

# AQUIFER SCIENCES, INC.

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April 26, 2005  
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ENVIRONMENTAL HEALTH SERVICES

Bob Schultz  
Alameda County Health Care Services Agency  
Environmental Health Services  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502

Subject: Request for Case Closure  
Arrow Rentals, 187 North L Street, Livermore, California

Dear Mr. Schultz:

On behalf of Arrow Rentals, Aquifer Sciences is requesting closure of the environmental case pertaining to 187 North L Street in Livermore, California. A summary of the environmental case and the rationale for closure are presented in the following sections.

## DESCRIPTION OF THE SITE

The site encompasses approximately 18,000 square feet of land, and is located on the western side of North L Street in northern Livermore (Figure 1). Arrow Rentals, an equipment rental company, occupies the site. A building covers approximately 850 square feet, and is located in the northern portion of the site (Figure 2). The remainder of the site is paved with asphalt or concrete. The site is bounded on the north by railroad tracks, on the east by North L Street, and on the south and west by undeveloped land. Residential housing, commercial businesses, and light industry are present in the vicinity.

## ENVIRONMENTAL HISTORY OF THE SITE

A Mobil service station operated at the site between approximately 1951 and 1968 (WCC, 1991). Arrow Rentals purchased the site in 1972. In 1972, three of five underground fuel storage tanks were removed after failing integrity tests. The two remaining tanks were used until 1984, when they were removed. In 1984, a 1,000-gallon underground fuel tank and a vapor monitoring well were installed.

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In 1985, a delivery truck operator from Petcock Petroleum accidentally dispensed approximately 600 gallons of fuel into the vapor well. Water was poured into the well from a garden hose some time after the release.

Several soil and groundwater investigations have been conducted at the site since 1988. The investigations have included drilling soil borings; collecting soil, soil vapor, and groundwater samples; installing groundwater monitoring wells; performing aquifer tests; and conducting periodic groundwater monitoring.

## TOPOGRAPHY AND HYDROGEOLOGY

The following sections present a discussion of the regional and local topography and hydrogeology.

### REGIONAL TOPOGRAPHY

The site is located in an east-west trending valley (the Livermore Valley). The valley is bounded by hills on the north reaching elevations of more than 1,200 feet above mean sea level (MSL), and by hills on the south reaching to elevations of more than 900 feet above MSL. The elevation of the valley floor ranges from more than 500 feet in the east to approximately 350 feet in the west.

The channels of two streams (Arroyo Mocho and Arroyo Las Positas) are present in the site vicinity. Arroyo Mocho is located approximately 3,800 feet southwest of the site. Arroyo Las Positas is located approximately 1.1 mile north of the site. Both streams flow to the west toward the City of Pleasanton. Due to distance, contamination at the site likely does not impact either stream.

### LOCAL TOPOGRAPHY

The site is approximately 480 feet above MSL. The land surface in the vicinity of the site slopes to the northwest at approximately 0.9 foot per 100 feet.

### REGIONAL HYDROGEOLOGY

The site is underlain by approximately 750 feet of valley-fill deposits, consisting of Quaternary alluvium and the Livermore Formation. The valley-fill deposits are underlain by the Pliocene-age Tassajara Formation (DWR, 1966).

The oldest relevant geologic unit is the Tassajara Formation, which consists of freshwater deposits of moderately indurated sandstone, siltstone, shale, conglomerate, and limestone (DWR, 1974).

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The Tassajara Formation probably underlies the valley-fill deposits near the site at a depth of approximately 750 feet.

The Livermore Formation has been divided into two facies: one clay and one gravel (DWR, 1974). The clay facies is believed to underlie the gravel facies and represents a lacustrine phase of deposition. The gravel facies consists of unconsolidated beds of gravel, sand, silt, and clay (DWR, 1966). The Livermore Formation occurs at a shallow depth in some areas and is difficult to distinguish from the valley-fill deposits.

Quaternary valley-fill alluvium forms the valley floor beneath the site, thickening to the east. The alluvium consists of lenticular beds of gravel, sand, silt, and clay, representing reworked sediments of the Livermore Formation. The thickness of the alluvium ranges from approximately 20 to 350 feet.

## LOCAL HYDROGEOLOGY

At the site, silty and clayey gravel and sand extend between the ground surface to depths of approximately 35 to 40 feet below grade (WCC, 1991). The silty and clayey gravel and sand are underlain by silt and clay. In April 2000, the depth to groundwater in monitoring wells at the site was approximately 25 feet below grade. In October 2000, the depth to groundwater was approximately 31 feet below grade (Aquifer Sciences, 2000). In the early 1990s, the depth to groundwater was greater (approximately 40 feet below grade), due to an extended drought. Groundwater generally flows to the west, with a hydraulic gradient of approximately 0.019 ft/ft (Aquifer Sciences, 2000).

## WELL SURVEY

We conducted a survey of wells in the vicinity of the site to determine the locations of potential receptors of groundwater contamination. We researched well logs at the California Department of Water Resources (DWR) and Zone 7 of the Alameda County Flood Control and Water Conservation District (Zone 7). Table 1 lists information concerning wells located within approximately 1 mile of the site.

The depths of monitoring wells located within 1 mile of the site are 85 feet or less. The depths of five cathodic protection wells are approximately 120 feet. The nearest cathodic protection well is 660 feet west-northwest of the site. Domestic wells in the vicinity are at least 220 feet deep. The nearest domestic well is more than 3,000 feet south-southwest of the site. Industrial wells in the vicinity are at least 95 feet deep. The nearest industrial well is more than 1,800 feet north-northeast of the site. Municipal wells in the vicinity are at least 465 feet deep. The nearest municipal well is 2,200 feet north of the site.

Well location maps were provided by Zone 7. Well 3S/2E8R15 is located approximately 400 feet north of the site. The nearest downgradient well is 3S/2E8K4, located approximately 1,200 feet north of the site. No information concerning the use or construction of either well was available.

Based upon information obtained during the well survey, monitoring wells are screened in water-bearing units within 85 feet of ground surface. Water supply wells (domestic, industrial, and municipal) in the vicinity are typically screened in water-bearing units deeper than 100 feet below grade. The nearest potential water supply well (3S/2E8R15) is approximately 400 feet north of the site. The contamination at the site extends less than 60 feet below grade and less than 100 feet offsite to the west (WCC, 1991). Consequently, based upon the distance to nearby wells, contamination at the site is not impacting any known water supply wells.

## ANALYTICAL DATA SUMMARY

Since March 1996, groundwater samples have been collected from four monitoring wells (W-1s, W-3s, W-Bs, and W-Es). Wells W-1s, W-3s, and W-Bs are located at the site. Well W-Es is located downgradient of the site (Figure 2). Petroleum hydrocarbons have been detected in samples collected from the wells. A summary of the analytical data for the groundwater samples is presented in Table 2. Elevated levels of TPH-gasoline, TPH-diesel, TPH-motor oil, benzene, toluene, ethylbenzene, xylenes, and methyl tertiary butyl ether (MTBE) have been detected in the samples collected from wells W-1s and W-Bs. Lower levels of petroleum hydrocarbons have been detected in samples collected from well W-3s. Samples from well W-Es have occasionally contained low levels of petroleum hydrocarbons.

The approximate lateral extent of contamination is shown on Figure 2. Based upon analytical data, the contamination at the site extends less than 60 feet below grade and less than 100 feet offsite (WCC, 1991). The data further show that the contaminant plume is stable. In November 2001, 0.14 foot of floating product was measured in well W-1s. Floating product has not been measured during any other monitoring event for well W-1s. Floating product has not been measured in any of the other monitoring wells.

## SUMMARY AND CONCLUSIONS

Since 1988, several environmental investigations have been performed at the site. The hydrogeologic and analytical data obtained from these investigations indicate that the highest levels of residual contamination are beneath the site in the vicinity of monitoring wells W-1s and W-Bs. Floating product has not been detected in any of the monitoring wells since 2001. The data further show that the contaminant plume is stable, extending less than 60 feet below grade and less than 100 feet offsite.

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We evaluated potential impacts from the petroleum hydrocarbon release to surface water and wells in the vicinity. Arroyo Mocho is the closest surface water feature, located approximately 3,800 feet southwest of the site. Based upon information obtained during the well survey, monitoring wells are screened in water-bearing units within 85 feet of ground surface. Water supply wells (domestic, industrial, and municipal) in the vicinity are typically screened in water-bearing units deeper than 100 feet below grade. The nearest potential water supply well (3S/2E8R15) is approximately 400 feet north of the site. Since the contamination at the site extends less than 60 feet below grade and less than 100 feet offsite to the west, contamination at the site is not impacting any known water supply wells.

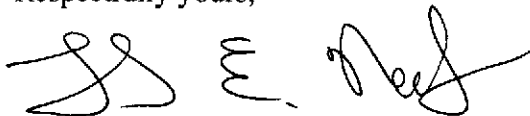
## RECOMMENDATIONS

Base upon the available data and discussions with Tony and Rita Sullins, the current owners of the site, we offer the following recommendations.

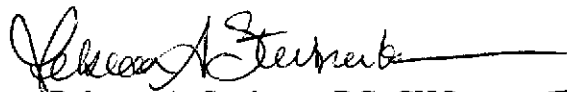
- Place a restriction on the deed that prohibits the use of groundwater beneath the site for agricultural, domestic, commercial, industrial, or municipal purposes.
- Place a notification on the deed and on file with the Livermore Building Department. The purpose of the notification is to alert City and County personnel if redevelopment of the site is planned and to illustrate the location of residual contamination. This will enable Alameda County Environmental Health to evaluate any proposed project with respect to potential exposure to residual contamination.
- If the property owner ever changes the land use, consider the implementation of engineering controls, such as installation of a low-permeability barrier, to mitigate potential vapor intrusion pathways.
- Obtain a permit and properly decommission all groundwater monitoring wells at the site.

Thank you for your consideration of this request for closure of the environmental case. Please call us if you have any questions.

Respectfully yours,



Thomas E. Neely, RG, REA II  
Senior Hydrogeologist



Rebecca A. Sterbentz, RG, CHG  
President

cc: Rita Sullins, Arrow Rentals



## REFERENCES

Aquifer Sciences, 2000. Semi-Annual Groundwater Monitoring, October 2000, 187 North L Street, Livermore, California, January 31, 2001

Department of Water Resources, 1966. Bulletin 118-2, Evaluation of Ground Water Resources: Livermore and Sunol Valleys, Appendix A: Geology

Department of Water Resources, 1974. Bulletin 118-2, Evaluation of Ground Water Resources: Livermore and Sunol Valleys

Woodward-Clyde Consultants, 1991. Soil and Groundwater Characterization Study, 187 North L Street, Livermore, California, June 12, 1991

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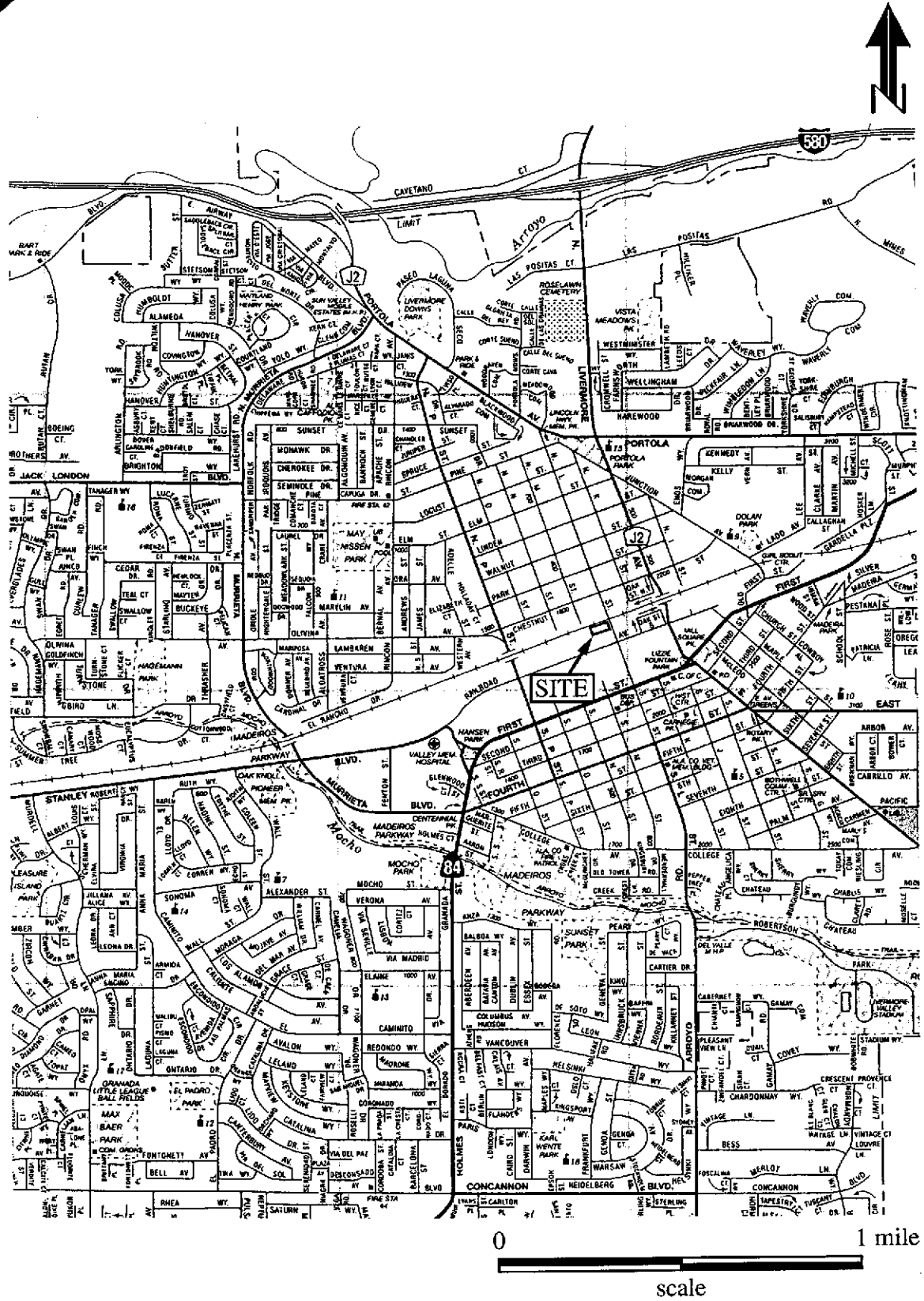


Figure 1. VICINITY MAP  
187 North L Street, Livermore, California

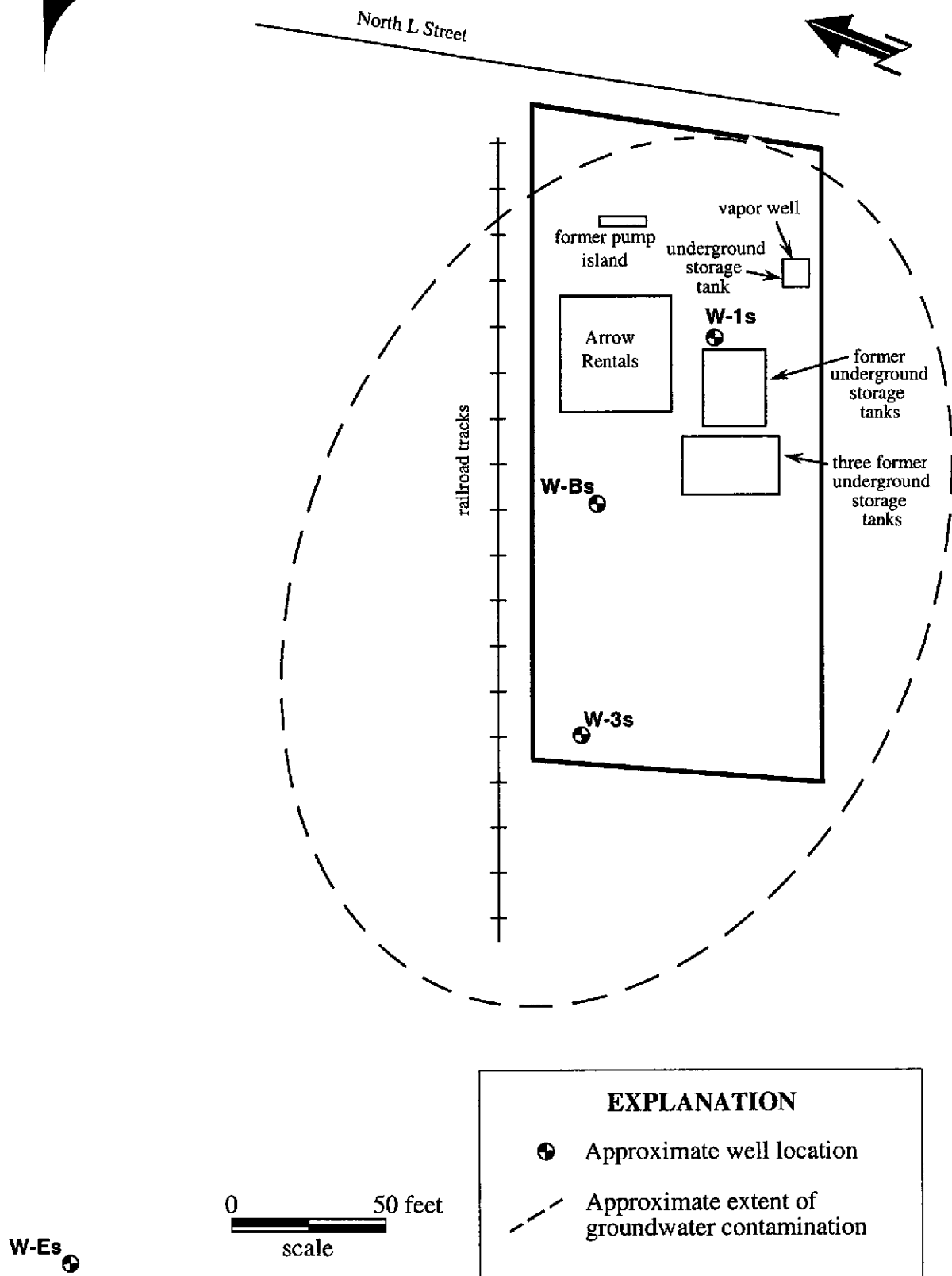


Figure 2. SITE Map  
187 North L Street, Livermore, California



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Table 1. WELL SURVEY RESULTS  
187 North L Street, Livermore, California

Location	Bearing to Site	Type	Status	Total Depth (feet)	Depth to Groundwater (feet)	Highest Screened Interval (feet)
3S/2E 8R1	805 feet, SSE	mon.	active	77	55.8	27-77
3S/2E 8R2	300 feet, S	mon.	active	61.5	42.74	30-60
3S/2E 8R3	on site	mon.	active	56.5	50	45.5-55.5
3S/2E 8R4	on site	mon.	active	51.5	49	39-49
3S/2E 8R5	on site	mon.	active	51.5	45	38-48
3S/2E 8R6	on site	mon.	active	63	50	42-52
3S/2E 8R7	on site	mon.	active	55	48	40-55
3S/2E 8R8	on site	mon.	active	55	47	45-55
3S/2E 8R9	on site	mon.	active	57.5	46	42-57.5
3S/2E 8R10	on site	mon.	active	61	47	40-60
3S/2E 8R11	795 feet, SSE	mon.	active	60	40	30-60
3S/2E 8R12	865 feet, SSE	mon.	active	60	40	30-60
3S/2E 8R13	895 feet, SSE	mon.	active	60	40	30-60
3S/2E 8P3	2,230 feet, W	mon.	decommissioned	55	53.5	25-55
3S/2E 8Q1	1,830 feet, W	mon.	decommissioned	53	45	25-53
3S/2E 8Q2	1,475 feet, W	mon.	decommissioned	59.5	50	29.5-59.5
3S/2E 8Q3	1,475 feet, SSW	mon.	decommissioned	40	NA	25-40
3S/2E 8K1	660 feet, WNW	cath.	active	120	NA	NA
3S/2E 8K2	1,255 feet, NNW	mon.	active	74	51	64-69
3S/2E 8K4	1,255 feet, NNW	NA	decommissioned	NA	NA	NA
3S/2E 8H1	2,210 feet, N	muni.	active	625	61.9	NA
3S/2E 8H2	2,655 feet, N	mon.	active	47	33	36-41
3S/2E 8G1	2,210 feet, NNW	muni.	active	465	NA	120-455
3S/2E 8G2	2,360 feet, NNW	cath.	active	120	NA	NA
3S/2E 9N1	1,325 feet, ESE	mon.	active	75	NA	55-75
3S/2E 9N2	1,325 feet, ESE	mon.	active	75	NA	55-75
3S/2E 9N3	1,325 feet, ESE	mon.	active	75	NA	55-75
3S/2E 9P1	2,950 feet, E	muni.	active	515	107	192-492
3S/2E 9P4	2,280 feet, ESE	mon.	active	54	45	37-52
3S/2E 9P5	2,340 feet, ESE	mon.	active	53	45	38-53
3S/2E 9P6	2,315 feet, ESE	mon.	active	51.5	45	35-50
3S/2E 9P7	2,210 feet, ESE	mon.	active	55	45	38-53
3S/2E 9P8	2,020 feet, E	cath.	active	120	NA	NA
3S/2E 9Q1	4,720 feet, ESE	muni.	active	576	NA	180-492
3S/2E 9Q3	3,685 feet, ESE	NA	decommissioned	28	8	NA
3S/2E 9Q4	3,540 feet, ESE	mon.	active	80	52	70-75
3S/2E 9Q8	(East Ave.) ESE	dom.	active	252	140	167-170
3S/2E 9M1M	1,845 feet, NNE	irr.	active	95	43	49-89
3S/2E 9M2	2,210 feet, ENE	mon.	active	54	40.3	38-53

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Table 1 (continued). WELL SURVEY RESULTS  
187 North L Street, Livermore, California

Location	Bearing to Site	Type	Status	Total Depth (feet)	Depth to Groundwater (feet)	Highest Screened Interval (feet)
3S/2E 9M3	2,200 feet, ENE	mon.	active	53	40	37-52
3S/2E 9M4	2,210 feet, ENE	mon.	active	53	40.4	37-52
3S/2E 9M5	2,210 feet, ENE	mon.	active	46	NA	20-46
3S/2E 9M6	2,210 feet, ENE	mon.	active	40	NA	10-40
3S/2E 9M7	2,210 feet, ENE	mon.	active	45	NA	10-45
3S/2E 9M8	2,210 feet, ENE	mon.	active	45	NA	10-45
3S/2E 9M9	2,210 feet, ENE	mon.	active	60	NA	40-60
3S/2E 9M10	2,210 feet, ENE	mon.	active	60	NA	40-60
3S/2E 9M11	2,210 feet, ENE	mon.	active	65	NA	45-65
3S/2E 9M12	1,475 feet, ENE	mon.	decommissioned	55	NA	NA
3S/2E 9M13	1,475 feet, ENE	mon.	decommissioned	55	NA	NA
3S/2E 9L1	3,095 feet, ENE	muni.	active	529	NA	136-496
3S/2E 9L2	3,095 feet, ENE	mon.	decommissioned	67	46	42-67
3S/2E 9L3	3,095 feet, ENE	mon.	active	61.5	55	46.5-61.5
3S/2E 9L10	3,095 feet, ENE	mon.	active	57	35.5	32-57
3S/2E 16C1	3,390 feet, ESE	muni.	active	584	69	288-298
3S/2E 16C3	3,690 feet, ESE	cath.	active	120	NA	NA
3S/2E 16E1	3,835 feet, SSE	irr.	active	394	NA	NA
3S/2E 16E2	4,130 feet, SSE	irr.	active	540	NA	125-136
3S/2E 16E3	3,690 feet, SSE	irr.	active	377	NA	112-131
3S/2E 16E4	3,540 feet, SSE	mon.	active	50	25	35-40
3S/2E 16E6	3,690 feet, SSE	irr.	active	360	57	300-360
3S/2E 17A	NA	NA	active	77	NA	NA
3S/2E 17B1	3,245 feet, SSW	NA	active	760	67	145-193
3S/2E 17B2	3,230 feet, SSW	dom.	active	442	67	221-224
3S/2E 17B3	2,580 feet, SSW	cath.	active	120	NA	NA
3S/2E 17B4	1,695 feet, SSW	mon.	active	65	40	44.6-59.6
3S/2E 17B5	1,990 feet, SSW	mon.	active	48.5	31.66	28.5-48.5
3S/2E 17B6	1,625 feet, SSW	mon.	active	65	54	44-51
3S/2E 17B7	1,620 feet, WSW	mon.	active	76	70.5	35-75
3S/2E 17B8	1,550 feet, WSW	mon.	active	85	71	35-84.5
3S/2E 17B19	2,210 feet, SSW	mon.	decommissioned	38	NA	23-38
3S/2E 17B72 & 3S/2E 17B73	1,695 feet, SSW	NA	active	65	NA	20-25
3S/2E 17G	3,170 feet, SSW	dom.	active	220	155	NA
3S/2E 17G2	3,170 feet, SSW	mon.	active	35	Dry	18-23
3S/2E 17G3	3,170 feet, SSW	mon.	active	70	31.3	45-70
3S/2E 17J1	NA	dom.	active	531	103	260-270

cath. = cathodic protection  
dom. = domestic  
irr. = irrigation

mon. = monitoring  
muni. = municipal  
NA = not available

Table 2. SUMMARY OF ANALYTICAL DATA FOR GROUNDWATER  
187 North L Street, Livermore, California

Well Identification	Date Sampled	TPH-gasoline (µg/L)	TPH-diesel (µg/L)	TPH-motor oil (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Lead (µg/L)	Naphthalene (µg/L)	2-Methyl-naphthalene (µg/L)
W-1s	3/22/96	6,400	NA	NA	580	470	85	1,100	< 500	NA	NA	NA
W-1s	11/22/96	170,000	NA	NA	13,000	18,000	3,500	18,000	< 10,000	NA	NA	NA
W-1s	7/15/97	140,000	38,000 <sup>a</sup>	3,000	12,000	12,000	2,600	16,000	< 800	NA	NA	NA
W-1s	10/29/97	650,000	180,000	1,600	14,000	19,000	7,800	35,000	< 3,000	NA	NA	NA
W-1s	4/27/98	6,700	2,200 <sup>b</sup>	NA	410	250	77	870	< 30	< 5	NA	NA
W-1s	10/23/98	99,000	18,000 <sup>b</sup>	NA	9,800	9,400	1,800	11,000	< 600	NA	NA	NA
W-1s	4/9/99	70,000	24,000	NA	6,500	7,000	1,800	8,900	360	NA	330	< 50
W-1s	10/5/99	82,000	60,000 <sup>c</sup>	NA	5,500	4,500	2,500	14,000	< 300	NA	510	280
W-1s	4/5/00	47,000	15,000 <sup>c</sup>	NA	4,300	2,300	1,500	6,100	170	NA	330	110
W-1s	10/26/00	50,000	1,200	< 500	3,800	1,800	1,700	7,600	< 50	NA	350	180
W-1s	4/18/01	54,000 <sup>d</sup>	6,800 <sup>e</sup>	NA	5,200	1,800	1,500	7,000	< 330	NA	NA	NA
W-1s	11/13/01	750,000 <sup>d</sup>	NA	NA	9,500	7,800	7,200	33,000	< 2,000	NA	NA	NA
W-1s	4/30/02	66,000 <sup>d</sup>	8,200 <sup>e</sup>	NA	6,000	2,700	2,300	11,000	< 1,200	NA	NA	NA
W-1s	9/30/02	51,000 <sup>d</sup>	1,200 <sup>e</sup>	< 2500	5,600	1,500	2,000	9,400	< 1,000	NA	NA	NA
W-1s	3/19/03	49,000 <sup>d</sup>	9,800 <sup>e,h</sup>	NA	3,400	880	1,300	7,300	< 500	NA	NA	NA
W-1s	9/16/03	53,000 <sup>dj</sup>	24,000 <sup>ej</sup>	NA	4,100	1,200	1,400	6,600	< 1,000	NA	NA	NA
W-1s	4/29/04	39,000 <sup>dj</sup>	5,900 <sup>e,h,j</sup>	NA	3,700	1,200	810	4,700	< 2,500	NA	NA	NA
W-3s	3/22/96	100	NA	NA	13	6.9	5.3	14	< 5	NA	NA	NA
W-3s	11/22/96	3,200	NA	NA	270	29.0	63.0	100	< 100	NA	NA	NA
W-3s	7/15/97	2,100	340 <sup>a</sup>	740	230	7	33	51	< 20	NA	NA	NA
W-3s	10/29/97	2,800	750	88	630	31	71	69	< 30	NA	NA	NA
W-3s	4/27/98	< 50	< 50	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 3	NA	NA	NA

Table 2 (continued). SUMMARY OF ANALYTICAL DATA FOR GROUNDWATER  
187 North L Street, Livermore, California

Well Identification	Date Sampled	TPH-gasoline (µg/L)	TPH-diesel (µg/L)	TPH-motor oil (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Lead (µg/L)	Naphthalene (µg/L)	2-Methyl-naphthalene (µg/L)
W-3s	10/23/98	3,800	1,000 <sup>b</sup>	NA	500	28	90	37	35	NA	NA	NA
W-3s	4/9/99	980	430	NA	240	4	37	3	< 12	NA	NA	NA
W-3s	10/5/99	1,500	1,000 <sup>c,f</sup>	NA	290	9.5	53	9.8	< 6	NA	NA	NA
W-3s	4/5/00	810	320 <sup>c</sup>	NA	150	3.0	9.0	5.7	< 5	NA	< 5	< 5
W-3s	10/26/00	310	120	140	83	3.5	6.4	1.2	< 5	NA	NA	NA
W-3s	4/18/01	2,300 <sup>d</sup>	1,600 <sup>e,g</sup>	NA	320	8.0	16	7.0	< 20	NA	NA	NA
W-3s	11/13/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
W-3s	4/30/02	1,400 <sup>d</sup>	490 <sup>e,g</sup>	NA	320	5.5	24	5.0	< 25	NA	NA	NA
W-3s	9/30/02	420 <sup>d</sup>	390 <sup>g</sup>	1,400	68	1.4	3.1	1.1	< 5.0	NA	NA	NA
W-3s	3/19/03	5,300 <sup>d</sup>	1,500 <sup>e</sup>	NA	920	24	140	27	< 25	NA	NA	NA
W-3s	9/16/03	1,600 <sup>d</sup>	1,400 <sup>g,e,h</sup>	NA	270	1.7	5.2	< 0.5	< 5.0	NA	NA	NA
W-3s	4/29/04	1,300 <sup>d</sup>	400 <sup>c</sup>	NA	210	5.1	23	4.5	< 25	NA	NA	NA
W-Bs	3/22/96	61,000	NA	NA	9,800	8,000	2,200	11,000	< 5,000	NA	NA	NA
W-Bs	11/22/96	47,000	NA	NA	5,100	3,100	1,400	7,800	< 2,500	NA	NA	NA
W-Bs	7/15/97	66,000	17,000 <sup>a</sup>	490	7,800	4,900	1,900	10,000	< 600	NA	NA	NA
W-Bs	10/29/97	44,000	27,000	4,000	6,000	500	1,500	6,400	380	NA	NA	NA
W-Bs	4/27/98	63,000	17,000 <sup>b</sup>	NA	6,100	5,400	1,900	9,100	< 600	NA	NA	NA
W-Bs	10/23/98	48,000	9,600 <sup>b</sup>	NA	6,700	1,200	1,500	6,200	< 300	NA	NA	NA
W-Bs	4/9/99	39,000	12,000	NA	4,100	1,900	1,400	5,600	< 300	NA	NA	NA
W-Bs	10/5/99	38,000	7,300 <sup>c</sup>	NA	3,800	390	1,600	5,900	< 60	NA	NA	NA
W-Bs	4/5/00	34,000	9,600 <sup>c</sup>	NA	3,500	1,200	1,400	4,700	< 150	NA	280	68
W-Bs	10/26/00	23,000	650	< 50	2,500	210	1,100	2,600	150	NA	260	88

Table 2 (continued). SUMMARY OF ANALYTICAL DATA FOR GROUNDWATER  
 187 North L Street, Livermore, California

Well Identification	Date Sampled	TPH-gasoline ( $\mu\text{g/L}$ )	TPH-diesel ( $\mu\text{g/L}$ )	TPH-motor oil ( $\mu\text{g/L}$ )	Benzene ( $\mu\text{g/L}$ )	Toluene ( $\mu\text{g/L}$ )	Ethyl-benzene ( $\mu\text{g/L}$ )	Total Xylenes ( $\mu\text{g/L}$ )	MTBE ( $\mu\text{g/L}$ )	Lead ( $\mu\text{g/L}$ )	Naphthalene ( $\mu\text{g/L}$ )	2-Methyl-naphthalene ( $\mu\text{g/L}$ )
W-Bs	4/18/01	20,000 <sup>d</sup>	2,500 <sup>e</sup>	NA	2,400	180	880	1,800	< 20	NA	NA	NA
W-Bs	11/13/01	17,000 <sup>d</sup>	3,600 <sup>e</sup>	NA	2,000	130	1,100	1,700	< 150	NA	NA	NA
W-Bs	4/30/02	13,000 <sup>d</sup>	2,300 <sup>e</sup>	NA	1,000	38	660	360	< 170	NA	NA	NA
W-Bs	9/30/02	7,100 <sup>d</sup>	1,500 <sup>e</sup>	< 250	940	28	260	93	< 250	NA	NA	NA
W-Bs	3/19/03	14,000 <sup>d</sup>	3,900 <sup>e</sup>	NA	1,200	77	820	900	< 120	NA	NA	NA
W-Bs	9/16/03	9,400 <sup>d</sup>	1,900 <sup>e</sup>	NA	1,300	36	580	160	< 150	NA	NA	NA
W-Bs	4/29/04	15,000 <sup>d</sup>	3,300 <sup>e</sup>	NA	2,400	170	1,300	950	< 200	NA	NA	NA
W-Es	3/22/96	< 50	NA	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 5	NA	NA	NA
W-Es	11/22/96	280	NA	NA	24	0.6	1.8	2.2	< 5	NA	NA	NA
W-Es	7/15/97	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
W-Es	10/29/97	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
W-Es	4/27/98	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
W-Es	10/23/98	82	69 <sup>b</sup>	NA	< 0.5	0.8	< 0.5	0.8	4	NA	NA	NA
W-Es	4/9/99	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
W-Es	10/5/99	68	88 <sup>c</sup>	NA	< 0.5	< 0.5	< 0.5	< 1.0	4	NA	NA	NA
W-Es	4/5/00	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
W-Es	10/26/00	110	< 50	< 50	0.7	< 0.5	< 0.5	< 1.0	< 5	NA	NA	NA
W-Es	4/18/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
W-Es	11/13/01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
W-Es	4/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
W-Es	9/30/02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
W-Es	3/19/03	86 <sup>i</sup>	61 <sup>e</sup>	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	NA	NA	NA

Table 2 (continued). SUMMARY OF ANALYTICAL DATA FOR GROUNDWATER  
187 North L Street, Livermore, California

Well Identification	Date Sampled	TPH-gasoline (µg/L)	TPH-diesel (µg/L)	TPH-motor oil (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Lead (µg/L)	Naphthalene (µg/L)	2-Methyl-naphthalene (µg/L)
W-Es	9/16/03	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
W-Es	4/29/04	55 <sub>d</sub>	87 <sub>e,k</sub>	NA	0.62	<0.5	<0.5	<0.5	<5.0	NA	NA	NA
Travel Blank	3/20/96	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	<5	NA	NA	NA
Travel Blank	11/22/96	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	<5	NA	NA	NA
Travel Blank	7/15/97	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	<3	NA	NA	NA
Travel Blank	10/29/97	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	<3	NA	NA	NA
Travel Blank	4/27/98	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	<3	NA	NA	NA
Travel Blank	10/23/98	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	<3	NA	NA	NA
Travel Blank	4/9/99	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	<3	NA	NA	NA
Travel Blank	10/5/99	<50	NA	NA	<0.5	<0.5	<0.5	<1.0	<3	NA	NA	NA
Travel Blank	4/5/00	<50	NA	NA	1.8	<0.5	<0.5	<1.0	<5	NA	NA	NA
Travel Blank	10/26/00	<50	NA	NA	<0.5	<0.5	<0.5	<1.0	<5	NA	NA	NA
Travel Blank	4/18/01	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA
Travel Blank	11/13/01	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA
Travel Blank	4/29/02	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	<5	NA	NA	NA
Travel Blank	3/19/03	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA
Travel Blank	9/16/03	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA
Travel Blank	4/29/04	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA
MCL		NE	NE	NE	1	150	700	1,750	5	50	NE	NE
AL		NE	NE	NE	NE	NE	NE	NE	35	15	NE	NE

Table 2 (continued). SUMMARY OF ANALYTICAL DATA FOR GROUNDWATER  
187 North L Street, Livermore, California

$\mu\text{g/L}$  = micrograms per liter [parts per billion (ppb)]

NA = not analyzed

NE = none established

NS = not sampled

TPH-gasoline = total petroleum hydrocarbons quantified as gasoline

TPH-diesel = total petroleum hydrocarbons quantified as diesel

MTBE = methyl tertiary butyl ether

MCL = Maximum Contaminant Level, September 2003

AL = Action Level, September 2003

a: The method blank contained heavy oil at 120  $\mu\text{g/L}$ .

b: The chromatogram does not match the typical diesel pattern.

c: The sample contained a lower boiling point mixture of hydrocarbons quantitated as diesel.

d: Unmodified or weakly modified gasoline is significant.

e: Gasoline range compounds are significant.

f: The sample contained a higher boiling point hydrocarbon mixture quantitated as diesel.

g: Oil range compounds are significant.

h: Diesel range compounds are significant; no recognizable pattern.

i: Heavier gasoline range compounds are significant (aged gasoline?).

j: Lighter than water immiscible sheen/product is present.

k: One to a few isolated peaks are present.