

# Atlantic Richfield Company

**Shannon Couch**

Remediation Management Project Manager

**RECEIVED**

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Alameda County  
Environmental Health

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October 31, 2011

Mr. Paresh Khatri  
Alameda County Health Care Agency  
Department of Environmental Health  
1131 Harbor Bay Parkway  
Alameda, CA 94502

**Re: SENSITIVE RECEPTOR SURVEY  
ARCO Station No. 0601  
712 Lewelling Boulevard  
San Leandro, California 94579  
ACEH Case No. RO0000309**

Dear Mr. Khatri:

I declare, that to the best of my knowledge at the present time, that the information contained in the attached document is true and correct.

Regards,



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

Enclosure: Sensitive Receptor Survey



October 31, 2011

Mr. Paresh Khatri  
Alameda County Health Care Agency  
Department of Environmental Health  
1131 Harbor Bay Parkway  
Alameda, CA 94502

**RE: SENSITIVE RECEPTOR SURVEY**

ARCO Station No. 0601  
712 Lewelling Boulevard  
San Leandro, California 94579  
ACEH Case No. RO0000309

Dear Mr. Khatri:

On behalf of Atlantic Richfield Company (ARCO), Closure Solutions, Inc. (Closure Solutions) has prepared this *Sensitive Receptor Survey* (Survey) for the ARCO Service Station No. 0601, located at 712 Lewelling Boulevard, San Leandro, California (Site). Closure Solutions performed the Survey to identify the presence of water wells within a 0.5-mile radius of the Site. The Site setting, information on groundwater depth, groundwater flow direction, survey methods, and survey results are presented below. Additional information, including sensitive land uses is not included in this report.

## 1.0 SITE SETTING

The Site is located on the southwest corner of the intersection between Lewelling Boulevard and Washington Avenue in San Leandro, California. The Site is currently an active ARCO service station and is located in a mixed commercial and residential area. Current Site facilities include a convenience store building, two dispenser islands and two unused service bays.

## 2.0 GROUNDWATER DEPTH AND FLOW DIRECTION

Groundwater monitoring and sampling has been conducted at the Site since 1991. Based on information contained in historical Site reports, depth to groundwater beneath the Site ranges between 4.5 and 10.5 feet below ground surface. Groundwater flow direction has predominately been to the southwest. Between fourth quarter 1996 and first quarter 2004 the predominant flow direction was to the east-southeast.

### **3.0 WELL SURVEY METHODS**

To obtain information on the type and location of wells within a 0.5-mile radius of the Site, Closure Solutions requested a signed authorization form from the Alameda County Health Care Agency, Department of Environmental Health 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 233 well completion reports for wells installed in the Site vicinity. These wells were located in Sections 1 and 12 in Township 03S, Range 03W and Section 7 in Township 03S, Range 02W, 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 0.5 mile of the Site, the well location was plotted on the survey map. Wells located outside the 0.5 mile radius were not plotted.

For wells that were referenced by distance from a corner of a Section, Closure Solutions accessed Montana State University's Graphical Locator website and the Earthpoint website to obtain maps of the referenced Section within the Township and Range. Once this information was obtained and verified, wells identified within 0.5 miles of the Site were plotted on the well survey map.

In cases where well completion reports contained street names or route numbers that no longer existed, 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, sixteen wells were identified within a 0.5-mile radius of the Site, as described below:

- One well was identified as an irrigation well, was installed on an unknown date, and is located approximately 1,150 feet southwest (down-gradient) of the Site;
- One well was identified as an irrigation well, was installed in 1977, and is located approximately 1,550 feet southwest (down-gradient) of the Site;
- One well was identified as an irrigation well, was installed in 1977, and is located approximately 1,750 feet southwest (down-gradient) of the Site;
- One well was identified as an irrigation well, was installed in 1978, and is located approximately 1,450 feet south (down-gradient) of the Site;
- One well was identified as an irrigation well, was installed in 1977, and is located approximately 2,450 feet west-southwest (down-gradient) of the Site;
- One well was identified as an irrigation well, was installed in 1977, and is located approximately 2,500 feet west-southwest (down-gradient) of the Site;
- One well was identified as an domestic well, was installed in 1977, and is located approximately 2,500 feet southeast (cross-gradient) of the Site;
- One well was identified as an irrigation well, was installed in 1977, and is located approximately 1,600 feet north-northwest (cross-gradient) of the Site;
- One well had no identified use, was installed in 1977, and is located approximately 1,700 feet north-northwest (cross-gradient) of the Site;
- One well was identified as an irrigation well, was installed in 1977, and is located approximately 1,700 feet north-northwest (cross-gradient) of the Site;

- One well was identified as an irrigation well, was installed in 1977, and is located approximately 1,200 feet west-northwest (cross-gradient) of the Site;
- One well was identified as an irrigation well, was installed in 1977, and is located approximately 1,600 feet west-northwest (cross-gradient) of the Site;
- One well was identified as an irrigation well, was installed in 1977, and is located approximately 1,650 feet west-northwest (cross-gradient) of the Site;
- One well was identified as an irrigation well, was installed in 1977, and is located approximately 1,800 feet west-northwest (cross-gradient) of the Site;
- One well had no identified use, was installed in 1977, and is located approximately 1,800 feet west-northwest (cross-gradient) of the Site;
- One well was identified as a domestic well, was installed in 1977, and is located approximately 2,400 feet west-northwest (cross-gradient) of the Site.

The approximate locations of the wells identified above within a 0.5-mile radius of the Site are presented on Figure 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.

Well information including map ID, approximate distance and direction from the Site, well type, installation date and screen interval is summarized in Table 1. Due to privacy concerns, the DWR well completion reports or specific information regarding the wells, including exact well location, are not included in any copy of this document.

## **5.0 SURFACE WATER**

The nearest surface water body is an unnamed drainage ditch located approximately 450 feet south (down-gradient) of the Site. The unnamed drainage ditch ultimately connects to the San Francisco Bay, which is located approximately 1.65 miles west-southwest (down-gradient) of the Site.

If you have any questions or comments regarding this report, please contact Charlotte Evans at (925) 566-8567, or by e-mail at [cevans@closureolutions.com](mailto:cevans@closureolutions.com).

Sincerely,  
**Closure Solutions, Inc.**



Charlotte Evans  
Project Geologist



Matthew Farris, P.G.  
Project Geologist



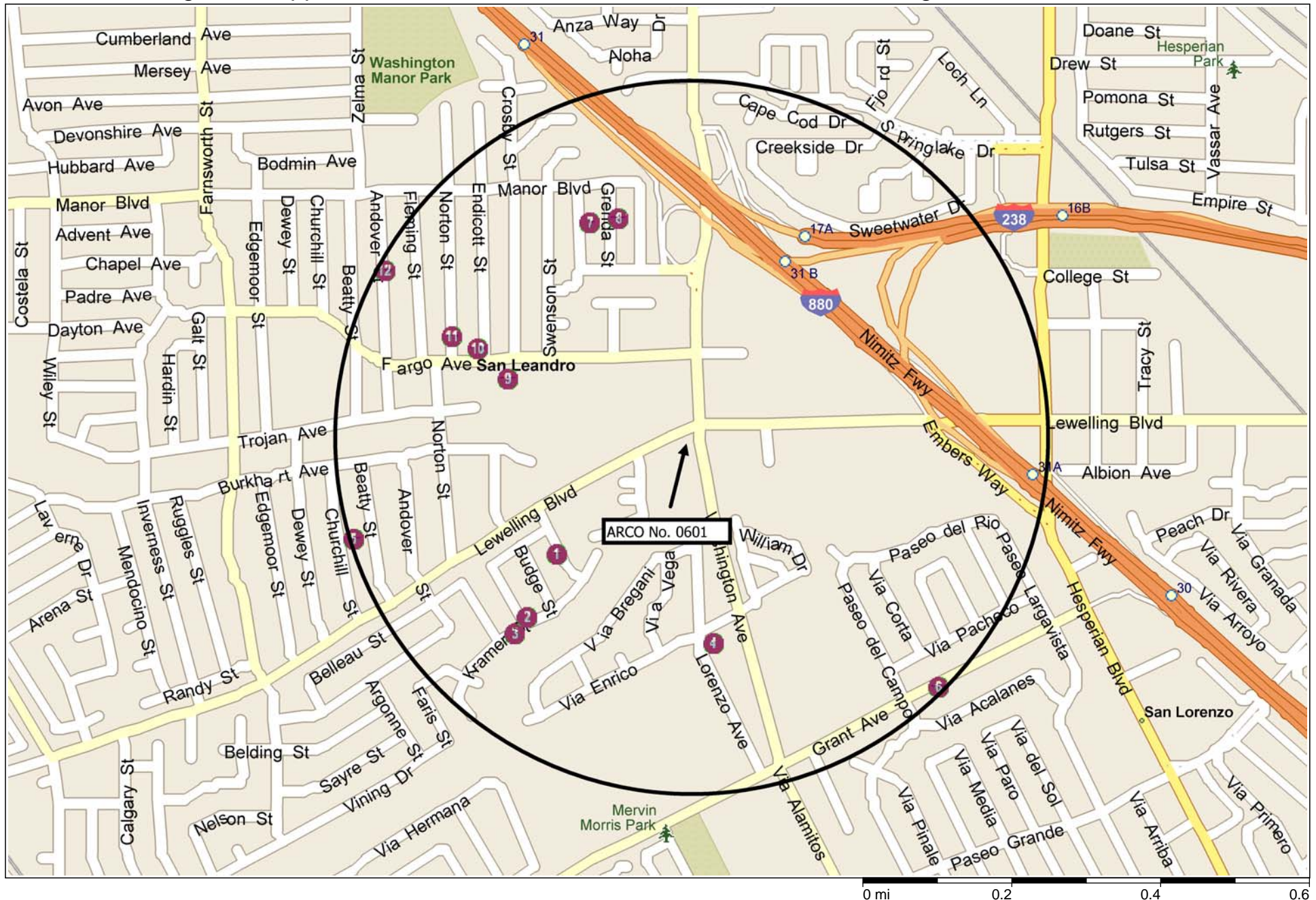
Attachments:

Figure 1	Approximate Well Locations Within a 0.5-Mile Radius of the Site
Table 1	Wells Located Within a 0.5-Mile Radius of the Site

cc: Ms. Shannon Couch, Atlantic Richfield Company



Figure 1 - Approximate Well Locations - ARCO #0601 - 712 Lewelling Blvd., San Leandro



**Table 1 - Wells Located Within 0.5-Mile Radius**

ARCO Service Station No. 0601

712 Lewelling Boulevard

San Leandro, California

Map ID No.	Approximate Distance from Site	Well Type	Installation Date	Screen Interval
1	1,150 ft. SW	irr	unk	15-30 ft.
2	1,550 ft. SW	irr	Mar-77	13-30 ft.
3	1,750 ft. SW	irr	Apr-77	15-30 ft.
4	1,450 ft. S	irr	Aug-78	56-76 ft.
5	2,450 ft. WSW	irr	Mar-77	unk
5	2,500 ft. WSW	irr	May-77	10-30 ft.
6	2,500 ft. SE	dom	Jun-77	10.5-30 ft.
7	1,600 ft. NNW	irr	May-77	10-28 ft.
7	1,700 ft. NNW	unk	Jun-77	10-29 ft.
8	1,700 ft. NNW	irr	May-77	22-28 ft.
9	1,200 ft. WNW	irr	Jul-77	10-28 ft.
10	1,600 ft. WNW	irr	Aug-77	10-20 ft.
11	1,650 ft. WNW	irr	May-77	10-35 ft.
11	1,800 ft. WNW	irr	Apr-77	21-46 ft.
11	1,800 ft. WNW	unk	Aug-77	15-40 ft.
12	2,400 ft. WNW	dom	Jul-77	0-10 ft.

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