# Atlantic Richfield Company

**Shannon Couch**
Remediation Management Project Manager

PO Box 1257
San Ramon, CA
94583
Phone: (925) 275-3804
Fax: (925) 275-3815
E-Mail: shannon.couch @bp.com


February 25, 2013


**RECEIVED**
*By Alameda County Environmental Health at 8:35 am, Feb 26, 2013*

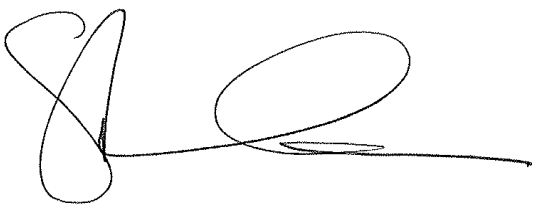

Ms. Dilan Roe
Alameda County Environmental Health Department
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

**Re: Sensitive Receptor Survey**
**ARCO Station No. 2111**
**1156 Davis Street**
**San Leandro, California 94577**
**Alameda County Environmental Health Case No. RO0000494**

Dear Ms. Roe,

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.

Regards,



Shannon Couch
Remediation Management Project Manager
Atlantic Richfield Company, a BP-affiliated company

Enclosure: Sensitive Receptor Survey

cc: Mr. Thomas Sparrowe, Broadbent & Associates, Inc. (electronic copy uploaded to ENFOS)

CLOSURE SOLUTIONS, INC.

February 25, 2013

Ms. Shannon Couch
Atlantic Richfield Company
P.O. Box 1257
San Ramon, CA 94583

**RE: SENSITIVE RECEPTOR SURVEY**
ARCO Station No. 2111
1156 Davis Street
San Leandro, California 94577
ACEH Case No. RO0000494

Dear Ms. Couch:

On behalf of Atlantic Richfield Company (ARC), Closure Solutions, Inc. (Closure Solutions) has prepared this *Sensitive Receptor Survey* (Survey) for the ARCO Station No. 2111, located at 1156 Davis Street, San Leandro, California (Site). Closure Solutions performed the Survey to identify the presence of water wells within a ½-mile radius of the Site. The site setting, information on groundwater depth, groundwater flow direction, survey methods, and survey results are presented below.

## 1.0 SITE SETTING

The Site is currently an active ARCO station located on the northwest corner of Preda Street and Davis Street in San Leandro, California. The Site is located in a predominantly residential area. Current Site facilities include two dispenser islands, two 10,000-gallon gasoline underground storage tanks, and a station building.

## 2.0 GROUNDWATER DEPTH AND FLOW DIRECTION

Groundwater monitoring and sampling associated with the most recent environmental case has been conducted at the Site since 2000. Based on information contained in the *Third Quarter 2012 Monitoring Report* (dated October 26, 2012), depth to groundwater beneath the Site ranges from approximately 14.5 to 18 feet below ground surface (bgs) and the predominant groundwater flow directions are to the west and northwest.

## 3.0 WELL SURVEY METHODS

To obtain information on the type and location of wells within a ½-mile radius of the Site, Closure Solutions requested a signed authorization form from the County of Alameda Environmental Health Services to access confidential well information. The signed authorization was then provided to the Department of Water Resources (DWR) for access to all available well completion reports for wells installed in the vicinity of the Site. The DWR furnished 569 well completion reports for wells installed in the Site vicinity. These wells were located in Sections 26, 27, 34, and 35 in Township 2S, Range 03W, Mount Diablo Meridian.

To assemble the survey information, Closure Solutions grouped the reports into the following categories:

- Reports that referenced well locations by current street addresses that could be verified using online resources (Google Earth or equivalent);
- Reports that referenced well locations by distance from a current street, intersection, or other known location such as a creek or park;
- Reports that referenced well locations by distance from a corner of a map Section;
- Reports that referenced well locations by outdated street addresses, route numbers, or street names/intersections that were changed/no longer existed;
- Reports that were illegible; and
- Reports for wells that had been destroyed.

Well locations referenced by current street addresses or by distances from a known location or street intersection were verified on a map to obtain distance from the Site. If the well location was within ½ mile of the Site, the well location was plotted on the map. Wells located outside the ½ mile radius were not plotted.

In cases where well completion reports contained street names or route numbers that no longer exist, either available Township, Range, and Section information was used to plot locations, or additional research was conducted to obtain information on historical street and route names. In a few cases, well locations could not be verified using the referenced locations or addresses provided, or the report was illegible. These wells were not included on the well survey map.

## 4.0 WELL SURVEY RESULTS

Based on Closure Solutions' review of information provided by the DWR, a total of 10 wells were identified within a ½-mile radius of the Site. Two wells identified appear to be located within a 1,000-foot radius of the Site. The closest well to the Site appears to be a domestic well located approximately 850 feet west-northwest, in the down-gradient groundwater flow direction. The well is listed as installed in May 1977 with a well screen interval from 20 to 30 feet bgs. The second well is located 950 feet southeast of the Site, up-gradient to the groundwater flow direction. The well is listed as installed in August 1939 to a depth of 68 feet bgs, however its use is unknown.

The approximate locations of wells identified within a ½-mile radius of the Site are presented on Figure 1. Well information including map ID, DWR log number, approximate distance of the well from the Site, well type, installation date, screen interval, and the total depth of the well is summarized in Table 1. Please note that for the purposes of this well survey, cathodic protection wells and wells associated with environmental cases are not included in the results.

## 5.0 SURFACE WATER

The nearest surface water body appears to be San Leandro Creek, approximately 1,660 feet north (cross-gradient/down-gradient) of the Site at its closest point. San Leandro Creek eventually empties into the Pacific Ocean at San Leandro Bay located approximately 2.6 mile northwest of the Site.

## 6.0 SENSITIVE LAND USES

Closure Solutions reviewed satellite images (Google Earth or equivalent) to identify any sensitive land uses such as schools, day care facilities, hospitals or elder care facilities within 500-feet of the Site. WellBound Healthcare, an in-house patient education center, was identified approximately 450 feet east (up-gradient to the groundwater flow direction) of the Site as shown on Figure 1.

## 7.0 LIMITATIONS

This report is based on Site conditions, data, and other information available as of the date of the report, and the conclusions and recommendations herein are only applicable to the time frame in which the report was prepared. Background information used to prepare this report including, but not limited to, previous field measurements, analytical results, Site plans and other data have been furnished to Closure Solutions by ARC and their previous consultants. Closure Solutions

has relied on this information as furnished, and is neither responsible for nor has confirmed the accuracy of this information.

If you have any questions or comments regarding this report, please contact Matthew Farris at (916) 760-7579, or by e-mail at mfarris@closuresolutions.com.

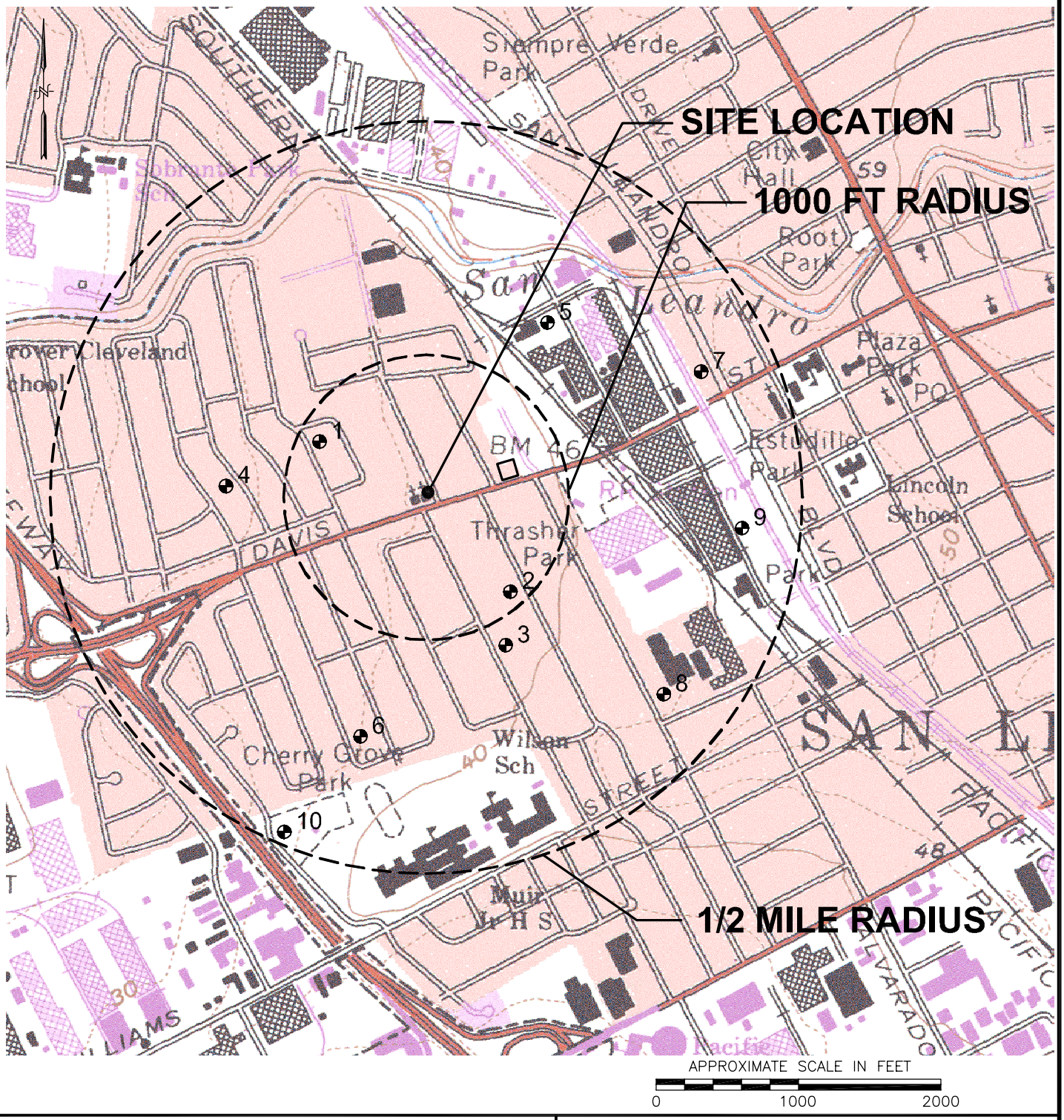
Sincerely,
**Closure Solutions, Inc.**


Matthew Farris, P.G.
Project Geologist

Attachments:

Figure 1 Well Survey Map

Table 1 Wells Located Within a ½-Mile Radius of the Site




LEGEND:

- WATER SUPPLY WELL LOCATION
- APPROXIMATE LOCATION OF WELLBOUND HEALTHCARE (IN-HOUSE PATIENT EDUCATION CENTER)

REFERENCE:
USGS 7.5 MIN QUAD MAP TITLED: SAN LEANDRO, CALIFORNIA DATED: 1959 REVISED 1980

# FIGURE 1

## WELL SURVEY MAP

ARCO STATION #2111
1156 DAVIS STREET
SAN LEANDRO, CALIFORNIA

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

20130107.14190584 D:\Client Drawings\Closure\ARCO\2111\ARCO 2111 WELL SURVEY.dwg

**Table 1 - Wells Located Within a 1/2-Mile Radius of the Site**

ARCO Station No. 2111
1156 Davis Street
Alameda, California

| Map ID No. | DWR Log No. | Approximate Distance from Site | Well Type | Installation Date | Screen Interval | Total Depth |
|---|---|---|---|---|---|---|
| 1 | 32661 | 850 ft WNW | dom | May-77 | 20-30 ft bgs | 30 ft bgs |
| 2 | 01-1339 | 950 ft SE | unk | Aug-39 | unk | 68 ft bgs |
| 3 | 120465 | 1,200 ft SE | dom | Aug-75 | 17-31 ft bgs | 32 ft bgs |
| 4 | 33129 | 1,450 ft W | ind | Apr-77 | 32-64 ft bgs | 68 ft bgs |
| 5 | 01-1436 | 1,450 ft NE | dom | Aug-49 | 117-126 ft bgs | 132 ft bgs |
| 6 | 106385 | 1,800 ft SSW | irr | unk | 8-21 ft bgs | 21 ft bgs |
| 7 | 106480 | 2,100 ft NE | irr | Jun-77 | 18-40.5 ft bgs | 41 ft bgs |
| 8 | 32910 | 2,150 ft SE | dom | unk | 20-40 ft bgs | 40 ft bgs |
| 9 | 24537 | 2,250 ft ESE | ind | Jun-55 | intervals from 50-694 ft bgs | 704 ft bgs |
| 10 | 01-1334 | 2,550 ft SSW | mun | 1954 | intervals from 25-143 ft bgs | 224 ft bgs |

Abbreviations:

ft = feet
N = North
S = South
E = East
W = West
dom = domestic well
irr = irrigation well
mun = municipal well
pub = public well
unk = unknown
bgs = below ground surface