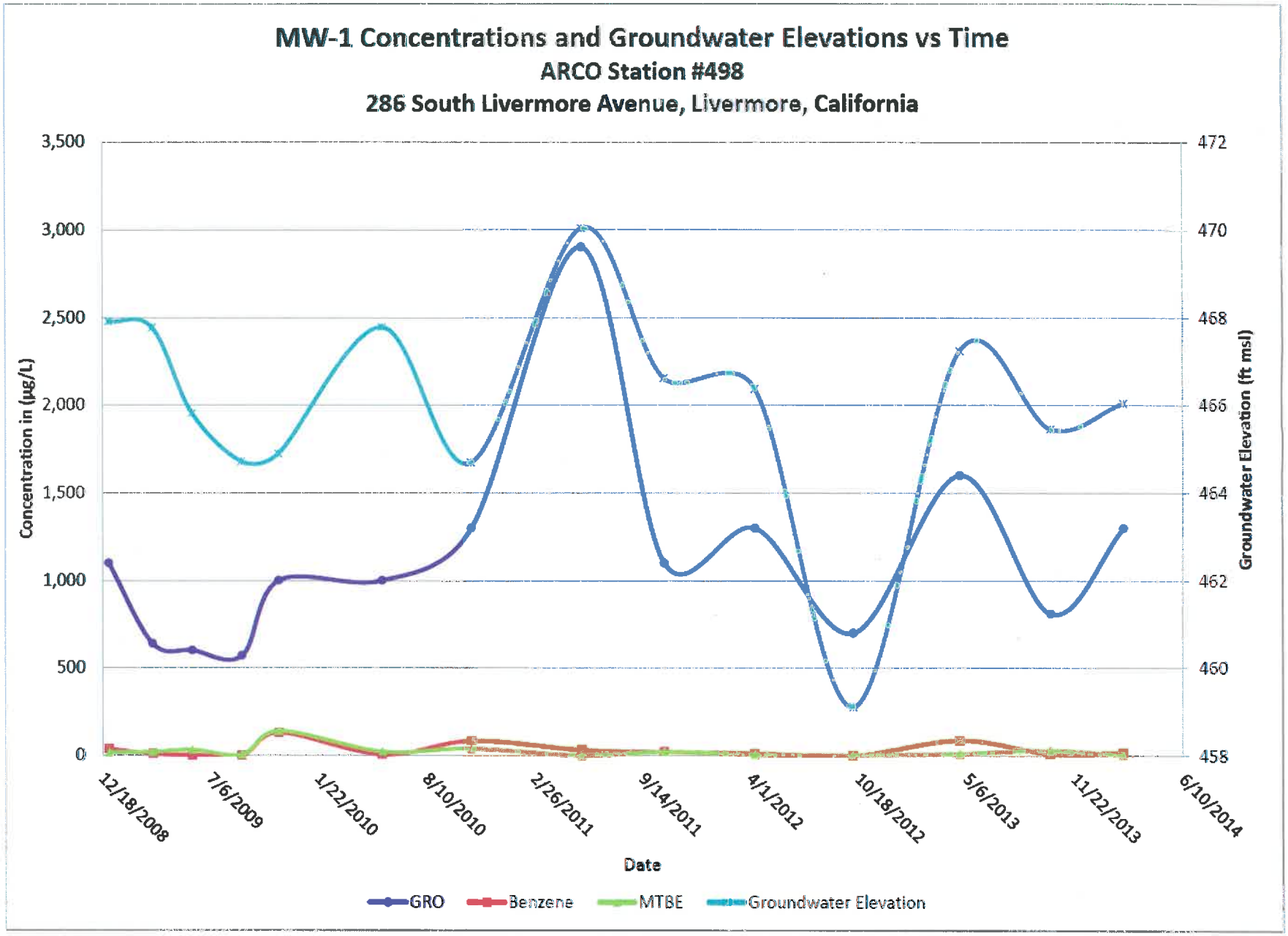
NOTES: SITE MAP ADAPTED FROM WATSON WEST, DELTA ENVIRONMENTAL AND WOOD RODGERS FIGURES.
WOOD RODGERS SURVEY COMPLETED DECEMBER 2, 2008.
SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.

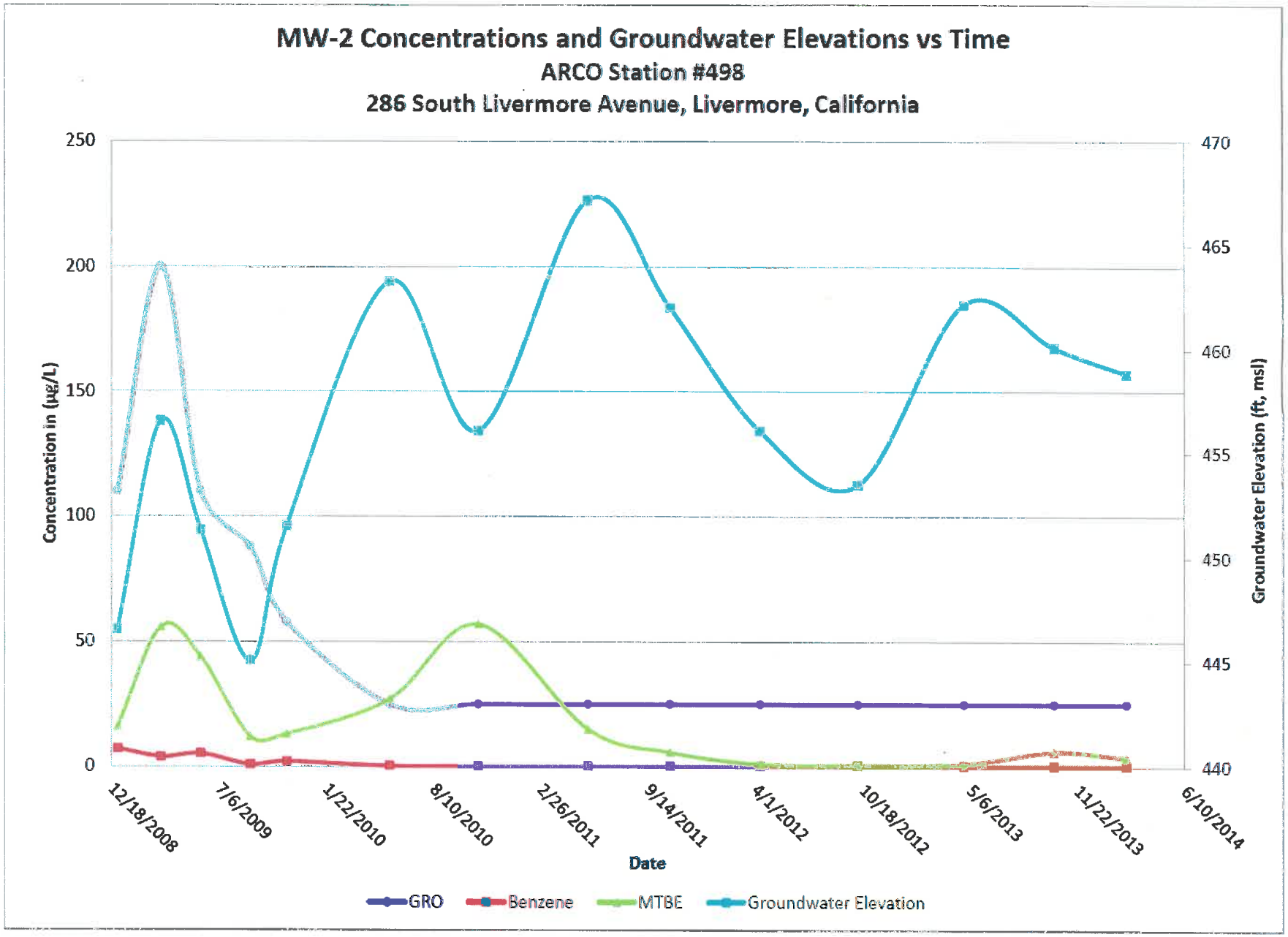
BROADBENT 4820 Business Center Drive, Suite 110 Fairfield, CA 94534 Project No.: 08-82-603 Date: 10/20/2014	Station #498 286 South Livermore Avenue Livermore, California	Benzene Isoconcentration Contour February 10, 2015	Drawing 5



NOTES: SITE MAP ADAPTED FROM WATSON WEST, DELTA ENVIRONMENTAL AND WOOD RODGERS FIGURES.
WOOD RODGERS SURVEY COMPLETED DECEMBER 2, 2008.
SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.

BROADBENT 4820 Business Center Drive, Suite 110 Fairfield, CA 94534 Project No.: 08-82-603 Date: 10/20/2014	Station #498 286 South Livermore Avenue Livermore, California	MTBE Isoconcentration Contour February 10, 2015	Drawing 6

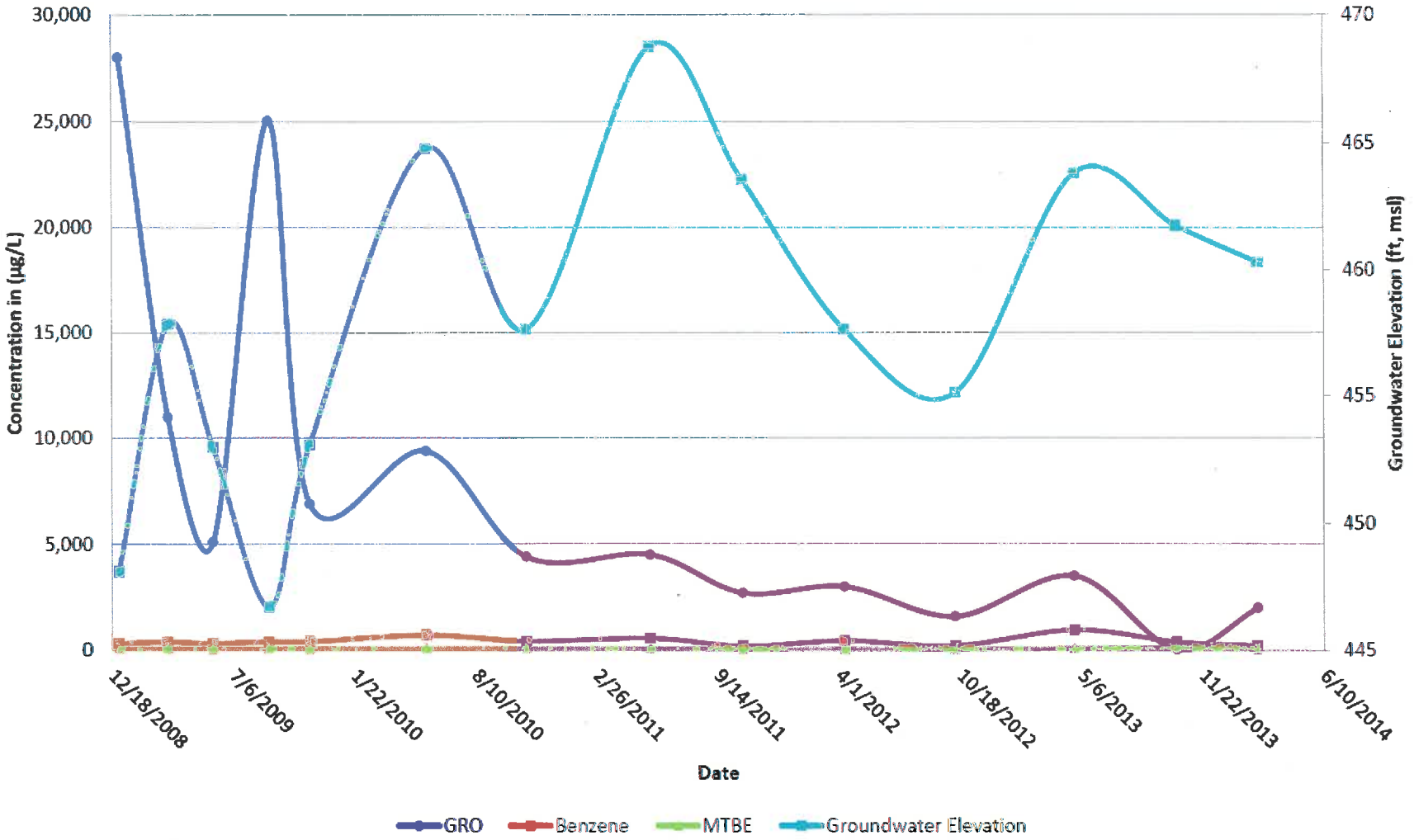

MW-1 Concentrations and Groundwater Elevations vs Time
ARCO Station #498
286 South Livermore Avenue, Livermore, California
Concentration in (µg/L)
Groundwater Elevation (ft msl)
3,500
3,000
2,500
2,000
1,500
1,000
500
0
472
470
468
466
464
462
460
458
12/18/2008
7/6/2009
1/22/2010
8/10/2010
2/26/2011
9/14/2011
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
Date
GRO
Benzene
MTBE
Groundwater Elevation


MW-2 Concentrations and Groundwater Elevations vs Time
ARCO Station #498
286 South Livermore Avenue, Livermore, California
Concentration in (µg/L)
Groundwater Elevation (ft, msl)
250
200
150
100
50
0
470
465
460
455
450
445
440
12/18/2008
7/6/2009
1/22/2010
8/10/2010
2/26/2011
9/14/2011
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
Date
GRO
Benzene
MTBE
Groundwater Elevation

MW-3 Concentrations and Groundwater Elevations vs Time

ARCO Station #498

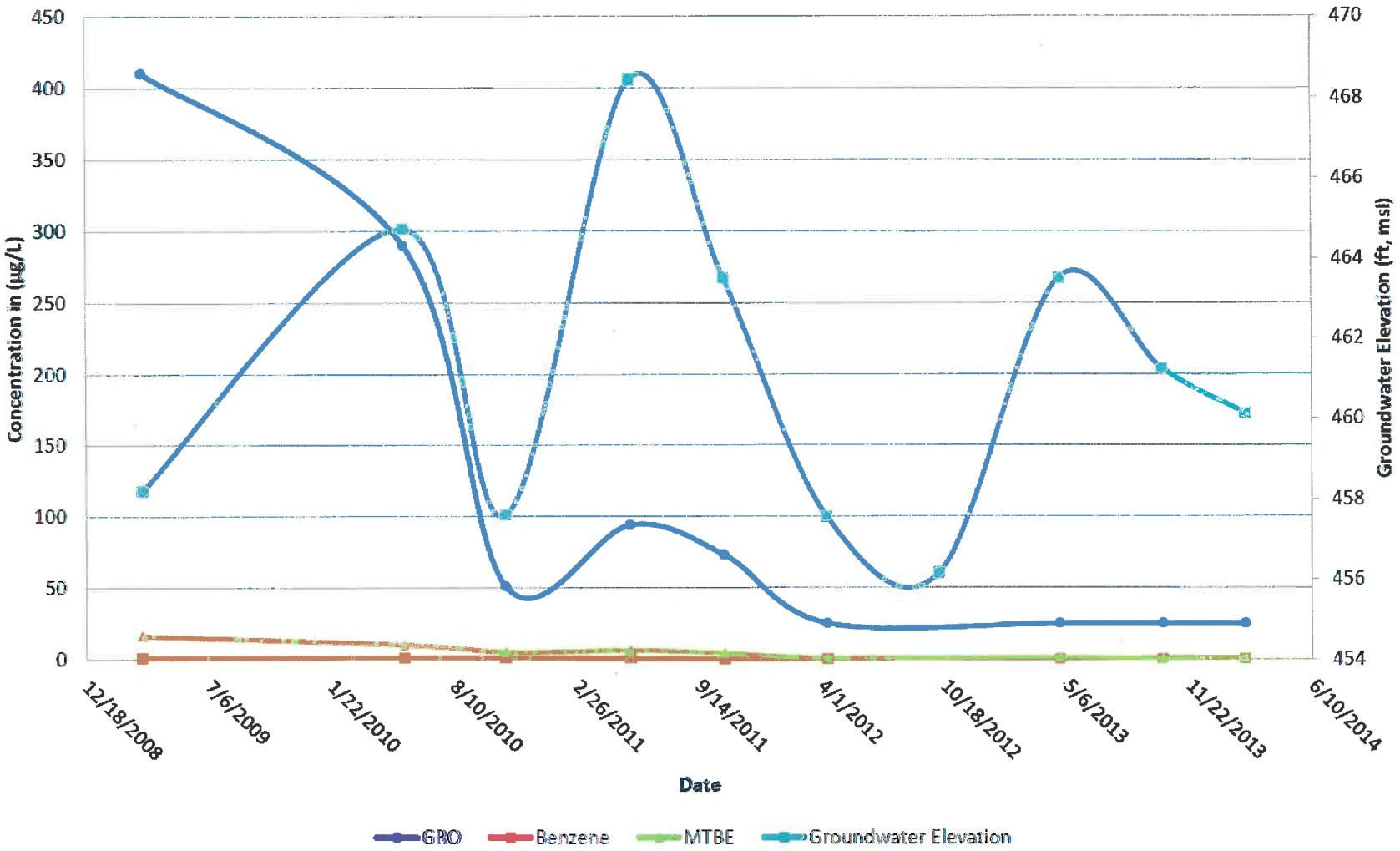
286 South Livermore Avenue, Livermore, California

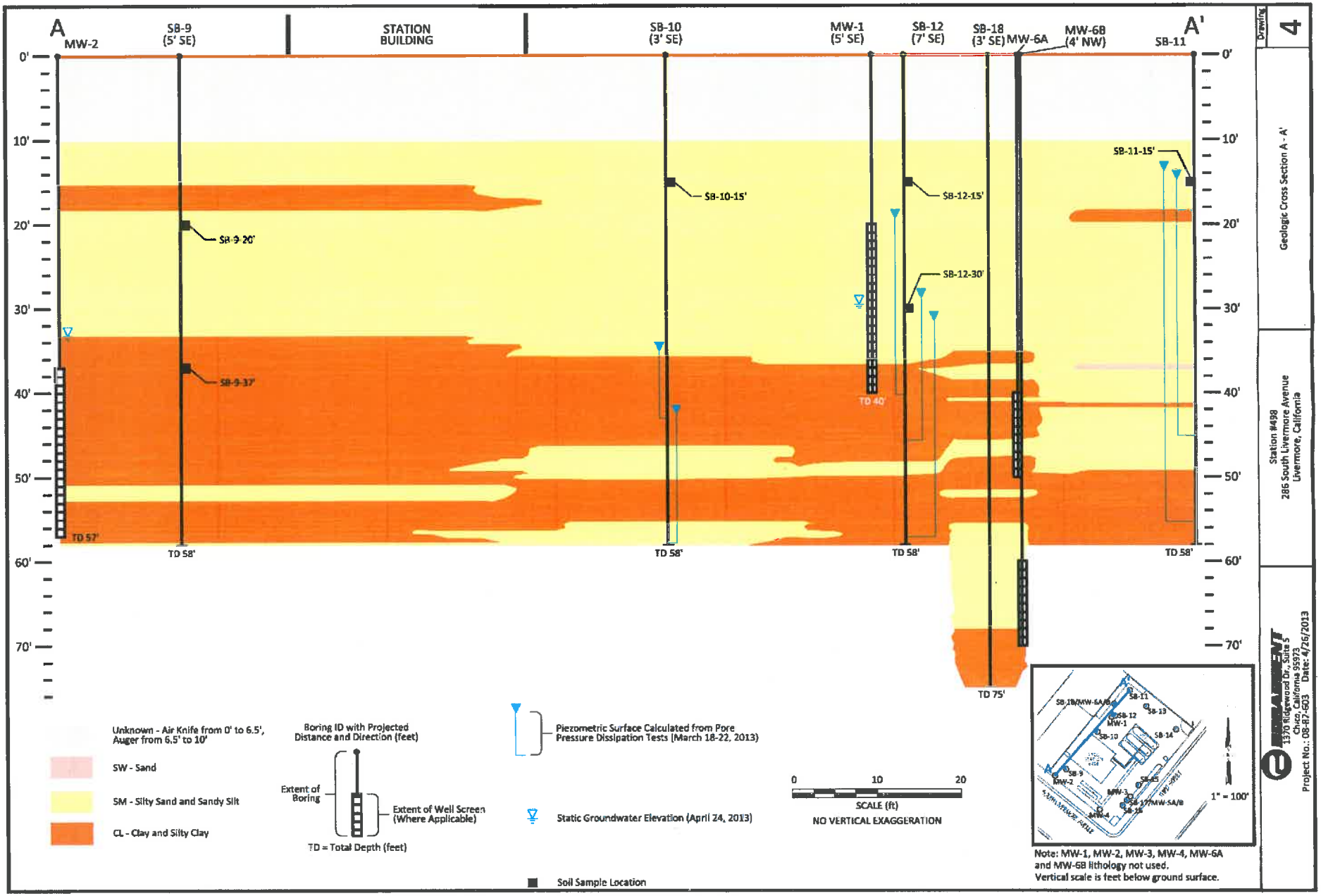


MW-4 Concentrations and Groundwater Elevations vs Time

ARCO Station #498

286 South Livermore Avenue, Livermore, California





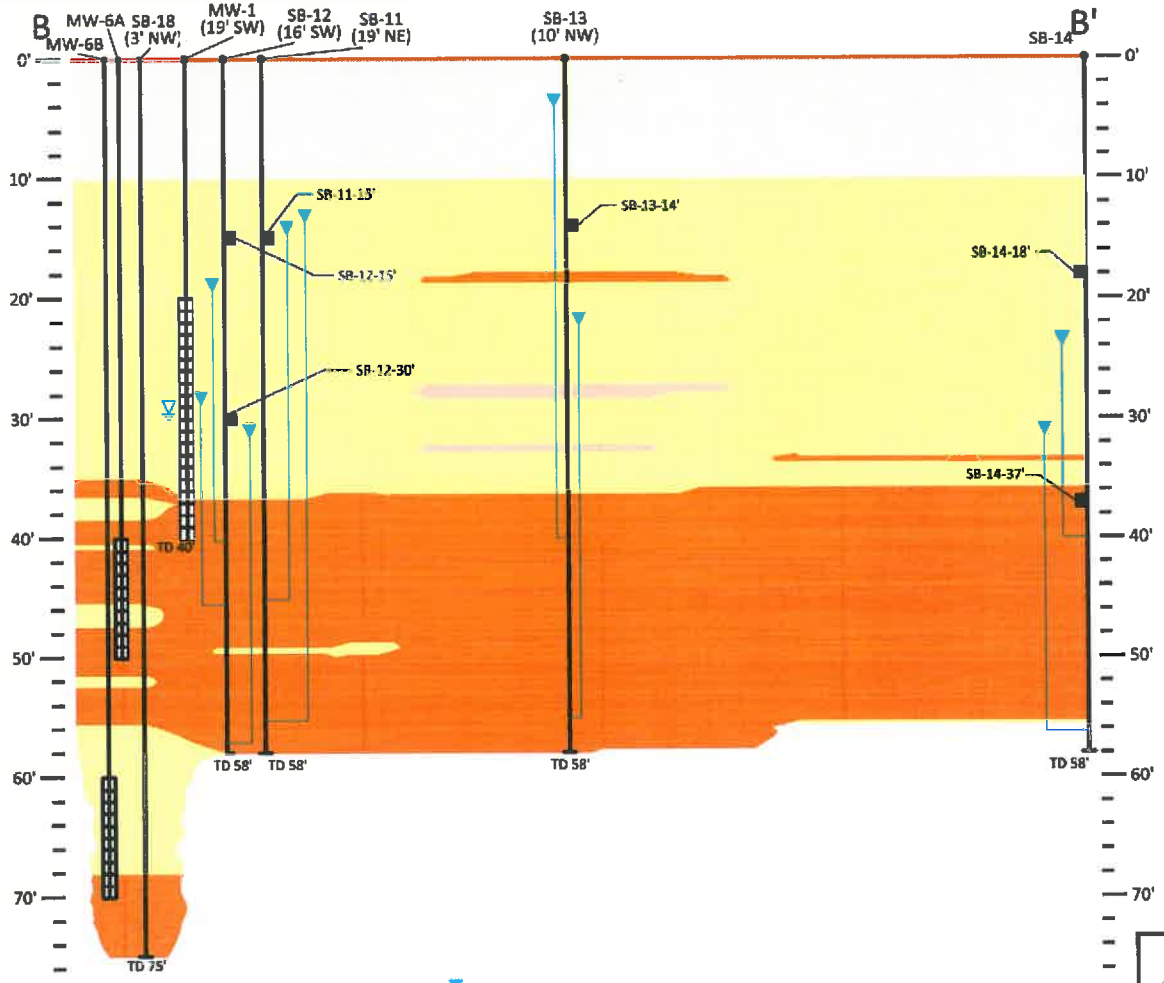
Note: MW-1, MW-2, MW-3, MW-4, MW-6A and MW-6B lithology not used.
Vertical scale is feet below ground surface.

Drawing 4

Geologic Cross Section A - A'

Station #498
286 South Livermore Avenue
Livermore, California

ENVIRONMENT
1370 Ridgeway Dr., Suite 5
Chico, California 95973
Project No.: 08-87-603 Date: 4/26/2013



Unknown - Air Knife from 0' to 6.5', Auger from 6.5' to 10'

SW - Sand

SM - Silty Sand and Sandy Silt

CL - Clay and Silty Clay

Boring ID with Projected Distance and Direction (feet)

Extent of Boring

Extent of Well Screen (Where Applicable)

TD = Total Depth (feet)

Piezometric Surface Calculated from Pore Pressure Dissipation Tests (March 18-22, 2013)

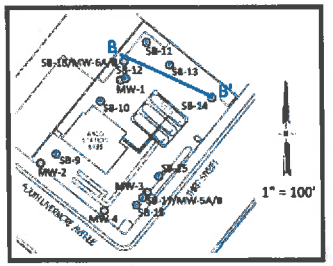
Static Groundwater Elevation (April 24, 2013)

Soil Sample Location

0 10 20

SCALE (ft)

NO VERTICAL EXAGGERATION



Note: Locations approximate for MW-6A and MW-6B. MW-1, MW-2, MW-3, MW-4, MW-5A and MW-5B lithology not used. Vertical scale is feet below ground surface.

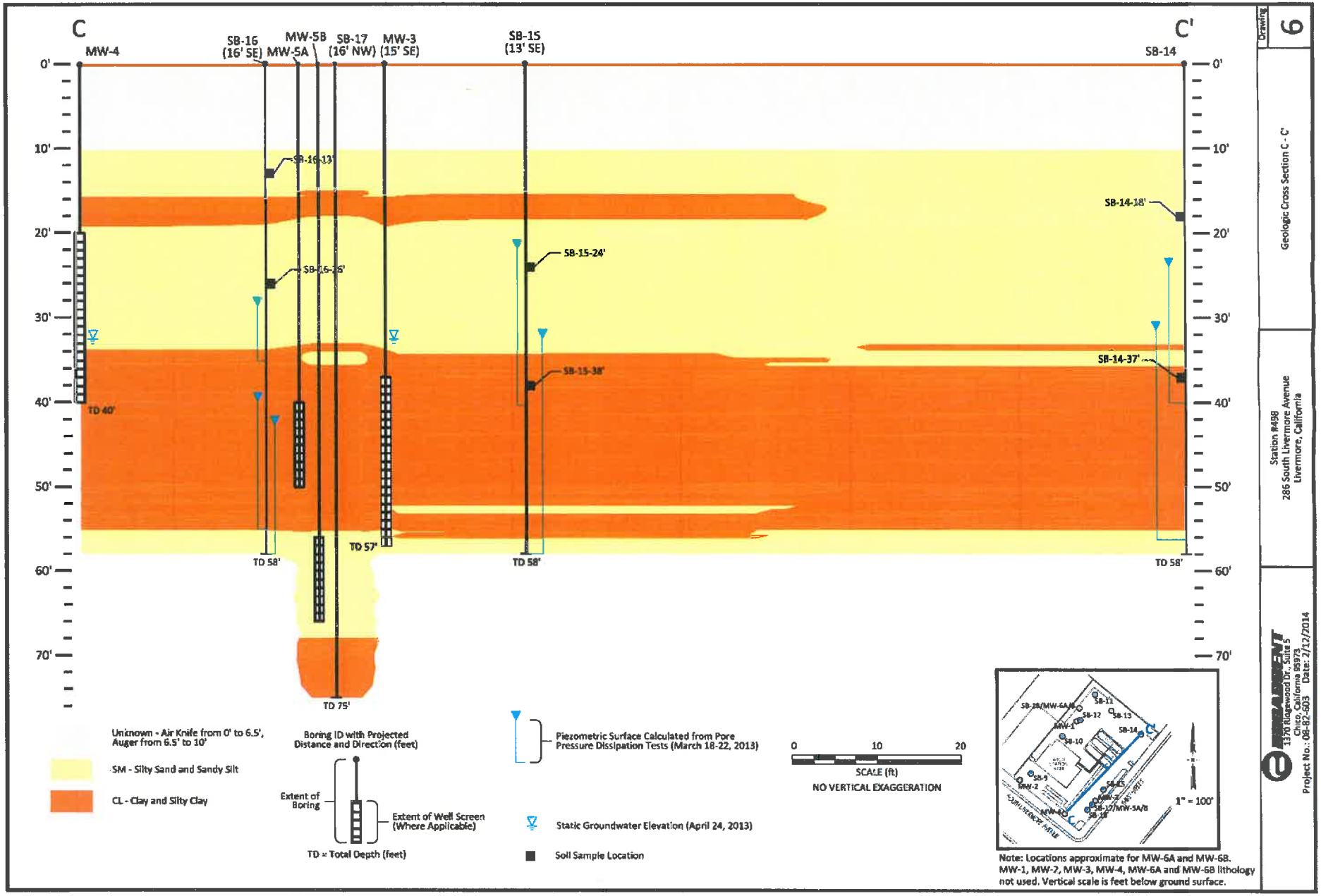
Drawing 5

Geologic Cross Section B - B'

Station #498
286 South Livermore Avenue
Livermore, California

ENVIRONMENT
1370 Ridgewood Dr., Suite 5
Chico, California 95973

Project No.: 08-02-003 Date: 2/12/2014



Note: Locations approximate for MW-6A and MW-6B. MW-1, MW-2, MW-3, MW-4, MW-6A and MW-6B lithology not used. Vertical scale is feet below ground surface.

Drawing 6

Geologic Cross Section C - C'

Station #498
286 South Livermore Avenue
Livermore, California

Project No.: 06-82-503 Date: 2/12/2014

ATTACHMENT 7

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

ARCO Service Station #498, 286 South Livermore Avenue, Livermore, CA

Well ID and Date Monitored	P/NP	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Product Thickness (feet)	Water Level Elevation (feet)	Concentrations in µg/L						DO (mg/L)	pH	Footnote
								GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
MW-1																
12/29/2008	P	496.72	20.00	40.00	28.81	0.00	467.91	1,100	38	1.2	4.0	3.3	17	2.72	6.83	
3/20/2009	P		20.00	40.00	28.95	0.00	467.77	640	9.1	<0.50	4.1	<0.50	21	0.35	7.28	
6/2/2009	P		20.00	40.00	30.90	0.00	465.82	600	1.6	<0.50	<0.50	<0.50	32	0.59	7.17	
9/2/2009	P		20.00	40.00	32.00	0.00	464.72	570	<0.50	<0.50	<0.50	<0.50	5.3	1.02	7.38	
11/9/2009	P		20.00	40.00	31.82	0.00	464.90	1,000	130	12	35	39	140	1.39	7.02	
5/20/2010	P		20.00	40.00	28.94	0.00	467.78	1,000	4.4	<0.50	0.76	0.73	22	0.59	6.6	
11/2/2010	P		20.00	40.00	32.03	0.00	464.69	1,300	83	20	40	61	39	0.72	6.0	b (GRO), c
5/25/2011	P		20.00	40.00	26.69	0.00	470.03	2,900	32	3.1	20	2.9	<0.50	0.68	7.0	lw (GRO)
10/25/2011	P		20.00	40.00	30.11	0.00	466.61	1,100	20	3.7	<0.50	5.4	21	0.78	7.4	lw (GRO)
4/10/2012	P		20.00	40.00	30.35	0.00	466.37	1,300	13	2.0	7.0	7.1	5.0	0.20	6.71	lw (GRO)
10/9/2012	NP		20.00	40.00	37.61	0.00	459.11	700	<0.50	<0.50	<0.50	<1.0	3.2	2.79	7.93	
4/24/2013	P		20.00	40.00	29.48	0.00	467.24	1,600	87	12	87	15	12	1.49	7.22	
10/9/2013	P		20.00	40.00	31.26	0.00	465.46	810	12	0.90	4.3	2.6	30	4.24	7.17	
2/21/2014	P		20.00	40.00	30.67	0.00	466.05	1,300	19	3.0	30	4.2	2.5	1.23	7.22	
5/21/2014	P		20.00	40.00	32.88	0.00	463.84	710	<0.50	<0.50	<0.50	<1.0	1.0	0.61	7.63	
8/19/2014	--		20.00	40.00	39.67	0.00	457.05	--	--	--	--	--	--	--	--	d
11/20/2014	--		20.00	40.00	39.69	0.00	457.03	--	--	--	--	--	--	--	--	
2/10/2015	P		20.00	40.00	29.88	0.00	466.84	1,600	23	2.7	12	5.1	2.3	0.83	6.04	
MW-2																
12/29/2008	P	495.35	37.00	57.00	48.76	0.00	446.59	110	7.1	<0.50	<0.50	0.76	16	1.04	7.67	
3/20/2009	P		37.00	57.00	38.78	0.00	456.57	200	3.9	<1.0	<1.0	<1.0	56	0.41	7.51	
6/2/2009	P		37.00	57.00	43.98	0.00	451.37	110	5.1	<1.0	<1.0	<1.0	44	1.87	7.42	
9/2/2009	P		37.00	57.00	50.25	0.00	445.10	88	0.79	<0.50	<0.50	<0.50	12	1.55	6.91	
11/9/2009	P		37.00	57.00	43.79	0.00	451.56	58	2.0	<0.50	<0.50	<0.50	13	0.86	7.14	
5/20/2010	P		37.00	57.00	32.07	0.00	463.28	<50	<0.50	<0.50	<0.50	<0.50	27	0.61	6.8	
11/2/2010	P		37.00	57.00	39.23	0.00	456.12	<50	<0.50	<0.50	<0.50	<0.50	57	1.34	6.8	
5/25/2011	P		37.00	57.00	28.19	0.00	467.16	<50	<0.50	<0.50	<0.50	<0.50	15	3.74	7.1	
10/25/2011	P		37.00	57.00	33.33	0.00	462.02	<50	<0.50	<0.50	<0.50	<0.50	5.7	1.28	7.8	
4/10/2012	P		37.00	57.00	39.25	0.00	456.10	<50	<0.50	<0.50	<0.50	<0.50	1.1	1.04	7.13	
10/9/2012	P		37.00	57.00	41.84	0.00	453.51	<50	<0.50	<0.50	<0.50	<1.0	0.60	2.76	7.71	

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

ARCO Service Station #498, 286 South Livermore Avenue, Livermore, CA

Well ID and Date Monitored	P/NP	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Product Thickness (feet)	Water Level Elevation (feet)	Concentrations in µg/L						DO (mg/L)	pH	Footnote
								GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
MW-2 Cont.																
4/24/2013	P	495.35	37.00	57.00	33.17	0.00	462.18	<50	<0.50	<0.50	<0.50	<1.0	1.1	2.51	7.53	
10/9/2013	P		37.00	57.00	35.23	0.00	460.12	<50	<0.50	<0.50	<0.50	<1.0	5.9	4.30	7.46	
2/21/2014	P		37.00	57.00	36.49	0.00	458.86	<50	<0.50	<0.50	<0.50	<1.0	3.6	8.05	7.17	
5/21/2014	P		37.00	57.00	40.87	0.00	454.48	<50	<0.50	<0.50	<0.50	<1.0	4.1	674	7.67	
8/19/2014	P		37.00	57.00	51.54	0.00	443.81	<50	<0.50	<0.50	<0.50	<1.0	0.60	7.33	8.37	
11/20/2014	--		37.00	57.00	56.79	0.00	438.56	--	--	--	--	--	--	--	--	
2/10/2015	**P**		**37.00**	**57.00**	**41.40**	**0.00**	**453.95**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**1.2**	**2.54**	**6.46**	
MW-3																
12/29/2008	P	496.32	37.00	57.00	48.21	0.00	448.11	28,000	310	200	840	6,200	71	1.95	7.39	
3/20/2009	P		37.00	57.00	38.48	0.00	457.84	11,000	360	84	600	1,500	71	0.56	7.25	
6/2/2009	P		37.00	57.00	43.33	0.00	452.99	5,100	310	14	180	310	66	2.06	7.18	a
9/2/2009	P		37.00	57.00	49.60	0.00	446.72	25,000	380	150	930	2,900	75	1.35	6.93	
11/9/2009	P		37.00	57.00	43.25	0.00	453.07	6,900	390	27	480	680	69	0.54	6.9	
5/20/2010	P		37.00	57.00	31.56	0.00	464.76	9,400	690	<10	300	83	77	0.36	6.8	
11/2/2010	P		37.00	57.00	38.68	0.00	457.64	4,400	420	<10	110	33	70	0.59	6.8	b (GRO)
5/25/2011	P		37.00	57.00	27.56	0.00	468.76	4,500	560	<10	210	22	74	0.70	9.8	lw (GRO)
10/25/2011	P		37.00	57.00	32.77	0.00	463.55	2,700	190	<4.0	82	51	33	0.69	7.6	
4/10/2012	P		37.00	57.00	38.69	0.00	457.63	3,000	440	<4.0	69	10	46	0.28	6.57	lw (GRO)
10/9/2012	P		37.00	57.00	41.19	0.00	455.13	1,600	210	<2.0	28	7.4	33	1.23	7.39	
4/24/2013	P		37.00	57.00	32.52	0.00	463.80	3,500	960	3.6	110	6.0	89	1.15	7.21	
10/9/2013	P		37.00	57.00	34.59	0.00	461.73	<50	390	<2.5	33	<5.0	94	4.12	7.27	
2/21/2014	P		37.00	57.00	36.03	0.00	460.29	2,000	210	<2.0	27	<4.0	44	2.03	7.41	
5/21/2014	P		37.00	57.00	40.41	0.00	455.91	1,500	170	1.0	15	<2.0	29	0.50	7.52	
8/19/2014	P		37.00	57.00	51.01	0.00	445.31	2,300	160	8.9	220	70	25	0.19	6.57	
11/20/2014	--		37.00	57.00	55.24	0.00	441.08	--	--	--	--	--	--	--	--	
2/10/2015	**P**		**37.00**	**57.00**	**40.58**	**0.00**	**455.74**	**2,000**	**350**	**2.1**	**30**	**11**	**41**	**0.63**	**6.63**	
MW-4																
12/29/2008	--	496.01	20.00	40.00	--	--	--	--	--	--	--	--	--	--	--	Dry
3/20/2009	P		20.00	40.00	37.82	0.00	458.19	410	0.78	<0.50	<0.50	0.64	16	0.52	7.16	

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

ARCO Service Station #498, 286 South Livermore Avenue, Livermore, CA

Well ID and Data Monitored	P/NP	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Product Thickness (feet)	Water Level Elevation (feet)	Concentrations in µg/L						DO (mg/L)	pH	Footnote
								GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
MW-4 Cont.																
6/2/2009	--	496.01	20.00	40.00	--	--	--	--	--	--	--	--	--	--	--	Dry
9/2/2009	--		20.00	40.00	--	--	--	--	--	--	--	--	--	--	--	Dry
11/9/2009	--		20.00	40.00	--	--	--	--	--	--	--	--	--	--	--	Dry
5/20/2010	P		20.00	40.00	31.29	0.00	464.72	290	<2.0	<2.0	<2.0	<2.0	10	0.82	6.6	
11/2/2010	NP		20.00	40.00	38.42	0.00	457.59	51	<2.0	<2.0	<2.0	<2.0	5.1	1.12	6.4	b (GRO), c
5/25/2011	P		20.00	40.00	27.58	0.00	468.43	94	<1.0	<1.0	<1.0	<1.0	6.2	0.86	6.9	lw (GRO)
10/25/2011	P		20.00	40.00	32.51	0.00	463.50	73	<0.50	<0.50	<0.50	<0.50	4.3	0.49	7.4	lw (GRO)
4/10/2012	--		20.00	40.00	38.47	0.00	457.54	<50	<0.50	<0.50	<0.50	<0.50	0.85	--	7.06	
10/9/2012	--		20.00	40.00	39.86	0.00	456.15	--	--	--	--	--	--	--	--	d
4/24/2013	P		20.00	40.00	32.50	0.00	463.51	<50	<0.50	<0.50	<0.50	<1.0	1.2	1.32	7.01	
10/9/2013	P		20.00	40.00	34.77	0.00	461.24	<50	<0.50	<0.50	<0.50	<1.0	<0.50	4.14	6.98	
2/21/2014	P		20.00	40.00	35.88	0.00	460.13	<50	<0.50	<0.50	<0.50	<1.0	<0.50	2.33	6.76	
5/21/2014	--		20.00	40.00	39.08	0.00	456.93	--	--	--	--	--	--	--	--	
8/19/2014	--		20.00	40.00	39.82	0.00	456.19	--	--	--	--	--	--	--	--	d
11/20/2014	--		20.00	40.00	39.84	0.00	456.17	--	--	--	--	--	--	--	--	
2/10/2015	**--**		**20.00**	**40.00**	**39.85**	**0.00**	**456.16**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**d**
MW-5A																
2/21/2014	P	495.98	--	--	36.17	0.00	459.81	840	3.1	<0.50	19	15	3.1	2.39	7.19	
5/21/2014	P		--	--	40.15	0.00	455.83	510	<0.50	<0.50	<0.50	<1.0	<0.50	0.51	7.46	
8/19/2014	--		--	--	49.26	0.00	446.72	--	--	--	--	--	--	--	--	d
11/20/2014	--		--	--	49.29	0.00	446.69	--	--	--	--	--	--	--	--	
2/10/2015	**P**		**--**	**--**	**40.58**	**0.00**	**455.40**	**860**	**4.2**	**<0.50**	**0.65**	**<1.0**	**<0.50**	**2.29**	**6.68**	
MW-5B																
2/21/2014	P	496.04	--	--	35.84	0.00	460.20	<50	<0.50	<0.50	<0.50	<1.0	<0.50	8.42	7.65	
5/21/2014	P		--	--	40.22	0.00	455.82	<50	<0.50	<0.50	<0.50	<1.0	0.60	1.74	7.62	
8/19/2014	P		--	--	50.85	0.00	445.19	<50	<0.50	<0.50	<0.50	<1.0	<0.50	10.86	7.03	
11/20/2014	P		--	--	56.89	0.00	439.15	<50	<0.50	<0.50	<0.50	<1.0	<0.50	4.10	7.50	
2/10/2015	**P**		**--**	**--**	**40.60**	**0.00**	**453.44**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<0.50**	**3.40**	**7.05**	
MW-6A																

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

ARCO Service Station #498, 286 South Livermore Avenue, Livermore, CA

Well ID and Date Monitored	P/NP	TOC (feet)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	DTW (feet)	Product Thickness (feet)	Water Level Elevation (feet)	Concentrations in µg/L						DO (mg/L)	pH	Footnote
								GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE			
MW-6A Cont.																
2/21/2014	P	496.69	--	--	37.40	0.00	459.29	<50	<5.0	<5.0	<5.0	<10	780	9.15	7.36	
5/21/2014	P		--	--	40.65	0.00	456.04	<50	<5.0	<5.0	<5.0	<10	880	0.57	7.64	
8/19/2014	--		--	--	49.30	0.00	447.39	--	--	--	--	--	--	--	--	d
11/20/2014	--		--	--	49.41	0.00	447.28	--	--	--	--	--	--	--	--	
2/10/2015	**P**		**--**	**--**	**44.04**	**0.00**	**452.65**	**58**	**<5.0**	**<5.0**	**<5.0**	**<10**	**1,700**	**0.77**	**6.93**	
MW-6B																
2/21/2014	P	496.89	--	--	37.26	0.00	459.63	<50	<0.50	<0.50	<0.50	<1.0	<0.50	5.81	7.36	
5/21/2014	P		--	--	41.64	0.00	455.25	<50	<0.50	<0.50	<0.50	<1.0	<0.50	2.43	7.57	
8/19/2014	P		--	--	52.25	0.00	444.64	<50	<0.50	<0.50	<0.50	<1.0	<0.50	8.33	7.41	
11/20/2014	P		--	--	58.23	0.00	438.66	<50	<0.50	<0.50	<0.50	<1.0	<0.50	5.06	7.53	
2/10/2015	**P**		**--**	**--**	**42.08**	**0.00**	**454.81**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<0.50**	**6.76**	**7.10**	

Symbols & Abbreviations:
– = Not sampled/analyzed/applicable/measured/ available
< = Not detected at or above specified laboratory reporting limit
DO = Dissolved oxygen
DTW = Depth to water in ft bgs
ft bgs= feet below ground surface
ft MSL= feet above mean sea level
GRO = Gasoline range organics
GWE = Groundwater elevation measured in ft MSL
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 MSL
µg/L = Micrograms per liter

Footnotes:
a = Sample preserved improperly
b = Quantitation of unknown hydrocarbon(s) in sample based on gasoline
c = Hydrocarbon odor
d = Insufficient water within well casing to collect sample
lw = Quantitated against gasoline

Table 3. Summary of Fuel Additives Analytical Data

ARCO Service Station #498, 286 South Livermore Avenue, Livermore, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
MW-1									
12/29/2008	<300	<10	17	<0.50	<0.50	<0.50	<0.50	<0.50	
3/20/2009	<300	25	21	<0.50	<0.50	<0.50	<0.50	<0.50	
6/2/2009	<300	28	32	<0.50	<0.50	<0.50	<0.50	<0.50	
9/2/2009	<300	17	5.3	<0.50	<0.50	<0.50	<0.50	<0.50	
11/9/2009	<300	47	140	<0.50	<0.50	3.1	<0.50	<0.50	
5/20/2010	<300	75	22	<0.50	<0.50	<0.50	<0.50	<0.50	
11/2/2010	<300	50	39	<0.50	<0.50	<0.50	<0.50	<0.50	
5/25/2011	<300	32	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
10/25/2011	<300	78	21	<0.50	<0.50	0.72	<0.50	<0.50	
4/10/2012	<300	49	5.0	<0.50	<0.50	<0.50	<0.50	<0.50	
10/9/2012	<150	47	3.2	<0.50	<0.50	<0.50	<0.50	<0.50	
4/24/2013	<150	43	12	<0.50	<0.50	<0.50	<0.50	<0.50	
10/9/2013	<150	79	30	<0.50	<0.50	0.52	<0.50	<0.50	
2/21/2014	<150	12	2.5	<0.50	<0.50	<0.50	<0.50	<0.50	
5/21/2014	<150	12	1.0	<0.50	<0.50	<0.50	<0.50	<0.50	
2/10/2015	<150	<10	2.3	<0.50	<0.50	<0.50	<0.50	<0.50	
MW-2									
12/29/2008	<300	22	16	<0.50	<0.50	<0.50	<0.50	<0.50	
3/20/2009	<600	62	56	<1.0	<1.0	<1.0	<1.0	<1.0	
6/2/2009	<600	83	44	<1.0	<1.0	<1.0	<1.0	<1.0	
9/2/2009	<300	37	12	<0.50	<0.50	<0.50	<0.50	<0.50	
11/9/2009	<300	41	13	<0.50	<0.50	<0.50	<0.50	<0.50	
5/20/2010	<300	22	27	<0.50	<0.50	<0.50	<0.50	<0.50	
11/2/2010	<300	26	57	<0.50	<0.50	<0.50	<0.50	<0.50	
5/25/2011	<300	<10	15	<0.50	<0.50	<0.50	<0.50	<0.50	
10/25/2011	<300	<10	5.7	<0.50	<0.50	<0.50	<0.50	<0.50	
4/10/2012	<300	<10	1.1	<0.50	<0.50	<0.50	<0.50	<0.50	
10/9/2012	<150	<10	0.60	<0.50	<0.50	<0.50	<0.50	<0.50	
4/24/2013	<150	<10	1.1	<0.50	<0.50	<0.50	<0.50	<0.50	
10/9/2013	<150	<10	5.9	<0.50	<0.50	<0.50	<0.50	<0.50	
2/21/2014	<150	<10	3.6	<0.50	<0.50	<0.50	<0.50	<0.50	

Table 3. Summary of Fuel Additives Analytical Data

ARCO Service Station #498, 286 South Livermore Avenue, Livermore, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
MW-2 Cont.									
5/21/2014	<150	<10	4.1	<0.50	<0.50	<0.50	<0.50	<0.50	
8/19/2014	<150	<10	0.60	<0.50	<0.50	<0.50	<0.50	<0.50	
2/10/2015	**<150**	**<10**	**1.2**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	
MW-3									
12/29/2008	<30,000	<1,000	71	<50	<50	<50	<50	<50	
3/20/2009	<7,500	<250	71	<12	<12	<12	<12	<12	
6/2/2009	<3,000	100	66	<5.0	<5.0	<5.0	<5.0	<5.0	
9/2/2009	<7,500	<250	75	<12	<12	<12	<12	<12	
11/9/2009	<3,000	<100	69	<5.0	<5.0	<5.0	<5.0	<5.0	
5/20/2010	<6,000	<200	77	<10	<10	<10	<10	<10	
11/2/2010	<6,000	<200	70	<10	<10	<10	<10	<10	
5/25/2011	<6000	<200	74	<10	<10	<10	<10	<10	
10/25/2011	<2,400	<80	33	<4.0	<4.0	<4.0	<4.0	<4.0	
4/10/2012	<2,400	<80	46	<4.0	<4.0	<4.0	<4.0	<4.0	
10/9/2012	<600	56	33	<2.0	<2.0	<2.0	<2.0	<2.0	
4/24/2013	<380	71	89	<1.3	<1.3	<1.3	<1.3	<1.3	
10/9/2013	<750	100	94	<2.5	<2.5	<2.5	<2.5	<2.5	
2/21/2014	<600	58	44	<2.0	<2.0	<2.0	<2.0	<2.0	
5/21/2014	<300	46	29	<1.0	<1.0	<1.0	<1.0	<1.0	
8/19/2014	<600	<40	25	<2.0	<2.0	<2.0	<2.0	<2.0	
2/10/2015	**<600**	**66**	**41**	**<2.0**	**<2.0**	**<2.0**	**<2.0**	**<2.0**	
MW-4									
3/20/2009	<300	2,000	16	<0.50	<0.50	<0.50	<0.50	<0.50	
5/20/2010	<1,200	1,000	10	<2.0	<2.0	<2.0	<2.0	<2.0	
11/2/2010	<1,200	500	5.1	<2.0	<2.0	<2.0	<2.0	<2.0	
5/25/2011	<600	230	6.2	<1.0	<1.0	<1.0	<1.0	<1.0	
10/25/2011	<300	150	4.3	<0.50	<0.50	<0.50	<0.50	<0.50	
4/10/2012	<300	<10	0.85	<0.50	<0.50	<0.50	<0.50	<0.50	
4/24/2013	<150	24	1.2	<0.50	<0.50	<0.50	<0.50	<0.50	
10/9/2013	<150	13	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	

Table 3. Summary of Fuel Additives Analytical Data

ARCO Service Station #498, 286 South Livermore Avenue, Livermore, CA

Well ID and Date Monitored	Concentrations in µg/L								Footnote
	Ethanol	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB	
MW-4 Cont.									
2/21/2014	<150	37	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
MW-5A									
2/21/2014	<150	19	3.1	<0.50	<0.50	<0.50	<0.50	<0.50	
5/21/2014	<150	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
2/10/2015	**<150**	**16**	**<0.50**	**--**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	
MW-5B									
2/21/2014	<150	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
5/21/2014	<150	<10	0.60	<0.50	<0.50	<0.50	<0.50	<0.50	
8/19/2014	<150	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
11/20/2014	<150	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
2/10/2015	**<150**	**<10**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	
MW-6A									
2/21/2014	<1,500	<100	780	<5.0	<5.0	<5.0	<5.0	<5.0	
5/21/2014	<1,500	130	880	<5.0	<5.0	<5.0	<5.0	<5.0	
2/10/2015	**<1,500**	**<100**	**1,700**	**<5.0**	**<5.0**	**<5.0**	**<5.0**	**<5.0**	
MW-6B									
2/21/2014	<150	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
5/21/2014	<150	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
8/19/2014	<150	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
11/20/2014	<150	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
2/10/2015	**<150**	**21**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	

Symbols & Abbreviations:
--/— = Not sampled/analyzed/applicable/measured/avaliable
< = 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

Table 2. Summary of Groundwater Sample Analytical Data
Station #498, 286 South Livermore Avenue, Livermore, California

Sample ID*	Sample Depth (ft. bgs)	Date Collected	GRO µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Xylenes µg/L	MTBE µg/L	TBA µg/L	TAME µg/L	Comments
SB-9	55-60	3/22/2013	<50	<0.50	<0.50	<0.50	<1.0	1.9	<10	<0.50	
SB-10	45-50	3/18/2013	<50	<2.0	<2.0	<2.0	<4.0	520	67	<2.0	
SB-11	45-50	3/20/2013	73	<5.0	<5.0	<5.0	<10	1,700	570	7.5	
SB-12	45-50	3/20/2013	<50	<1.0	<1.0	<1.0	<2.0	570	21	4	
SB-13	51-56	3/21/2013	<50	<0.50	<0.50	<0.50	<1.0	100	<10	<0.50	
SB-14	55-60	3/22/2013	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	
SB-15	50-55	3/21/2013	6,300	4.7	8.2	110	52	<1.0	<20	<1.0	
SB-16	55-60	3/21/2013	26,000	180	360	1,500	9,300	<25	<500	<25	
ESLs	--	--	100	1.0	40	30	20	5.0	12	--	

Table 4. Summary of Groundwater Sample Analytical Data
Station #498, 286 South Livermore Avenue, Livermore, California

Sample ID*	Sample Depth (ft. bgs)	Date Collected	GRO µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Xylenes µg/L	MTBE µg/L	TBA µg/L	TAME µg/L	Comments
SB-17-65	60-65	1/8/2014	**880**	0.71	8.7	13	**60**	<0.50	<10	<0.50	
SB-18-40	40-45	1/8/2014	<500	<25	<25	<25	<50	**3,000**	**660**	<25	
SB-18-65	60-65	1/8/2014	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	
SB-19-63	58-63	1/7/2014	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	
SB-20-48	43-48	1/7/2014	**1,400**	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	
SB-20-65	60-65	1/7/2014	54	<0.50	<0.50	<0.50	<1.0	<0.50	<10	<0.50	
ESLs	--	--	100	1.0	40	30	20	5.0	12	--	

Abbreviations & Symbols:

Bolded concentrations exceed their respective ESL.

* = See Drawing 2 for soil boring locations.

-- = Not applicable or available

GRO: Gasoline range organics.

TestAmerica.: GRO (C6-C12)

GRO analyzed using EPA method 8015B

TBA = Tert-butyl alcohol

TAME = Tert-amyl methyl ether

Benzene, Toluene, Ethylbenzene, Total Xylenes, MTBE, TBA and TAME analyzed using EPA method 8260B.

µg/L = Micrograms per liter.

ESLs = Environmental Screening Levels where groundwater is a current or potential source of drinking water (San Francisco Bay Regional Water Quality Control Board, 2013).

bgs = Below ground surface

Notes:

1,2-dibromoethane (EDB), 1,2-dichloroethane (1,2 DCA), Di-isopropyl ether (DIPE), ethyl tert-butyl ether (ETBE), and ethanol were not detected at or above their respective laboratory reporting limit.

Table 1 - Soil Analytical Data
ARCO Service Station #0498
286 South Livermore Avenue, Livermore California

Sample Name	Sample Depth (ft)	Date Sampled	TPH-GRO (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)
SB-1-7'	7.0	01/20/05	ND <1.0	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-1-12'	12.0	01/20/05	ND <1.0	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-1-17'	17.0	01/20/05	ND <1.0	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-1-22'	22.0	01/20/05	ND <1.0	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-1-24'	24.0	01/20/05	ND <1.0	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-2-10'	10.0	01/19/05	ND <1.0	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-2-15'	15.0	01/19/05	ND <1.0	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-2-18.5'	18.5	01/19/05	ND <1.0	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-3-10'	10.0	01/19/05	ND <1.0	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-3-15'	15.0	01/19/05	ND <1.0	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-3-20'	20.0	01/19/05	ND <1.0	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-3-25'	25.0	01/19/05	ND <1.0	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-4-7'	7.0	01/19/05	ND <1.0	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-4-12'	12.0	01/19/05	ND <1.0	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-4-17'	17.0	01/19/05	ND <1.0	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-4-22'	22.0	01/19/05	ND <1.0	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-5-10'	10.0	01/20/05	ND <1.0	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-5-15'	15.0	01/20/05	ND <1.0	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-6-10'	10.0	01/20/05	ND <1.0	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-6-15'	15.0	01/20/05	ND <1.0	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-6-22'	22.0	01/20/05	ND <1.0	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-7-10'	10.0	01/20/05	ND <1.0	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-7-14.5'	14.5	01/20/05	ND <1.0	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-7-20'	20.0	01/20/05	ND <1.0	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-8-10'	10.0	01/20/05	ND <1.0	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-8-15'	15.0	01/20/05	ND <1.0	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-8-20'	20.0	01/20/05	ND <1.0	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-8-25'	25	01/20/05	ND <1.0	ND <0.005	ND <0.005	ND <0.005	ND <0.005

Notes:
ND = Not Detected at or above the laboratory reporting limit
mg/kg = milligrams per kilogram
TPH-GRO = Total Petroleum Hydrocarbons gasoline range organics
BTEX = Benzene, toluene, ethylbenzene, and xylenes

Table 2 Soil Analytical Data-Oxygenates
ARCO Service Station #0498
286 South Livermore Avenue, Livermore California

Sample Name	Sample Depth (ft)	Date Sampled	Ethanol (mg/kg)	TBA (mg/kg)	MTBE (mg/kg)	DIPE (mg/kg)	ETBE (mg/kg)	TAME (mg/kg)	1,2-DCA (mg/kg)	EDB (mg/kg)
SB-1-7'	7.0	01/20/05	ND <0.1	ND <0.01	ND <0.005	ND <0.01	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-1-12'	12.0	01/20/05	ND <0.1	ND <0.01	ND <0.005	ND <0.01	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-1-17'	17.0	01/20/05	ND <0.1	ND <0.01	ND <0.005	ND <0.01	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-1-22'	22.0	01/20/05	ND <0.1	0.031	0.015	ND <0.01	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-1-24'	24.0	01/20/05	ND <0.1	0.025	0.006	ND <0.01	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-2-10'	10.0	01/19/05	ND <0.1	ND <0.01	ND <0.005	ND <0.01	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-2-15'	15.0	01/19/05	ND <0.1	ND <0.01	ND <0.005	ND <0.01	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-2-18.5'	18.5	01/19/05	ND <0.1	ND <0.01	ND <0.005	ND <0.01	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-3-10'	10.0	01/19/05	ND <0.1	ND <0.01	ND <0.005	ND <0.01	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-3-15'	15.0	01/19/05	ND <0.1	ND <0.01	ND <0.005	ND <0.01	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-3-20'	20.0	01/19/05	ND <0.1	ND <0.01	ND <0.005	ND <0.01	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-3-25'	25.0	01/19/05	ND <0.1	0.021	0.011	ND <0.01	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-4-7'	7.0	01/19/05	ND <0.1	ND <0.01	ND <0.005	ND <0.01	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-4-12'	12.0	01/19/05	ND <0.1	ND <0.01	ND <0.005	ND <0.01	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-4-17'	17.0	01/19/05	ND <0.1	ND <0.01	ND <0.005	ND <0.01	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-4-22'	22.0	01/19/05	ND <0.1	ND <0.01	ND <0.005	ND <0.01	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-5-10'	10.0	01/20/05	ND <0.1	ND <0.01	ND <0.005	ND <0.01	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-5-15'	15.0	01/20/05	ND <0.1	ND <0.01	ND <0.005	ND <0.01	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-6-10'	10.0	01/20/05	ND <0.1	ND <0.01	ND <0.005	ND <0.01	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-6-15'	15.0	01/20/05	ND <0.1	ND <0.01	ND <0.005	ND <0.01	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-6-22'	22.0	01/20/05	ND <0.1	ND <0.01	ND <0.005	ND <0.01	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-7-10'	10.0	01/20/05	ND <0.1	ND <0.01	ND <0.005	ND <0.01	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-7-14.5'	14.5	01/20/05	ND <0.1	ND <0.01	ND <0.005	ND <0.01	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-7-20'	20.0	01/20/05	ND <0.1	ND <0.01	ND <0.005	ND <0.01	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-8-10'	10.0	01/20/05	ND <0.1	ND <0.01	ND <0.005	ND <0.01	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-8-15'	15.0	01/20/05	ND <0.1	ND <0.01	ND <0.005	ND <0.01	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-8-20'	20.0	01/20/05	ND <0.1	ND <0.01	ND <0.005	ND <0.01	ND <0.005	ND <0.005	ND <0.005	ND <0.005
SB-8-25'	25	01/20/05	ND <0.1	0.012	0.022	ND <0.01	ND <0.005	ND <0.005	ND <0.005	ND <0.005

Notes:

ND = Not Detected at or above the laboratory reporting limit
mg/kg = milligrams per kilogram
TBA = Tert-butyl alcohol
MTBE = Methyl tertiary butyl ether
DIPE = Di-isopropyl ether
ETBE = Ethyl tertiary butyl ether
TAME = Tert-amyl methyl ether
1,2-DCA = 1,2-Dichloroethane
EDB = 1,2-Dibromoethane

Table 1. Summary of Soil Sample Analytical Data

Station #498, 286 South Livermore Avenue, Livermore, CA

Boring and Sample Date	Sample ID	Concentrations in (mg/kg)								Comments
		GRO/ TPHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE	Ethanol	TBA	
MW-1										
11/24/2008	MW-1 25'	45	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.10	<0.010	
11/24/2008	MW-1 30'	0.86	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.10	<0.010	
11/24/2008	MW-1 40'	<0.50	<0.0010	<0.0010	<0.0010	<0.0010	0.16	0.23	0.036	
MW-2										
11/24/2008	MW-2 40'	<0.50	<0.0010	<0.0010	<0.0010	<0.0010	0.010	<0.10	0.022	
11/24/2008	MW-2 45'	18	<0.0010	<0.0010	<0.0010	<0.0010	0.0019	0.44	0.022	
11/24/2008	MW-2 50'	<0.50	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.10	<0.010	
MW-3										
11/26/2008	MW-3 15'	6.7	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.10	0.14	
11/26/2008	MW-3 20'	210	<0.0010	<0.0010	0.88	<0.0010	<0.0010	<0.10	<0.010	
11/26/2008	MW-3 25'	530	<0.10	<0.10	1.5	0.17	<0.10	<10	<1.0	
11/26/2008	MW-3 30'	0.84	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.10	<0.010	
11/26/2008	MW-3 35'	<0.50	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.10	0.028	
11/26/2008	MW-3 40'	<0.50	<0.0010	<0.0010	<0.0010	<0.0010	0.013	<0.10	0.014	
MW-4										
11/25/2008	MW-4 30'	2.0	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.35	0.054	
11/25/2008	MW-4 35'	75	<0.0010	<0.0010	<0.0010	<0.0010	0.0030	<0.10	0.65	
11/25/2008	MW-4 40'	<0.50	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.10	0.14	

SYMBOLS AND ABBREVIATIONS:

< = Not detected at or above specified laboratory reporting limit
GRO = Gasoline range organics
MTBE = Methyl tert-butyl ether
TBA = Tert-Butyl Alcohol
mg/kg = Milligrams per Kilogram

NOTES:

1,2-dibromoethane (EDB), 1,2-dichloroethane (1,2 DCA), Di-isopropyl ether (DIPE), ethyl tert-butyl ether (ETBE) and ter-amyl methyl ether (TAME) were not detected at or above their respective laboratory reporting limits.

GRO (C6-C12) analyzed using EPA method 8015B.

Benzene, toluene, ethylbenzene, total xylenes, MTBE, ethanol and TBA analyzed using EPA method 8260B.

The number after space in Sample ID denotes the depth at which the sample was collected in feet bls.

Table 1. Summary of Soil Sample Analytical Data
Station #498, 286 South Livermore Avenue, Livermore, California

Soil Boring Identification*	Sample ID	Date Collected	GRO mg/kg	Benzene mg/kg	Toluene mg/kg	Ethylbenzene mg/kg	Xylenes mg/kg	MTBE mg/kg	Comments
SB-9	SB-9-20'	3/22/2013	<0.380	<0.0020	<0.0020	<0.0020	<0.0040	<0.0049	
	SB-9-37'	3/22/2013	<0.390	<0.0020	<0.0020	<0.0020	<0.0040	<0.0049	
SB-10	SB-10-15'	3/18/2013	<0.400	<0.0020	<0.0020	<0.0020	<0.0040	<0.0049	
SB-11	SB-11-15'	3/20/2013	<0.390	<0.0020	<0.0020	<0.0020	<0.0040	<0.0049	
SB-12	SB-12-15'	3/20/2013	<0.400	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	
	SB-12-30'	3/20/2013	<0.350	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	
SB-13	SB-13-14'	3/21/2013	<0.390	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	
	SB-13-27'	3/21/2013	<0.370	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	
SB-14	SB-14-18'	3/22/2013	<0.38	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	
	SB-14-37'	3/22/2013	<0.38	<0.0020	<0.0020	<0.0020	<0.0039	<0.0049	
SB-15	SB-15-24'	3/21/2013	<0.38	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	
	SB-15-38'	3/21/2013	**1,500**	**4.8**	**53**	**35**	**230**	<2.5	
SB-16	SB-16-13'	3/21/2013	<0.40	<0.0020	<0.0020	<0.0020	<0.0040	<0.0049	
	SB-16-26'	3/21/2013	<0.36	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	
ESLs	--	--	83	0.044	2.9	2.9	2.3	0.023	

Abbreviations & Symbols:

Bolded concentrations exceed their respective ESL.

* = See Drawing 2 for soil boring locations.

GRO: Gasoline range organics.

TestAmerica: GRO (C6-C12)

GRO analyzed using EPA method 8015B

Benzene, Toluene, Ethylbenzene, Total Xylenes, and MTBE analyzed using EPA method 8260B.

mg/kg = Milligrams per kilogram.

ESLs = Environmental Screening Levels for deep soil (>3 meters bgs) where groundwater is a current or potential source of drinking water (San Francisco Bay Regional Water Quality Control Board, 2013).

bgs = Below ground surface

Notes:

1,2-dibromoethane (EDB), 1,2-dichloroethane (1,2 DCA), tert-butyl alcohol (TBA), Di-isopropyl ether (DIPE), ethyl tert-butyl ether (ETBE), ter-amyl methyl ether (TAME), and ethanol were not detected at or above their respective laboratory reporting limit.

The last number in each Sample ID denotes the depth at which the sample was collected in feet bgs (i.e., SB-9-20' was collected at a depth of 20 feet bgs)

TABLE 1

SOIL SAMPLE LABORATORY ANALYTICAL RESULTS

ARCO Service Station No. 498
286 South Livermore Avenue
Livermore, California

Sample ID	Date	Depth (ft)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	TPH as gasoline (mg/kg)	MTBE (mg/kg)	Total Lead (mg/kg)
Dispenser Island Samples									
DP-1	06/01/01	3.0	<0.0050	<0.0050	<0.0050	0.019	1.8	<0.050	23
DP-2	06/01/01	3.5	<0.0050	<0.0050	<0.0050	<0.0050	<1.0	<0.050	3.7
DP-3	06/01/01	3.5	0.11	2.8	1.2	8.9	87	3.7	17
DP-4	06/01/01	3.5	<0.0050	<0.0050	<0.0050	<0.0050	<1.0	<0.050	4.2
Product Line Samples									
PL-1	06/01/01	3.8	<0.0050	<0.0050	<0.0050	<0.0050	<1.0	<0.050	2.3
PL-2	06/01/01	4.5	<0.0050	0.011	<0.0050	0.010	<1.0	<0.050	13
PL-3	06/01/01	5.0	<0.0050	<0.0050	<0.0050	<0.0050	<1.0	<0.050	5.4
PL-4	06/01/01	2.5	<0.0050	<0.0050	<0.0050	<0.0050	<1.0	<0.050	190
Soil Stockpile Results									
SP-1,2,3,4	06/01/01	Composite	<0.0050	<0.0050	<0.0050	0.13	5.6	<0.050	32

TPH = Total purgeable hydrocarbons.
MTBE = Methyl tertiary butyl ether (analyzed by DHS LUFT Methods)
NA = Not Analyzed