

# Atlantic Richfield Company

**Chuck Carmel**

Remediation Management Project Manager

PO Box 1257  
San Ramon, CA 94583  
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Fax: (925) 275-3815  
E-Mail: chuck.carmel@bp.com

July 17, 2015

**RECEIVED**

By Alameda County Environmental Health 2:43 pm, Jul 17, 2015

Re: Second Quarter 2015 Status Report  
Atlantic Richfield Company Station #498  
286 South Livermore Ave, Livermore, California  
ACEH Case #RO0002873

"I declare, that to the best of my knowledge at the present time, that the information and/or recommendations contained in the attached document are true and correct.

Submitted by,



Chuck Carmel  
Remediation Management Project Manager

Attachment





4820 Business Center Drive, Suite 110  
Fairfield, CA 94534  
[T] 707-455-7290 [F] 707-863-9046  
broadbentinc.com

**Creating Solutions. Building Trust.**

July 17, 2015

Project No. 08-82-603

Atlantic Richfield Company  
P.O. Box 1257  
San Ramon, CA 94583  
Submitted via ENFOS

Attn.: Mr. Chuck Carmel

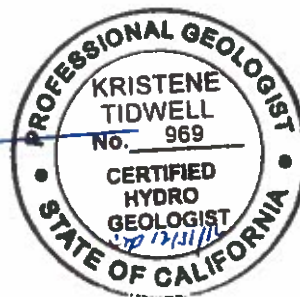
Re: Second Quarter 2015 Quarterly Groundwater Monitoring Report, Atlantic Richfield Company Station No. 498, 286 South Livermore Avenue, Livermore, California; ACEH Case #RO0002873

Dear Mr. Carmel:

Attached is the Second Quarter 2015 Quarterly Status Report for Atlantic Richfield Company Station No. 498 located at 286 South Livermore Avenue, Livermore, California. Should you have questions regarding the work performed or results obtained, please do not hesitate to contact us at (707) 455-7290.

Sincerely,  
BROADBENT & ASSOCIATES, INC.

Kristene Tidwell, P.G., C.Hg.  
Associate Hydrogeologist



Enclosure

cc: Mr. Jerry Wickham, Alameda County Environmental Health, 1131 Harbor Bay Parkway,  
Suite 250, Alameda, CA 84502 (Submitted via ACEH ftp Site)  
Electronic copy uploaded to GeoTracker

**SECOND QUARTER 2015  
QUARTERLY GROUNDWATER MONITORING REPORT  
STATION #498, LIVERMORE, CALIFORNIA**

Broadbent & Associates, Inc. (Broadbent) is pleased to present this *Second Quarter 2015 Quarterly Status Report* on behalf of Atlantic Richfield Company (a BP affiliated company) for Station #498 located in Livermore, Alameda County, California. Reporting is being submitted to Alameda County Environmental Health consistent with the requirements under the legal authority of the California Regional Water Quality Control Board, as codified by the California Code of Regulations Title 23, Section 2652(d). Details of work performed, discussion of results, and recommendations are provided below.

Facility Name / Address:	ARCO Station #498 / 286 South Livermore Avenue
Client Project Manager / Title:	Mr. Chuck Carmel / Project Manager
Broadbent Contact:	Kristene Tidwell, P.G, C.HG, (707) 455-7290
Broadbent Project No.:	08-82-603
Primary Regulatory Agency / ID No.:	ACEH, Case #RO0002873
Current phase of project:	Monitoring and Assessment
List of Acronyms / Abbreviations:	See end of report text for list of acronyms/abbreviations used in report.

**WORK PERFORMED THIS QUARTER (Second Quarter 2015):**

1. Prepared and submitted *First Quarter 2015 Groundwater Monitoring Report, Updated Conceptual Site Model, and Case Closure Request* on April 30, 2015.
2. No environmental work is scheduled for the Second Quarter 2015.

**WORK SCHEDULED FOR NEXT QUARTER (Third Quarter 2015):**

1. Prepare and submit *Second Quarter 2015 Quarterly Status Report* (contained herein).
2. Carry out well decommissioning activities upon Regulator approval.

**GROUNDWATER MONITORING PLAN SUMMARY:**

Groundwater level gauging:	Suspended	Quarterly
Groundwater sample collection:	Suspended	Quarterly
Biodegradation indicator parameter monitoring:	None	(Quarterly)

**DISCUSSION:**

A Site Location is provided as Drawing 1. The Groundwater Elevation Contour and Analytical Summary Map for data collected on March 27, 2015 are provided as Drawing 2. Groundwater sampling has been suspended based on the Site being considered for Case Closure.

**LIMITATIONS:**

The findings presented in this report are based upon observations of field personnel, points investigated, and results of laboratory tests performed by TestAmerica Laboratories, Inc. (Irvine, California). Our services were performed in accordance with the generally accepted standard of practice at the time this report was written. No other warranty, expressed or implied was made. This report has been prepared for the exclusive use of the Atlantic Richfield Company. It is possible that variations in soil or groundwater conditions could exist beyond

points explored in this investigation. Also, changes in site conditions could occur in the future due to variations in rainfall, temperature, regional water usage, or other factors.

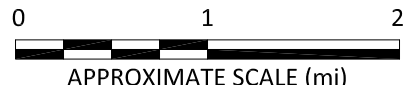
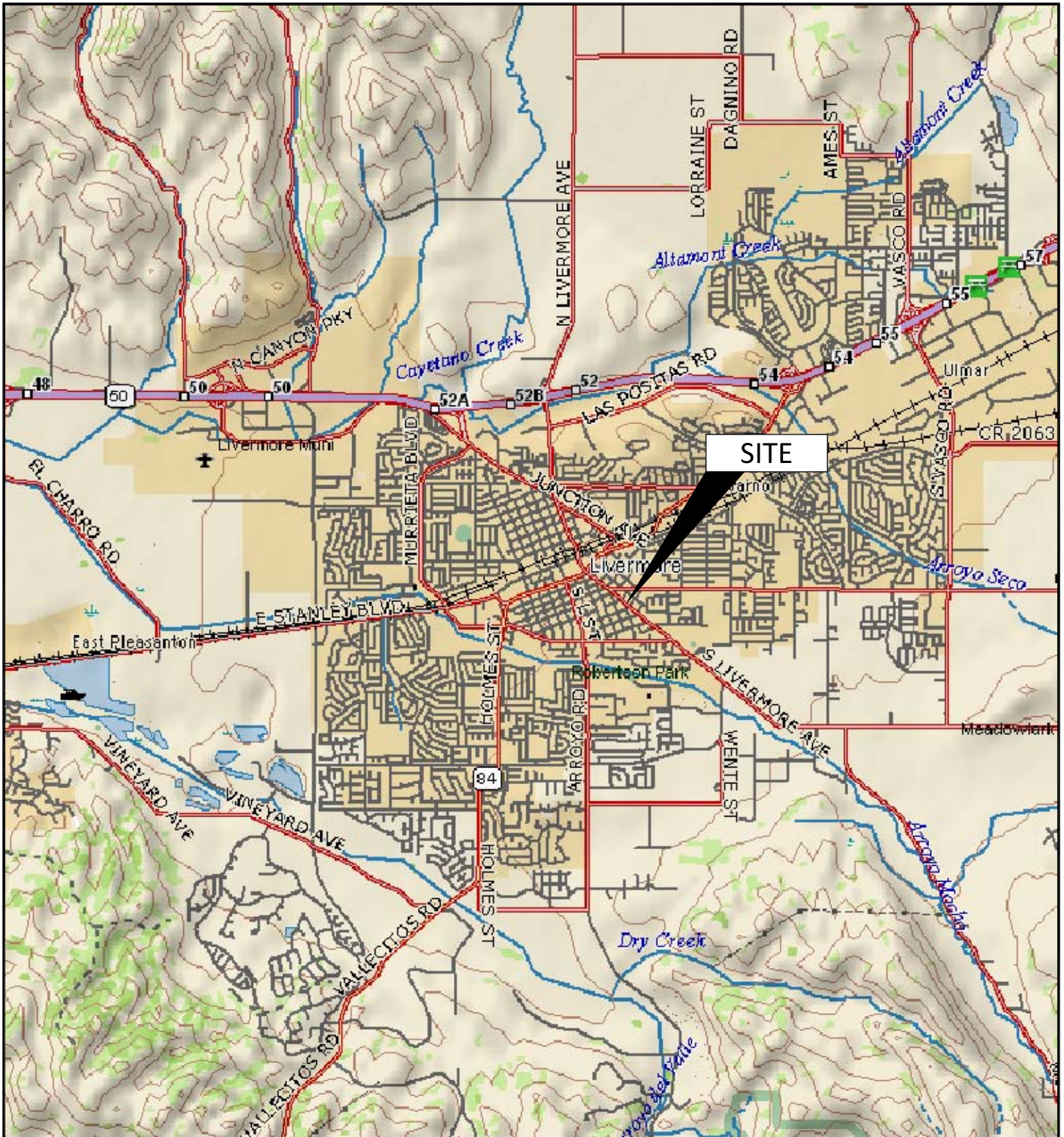
**ATTACHMENTS:**

- Drawing 1: Site Location Map
- Drawing 2: Groundwater Elevation Contour and Analytical Summary Map, Second Quarter 2014

**LIST OF COMMONLY USED ACCRONYMS/ABBREVIATIONS:**

ACEH:	Alameda County Environmental Health	gal:	Gallons
BTEX:	Benzene, Toluene, Ethylbenzene, Total Xylenes	GRO:	Gasoline-Range Organics
1,2-DCA:	1,2-Dichloroethane	LNAPL:	Light Non-Aqueous Phase Liquid
DIPE:	Di-Isopropyl Ether	MTBE:	Methyl Tertiary Butyl Ether
DO:	Dissolved Oxygen	NO <sub>3</sub> :	Nitrate as Nitrogen
DRO:	Diesel-Range Organics	ppb:	parts per billion
EDB:	1,2-Dibromomethane	SO <sub>4</sub> :	Sulfate
Eh:	Oxidation Reduction Potential	TAME:	Tert-Amyl Methyl Ether
EPA:	Environmental Protection Agency	TBA:	Tertiary Butyl Ether
ETBE:	Ethyl Tertiary Butyl Ether	TOC:	Top of Casing
Fe <sup>2+</sup> :	Ferrous Iron	µg/L:	micrograms per liter
ft/ft:	feet per foot		

## **DRAWINGS**



APPROXIMATE SCALE (mi)

IMAGE SOURCE: DELORME

**BROADBENT**  
 1370 Ridgewood Dr., Suite 5  
 Chico, California 95973  
 Project No.: 08-82-603 Date: 12/3/2012

Station #498  
 286 South Livermore Avenue  
 Livermore, California

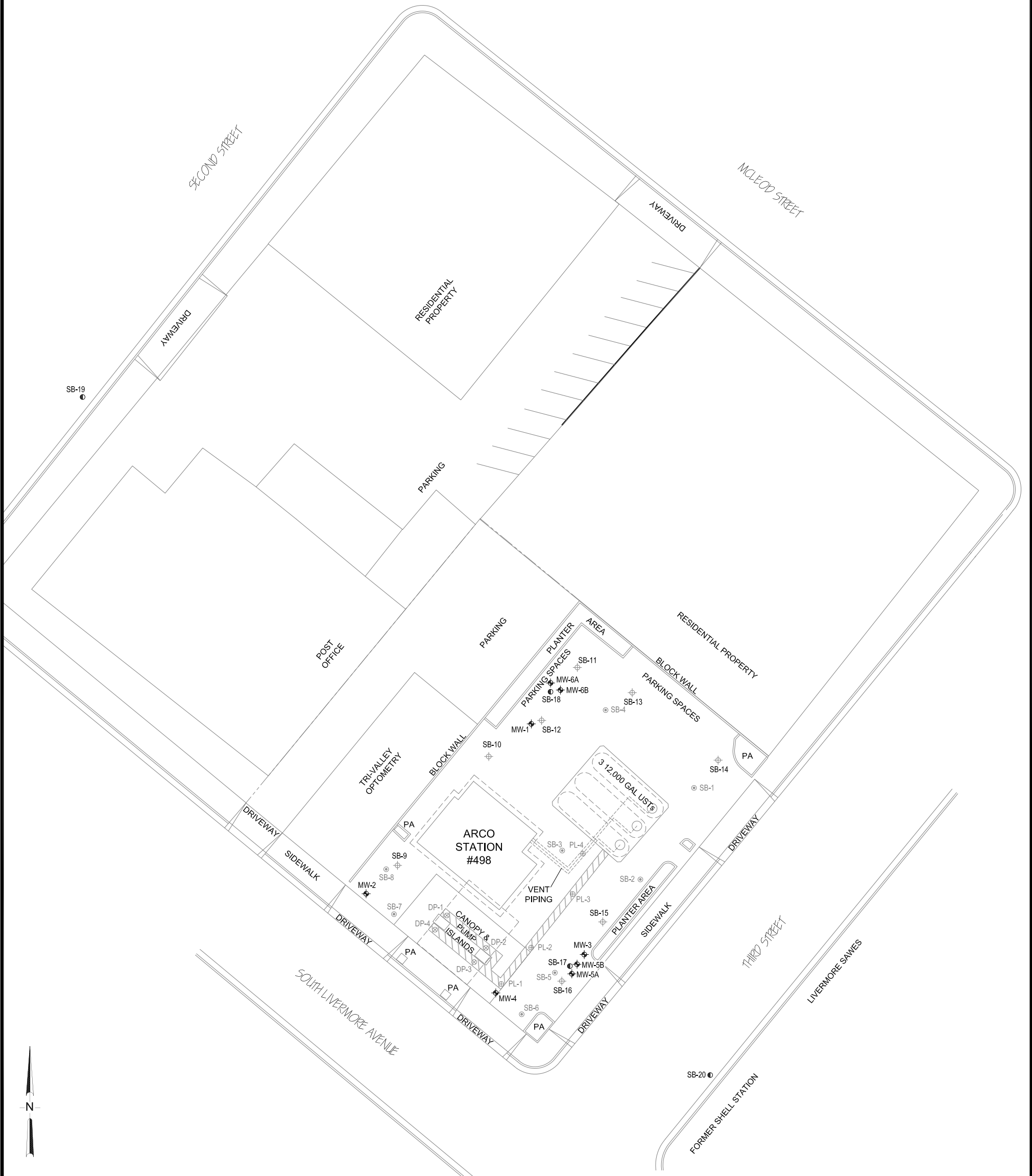
Site Location Map

Drawing  
**1**

**LEGEND**

◆	Monitor Well	●	CPT Borings (Broadbent 2014)
⊕	CPT Borings (Broadbent 2013)	<	Not detected at or above laboratory reporting limits
⊙	Soil Boring (URS 2005)	NS	Not sampled
⊕	Product Line Soil Sample (Delta 2001)	.	Not used in contour interval
⊗	Dispenser Pump Soil Sample (Delta 2001)	▭	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.

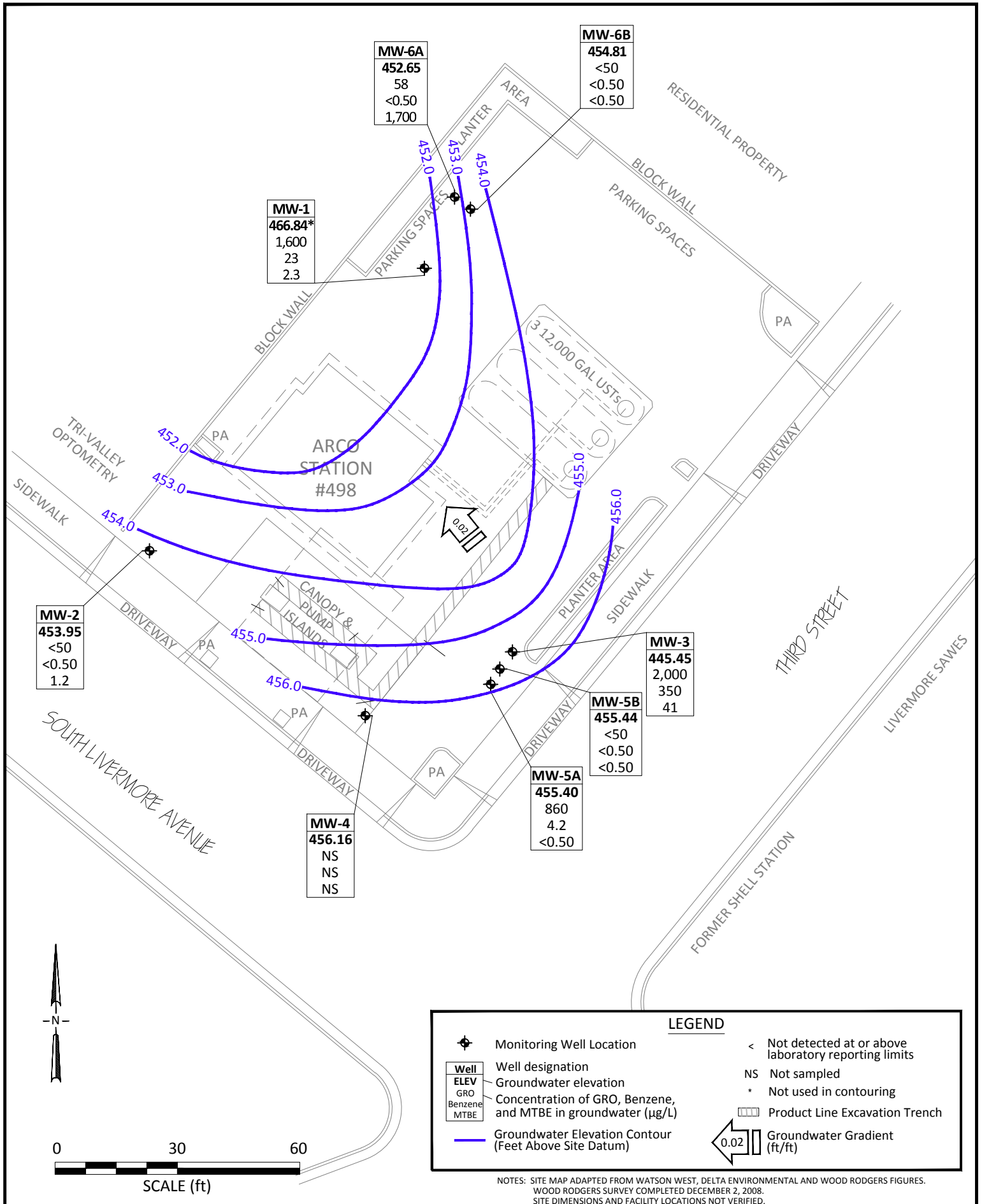


**BROADBENT**  
 1370 Ridgewood Dr., Suite 5  
 Chico, California 95973  
 Project No.: 08-82-103 Date: 7/24/2013

Station #498  
 286 South Livermore Avenue  
 Livermore, California

Site Map with Boring  
 and Well Locations

Drawing  
**2**



<b>MW-2</b>
453.95
<50
<0.50
1.2

<b>MW-1</b>
466.84*
1,600
23
2.3

<b>MW-6A</b>
452.65
58
<0.50
1,700

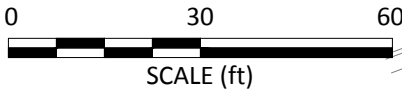
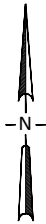
<b>MW-6B</b>
454.81
<50
<0.50
<0.50

<b>MW-3</b>
445.45
2,000
350
41

<b>MW-5B</b>
455.44
<50
<0.50
<0.50

<b>MW-5A</b>
455.40
860
4.2
<0.50

<b>MW-4</b>
456.16
NS
NS
NS



**LEGEND**

- Monitoring Well Location
- |             |
|-------------|
| <b>Well</b> |
| ELEV        |
| GRO         |
| Benzene     |
| MTBE        |

 Well designation
- |         |
|---------|
| ELEV    |
| GRO     |
| Benzene |
| MTBE    |

 Groundwater elevation
- |         |
|---------|
| ELEV    |
| GRO     |
| Benzene |
| MTBE    |

 Concentration of GRO, Benzene, and MTBE in groundwater (µg/L)
- Groundwater Elevation Contour (Feet Above Site Datum)
- Product Line Excavation Trench
- Groundwater Gradient (ft/ft)
- < Not detected at or above laboratory reporting limits
- NS Not sampled
- \* Not used in contouring

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.