



Ro. 2436

Alameda County

JUN 09 2003

June 6, 2003

Environmental Health

Ms. Eva Chu  
Alameda County Health Care Services Agency  
Environmental Health Services Division  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502

**SUBJECT: CONDUIT AND WATER WELL SURVEY, ARCO SERVICE STATION  
#4977, 2770 CASTRO VALLEY BOULEVARD, CASTRO VALLEY,  
CALIFORNIA**

Dear Ms. Chu:

On behalf of Atlantic Richfield Company (ARCO - an affiliated company of the Group Environmental Management Company), URS Corporation (URS) submits this conduit and water well survey for ARCO Site #4799, located on 2770 Castro Valley Boulevard, Castro Valley, California. The work was completed in accordance with your letter request dated April 21, 2003.

#### **Conduit Study**

As requested by the Alameda County Health Care Services Agency (ACHCSA), a conduit study for the above referenced site was conducted. During construction activities, utility lines are back-filled with permeable materials, such as pea gravel and well-graded sands. These backfill materials can provide preferential pathways for contaminants to migrate off-site. URS Corporation performed a conduit study to determine if groundwater beneath the site is infiltrating the backfill material surrounding utility conduits.

URS Corporation reviewed City of Castro Valley Public Works Department, East Bay Municipal Utility District, and Castro Valley Sanitary District engineering maps to evaluate the potential of such migration. The utility lines are shown on Figure 1. Three gas lines, one 6-inch and two 3-inch, run east-west on Castro Valley Boulevard. One 3-inch gas line runs north-south on Wisteria Street. One 5-inch gas line runs north-south on Rutledge Road. The gas lines are buried 2-3 feet bgs. Three sanitary sewer lines, one 6 to 21-inch, and two 15-inch run west to east along Castro Valley

Boulevard. One 24 to 27-inch sanitary sewer line runs north to south across Castro Valley Boulevard and continues south on Rutledge Road. This line connects with the three lines on Castro Valley Boulevard. Two sanitary sewer lines, one 21-inch and one 8-inch, run north to south along Wisteria Street, connecting with a line on Castro Valley Boulevard. The depth to top of pipe ranges from 10.7 to 15 feet bgs. Two 8-inch water lines run east-west on Castro Valley Boulevard. One 6-inch water line runs north-south on Wisteria Street and connects to a water line on Castro Valley Boulevard. One water line runs north-south on Rutledge Road and connects to a line on Castro Valley Boulevard. The water lines are buried at a depth of 4.5 feet bgs. No storm drain conduits are found in the vicinity. Locations of the utility lines are presented on Figure 1.

Utility conduits found in the area surrounding the site range in depth from 2.0 to 15.00 feet bgs. Depth to groundwater beneath the site ranges from 6.02 to 11.21 feet bgs and the groundwater flow direction is to the south. Groundwater beneath the site intercepts sewer lines and possibly the bottom of the water line conduits surrounding the site. Therefore, it is likely that the utility conduits are providing preferential pathways for off-site contaminant migration.

### Well Survey

URS requested well logs from the California Department of Water Resources (DWR) to determine potential impact on water producing wells within a ¼-mile radius of the site. The well locations are shown on Figure 2 and well details are presented in Table 1. DWR well completion reports are classified as confidential, thus URS will retain these reports in our files.

- One domestic well (01-1475) is located approximately 1,300 feet downgradient of the site (Figure 2: Well 7).
- One domestic well (01-1398), one cooling system return (01-1399), and one test well (01-1398) are located approximately 1,700 feet cross-gradient of the site (Figure 2: Wells 3, 4, and 5).
- One domestic well (01-1396) and two unknown wells (01-1395 and 01-4190) are located approximately 1,650, 2,200, and 2,600 feet up-gradient of the site, respectively (Figure 2: Wells 1, 2, and 6).

Depending on whether this well is currently used, the pumping rate and screened intervals of the downgradient domestic well, it is possible that this well could be impacted. The well completion



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report for the well indicates that it was drilled in July of 1953 and that the owner would be installing the casing at a later date. Thus, there is no record of the interval at which this well was screened. URS will investigate this well to attempt to determine its current status.

We appreciate the opportunity to present this conduit and water well survey report to the ACHCSA on behalf of ARCO and trust that this document meets with your approval. Please do not hesitate to contact us at (510) 874-3280 with any questions or comments.

Sincerely,

**URS CORPORATION**

*Barbara J. Jakub for*  
Scott Robinson  
Project Manager

*Barbara J. Jakub*  
Barbara J. Jakub, R.G.  
Senior Geologist



Attachments:

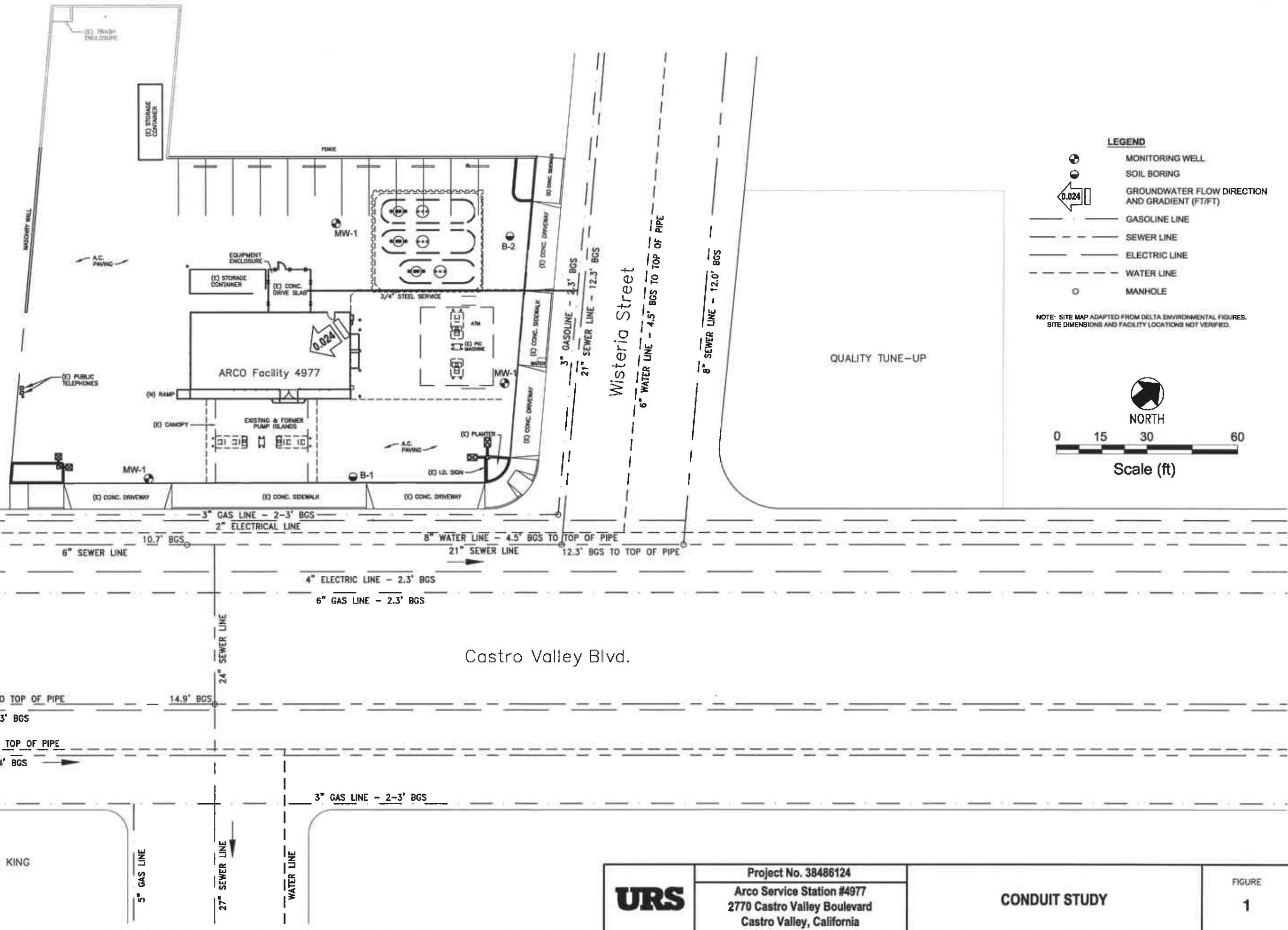
- Table 1 - Well Search Details
- Figure 1 - Well Survey Map
- Figure 2 - Conduit Study Map

cc: Mr. Paul Supple, Atlantic Richfield Company

**Table 1**  
**Well Search Details**  
 Arco Service Station #4977  
 2770 Castro Valley Boulevard  
 Castro Valley, CA

ID. (Figure 2)	Well Number	Status	Use	Total Depth (ft)	Screened Interval (ft)
1	01-1396	Unknown	Domestic	51	31-51
2	01-1395	Unknown	Unknown	76	20-30, 44-70
3	01-1397	Unknown	Test Well	150	100-110, 132-140
4	01-1398	Unknown	Domestic	250	None
5	01-1399	Unknown	Cooling System Return	60	None
6	01-4190	Unknown	Unknown	Unknown	Unknown
7	01-1475	Unknown	Domestic	52	Unknown

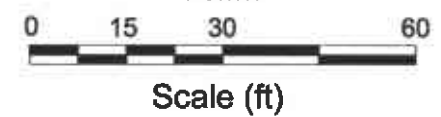
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**LEGEND**

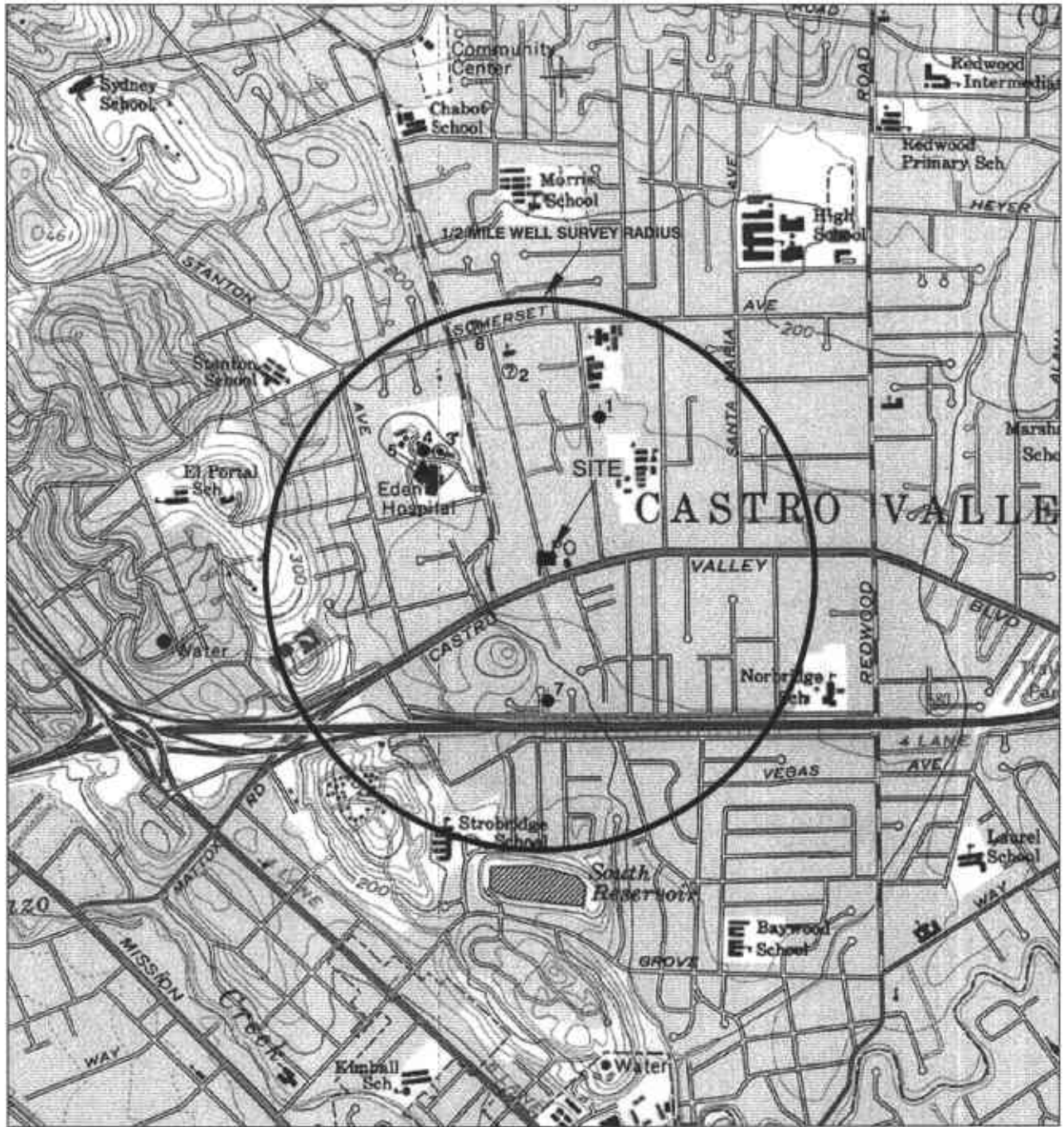
- MONITORING WELL
- SOIL BORING
- GROUNDWATER FLOW DIRECTION AND GRADIENT (FT/FT)
- GASLINE LINE
- SEWER LINE
- ELECTRIC LINE
- WATER LINE
- MANHOLE

NOTE: SITE MAP ADAPTED FROM DELTA ENVIRONMENTAL FIGURES. SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.



<b>URS</b>	Project No. 38486124	<b>CONDUIT STUDY</b>	FIGURE <b>1</b>
	Arco Service Station #4977 2770 Castro Valley Boulevard Castro Valley, California		

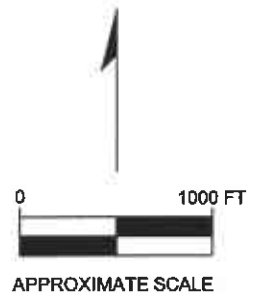
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**LEGEND**

- DOMESTIC
- ▲ COOLING SYSTEM RETURN
- ⊙ TEST WELL
- ⊙ UNKNOWN USAGE

REF: BASE MAP FROM USGS TOPOI  
7.5 MINUTE TOPOGRAPHIC  
PHOTOREVISED 1998



**Project No. 38486124**  
**Arco Service Station #4977**  
**2770 Castro Valley Boulevard**  
**Castro Valley, California**

**WELL SURVEY MAP**

FIGURE  
**2**