SOIL AND GROUNDWATER ASSESSMENT REPORT

ARCO SERVICE STATION 2111

SAN LEANDRO, CALIFORNIA

Prepared for

ARCO Products Company

September 19, 1996

Prepared by

EMCON
1921 Ringwood Avenue
San Jose, California 95131

Project 20805-127.001

EMCON
1921 Ringwood Avenue • San Jose, California 95131-1721 • (408) 453-7300 • Fax (408) 437-9526

September 19, 1996
Project 20805-127.001

Mr. Paul Supple
ARCO Products Company
P.O. Box 6549
Moraga, California 94570

Re: Soil and groundwater assessment report, ARCO service station 2111, San Leandro, California

Dear Mr. Supple:

This report documents EMCON's on- and off-site soil and groundwater investigation at ARCO Products Company (ARCO) service station 2111, 1156 Davis Street, San Leandro, California (Figure 1). The work completed to date is consistent with the two phases of work (Phase A and Phase B) proposed in EMCON's workplan dated June 19, 1995. This report summarizes the results of the site assessment activities completed during the first two phases. Initial results from the Phase A investigation were forwarded to Alameda County Health Care Services Agency (ACHCSA) in an EMCON letter report titled "Site Characterization" dated November 8, 1995.

The extent of hydrocarbon impact to soil and groundwater at the site appears to be limited to the boundaries of the ARCO facility.

BACKGROUND

In August 1993, a hydraulic hoist from one of the station service bays was removed (Figure 2). Geostrategies, Inc., (GSI) collected four soil samples from the bottom of the excavation. Total extractable petroleum hydrocarbons (TEPH) were detected in the soil samples at concentrations up to 27,000 milligrams per kilogram (mg/kg). In March 1994, GSI drilled and sampled two soil borings (B-1 and B-2) on the northwestern side of the former hydraulic hoist excavation. Soil samples from the borings detected hydraulic oil up to 11 mg/kg.

In August 1994, one 280-gallon waste oil UST was removed from the site. Several holes were observed on the top portion of the waste oil UST. Total petroleum hydrocarbons as motor oil, diesel (TPHD), gasoline (TPHG), and total recoverable petroleum hydrocarbons (TRPH) were detected in the soil samples from the bottom of the excavation. Impacted soil was removed from the base of the excavation. In September 1994, a new 600-gallon waste oil UST was installed in the same location as the former UST.

Site Setting

The project site is at the northwestern corner of the intersection of Preda and Davis Streets in San Leandro, California (Figure 1). The site is located in the East Bay Plain, a relatively flat alluvial plain lying between San Francisco Bay to the west and the Diablo Range to the east. Soils in this area are mapped as older alluvium, which consists of a heterogeneous mixture of poorly consolidated to unconsolidated clay, silt, sand, and gravel units (Helley et al., 1979). Groundwater in the East Bay Plain tends to flow towards the San Francisco Bay to the west and southwest (Hickenbottom and Muir, 1988).

Well Survey

EMCON reviewed information provided by the County of Alameda Public Works Agency (CAPWA) regarding water wells located within the vicinity of the subject site. The CAPWA well survey included all known water supply wells monitoring wells, destroyed or abandoned wells, extraction wells, and backfilled geotechnical borings within a 1/2 mile radius of the site. The survey identified 63 monitoring wells, 41 irrigation wells, 6 industrial supply wells, 4 domestic supply wells, 7 test wells, one extraction well, 27 destroyed wells, 12 abandoned wells, and two geotechnical borings. The general location (street address) of each well and limited well construction details are summarized in Appendix A.

The wells located hydraulically downgradient (west to southwest) of the subject site are not impacted by the release at the ARCO facility.

Wells listed in the CAPWA survey that are located downgradient of the ARCO site include several active irrigation, monitoring, and industrial wells and one domestic supply well. The downgradient domestic supply well (#2S/3W 27R-7) is located approximately 650 feet west-southwest of the ARCO facility.

Off-site Source Identification Survey

A search of environmental databases from federal, state, regional, and local regulatory agencies was performed at EMCON's request, by Vista Environmental Information, Inc. The results of the records search are summarized in the report titled "Site Assessment Plus Report," and are included in Appendix B. The database searches were performed to identify potential secondary sources of hydrocarbon constituents in soil and groundwater at the subject site.

Results of the database review indicate that 21 sites are present within an approximate 1/2 mile radius of the ARCO facility. According to the information provided in the Vista database review, 8 of the sites within the 1/2 mile radius are hydraulically upgradient (east to northeast) of the ARCO facility. The closest upgradient site is the City of San Leandro's Fire Station #2 located at 1040 Davis Street, approximately 600 feet east-northeast of the ARCO facility. The Fire Station property is listed on the State Underground Storage Tank (UST) database because a UST containing diesel fuel was once in use at the site, but a hydrocarbon release was not reported. Four of the eight upgradient sites have reported releases of hydrocarbons into soil or groundwater. The two sites with releases that are closest to the subject site are the Caterpillar Inc. site at 800 Davis Street, and the J.P. Morgan Investment Management site at 1525 Alvarado Niles Boulevard. Both of these sites are located approximately 1/4 mile east-northeast (upgradient) of the ARCO facility. The Caterpillar property is listed on the State equivalent priority list (SPL) and has reported releases of both waste oils and chlorinated solvents. The J.P. Morgan property is listed on the State Leaking Underground Storage Tank (LUST) database and is reported to have had a release of waste-oil which impacted a drinking water supply.

Sanborn fire insurance maps of the site and surrounding area were reviewed for the years 1950, 1957, 1963, and 1968. Based on EMCON's review of these maps it appears that a property located directly across Preda Street from the ARCO site may have been a gasoline service station or other business which stored gasoline and oil products. The business appears to have been in operation from before 1950 until sometime between 1968 and the present. This property is currently a 7-11 convenience store and does not appear in the database review provided by VISTA.

SCOPE OF WORK

Groundwater monitoring wells MW-1 through MW-4 were installed during the Phase A investigation on July 12 and 13, 1995. Groundwater monitoring wells MW-5 through MW-7 and vapor extraction wells VW-1 through VW-4 were installed during the Phase B investigation between February 28 through March 1, 1996. Well locations are shown in Figure 2. The exploratory borings for the wells were drilled and sampled under the supervision of an EMCON geologist, working under the direct supervision of a California-registered geologist. Well construction details are summarized in Table 1. Alameda County Flood Control and Water Conservation District, Zone 7 (ACFCWCD) well permits, and City of San Leandro minor encroachment permits are presented in Appendix C. Procedures employed in drilling the exploratory borings, installing the wells, and sampling and storing drill cuttings and groundwater are described in Appendix D.

Drill cuttings were disposed of at the BFI Vasco Road Sanitary Landfill in Livermore, California. Waste manifests are presented in Appendix E.

Well Installation

On-site groundwater monitoring wells MW-1 through MW-4 and MW-7 were each installed in 10-inch-diameter borings to depths of 25.0 to 27.0 feet BGS using hollow-stem auger drilling equipment. The wells were constructed of flush-threaded, 4-inch-diameter, Schedule 40 polyvinyl chloride (PVC) casing, with approximately 13.7 to 15.0 feet of slotted screen placed at the bottom of the boring.

Off-site groundwater monitoring wells MW-5 and MW-6 were installed in 8-inch-diameter borings to depths of 24.0 and 25.0 feet BGS. The wells were constructed using flush-threaded, 2-inch-diameter, Schedule 40 PVC casing and approximately 14.0 to 15.0 feet of screen placed at the bottom of the boring.

Vapor extraction wells VW-1 through VW-4 were each completed in 10-inch-diameter borings to a depth of 20.0 feet BGS. The wells were constructed of flush-threaded, 4-inch-diameter, Schedule 40 PVC casing and approximately 13.0 to 15.0 feet of screen.

Well construction details are summarized in Table 1; the exploratory boring logs and well construction details are presented in Appendix F. The steam-cleaning water generated during the field activities was disposed of at Seaport Environmental in Redwood City, California. Waste manifests are presented in Appendix E.

Well Development

Groundwater monitoring wells MW-1 through MW-4 were developed on July 31, 1995. Groundwater monitoring wells MW-5 through MW-7 were developed on March 18, 1996. All monitoring wells were developed using a surge block and centrifugal pump. During development, the wells were checked for floating product and monitored for turbidity, conductivity, color, temperature, odor, and pH. Field data sheets documenting well development activities are presented in Appendix G.

Groundwater Sampling

On August 1, 1995, groundwater samples were initially collected from wells MW-1 through MW-4. The samples were collected with a Teflon® bailer and submitted to a state-certified laboratory with chain-of-custody documentation. Groundwater sampling field data sheets are presented in Appendix G. On March 2, 1996, during the first quarter

1996 groundwater monitoring event, initial groundwater samples were collected from wells MW-5, MW-6, and MW-7. Two subsequent quarterly monitoring events have been performed at the site. Results of these events are tabulated in Table 2.

Topographic Well Survey

EMCON contracted a licensed land surveyor to survey the elevations and locations of the new wells. The well positions were surveyed to an accuracy of 0.02 foot. The well casing, rim, and ground elevations were surveyed to an accuracy of 0.01 foot. The well elevations were surveyed relative to mean sea level (MSL) using a City of San Leandro benchmark. Figure 2 presents the current surveyed well locations. Results of the survey are presented in Appendix H.

FINDINGS

Subsurface Conditions

The subsurface consists of unconsolidated alluvial sediments, predominantly composed of clays to silty clays which are underlain locally by clayey sands to clayey gravels. The typical stratigraphic relationships of the sediments are depicted on geologic cross sections A-A' and B-B' (Figures 3 and 4). Average historical groundwater levels in site wells have ranged from approximately 11.5 to 17.5 feet below ground surface (Table 2). The groundwater flow direction and gradient were consistent with the regional groundwater flow direction, as shown on the groundwater contour map (Figure 5). Based on the third quarter data collected from wells MW-1, MW-5, and MW-7, groundwater at the site flows west northwest at a gradient of 0.01 ft/ft.

Laboratory Results

Groundwater analytical data and soil analytical data are presented in Tables 2 and 3. Certified analytical reports and chain-of-custody documentation for the soil and groundwater samples are presented in Appendix I.

Selected soil samples from borings MW-1 through MW-7 and VW-1 through VW-4, soil samples collected from the soil stockpile, and groundwater samples from wells MW-1 through MW-7, were submitted to a state-certified laboratory and analyzed for total petroleum hydrocarbons as gasoline (TPHG), and benzene, toluene, ethylbenzene, and total xylenes (BTEX). Laboratory procedures are detailed in Appendix B.

TPHG and benzene were not detected in the soil samples collected from borings MW-1, MW-3, MW-4, MW-5, and MW-6. TPHG and benzene were detected in soil samples collected from borings MW-2, MW-7, and VW-1 through VW-4 at concentrations up to 1,100 mg/kg and 0.3 mg/kg, respectively.

TPHG and benzene were not detected in the groundwater samples collected from monitoring wells MW-1 and MW-3 through MW-6. During the most recent sampling event, groundwater samples collected from wells MW-2 and MW-7 contained TPHG concentrations of 2,800 µg/L and 14,000 µg/L, respectively. Benzene was detected in the samples from MW-2 and MW-7 at 290 µg/L and 390 µg/L, respectively.

MTBE was not detected in wells MW-1 MW-3, and MW-4. The most recent sampling event detected MTBE in well MW-2 at 50 µg/L. Although MTBE has been detected in downgradient well MW-5 (8 µg/L), concentrations are just above method reporting limit (<3 µg/L).

CONCLUSIONS

Based on this and previous investigations, EMCON concludes the following:

- Hydrocarbon-impacted soils at the site are limited to the capillary-fringe zone. Impacted soils at the site appear to be confined to the areas around the pump islands and the existing UST excavation.

- The extent of TPHG and benzene in groundwater has been delineated to the north, east and west of the site. The MTBE concentration detected in downgradient well MW-5 may represent the leading edge of a dissolved hydrocarbon plume migrating off site from the southern portion of the ARCO facility. Although the TPHG and benzene impact to groundwater appears to be limited to the boundaries of the ARCO facility, the southern extent of the plume remains undefined.

- TPHG and benzene concentrations dissolved in groundwater in wells MW-2 and MW-7 appear to be decreasing with time.

- Several sites were identified upgradient of the ARCO facility that could be considered potential secondary sources of hydrocarbons observed at the site. Four of the sites located upgradient have reported releases of hydrocarbon constituents into soil or groundwater. The toluene concentration detected in upgradient well MW-6 may be the result of one of the upgradient sources and these same sources.

- A review of historical groundwater analytical data indicates that the hydrocarbons concentrations identified in wells at the ARCO facility are not the result of solvents that may be associated with the plume from the Caterpillar site. The chromatogram patterns matched the typical gasoline fingerprint.

Sincerely,

EMCON

Rob Davis
Staff Geologist

John C. Young, R.G. 6407
Project Manager

REGISTERED GEOLOGIST
JOHN CHARLES YOUNG
Exp 7/98
NO. 6407
STATE OF CALIFORNIA

Attachments: Limitations
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Table 2 - Historical Groundwater Elevation and Analytical Data
Table 3 - Soil Analytical Data
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Figure 2 - Site Plan
Figure 3 - Geologic Cross Section A-A´
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Appendix B - Vista Database Search
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Appendix E - Waste Manifests
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Appendix G - Field Data Sheets
Appendix H - Topographic Well Survey
Appendix I - Certified Analytical Reports and Chain-of-Custody Documentation

cc: Dale Kletke - ACHCSA
Kevin Graves - RWQCB
Mike Bakaldin - City of San Leandro Fire Department

Table 1

Well Details
ARCO Service Station 2111

Well ID	Installation Date	Total Depth of Well (feet)	Casing Diameter (inches)	Screened Interval (feet)
MW-1	7/12/95	27.0	4.0	12.5 - 26.2
MW-2	7/12/95	27.0	4.0	12.0 - 26.2
MW-3	7/13/95	27.0	4.0	11.9 - 26.2
MW-4	7/13/95	25.0	4.0	10.0 - 24.0
MW-5	3/1/96	25.0	2.0	9.4 - 23.4
MW-6	3/1/96	25.0	2.0	10.0 - 25.0
MW-7	2/29/96	27.0	4.0	12.0 - 27.0
V-1	2/29/96	20.0	4.0	5.0 - 20.0
V-2	2/29/96	20.0	4.0	5.0 - 20.0
V-3	2/28/96	20.0	4.0	5.0 - 20.0
V-4	2/28/96	20.0	4.0	6.5 - 19.5

Table 2
Historical Groundwater Elevation and Analytical Data
Petroleum Hydrocarbons and Their Constituents

ARCO Service Station 2111
1156 Davis Street, San Leandro, California

Date: 09-17-96

Well Designation	Water Level Field Date	Top of Casing Elevation	Depth to Water	Groundwater Elevation	Floating Product Thickness	Groundwater Flow Direction	Hydraulic Gradient	Water Sample Field Date	TPHG LUFT Method	Benzene EPA 8020	Toluene EPA 8020	Ethylbenzene EPA 8020	Total Xylenes EPA 8020	MTBE EPA 8020	TRPH EPA 418.1	TPHD LUFT Method
		ft-MSL	feet	ft-MSL	feet	MWN	ft/ft		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW-1	08-01-95	39.60	17.45	22.15	ND	NR	NR	08-01-95	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
MW-1	12-14-95	39.60	17.09	22.51	ND	W	0.002	12-14-95	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
MW-1	03-21-96	39.60	14.72	24.88	ND	WSW	0.005	03-21-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
MW-1	05-24-96	39.60	15.94	23.66	ND	W	0.003	05-24-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
MW-1	08-09-96	39.60	17.89	21.71	ND	WNW	0.01	08-09-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
MW-2	08-01-95	37.99	15.67	22.32	ND	NR	NR	08-01-95	23000	1300	310	500	3500	--	--	--
MW-2	12-14-95	37.99	15.36	22.63	ND	W	0.002	12-14-95	7300	900	25	180	1000	<200*	--	--
MW-2	03-21-96	37.99	12.84	25.15	ND	WSW	0.005	03-21-96	9600	850	30	280	1400	250	--	--
MW-2	05-24-96	37.99	14.03	23.96	ND	W	0.003	05-24-96	2300	300	<5*	73	310	<25*	--	--
MW-2	08-09-96	37.99	16.10	21.89	ND	WNW	0.01	08-09-96	2800	290	6	75	320	50	--	--
MW-3	08-01-95	39.32	17.00	22.32	ND	NR	NR	08-01-95	<50	<0.5	<0.5	<0.5	<0.5	--	600	76^
MW-3	12-14-95	39.32	16.70	22.62	ND	W	0.002	12-14-95	<50	<0.5	<0.5	<0.5	<0.5	<3	<500	<50
MW-3	03-21-96	39.32	14.17	25.15	ND	WSW	0.005	03-21-96	<50	<0.5	<0.5	<0.5	<0.5	<3	<500	<50
MW-3	05-24-96	39.32	15.30	24.02	ND	W	0.003	05-24-96	<50	<0.5	<0.5	<0.5	<0.5	<3	<500	<50
MW-3	08-09-96	39.32	17.58	21.74	ND	WNW	0.01	08-09-96	<50	<0.5	<0.5	<0.5	<0.5	<3	<0.5	--
MW-4	08-01-95	38.10	15.65	22.45	ND	NR	NR	08-01-95	<50	<0.5	<0.5	<0.5	<0.5	--	--	--
MW-4	12-14-95	38.10	15.35	22.75	ND	W	0.002	12-14-95	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
MW-4	03-21-96	38.10	12.74	25.36	ND	WSW	0.005	03-21-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
MW-4	05-24-96	38.10	14.03	24.07	ND	W	0.003	05-24-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
MW-4	08-09-96	38.10	16.10	22.00	ND	WNW	0.01	08-09-96	<50	<0.5	<0.5	<0.5	<0.5	<3	--	--
MW-5	03-21-96	37.21	12.60	24.61	ND	WSW	0.005	03-22-96	<50	<0.5	<0.5	<0.5	<0.5	82	--	--
MW-5	05-24-96	37.21	13.71	23.50	ND	W	0.003	05-24-96	<50	<0.5	<0.5	<0.5	<0.5	7	--	--
MW-5	08-09-96	37.21	15.60	21.61	ND	WNW	0.01	08-09-96	<50	<0.5	<0.5	<0.5	<0.5	8	--	--

Table 2
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Well Designation	Water Level Field Date	Top of Casing Elevation	Depth to Water	Groundwater Elevation	Floating Product Thickness	Groundwater Flow Direction	Hydraulic Gradient	Water Sample Field Date	TPHG LUFT Method	Benzene EPA 8020	Toluene EPA 8020	Ethylbenzene EPA 8020	Total Xylenes EPA 8020	MTBE EPA 8020	TRPH EPA 418.1	TPHD LUFT Method
		ft-MSL	feet	ft-MSL	feet	MWN	ft/ft		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW-6	03-21-96	37.11	11.55	25.56	ND	WSW	0.005	03-22-96	<50	<0.5	1.9	<0.5	<0.5	<3	--	--
MW-6	05-24-96	37.11	12.80	24.31	ND	W	0.003	05-24-96	<50	<0.5	<0.5	<0.5	<0.5	6	--	--
MW-6	08-09-96	37.11 Not surveyed: Car parked on well						08-09-96	Not sampled: Car parked on well							
MW-7	03-21-96	38.68	13.32	25.36	ND	WSW	0.005	03-22-96	32000	870	450	970	4900	280	--	--
MW-7	05-24-96	38.68	14.58	24.10	ND	W	0.003	05-24-96	22000	570	40	42	1900	<200*	--	--
MW-7	08-09-96	38.68	15.33	23.35	ND	WNW	0.01	08-09-96	14000	390	<10*	180	470	<200*	--	--

ft-MSL: elevation in feet, relative to mean sea level
MWN: ground-water flow direction and gradient apply to the entire monitoring well network
ft/ft: foot per foot
TPHG: total petroleum hydrocarbons as gasoline, California DHS LUFT Method
µg/L: micrograms per liter
EPA: United States Environmental Protection Agency
MTBE: Methyl-tert-butyl ether
TRPH: total recoverable petroleum hydrocarbons
TPHD: total petroleum hydrocarbons as diesel, California DHS LUFT Method
NR: not reported; data not available or not measurable
ND: none detected
W: west
WSW: west-southwest
NW: northwest
^: chromatogram fingerprint is not characteristic of diesel
*: method reporting limit was raised due to: (1) high analyte concentration requiring sample dilution, or (2) matrix interference
- -: not available

Table 3

Soil Analytical Data
ARCO Service Station 2111

Sample Identification	Date Sampled	Depth (feet)	TPHG[2]	Benzene	Toluene	Ethylbenzene	Xylenes	TRPH	TPHD
MW-1	7/12/95	6.5	ND	ND	ND	ND	ND	NA	NA
MW-1	7/12/95	11.5	ND	ND	ND	ND	ND	NA	NA
MW-1	7/12/95	16.5	ND	ND	ND	ND	ND	NA	NA
MW-1	7/12/95	21.5	ND	ND	ND	ND	ND	NA	NA
MW-1	7/12/95	26	ND	ND	ND	ND	ND	NA	NA
MW-2	7/12/95	6.5	ND	ND	ND	ND	ND	NA	NA
MW-2	7/12/95	11.5	ND	ND	ND	ND	ND	NA	NA
MW-2	7/12/95	16.5	2	0.045	ND	0.027	0.04	NA	NA
MW-2	7/12/95	19	29	0.26	ND	0.3	1.5	NA	NA
MW-2	7/12/95	21	320	<0.5**	<1**	3.4	1.4	NA	NA
MW-3	7/13/95	6.5	ND	ND	ND	ND	ND	10	ND
MW-3	7/13/95	11	ND	ND	ND	ND	ND	ND	ND
MW-3	7/13/95	14	ND	ND	ND	ND	ND	ND	ND
MW-3	7/13/95	17	ND	ND	ND	ND	ND	ND	ND
MW-3	7/13/95	19.5	ND	ND	ND	ND	ND	ND	ND
MW-3	7/13/95	22.5	ND	ND	ND	ND	ND	ND	ND
MW-3	7/13/95	27.5	ND	ND	ND	ND	ND	ND	ND
MW-3	7/13/95	36	ND	ND	ND	ND	ND	ND	ND
MW-3	7/13/95	40	ND	ND	ND	ND	ND	ND	ND
MW-4	7/13/95	6.5	ND	ND	ND	ND	ND	NA	NA
MW-4	7/13/95	11.5	ND	ND	ND	ND	ND	NA	NA
MW-4	7/13/95	16.5	ND	ND	ND	ND	ND	NA	NA
MW-4	7/13/95	21.5	ND	ND	ND	ND	ND	NA	NA
MW-5	3/1/96	5	ND	ND	ND	ND	ND	NA	NA
MW-5	3/1/96	10	ND	ND	ND	ND	ND	NA	NA
MW-5	3/1/96	15	ND	ND	ND	ND	ND	NA	NA
MW-5	3/1/96	30	ND	ND	ND	ND	ND	NA	NA
MW-6	3/1/96	5	ND	ND	ND	ND	ND	NA	NA
MW-6	3/1/96	10	ND	ND	ND	ND	ND	NA	NA
MW-6	3/1/96	15	ND	ND	ND	ND	ND	NA	NA
MW-6	3/1/96	27	ND	ND	ND	ND	ND	NA	NA

Table 3

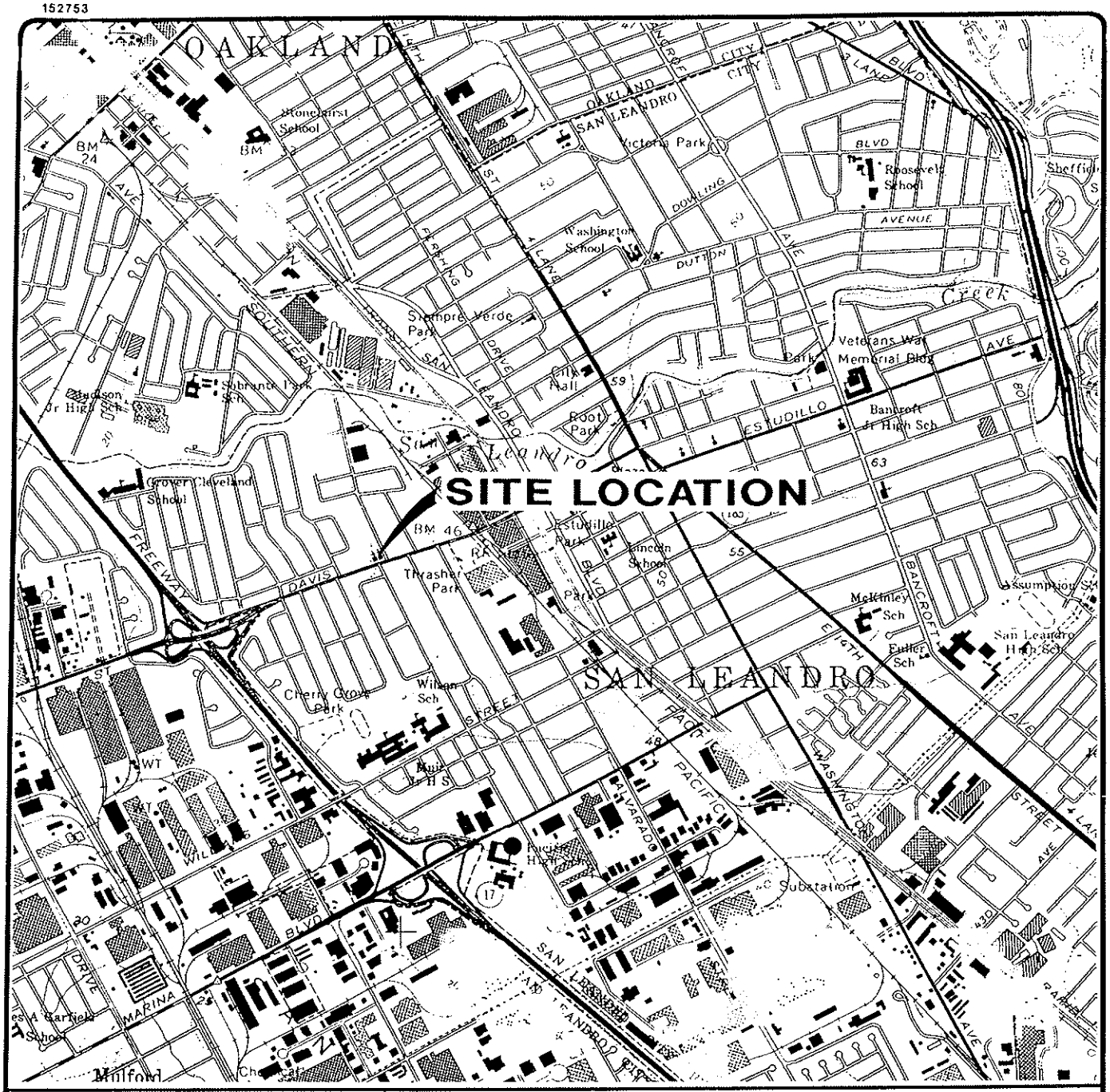
Soil Analytical Data
ARCO Service Station 2111

(continued)

Sample Identification	Date Sampled	Depth (feet)	TPHG[2]	Benzene	Toluene	Ethylbenzene	Xylenes	TRPH	TPHD
MW-7	2/29/96	5.5	ND	ND	ND	ND	ND	NA	NA
MW-7	2/29/96	10	ND	0.01	ND	ND	ND	NA	NA
MW-7	2/29/96	15	1	0.11	ND	0.080	0.90	NA	NA
MW-7	2/29/96	21	55	<0.1*	<0.2*	0.80	1.5	NA	NA
MW-7	2/29/96	33	ND	ND	ND	ND	0.006	NA	NA
VW-1	2/29/96	5.5	ND	ND	ND	ND	ND	NA	NA
VW-1	2/29/96	10.5	ND	ND	ND	ND	ND	NA	NA
VW-1	2/29/96	13	1	0.020	ND	ND	ND	NA	NA
VW-1	2/29/96	19.5	40	0.10	ND	0.50	0.80	NA	NA
VW-2	2/29/96	5.5	ND	ND	ND	ND	ND	NA	NA
VW-2	2/29/96	10.5	ND	ND	ND	ND	ND	NA	NA
VW-2	2/29/96	13	4	0.20	<0.025*	0.080	0.080	NA	NA
VW-2	2/29/96	15.5	18	0.30	<0.05*	0.30	0.40	NA	NA
VW-2	2/29/96	19.5	230	<0.5*	<1*	<1*	2	NA	NA
VW-3	2/28/96	5	ND	ND	ND	ND	ND	NA	NA
VW-3	2/28/96	10	ND	0.020	ND	ND	0.005	NA	NA
VW-3	2/28/96	15	ND	ND	ND	ND	ND	NA	NA
VW-3	2/28/96	19.5	76	<0.1*	<0.2*	0.4	0.8	NA	NA
VW-4	2/28/96	5	ND	ND	ND	ND	ND	NA	NA
VW-4	2/28/96	10.5	12	<0.05*	<0.1*	<0.1*	<0.1*	NA	NA
VW-4	2/28/96	15	1,100	<1*	<2	<2*	3	NA	NA
VW-4	2/28/96	19.5	420	<0.5*	<1*	<1*	3	NA	NA

[1] mg/kg = milligrams per kilogram
[2] TPHG = total petroleum hydrocarbons as gasoline
[3] TRPH = total recoverable petroleum hydrocarbons
[4] TPHD = total petroleum hydrocarbons as diesel
[5] NA = not analyzed
< indicates laboratory minimum reporting limit
* raised MRL due to high analyte concentration requiring sample dilution

152753



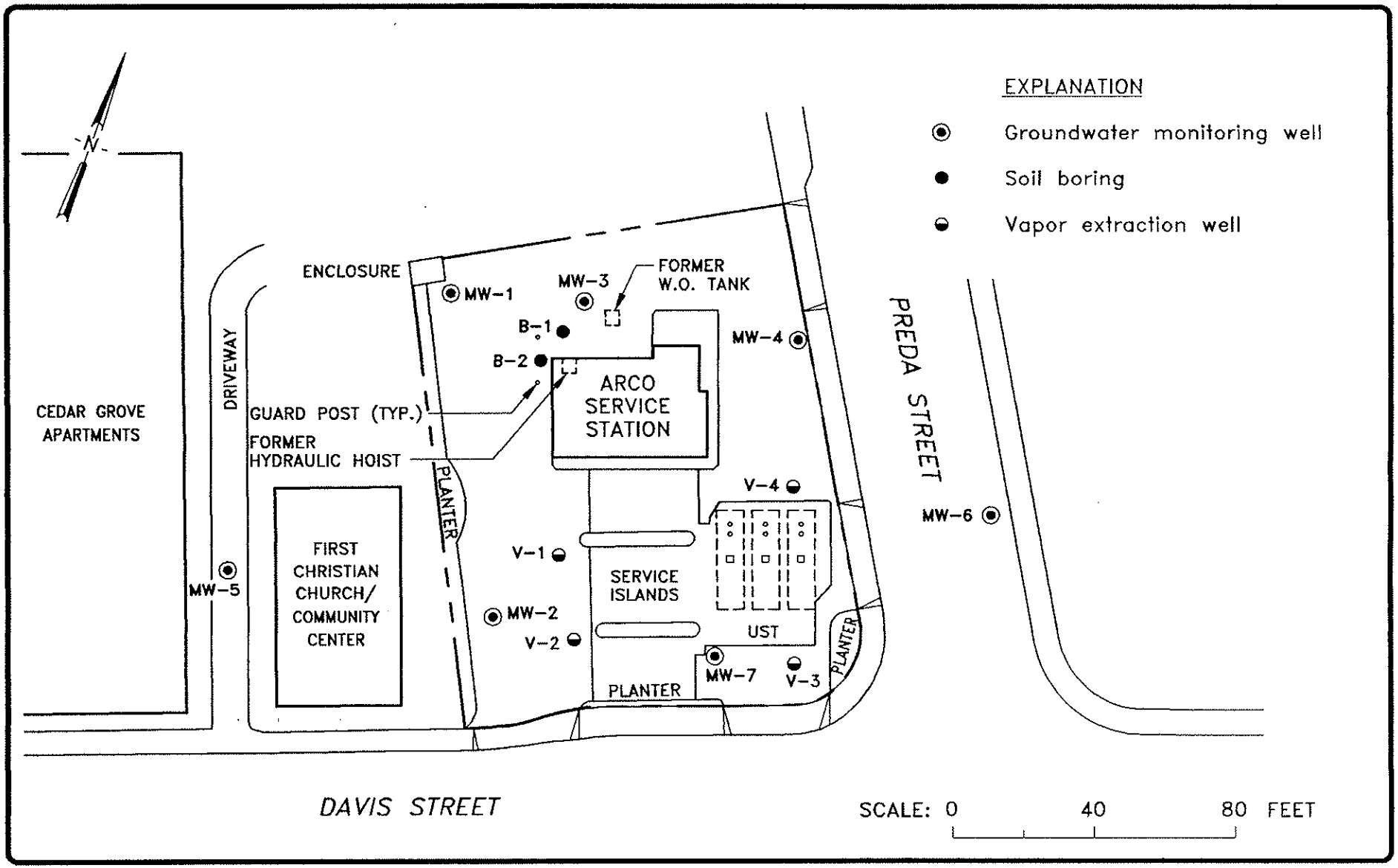
EMCON

ARCO PRODUCTS COMPANY
SERVICE STATION 2111, 1156 DAVIS STREET
SOIL AND GROUNDWATER ASSESSMENT
SAN LEANDRO, CALIFORNIA

SITE LOCATION

FIGURE
1

PROJECT NO.
805-127.01



emcon

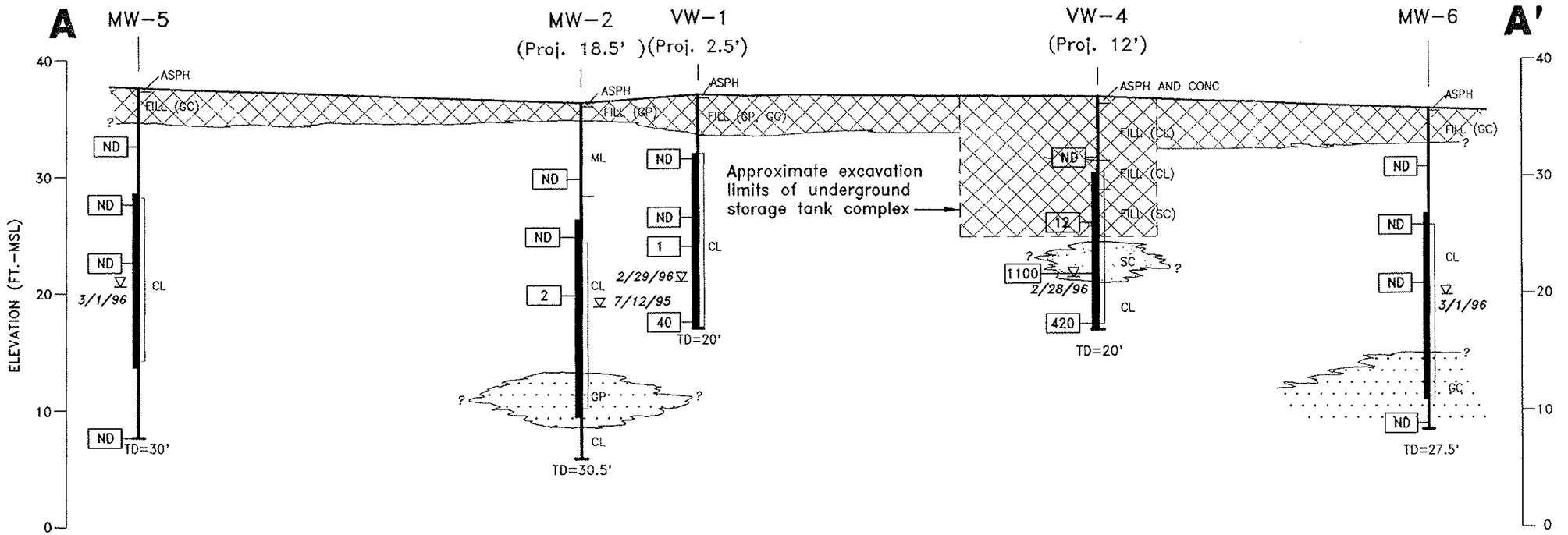
ARCO PRODUCTS COMPANY
SERVICE STATION 2111, 1156 DAVIS STREET
SAN LEANDRO, CALIFORNIA

SITE PLAN

FIGURE
2
PROJECT NO.
805-127.01

SOUTHWEST

NORTHEAST



EXPLANATION

- FILL
- SILTS AND CLAYS (ML, CL)
- SANDS, SILTY AND CLAYEY SANDS (SP, SM, SC)
- GRAVELS, SILTY AND CLAYEY GRAVELS (GP, GM, GC)
- ? Geologic contact; dashed where approximate, queried where uncertain

VW-4 Well/boring designation

- Borehole
- <1.0 TPH as gasoline (ppm)
- Sand pack interval
- ▽ First encountered groundwater (showing date measured)
- Screened interval

TD=23.5' Total depth of boring

NOTES:

1. See Figure 2 for location of cross section.
2. See Appendix F for soil symbol explanation.

EMCON

SCALE: 0 20 40 FEET
(Horizontal)

ARCO PRODUCTS COMPANY
SERVICE STATION 2111, 1156 DAVIS STREET
SOIL AND GROUNDWATER ASSESSMENT
SAN LEANDRO, CALIFORNIA

GEOLOGIC CROSS SECTION A-A'

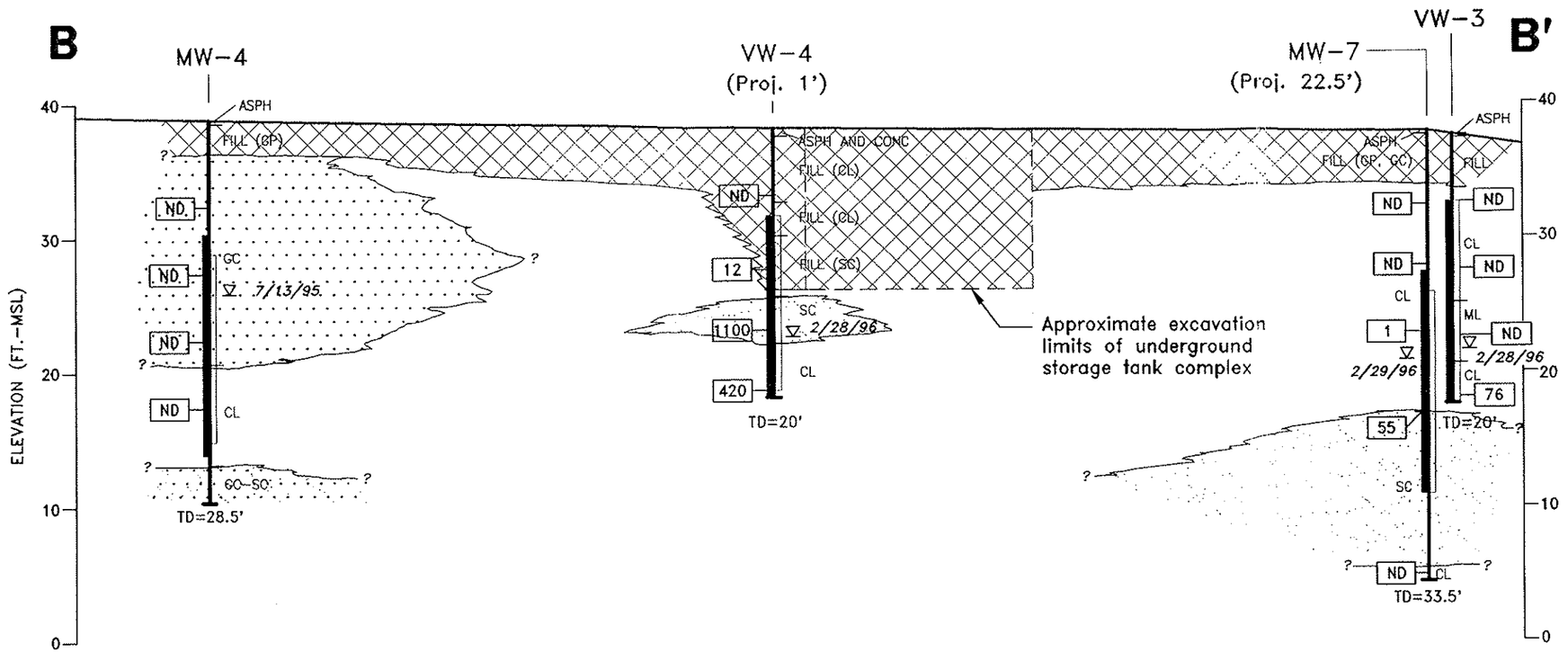
FIGURE NO. 3

PROJECT NO. 805-127.001

G:\805-127\SECSAB REV 0 04/22/96 16:17:57 DD DJ SECTION A-A'

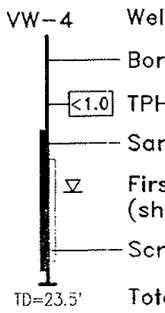
NORTHWEST

SOUTHEAST



EXPLANATION

- FILL
- SILTS AND CLAYS (ML, CL)
- SANDS, SILTY AND CLAYEY SANDS (SP, SM, SC)
- GRAVELS, SILTY AND CLAYEY GRAVELS (GP, GM, GC)
- ? — Geologic contact; dashed where approximate, queried where uncertain



- VW-4 — Well/boring designation
- Borehole
- <1.0 — TPH as gasoline (ppm)
- Sand pack interval
- First encountered groundwater (showing date measured)
- Screened interval
- TD=23.5' — Total depth of boring

NOTES:

1. See Figure 2 for location of cross section.
2. See Appendix F for soil symbol explanation.

EMCON

SCALE: 0 10 20 FEET
(Horizontal)

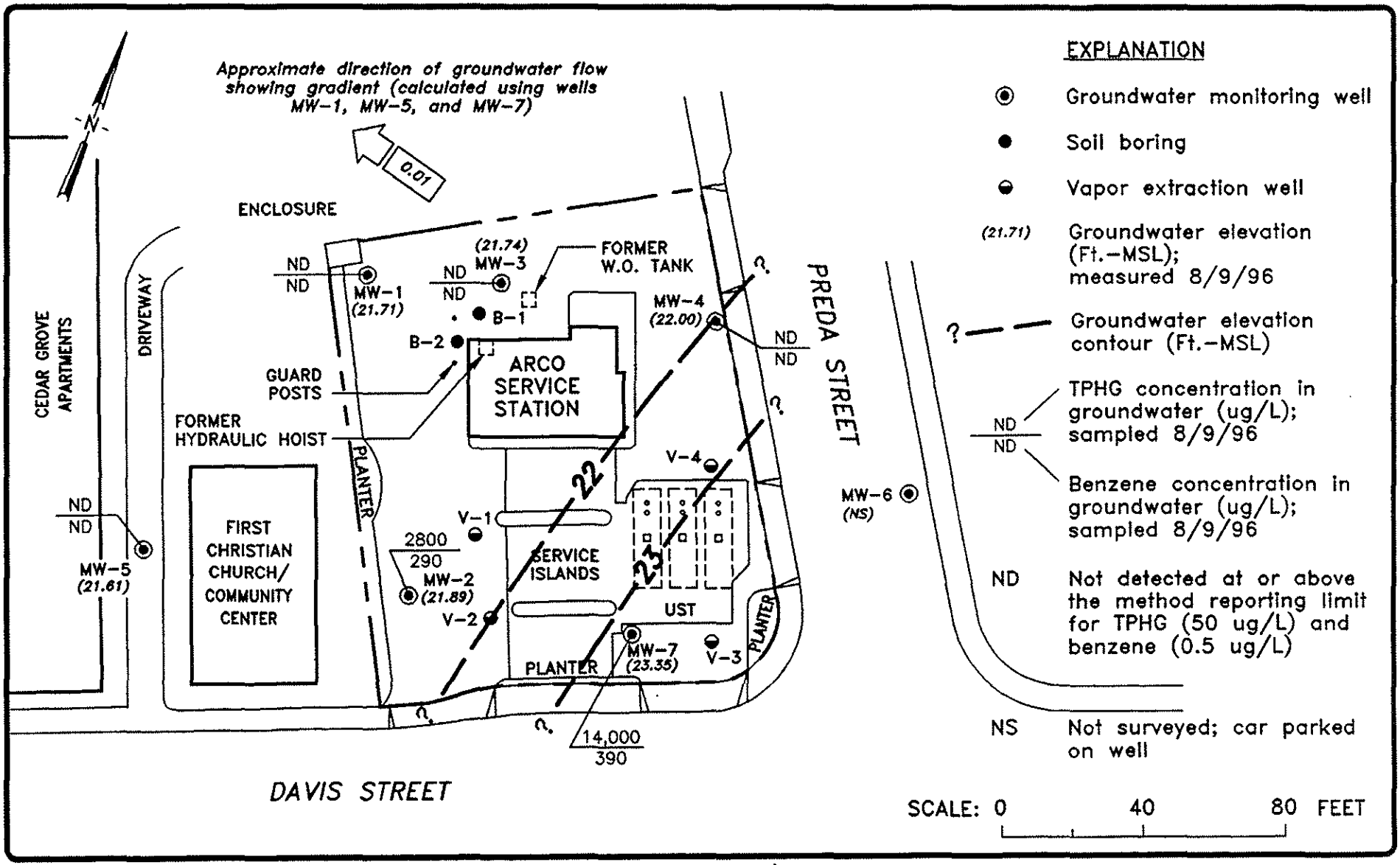
ARCO PRODUCTS COMPANY
SERVICE STATION 2111, 1156 DAVIS STREET
SOIL AND GROUNDWATER ASSESSMENT
OAKLAND, CALIFORNIA

GEOLOGIC CROSS SECTION B-B'

FIGURE NO. 4

PROJECT NO. 805-127.001

G:\805-127\SECSAB REV 0 04/22/96 16:17:57 DD DJ SECTION B-B'



emcon

ARCO PRODUCTS COMPANY
SERVICE STATION 2111, 1156 DAVIS STREET
QUARTERLY GROUNDWATER MONITORING
SAN LEANDRO, CALIFORNIA

GROUNDWATER DATA
THIRD QUARTER 1996

FIGURE
5
PROJECT NO.
805-127.001

APPENDIX A

WELL SURVEY

COUNTY OF ALAMEDA
PUBLIC WORKS AGENCY
951 Turner Court, Hayward, CA 94545
(510) 670-5543

DATE: 4-18

No of Pages (including cover): 5

FAX TRANSMITTAL

TO	Rob Davis
	FAX:

FROM	Andreas Godfrey
	FAX:

Should you have problems receiving this FAX transmittal, please call: _____

SUBJECT: Wells

TRANSMITTING THE FOLLOWING:

Geo - some sort of monitoring well

WELL INVENTORY FILE

Definitions and abbreviations for items listed in the well inventory file are as follows:

[**WELLNO**] Well number - Wells are numbered according to their location in the rectangular system of the Public Land Survey. The part of the number preceding the slash indicates the township; the part following the slash indicates the range and section number; the letter following the section number indicates the 40-acre subdivision; and the final digit is a serial number for wells in each 40-acre subdivision.

[**DAT**] Date - The month and year when drilling or boring was completed.

[**ELEV**] Surface elevation - The surface elevation of the well, if known, in feet above mean sea level. A zero designates an unknown elevation.

[**TD**] Total depth - The depth of the well. This usually designates the completed well depth. If the well has a well log available on file, then the total drilled depth of the well is given. The inventory does not show total depth data for geotechnical borings. This is because only one state well number is assigned to one boring at a site, and there are usually several borings of different depth.

[**DTW**] Depth to water - This category usually indicates the standing groundwater level in the well on the date of completion. The "depth to first water encountered" is recorded in the inventory when it is the only water level data reported on the well driller's report.

[**USE**] Use - The well use (or in the case of cathodic protection wells and geotechnical borings, the reason for the excavation) as indicated in the well driller's report or data sheets. A plus sign (+) after the well use indicates a well in the current ACFC & WCD monitoring network.

[**ABN**] Abandoned well - A well whose use has been permanently discontinued or which is in such a state of disrepair that no water can be produced. In the inventory, this may include wells which are covered or capped but not properly destroyed.

[**CAT**] Cathodic protection well - Any artificial excavation constructed by any method for the purpose of installing equipment or facilities for the protection from corrosion by electrochemical methods of metallic equipment (usually piping) in contact with the ground; commonly referred to as cathodic protection.

[**DES**] Destroyed well - A well that has been properly filled so that it cannot produce water nor act as a vertical conduit for the movement of groundwater.

[**DOM**] Domestic well - A water well which is used to supply water for the domestic needs of an individual residence or systems of four or less service connections or "hookups".

[**EXT**] Extraction well - generally used in site remediation to extract contaminated water for treatment.

[**GEO**] Geotechnical boring - A temporary boring made to determine certain engineering properties of soils. An asterisk (*) indicates that the state well number assigned to the boring represents more than one boring at a particular site.

[**INA**] Inactive well - A well not routinely operating but capable of being made operable with a minimum of effort. Also called a "standby well".

[**IND**] Industrial well - A well used to supply water for industrial use

[**INJ**] Injection well - reintroduces water into the aquifer for recharge

[**IRR**] Irrigation well - A water well used to supply water only for irrigation or other agricultural purposes. In the inventory, this category includes large capacity wells as well as small capacity wells for lawn irrigation.

[**MON**] Monitoring or observation well - Wells constructed for the purpose of observing or monitoring groundwater conditions. (see piezometer).

[**MUN**] Municipal well - A water well used to supply water for domestic purposes in systems subject to Chapter 7, Part 1,
Division 5 of the California Health and Safety Code. Included are wells supplying public water systems classified by the Department of Health Services. (Also referred to as community water supply wells).

[**PIE**] Piezometer - A piezometer is a well specifically designated to measure the hydraulic head within a zone small enough to be considered a point as contrasted with a well that reflects the average head of the aquifer for the screened interval.

[**REC**] Recovery well - same as extraction well

[**STO**] Stock - A water well used primarily for livestock.

[**TES**] Test well and test hole - A test well is constructed for the purpose of obtaining the information needed to design a well prior to its construction. Such wells are not to be confused with "test holes" which are temporary in nature (i.e., uncased excavations whose purpose is the immediate determination of existing geologic and hydrologic conditions). Test wells are cased and can be converted to observation or monitoring wells, and under certain circumstances, to production wells. In the inventory, "TES" includes both test wells and test holes.

[**?**] Unidentified use - This indicates water wells whose use could not be ascertained from the available well data.

[**LOG**] Log - This category indicates whether a geologic record, or log, for the well or boring is available in the Agency's files. Abbreviations are as follows:

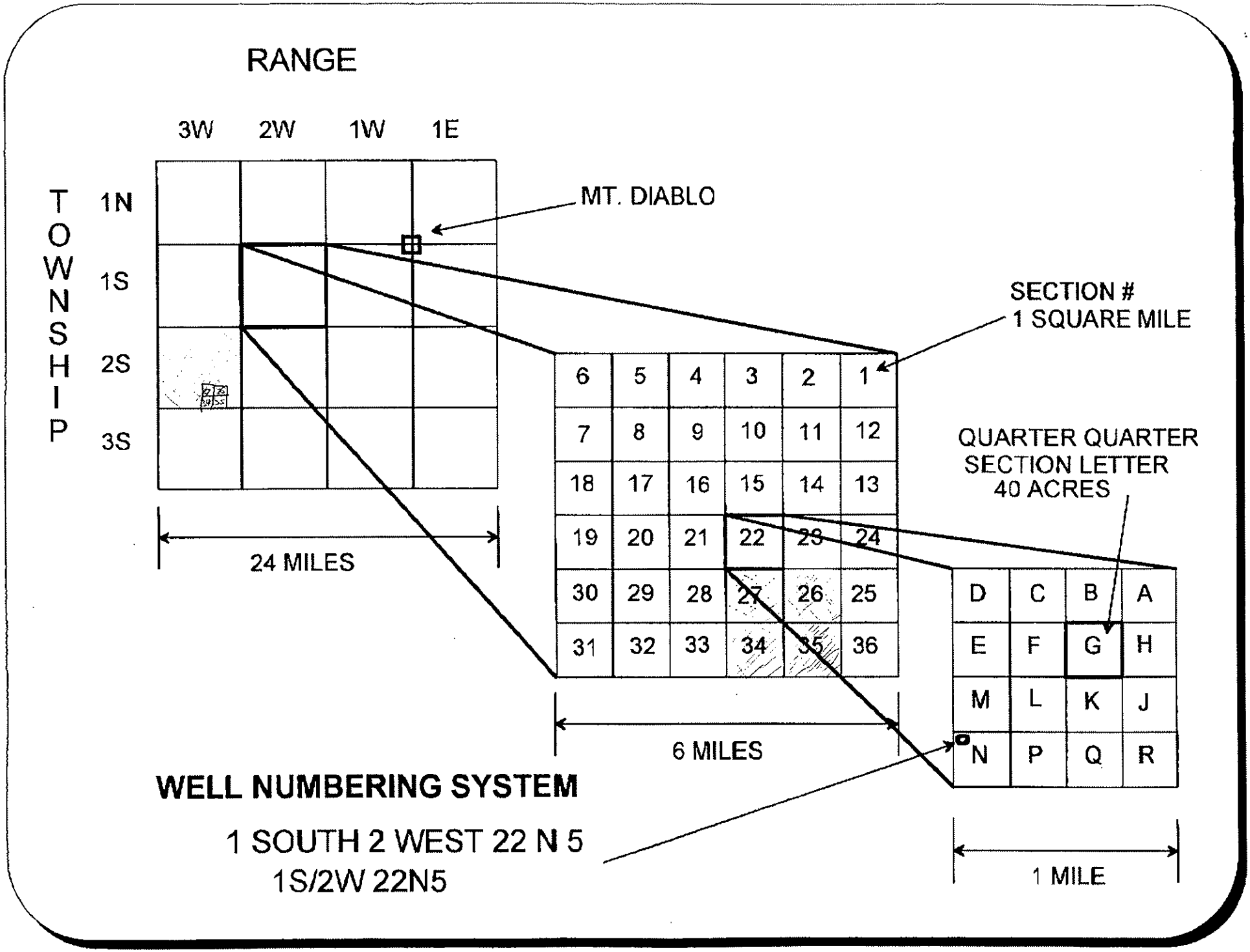
D - well driller's log
G - geotechnical boring log
E - electric (resistivity) log or other subsurface geophysical logs.

[**WQ**] Water quality data available - This category indicates which wells have water quality data available in ACFC & WCD files. The numbers 1 through 9 signify the number of sets of water quality measurements available for that well. A plus sign (+) indicates that 10 or more sets of data are available. A "0" indicates that no data is available.

[**WL**] Water level data available - This category indicates which wells have water level data other than the data reported on the well driller's logs. The numbers 1 through 9 signify the number of water level measurements available. A plus sign (+) indicates that 10 or more measurements are available for that well.
A "0" indicates that no data is available.

[**YLD**] Yield - The maximum pumping rate in gallons per minute that can be supplied by a well without lowering the water level in the well below the pump intake. This data is taken from pump test data recorded in the driller's records. Some of the yield data reflects current production rates and does not reflect maximum yield values determined in a capacity test.

[**DIA**] Diameter - The diameter in inches of the main casing in a well. May also indicate the diameter of a hand-dug well. Diameter data is not recorded for geotechnical borings.



COUNTY OF ALAMEDA
PUBLIC WORKS AGENCY
951 Turner Court, Hayward, CA 94545
(510) 670-5543

DATE: 3-27

No of Pages (including cover): 6

FAX TRANSMITTAL

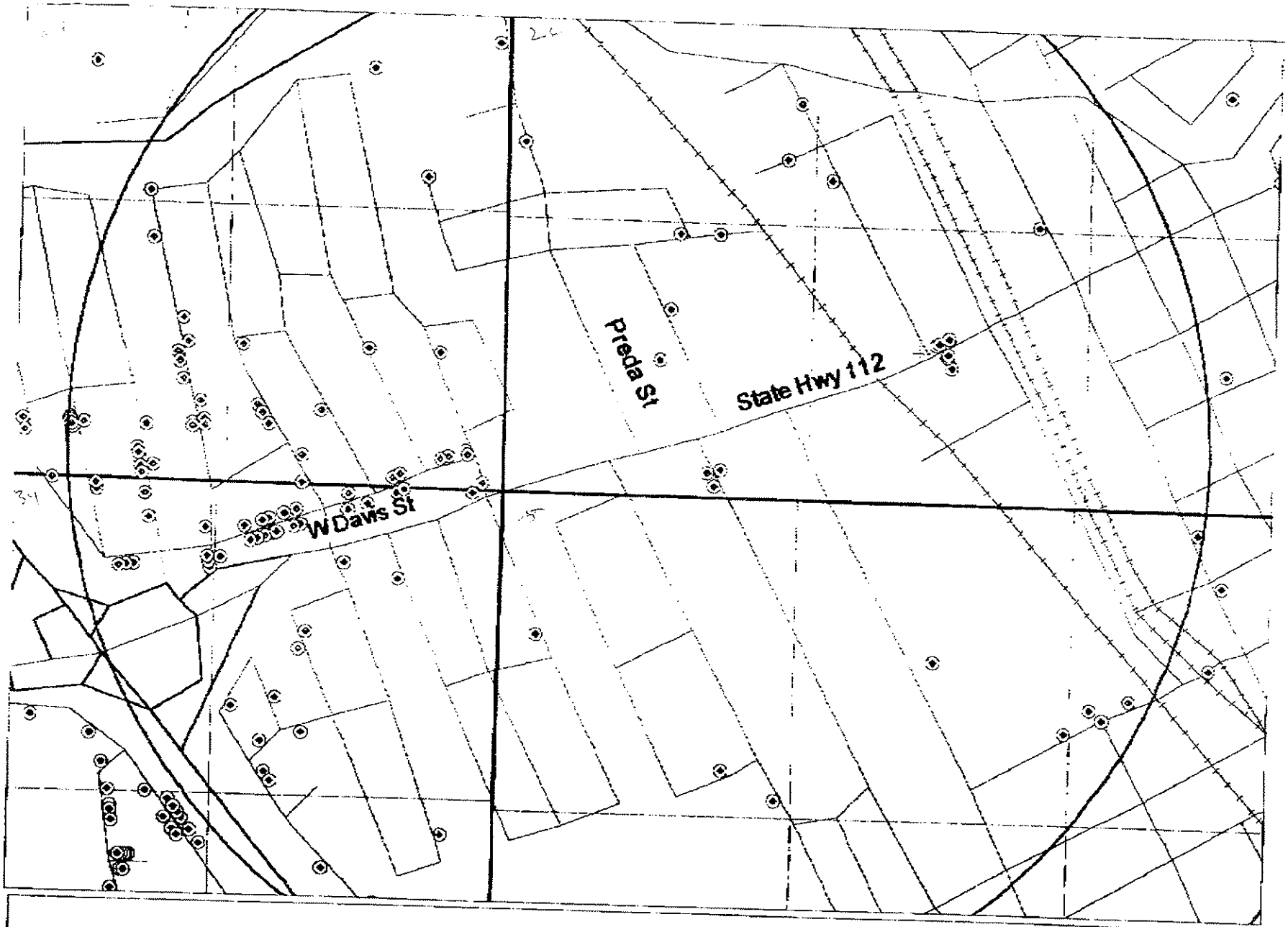
TO	
	Rob Davis
	FAX:

FROM	
	Andreas Godfrey
	FAX:

Should you have problems receiving this FAX transmittal, please call: _____

SUBJECT: Wells

TRANSMITTING THE FOLLOWING:



1/2 mile radius
03/27/1996

WELL #	CITY	ADDRESS	OWNER	PHONE	USE	DR.DATE	DIAM	TOT.DEPTH	DTW	ST.ELEV	WA.ELEV	YIELD	LOG	WQ	WL	DATAORIGN	MARGIN
2S/3W 26F 1	SLE	915 ANTONIO ST	M.A. LOPEZ	0	IRR	9/29	8	94	0	0	8	75	D	0	0	L	Yes
2S/3W 26F 2	SLE	PERALTA ST	LEITE	0	IRR	/49	7	101	0	0	0	13	?	0	0	L	
2S/3W 26F 3	SLE	550 SAN LEANDRO BLVD	HENRY TWEED	0	DOM	10/57	0	75	38	0	0	33	D	0	0	L	Yes
2S/3W 26F 4	SLE	915 ANTONIO ST	M. LOPEZ	0	IRR	8/49	10	132	0	0	0	0	D	0	0	L	Yes
2S/3W 26K 1	SLE	1523 HIGHLAND BLVD	CITY OF SAN LEANDRO	0	IRR	7/35	8	124	45	0	0	0	D	0	0	L	Yes
2S/3W 26K 3	SLE	E. 15TH & CHIRALIA ST	SENIOR CITIZENS CENTER	0	GEO	8/77	0	0	0	0	0	0	G	0	0	L	Yes
2S/3W 26L 1	SLE	ALVARADO & DAVIS	CATERPILLAR TRACTOR CO.	0	IND	/27	12	92	32	0	0	0	D	0	0	L	
2S/3W 26L 2	SLE	ANTONIO A ST	CATERPILLAR TRACTOR CO	0	GEO*	8/75	0	0	0	0	0	0	G	0	0	L	
2S/3W 26M 1	SLE	1034 PERALTA AVE	CHERRY CITY NURSERY	0	IRR	11/66	10	340	0	0	0	538	D	0	0	L	
2S/3W 26M 2	SLE	1034 PERALTA AVE	CHERRY CITY NURSERY	0	DES	?	0	132	0	34	0	0	?	0	+	L	
2S/3W 26M 3	SLE	851 Peralta Avenue	P.M. Concrete, Inc.	0	MON	2/90	2	30	21	0	0	0	G	0	0	D	
2S/3W 26M 4	SLE	310 Preda St	Bank of the West MW1	0	TES	6/91	2	27	18	0	0	0	D	1	1	D	
2S/3W 26M 4	SLE	310 Preda St	Bank of the West MW-1	0	DES	11/92	2	27	18	0	0	0	D	0	0	D	
2S/3W 26M 5	SLE	310 Preda St	Bank of the West MW2	0	TES	6/91	2	30	21	0	0	0	D	1	1	D	
2S/3W 26M 5	SLE	310 Preda St	Bank of the West MW-2	0	DES	11/92	2	31	18	0	0	0	D	0	0	D	
2S/3W 26M 6	SLE	310 Preda St	Bank of the West MW-3	0	TES	6/91	2	31	18	0	0	0	D	1	1	D	
2S/3W 26M 6	SLE	310 Preda St	Bank of the West MW-3	0	DES	11/92	2	30	18	0	0	0	D	0	0	D	
2S/3W 26N 1	SLE	1052 DAVIS ST	JOHN COSTA	0	IND	/77	10	66	0	0	0	0	?	0	0	L	
2S/3W 26N 2	SLE	1051 MIDWAY	JOHN COSTA	0	IND	4/77	10	68	0	0	0	80	D	0	0	L	
2S/3W 26N 3	SLE	LUCILLE ST.	CATERPILLAR INC.	0	TES	04/89	4	66	22	0	0	0	D	0	0	L	
2S/3W 26N 4	SLE	375 FREDA ST.	CATERPILLAR INC.	0	TES	04/89	2	44	24	0	0	0	D	0	0	L	
2S/3W 26N 5	SLE	1005 Minerva St	Caterpillar, Inc.	0	MON	12/90	4	21	13	0	0	0	D	0	0	D	
2S/3W 26N 6	SLE	210 Dabner St.	Caterpillar, Inc.	0	EXT	12/92	8	45	30	0	0	0	D	0	0	D	
2S/3W 26P	SLE	800 DAVIS ST	CATERPILLAR TRACTOR CO	0	BOR	09/86	0	25	23	0	0	0	G	0	0	L	
2S/3W 26P	SLE	DAVIS & MARTINEZ STS	WORLD SAVINGS	0	DES	02/89	12	35	0	0	0	0	D	0	0	L	
2S/3W 26P	SLE	777 DAVIS STREET	WALBURG REALTY & INVSTMNT	0	BOR	12/86	0	30	22	44	22	0	G	0	0	L	
2S/3W 26P	SLE	777 DAVIS STREET	WALBURG REALTY & INVSTMNT	0	BOR	10/87	8	30	25	0	0	0	G	0	0	L	
2S/3W 26P 1	SLE	25972 EDEN LANDING RD	CATERPILLAR TRACTOR CO.	0	IND	/27	12	92	0	0	0	100	D	0	0	L	
2S/3W 26P 4	SLE	1129A SAN LEANDRO BLVD	YACEK PLUMBING CO.	0	IRR	6/77	6	41	31	0	0	0	D	0	0	L	
2S/3W 26P 5	SLE	800 DAVIS ST	CATERPILLAR TRACTOR CO	0	DES	12/86	4	38	23	43	20	0	G	0	0	L	
2S/3W 26P 6	SLE	800 DAVIS ST	CATERPILLAR TRACTOR CO	0	DES	12/86	4	38	23	43	20	0	G	0	0	L	
2S/3W 26P 7	SLE	800 DAVIS ST	CATERPILLAR TRACTOR CO	0	DES	12/86	4	38	23	42	19	0	G	0	0	L	
2S/3W 26P 8	SLE	800 DAVIS ST	CATERPILLAR TRACTOR CO	0	DES	12/86	4	38	22	42	20	0	G	0	0	L	
2S/3W 26P 9	SLE	800 DAVIS ST	CATERPILLAR TRACTOR CO	0	DES	12/86	4	40	22	42	20	0	G	0	0	L	
2S/3W 26P10	SLE	800 DAVIS ST	CATERPILLAR TRACTOR CO	0	DES	12/86	4	40	22	43	21	0	G	0	0	L	
2S/3W 26P11	SLE	800 DAVIS ST	CATERPILLAR TRACTOR CO	0	DES	1/87	4	38	23	44	21	0	G	0	0	L	
2S/3W 26P12	SLE	800 DAVIS ST	CATERPILLAR TRACTOR CO	0	DES	01/87	4	39	0	44	0	0	G	0	0	L	
2S/3W 26P13	SLE	800 DAVIS ST	CATERPILLAR TRACTOR CO	0	DES	01/87	4	39	23	44	21	0	G	0	0	L	
2S/3W 26P14	SLE	800 DAVIS ST	CATERPILLAR TRACTOR CO	0	DES	01/87	4	39	23	44	21	0	G	0	0	L	
2S/3W 26P15	SLE	800 DAVIS ST	CATERPILLAR TRACTOR CO	0	DES	01/87	4	39	23	44	21	0	G	0	0	L	
2S/3W 26P16	SLE	800 DAVIS ST	CATERPILLAR TRACTOR CO	0	MON	01/87	4	39	24	46	22	0	G	0	0	L	
2S/3W 26P17	SLE	800 DAVIS ST	CATERPILLAR TRACTOR CO	0	MON	01/87	4	39	24	46	22	0	G	0	0	L	
2S/3W 26P18	SLE	800 DAVIS ST	CATERPILLAR TRACTOR CO	0	MON	01/87	4	40	22	43	21	0	G	0	0	L	
2S/3W 26P19	SLE	800 DAVIS ST	CATERPILLAR TRACTOR CO	0	DES	02/87	2	40	24	0	0	0	D	0	0	L	
2S/3W 26P20	SLE	800 DAVIS ST	CATERPILLAR TRACTOR CO	0	DES	02/87	2	40	24	0	0	0	D	0	0	L	
2S/3W 26P21	SLE	800 DAVIS ST	CATERPILLAR TRACTOR CO	0	DES	02/87	2	40	25	0	0	0	D	0	0	L	
2S/3W 26P22	SLE	777 DAVIS STREET	WALBERG REALTY & INVSTMT	* 0	MON	11/87	2	36	25	0	0	0	G	0	0	L	
2S/3W 26P23	SLE	770 DAVIS ST	CATERPILLAR INC	0	DES	03/88	10	255	0	0	0	0	?	0	0	L	
2S/3W 26P24	SLE	DAVIS & SAN LEANDRO	CITY SAN LEANDRO	0	MON	11/88	2	40	34	55	0	0	G	0	0	L	
2S/3W 26P25	SLE	DAVIS & SAN LEANDRO	CITY SAN LEANDRO	0	MON	11/88	2	41	30	49	0	0	G	0	0	L	
2S/3W 26P26	SLE	DAVIS & SAN LEANDRO	CITY SAN LEANDRO	0	MON	11/88	2	40	32	46	0	0	D	Y	0	L	
2S/3W 26P27	SLE	800 DAVIS ST.	CATERPILLAR	0	MON	01/89	4	56	24	0	0	0	G	0	0	L	
2S/3W 26P28	SLE	800 DAVIS ST.	CATERPILLAR	0	MON	12/88	4	36	23	0	0	0	D	Y	0	L	
2S/3W 26P29	SLE	800 DAVIS ST.	CATERPILLAR	0	MON	01/89	4	45	19	0	0	0	D	Y	0	L	
2S/3W 26P30	SLE	800 DAVIS ST.	CATERPILLAR	0	MON	01/89	4	39	23	0	0	0	D	Y	0	L	
2S/3W 26P31	SLE	800 DAVIS ST.	CATERPILLAR	0	MON	01/89	4	37	23	0	0	0	D	Y	0	L	
2S/3W 26P32	SLE	800 DAVIS ST.	CATERPILLAR	0	MON	12/88	4	40	22	0	0	0	D	Y	0	L	
2S/3W 26P33	SLE	800 DAVIS ST.	CATERPILLAR	0	MON	01/89	4	41	25	0	0	0	D	Y	0	L	
2S/3W 26P34	SLE	800 DAVIS ST.	CATERPILLAR	0	MON	01/89	4	43	22	0	0	0	D	Y	0	L	
2S/3W 26P35	SLE	800 DAVIS ST.	CATERPILLAR	0	MON	01/89	4	41	18	0	0	0	D	Y	0	L	
2S/3W 26P36	SLE	800 DAVIS ST.	CATERPILLAR	0	MON	01/89	4	43	25	0	0	0	D	Y	0	L	
2S/3W 26P37	SLE	800 DAVIS ST.	CATERPILLAR	0	MON	01/89	4	55	24	0	0	0	D	Y	0	L	

WELL #	CITY	ADDRESS	OWNER	PHONE	USE	DR.DATE	DIAM	TOT.DEPTH	DTW	ST.ELEV	WA.ELEV	YIELD	LOG	WQ	ML	DATAORGN	MARGIN
2S/3W 26P38	SLE	800 DAVIS ST.	CATERPILLAR	0	MON	01/89	4	35	18	0	0	0	D	Y	0	L	
2S/3W 26P39	SLE	800 DAVIS ST.	CATERPILLAR	0	MON	01/89	4	50	25	0	0	0	G	Y	0	L	
2S/3W 26P41	SLE	794 Davis St	Caterpillar Inc.	0	MON	9/90	2	18	8	0	0	0	D	Y	0	D	
2S/3W 26P42	SLE	901 Alvarado St	Caterpillar Inc.	0	MON	9/90	4	70	25	0	0	0	D	Y	0	D	
2S/3W 26P43	SLE	794 Davis St	Caterpillar Inc.	0	MON	9/90	4	60	25	0	0	0	D	Y	0	D	
2S/3W 26P44	SLE	777 Davis St.	Caterpillar, Inc. MW-15	0	DES	4/93	4	31	24	0	0	0	D	Y	0	D	
2S/3W 26P45	SLE	777 Davis St.	Caterpillar, Inc. MW-18	0	DES	4/93	4	31	24	0	0	0	D	Y	0	D	
2S/3W 26Q	SLE	835 E. 14 ST.	CITY SLO	0	DES	08/88	8	65	0	0	0	0	D	Y	0	L	Yes
2S/3W 26Q 1	OAK	1100 29TH ST	DEL MONTE CORP	0	IND	7/54	14	704	0	48	0	990	D	Y	0	L	Yes
2S/3W 26Q 2	OAK	1100 29TH ST	DEL MONTE CORP.	0	IND	/19	14	385	0	48	0	0	?	Y	6	L	Yes
2S/3W 26Q 3	SLE	SLE BLVD & DAVIS ST.	CITY OF SLE	0	MON	07/89	2	44	32	0	0	0	D	Y	0	L	Yes
2S/3W 26Q 4	SLE	SLE BLVD. & DAVIS ST.	CITY OF SLE	0	MON	07/89	2	44	30	0	0	0	D	Y	0	L	Yes
2S/3W 27H 1	SLE	PERALTA AVE	CHERRY CITY NURSERY	0	IRR	?	0	132	45	0	0	0	D	Y	0	L	
2S/3W 27H 8	SLE	1034 PERALTA AV	CHERRY CITY NURSERY	0	IRR+	?	0	0	0	35	0	0	?	Y	+	L	
2S/3W 27J 1	SLE	375 FREDA ST	CATERPILLAR INC.	0	MON	04/89	2	43	16	0	0	0	D	Y	0	L	
2S/3W 27J 2	SLE	Brookside Drive (MW-119)	Caterpillar Inc.	0	MON	10/89	2	45	15	0	0	0	D	Y	0	D	
2S/3W 27J 3	SLE	300 Reva St	Caterpillar Inc P3	0	MON	7/91	2	37	15	0	0	0	D	Y	0	D	
2S/3W 27J 4	SLE	300 Reva St	Caterpillar Inc MW12S	0	MON	8/91	4	37	16	0	0	0	D	Y	0	D	
2S/3W 27K 1	OAK	Bergedo St.	Caterpillar Inc.	0	MON	05/90	2	55	8	0	0	0	D	Y	0	D	Yes
2S/3W 27Q 1	SLE	921 HUTCHINGS DR	BRIDGEMAN	0	IRR	?	3	20	18	0	0	0	?	Y	1	L	
2S/3W 27Q 2	SLE	935 HUCHINGS DR	V. BLACK	0	IRR	?	6	0	0	0	0	0	?	N	0	L	
2S/3W 27Q 3	SLE	979 BILLING BLVD	HOLMES	0	ABN	?	7	22	6	6	0	0	?	Y	1	L	
2S/3W 27Q 4	SLE	953 BILLING BLVD	D.M. HARDIN	0	ABN	/51	6	23	5	0	0	0	?	Y	1	L	
2S/3W 27Q 5	SLE	922 HUTCHINGS DR	?	0	IRR	/57	0	15	0	0	0	0	?	Y	0	L	
2S/3W 27Q 7	SLE	701 DONOVAN DR.	CATERPILLAR INC.	0	TES	04/89	2	52	11	0	0	0	D	Y	0	L	
2S/3W 27Q 8	SLE	DONOVAN & BROOKSIDE	CATERPILLAR	0	MON	04/89	2	53	17	0	0	0	D	Y	0	L	
2S/3W 27Q 9	SLE	860 Donovan Drive	Caterpillar Inc.	0	MON	10/89	2	54	15	0	0	0	D	Y	0	D	
2S/3W 27R	SLE	1340 DAVIS STREET	TIM ROSS UNOCAL STATION	0	DOM	01/89	9	27	26	0	0	0	G	Y	0	L	
2S/3W 27R 1	SLE	1044 DONOVAN DRIVE	H. ROWLEY	0	IRR	/50	4	25	0	0	0	0	?	Y	0	L	
2S/3W 27R 2	SLE	1047 DONOVAN DR	OVERSSTREET	0	IRR	/57	4	24	12	0	0	0	?	Y	1	L	
2S/3W 27R 3	SLE	1003 FREDERICK RD	M.R. LONG	0	IRR	7/58	0	22	12	0	0	0	?	Y	1	L	
2S/3W 27R 4	SLE	1015 FREDRICK RD	G.E. DIXON	0	IRR	7/58	4	31	0	0	0	0	?	Y	1	L	
2S/3W 27R 5	SLE	1031 FREDRICK RD	C. HAND	0	IRR	7/58	4	31	0	0	0	0	?	Y	0	L	
2S/3W 27R 6	SLE	916 FREDRICK RD	SELLERS	0	ABN	/47	6	20	0	0	0	0	?	Y	1	L	
2S/3W 27R 7	SLE	994 DOUGLAS	MANUEL VIERRA	0	DOM	5/77	8	30	12	0	0	0	D	Y	0	L	
2S/3W 27R 8	SLE	1310 DAVIS ST.	UNOCAL CORP.	0	MON	04/89	2	33	18	0	0	0	G	Y	0	L	
2S/3W 27R 9	SLE	1300 DAVIS ST.	UNOCAL CORP.	0	MON	04/89	2	33	18	0	0	0	G	Y	0	L	
2S/3W 27R10	SLE	1300 DAVIS ST.	UNOCAL CORP.	0	MON	04/89	2	33	18	0	0	0	G	Y	0	L	
2S/3W 27R11	SLE	1300 DAVIS ST.	UNOCAL CORP.	0	MON	08/89	2	33	20	0	0	0	G	Y	0	L	
2S/3W 27R12	SLE	1300 DAVIS ST.	UNOCAL CORP.	0	MON	08/89	2	33	23	0	0	0	G	Y	0	L	
2S/3W 27R13	SLE	1300 DAVIS ST.	UNOCAL CORP.	0	MON	08/89	2	33	20	0	0	0	G	Y	0	L	
2S/3W 27R14	SLE	994 DOUGLAS DR.	CATERPILLAR INC.	0	YES	04/89	2	40	14	0	0	0	D	Y	0	L	
2S/3W 27R16	SLE	1300 DAVIS ST	UNOCAL CORP.	0	MON	04/89	2	33	18	0	0	0	G	Y	0	L	
2S/3W 27R15	SLE	1300 DAVIS ST	UNOCAL CORP	0	MON	04/89	2	33	18	0	0	0	G	Y	0	L	
2S/3W 27R16	SLE	1300 DAVIS ST	UNOCAL CORP.	0	MON	04/89	2	33	18	0	0	0	G	Y	0	L	
2S/3W 27R17	SLE	1300 DAVIS ST	UNOCAL CORP	0	MON	08/89	2	33	19	0	0	0	G	Y	0	L	
2S/3W 27R18	SLE	1300 DAVIS ST	UNOCAL CORP.	0	MON	08/89	2	33	19	0	0	0	G	Y	0	L	
2S/3W 27R19	SLE	1300 DAVIS ST	UNOCAL CORP.	0	MON	08/89	2	33	20	0	0	0	G	Y	0	L	
2S/3W 27R20	SLE	994 DOUGLASS	CATERPILLAR	0	MON	04/89	2	39	20	0	0	0	D	Y	0	L	
2S/3W 27R20	SLE	1143 Douglas Drive	Caterpillar Inc.	0	MON	10/89	2	60	15	0	0	0	D	Y	0	D	
2S/3W 27R21	SLE	1300 Davis St	Alameda County FCWCD MW-7	0	MON	2/92	2	30	14	0	0	0	G	Y	0	D	
2S/3W 34A	SLE	1300 Davis St.	Unocal #2512	0	DOM	3/93	0	25	24	0	0	0	G	Y	0	D	
2S/3W 34A 2	SLE	1256 GILMORE DR	RALPH ROBEL	0	IRR+	/47	8	35	0	0	0	0	?	+	0	L	
2S/3W 34A 4	SLE	1077 BILLINGS BLVD	MRS. THOMPSON	0	IRR	/48	89	19	0	0	0	0	?N	Y	1	L	
2S/3W 34A 5	SLE	1125 BILLINGS BLVD	A.J. GARCIA	0	IRR	/52	7	15	0	0	0	0	?	Y	1	L	
2S/3W 34A 6	SLE	1022 BILLINGS BLVD	LOPEZ	0	?	/57	0	19	0	0	0	0	?	Y	1	L	
2S/3W 34A 7	SLE	938 BILLINGS BLVD	J. HARRYMAN	0	IRR	/55	5	40	0	0	0	0	?	Y	0	L	
2S/3W 34A 8	SLE	1181 DONOVAN DR	TAVARES	0	IRR	/52	6	24	0	0	0	0	?	Y	1	L	
2S/3W 34A 9	SLE	1165 DONOVAN DR	JOE ADAMS	0	IRR	/56	4	22	0	0	0	0	?	Y	1	L	
2S/3W 34A10	SLE	1135 DONOVAN DR	J. GUNITA	0	ABN	/53	0	32	0	0	0	0	?	Y	0	L	
2S/3W 34A11	SLE	902 DONOVAN DR	D. KEE	0	IRR	/54	0	0	0	0	0	0	?	Y	0	L	
2S/3W 34A12	SLE	917 DONOVAN DR	L KNABE	0	ABN	/50	4	19	0	0	0	0	?	Y	0	L	

WELL #	CITY	ADDRESS	OWNER	PHONE	USE	DR.DATE	DIAM	TOT.DEPTH	DTW	ST.ELEV	WA.ELEV	YIELD	LOG	WQ	WL	DATAORGN	MARGIN
2S/3W 34A13	SLE	933 DONOVAN DR	J. MOTOR	0	ABN	/48	4	18	0	0	0	0	?	0	0	L	
2S/3W 34A14	SLE	953 DONOVAN DR	RODRIGUEZ	0	IRR	/56	4	28	0	0	0	0	?	0	1	L	
2S/3W 34A15	SLE	1014 DONOVAN DR	MRS. PHILLIPS	0	ABN	?	8	36	0	0	0	0	?	0	1	L	
2S/3W 34A16	SLE	1105 FREDRICK RD	R.K. STEWARD	0	IRR	7/58	0	41	0	0	0	0	?	0	0	L	
2S/3W 34A17	SLE	1064 FREDRICK RD	E. CRAWFORD	0	IRR	/48	8	27	0	0	0	0	?	0	0	L	
2S/3W 34A18	SLE	1660 VIRGINIA ST	D.C. STOWERS	0	ABN	/54	4	30	0	0	0	0	?	0	0	L	
2S/3W 34A19	SLE	1549 VIRGINIA ST	H. HOUSE	0	IRR	/58	4	24	0	0	0	0	?	0	1	L	
2S/3W 34A20	SLE	1563 VIRGINIA ST	J.STOLT	0	IRR	/51	4	30	0	0	0	0	?	0	0	L	
2S/3W 34A21	SLE	1607 VIRGINIA ST	HALLER	0	IRR	/52	4	25	0	0	0	0	?	0	0	L	
2S/3W 34A22	SLE	1623 VIRGINIA ST	JOHNSON	0	IRR	/53	4	20	0	0	0	0	?	0	0	L	
2S/3W 34A23	SLE	1639 VIRGINIA ST	J. BOLT	0	IRR	/58	4	27	0	0	0	0	?	0	0	L	
2S/3W 34A24	SLE	1655 VIRGINIA ST	?	0	?	?	0	0	0	0	0	0	?	0	0	L	
2S/3W 34A25	SLE	1608 VIRGINIA ST	STEINHAUER	0	IRR	/51	4	25	0	0	0	0	?	0	0	L	
2S/3W 34A26	SLE	1622 VIRGINIA ST	C.E. ECCISON	0	IRR	/53	6	25	0	0	0	0	?	0	0	L	
2S/3W 34A27	SLE	1599 VIRGINIA ST	BURKE	0	IRR	/47	8	30	0	0	0	0	?	0	0	L	
2S/3W 34A28	SLE	1576 VIRGINIA ST	SWIFT	0	IRR	/56	4	0	0	0	0	0	?	0	0	L	
2S/3W 34A29	SLE	1550 VIRGINIA ST	HARLINER	0	IRR	/48	0	30	0	0	0	0	?	0	0	L	
2S/3W 34A30	SLE	1503 VIRGINIA ST	C.R. WEAVER	0	IRR	/52	8	29	0	0	0	40	?	0	0	L	
2S/3W 34A31	SLE	1496 VIRGINIA ST	SHARP	0	IRR	?	6	26	0	0	0	0	?	0	1	L	
2S/3W 34A32	SLE	1465 VIRGINIA ST	HENRY KASS	0	IRR	/58	4	28	0	0	0	0	?	0	1	L	
2S/3W 34A33	SLE	1441 VIRGINIA ST	R. HEISER	0	IRR	/55	4	30	0	0	0	0	?	0	1	L	
2S/3W 34A34	SLE	1429 VIRGINIA ST	GARDENER	0	IRR	/49	8	25	0	0	0	0	?	0	0	L	
2S/3W 34A35	SLE	1440 VIRGINIA ST	W.K. DEBOLT	0	IRR	/47	4	25	0	0	0	0	?	0	0	L	
2S/3W 34A36	SLE	1428 VIRGINIA ST	G. RAMIREZ	0	IRR	/54	0	0	0	0	0	0	?	0	0	L	
2S/3W 34A37	SLE	1312 PEARSON AV	MRS. D. WINTER	0	IRR	/46	8	27	0	0	0	0	?	0	1	L	
2S/3W 34A38	SLE	1051 DONOVAN DR	MADEROUS	0	IRR	/53	4	35	0	0	0	0	?	0	0	L	
2S/3W 34A39	SLE	1060 DONOVAN DR	P.A. SCROGGINS	0	IRR	/56	4	25	0	0	0	0	?	0	1	L	
2S/3W 34A40	SLE	1180 DONOVAN DR	L. STARR	0	IRR	/50	4	27	0	0	0	0	?	0	1	L	
2S/3W 34A41	SLE	1197 DONOVAN DR	WENGERT	0	IRR	/56	4	25	0	0	0	0	?	0	1	L	
2S/3W 34A42	SLE	1327 PEARSON AV	?	0	?	?	0	0	0	0	0	0	?	0	0	L	
2S/3W 34A43	SLE	1180 Donovan Drive	Caterpillar Inc.	0	MON	10/89	2	57	15	0	0	0	D	0	0	D	
2S/3W 34B11	SLE	1851 MARTIN BLVD	MOSCHETTI	0	IRR	/58	4	16	0	0	0	0	?	0	1	L	
2S/3W 34B14	SLE	949 HUTCHINGS DR	F. CUENDET	0	IRR	/57	6	24	0	0	0	0	?	0	1	L	
2S/3W 34B15	SLE	963 HUTCHINGS DR	A. MARIANO	0	IRR	/53	6	26	0	0	0	0	S?	0	0	L	
2S/3W 34B16	SLE	1005 HUTCHINGS DR	C. TAYLOR	0	IRR	?	6	22	0	0	0	0	?	0	1	L	
2S/3W 34B17	SLE	1019 HUTCHINGS DR	MRS. PALMER	0	IRR	/57	0	20	0	0	0	0	?	0	1	L	
2S/3W 34B18	SLE	1065 HUTCHINGS DR	L. WALLACE	0	IRR	/43	5	120	0	0	0	0	?	0	0	L	
2S/3W 34B19	SLE	1094 HUTCHINGS DR	ABE GARCIA	0	IRR	/46	6	44	0	0	0	0	D?	0	1	L	
2S/3W 34B20	SLE	1869 MARTIN BLVD	H.ST. HILAIRE	0	ABN	/53	6	24	0	0	0	0	?	0	1	L	
2S/3W 34B21	SLE	1007 BILLINGS BLVD	R.S. KEARSLEY	0	IRR	/52	4	18	0	0	0	0	?	0	1	L	
2S/3W 34B22	SLE	1021 BILLINGS BLVD	HESTER	0	IRR	/52	0	20	0	0	0	0	?	0	0	L	
2S/3W 34B23	SLE	1035 BILLINGS BLVD	A. CARNEY	0	IRR	/54	0	25	0	0	0	0	?	0	0	L	
2S/3W 34B24	SLE	1076 HUTCHINGS DR	MRS. HICKS	0	ABN	/53	4	20	0	0	0	0	?	0	0	L	
2S/3W 34B25	SLE	1887 MARTIN BLVD	C. DARLING	0	IRR	/53	0	0	0	0	0	0	?	0	0	L	
2S/3W 34H28	SLE	1364 MARIA DR	J.D. SILVA	0	IRR	/54	0	0	0	0	0	0	?	0	0	L	
2S/3W 34H29	SLE	1678 JOHNSON ST	T. JIMINEZ	0	IRR	/54	4	25	5	0	0	0	?	0	1	L	
2S/3W 34H30	SLE	1635 JOHNSON ST	CHECA	0	IRR	?	4	27	7	0	0	0	?	0	1	L	
2S/3W 34H31	SLE	1461 LEONARD DR	THOMPSON	0	IRR	?	4	21	0	0	0	0	?	0	0	L	
2S/3W 34H32	SLE	1491 LEONARD DR	CAMERON	0	?	?	0	0	0	0	0	0	?	0	0	L	
2S/3W 34H34	SLE	1344 LEONARD DR	CORTE	0	IRR	?	0	0	0	0	0	0	N	0	0	L	
2S/3W 34H35	SLE	1410 LEONARD DR	EULER	0	IRR	/56	4	32	0	0	0	0	?	0	0	L	
2S/3W 34H36	SLE	1410 LEONARD DR	EULER	0	IRR	/53	8	27	0	0	0	0	?	0	0	L	
2S/3W 34H37	SLE	1424 LEONARD DR	TURNER	0	?	?	0	0	0	0	0	0	?	0	0	L	
2S/3W 34H38	SLE	1492 LEONARD DR	S. KINNY	0	IRR	?	0	0	0	0	0	0	?	0	0	L	
2S/3W 34H39	SLE	1500 LEONARD DR	W.E. BLACK	0	IRR	/56	4	20	12	0	0	0	?	0	1	L	
2S/3W 34H40	SLE	1522 LEONARD DR	MANDERER	0	IRR	/56	4	20	12	0	0	0	?	0	1	L	
2S/3W 35B	SLE	1548 San Leandro Blvd.	Frank Murray	0	BOR	12/92	0	15	0	0	0	0	G	0	0	D	
2S/3W 35B 1	SLE	SL HARBALL PARK	CITY OF SAN LEANDRO	0	IRR	/50	8	84	0	0	0	0	?	0	0	L	Yes
2S/3W 35B 3	SLE	THORNTON ST & ALVARADO ST	LINCOLN PROPERTY COMPANY	0	MON	01/87	2	35	24	0	0	0	D	0	0	L	
2S/3W 35B 4	SLE	1655 Alvarado St	JP Morgan Inv. Inc. MW-1	0	MON	5/92	2	40	26	101	75	0	D	0	0	D	
2S/3W 35B 5	SLE	1655 Alvarado St	JP Morgan Inv. Inc. MW-2	0	MON	5/92	2	40	24	99	75	0	D	0	0	D	
2S/3W 35B 6	SLE	1655 Alvarado St	JP Morgan Inv. Inc. MW-3	0	MON	5/92	2	40	25	100	75	0	D	0	0	D	

WELL #	CITY	ADDRESS	OWNER	PHONE	USE	DR.DATE	DIAM	TOT.DEPTH	DPW	ST.ELEV	WA.ELEV	YIELD	LOG	WQ	WL	DATAORGN	MARGIN
2S/3W 35C 1	SLE	THRASHER PARK	CITY OF SAN LEANDRO	0	IRR	/50	0	0	0	0	0	0	?	0	0	L	
2S/3W 35C 2	SLE	1412 PACIFIC AVE	L.K. STOCKING	0	IRR	/48	6	29	17	0	0	0	?	0	1	L	
2S/3W 35C 3	SLE	850 THORTON	DEL MONTE CORP.	0	MON	12/88	2	40	31	0	0	0	D	Y	0	L	
2S/3W 35C 3	SLE	850 Thorton St	Del Monte MW-1	0	DES	7/91	2	0	0	0	0	0	G			D	
2S/3W 35C 4	SLE	850 THORTON	DEL MONTE CORP.	0	MON	12/88	2	35	26	0	0	0	D	Y	0	L	
2S/3W 35C 4	SLE	850 Thorton St	Del Monte MW2	0	DES	7/91	2	0	0	0	0	0	G			D	
2S/3W 35C 5	SLE	850 THORTON	DEL MONTE CORP.	0	MON	12/88	2	35	25	0	0	0	D	Y	0	L	
2S/3W 35C 5	SLE	850 Thorton St	Del Monte MW-3	0	DES	7/91	2	0	0	0	0	0	G			D	
2S/3W 35C 6	SLE	850 THORTON	DEL MONTE CORP.	0	MON	01/89	2	38	25	0	0	0	D	Y	0	L	
2S/3W 35C 6	SLE	850 Thorton St	Del Monte MW-6	0	DES	7/91	2	0	0	0	0	0	G			D	
2S/3W 35C 7	SLE	850 Thorton St	Pacific Union Co ?	0	ABN	8/91	10	120	0	0	0	0				D	
2S/3W 35D 1	SLE	1363 PACIFIC AVE	M. RUCHO	0	DOM	8/39	8	68	0	0	8	0	D	0	0	L	
2S/3W 35D 2	SLE	1354 VIRGINIA ST	SHETTERLY	0	IRR	/47	0	35	0	0	0	0	?	0	0	L	
2S/3W 35D 3	SLE	1376 VIRGINIA ST	J. SALGUEIRO	0	IRR	/49	4	35	0	0	0	0	?	0	0	L	
2S/3W 35D 4	SLE	1133 DOUGLAS DR	SHGETTERLY	0	IRR	?	0	35	0	0	0	0	?	0	0	L	
2S/3W 35D 5	SLE	1395 PIERCE AV	J. SALTER	0	IRR	/50	12	30	0	0	0	0	?	0	0	L	
2S/3W 35D 6	SLE	1235 KELLY AV	HENRY FERNANDEZ	0	IRR	/50	6	35	0	0	0	0	?	0	0	L	
2S/3W 35R	SLE	1300 WILLIAMS ST.	SLE SCHOOL DISTRICT	0	BOR	05/85	6	51	27	0	0	0	G	0	0	L	
2S/3W 35R 1	SLE	CHERRY GROVE PARK	CITY OF SAN LEANDRO	0	IRR+	/54	10	224	0	35	0	150	D	0	+	L	
2S/3W 35R 2	SLE	1598 GILMORE	J. JOST	0	IRR	/55	6	50	20	0	0	0	?	0	1	L	
2S/3W 35R 3	SLE	1ST AVE	FIELDS	0	DOM	6/30	8	124	29	0	0	0	?	0	0	L	
2S/3W 35F 1	SLE	1661 WAYNE AV	DRBANS	0	IRR	/55	6	40	0	0	0	0	?	0	0	L	
2S/3W 35F 2	SLE	1696 GARDNER BLVD	ZUNIGA	0	IRR	/53	8	46	24	0	0	0	?	0	1	L	
2S/3W 35G 1	SLE	750 THORNTON ST	BRACER LUMBER CO.	0	ABN	/28	10	66	23	0	0	0	?	0	1	L	
2S/3W 35G 3	SLE	MARINA BLVD/ALVARADO ST.	UNOCAL STA. NO. 4845	0	MON	5/87	2	40	28	8	0	0	D	3	0	L	Yes
2S/3W 35G 4	SLE	MARINA BLVD/ALVARADO ST.	UNOCAL STA. NO. 4845	0	MON	5/21	2	36	19	0	0	0	D	0	0	L	Yes
2S/3W 35G 6	SLE	MARINA BLVD/ALVARADO ST.	UNOCAL STA. NO. 4845	0	MON	5/87	2	36	19	0	0	0	D	0	0	L	Yes
2S/3W 35G 7	SLE	MARINA BLVD/ALVARADO ST.	UNOCAL STA. NO. 4845	0	MON	5/87	2	36	18	0	0	0	D	0	0	L	Yes
2S/3W 35G 8	SLE	Orchard Ave & Brook St	Z Surgeon Facility	0	MON	1/91	2	20	7	0	0	0	G	0	0	D	Yes
3S/3W 2H 3	SLE	1473 PACIFIC AV	HENRY MATOSA	0	ABN	?	14	68	0	28	0	0	?	0	+	L	
3S/3W 2H 4	SLE	1473 PACIFIC AV	HENRY MATOSA	0	ABN	?	14	80	0	25	0	0	?	0	0	L	

APPENDIX B

VISTA DATABASE SEARCH

SITE ASSESSMENT PLUS REPORT

PROPERTY INFORMATION	CLIENT INFORMATION
Project Name/Ref #: Not Provided	ROB DAVIS
ARCO SERVICE STATION #2111	EMCON
1156 DAVIS ST	1921 RINGWOOD AVE
SAN LEANDRO, CA 94577	SAN JOSE, CA 95131
Cross Street: PREDA ST	
Latitude/Longitude: (37.721376, 122.167540)	

Site Distribution Summary

Agency / Database - Type of Records			within 1/8 mile	1/8 to 1/4 mile	1/4 to 1/2 mile	1/2 to 1 mile
A) Databases searched to 1 mile:						
US EPA	NPL	National Priority List	0	0	0	0
US EPA	CORRACTS	RCRA Corrective Actions	0	0	1	0
US EPA	TSD	RCRA permitted treatment, storage, disposal facilities	0	0	1	0
STATE	SPL	State equivalent priority list	0	1	0	0
B) Databases searched to 1/2 mile:						
US EPA	CERCLIS	Sites under review by US EPA	0	1	1	-
STATE	SCL	State equivalent CERCLIS list	0	0	2	-
STATE REG CO	LUST	Leaking Underground Storage Tanks	3	2	10	-
STATE/ REG/CO	SWLF	Permitted as solid waste landfills, incinerators, or transfer stations	0	0	0	-
STATE	DEED RSTR	Sites with deed restrictions	0	0	0	-
REGIONAL	NORTH BAY	Sites on North Bay Toxic List	3	2	2	-
REGIONAL	SOUTH BAY	Sites on South Bay Toxic List	0	0	0	-
STATE	CORTESE	State index of properties with hazardous waste	2	2	7	-
STATE	TOXIC PITS	Toxic Pits cleanup facilities	0	0	0	-
C) Databases searched to 1/4 mile:						
US EPA	RCRA Viol	RCRA violations/enforcement actions	0	0	-	-
US EPA	TRIS	Toxic Release Inventory database	0	0	-	-
STATE	UST/AST	Registered underground or aboveground storage tanks	3	2	-	-

Site Distribution Summary

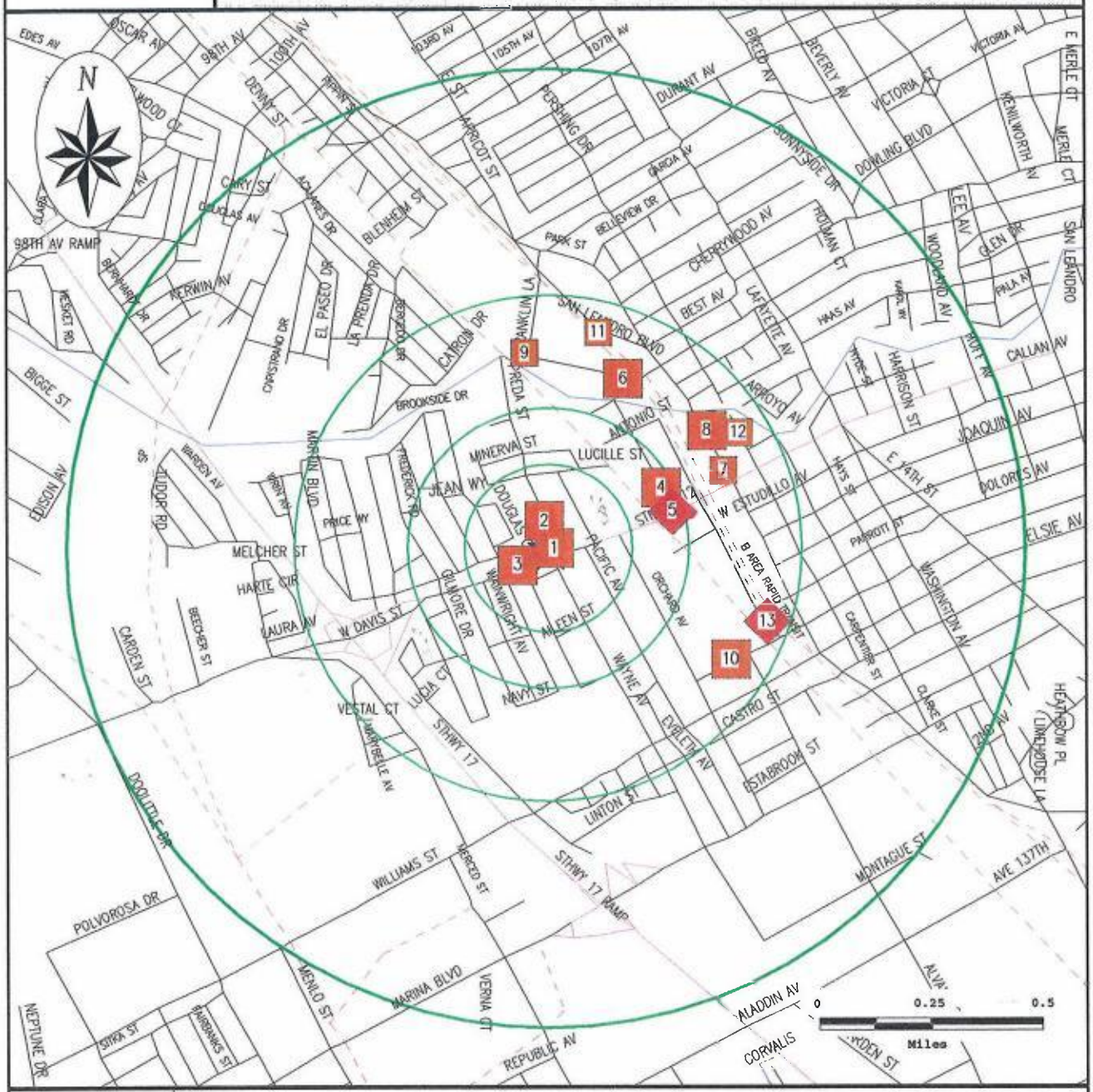
Agency / Database - Type of Records			within 1/8 mile	1/8 to 1/4 mile	1/4 to 1/2 mile	1/2 to 1 mile
D) Databases searched to 1/8 mile:						
US EPA	ERNS	Emergency Response Notification System of spills	2	-	-	-
US EPA	GNRTR	RCRA registered small or large generators of hazardous waste	1	-	-	-

This geographic database search meets the American Society for Testing Materials (ASTM) standards for a government records review. A (-) indicates the search distance exceeds ASTM search parameters.

NOTES

SITE ASSESSMENT PLUS REPORT

Map of Sites within One Mile



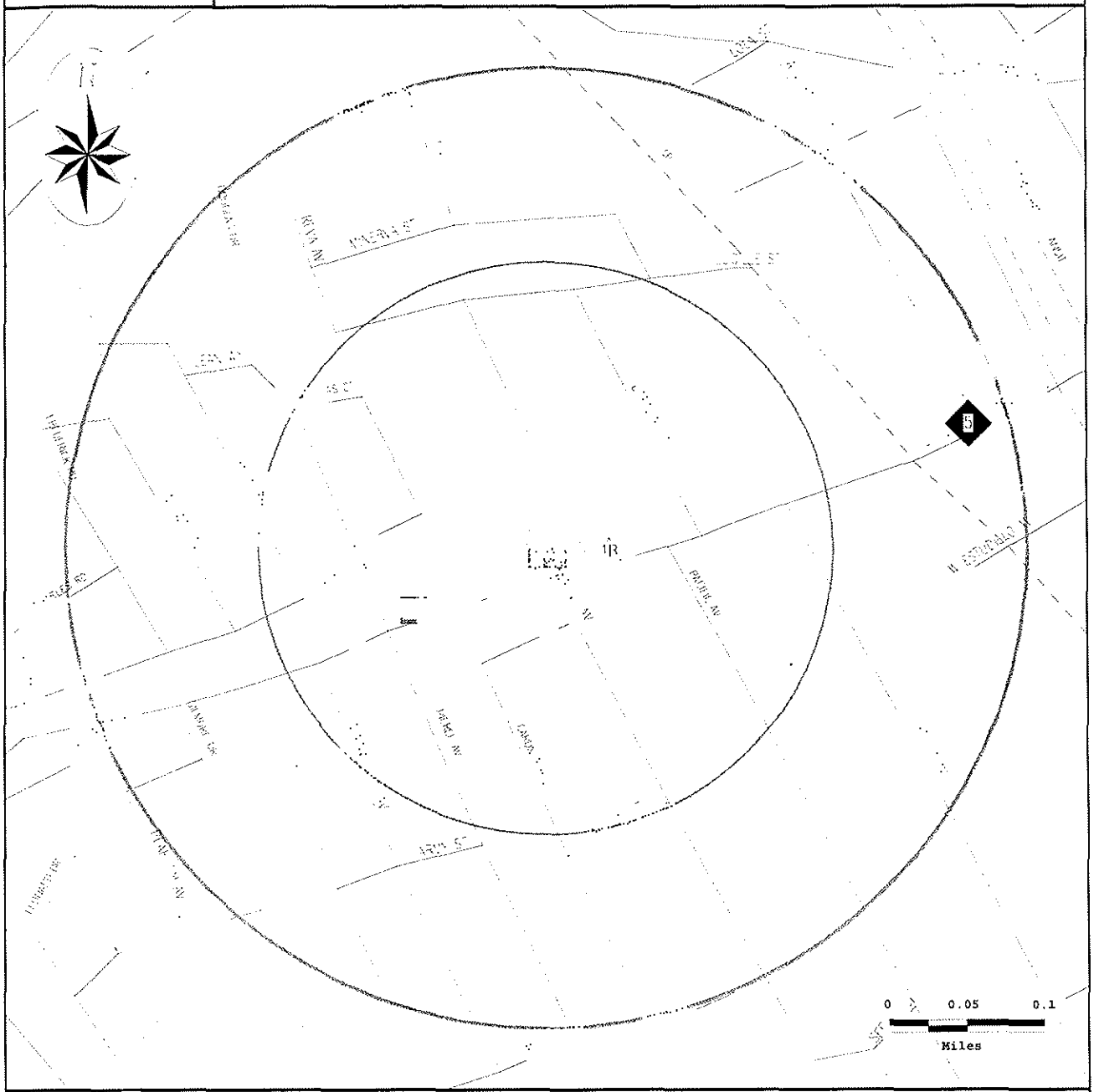
Subject Site	Category: Databases Searched to:	A 1 mi.	B 1/2 mi.	C 1/4 mi.	D 1/8 mi.
★	Single Sites	◆	■	△	○
	Multiple Sites	◆	■	△	○
		NPL, SPL, TSD, CORRACTS	CERCLIS, SCL, LUST, SWLF	TRIS, UST	ERNS, GENERATORS

Roads
Highways
Railroads
Rivers or Water Bodies
Utilities

If additional databases are listed in the cover page of the report they are also displayed on this map. The map symbol used corresponds to the database category letter A,B,C,D.

SITE ASSESSMENT PLUS REPORT

Map of Sites within Quarter Mile

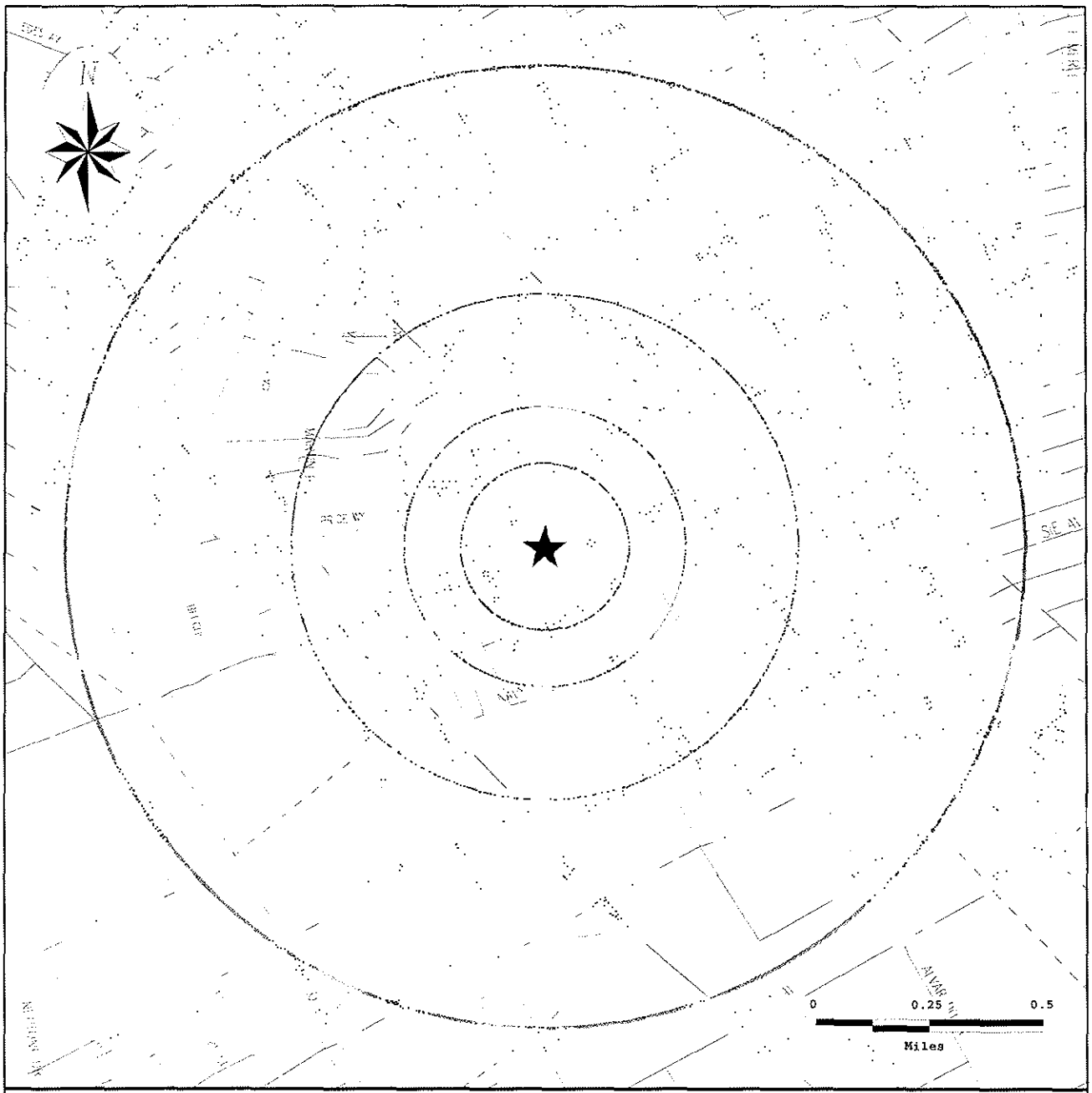


Category:	A	B	C	D
Subject Site / Databases Searched to:	1 mi.	1/2 mi.	1/4 mi.	1/8 mi.
Single Sites	◆		△	○
Multiple Sites	◆		▲	●
Roads, Highways, Railroads, Rivers or Water Bodies, Utilities	NPL, SPL, TSD, CORRACTS	CERCLIS, SCL, LUST, SWLF	TRIS, UST	ERNS, GENERATORS

If additional databases are listed in the cover page of the report they are also displayed on this map. The map symbol used corresponds to the database category letter A,B,C,D.

SITE ASSESSMENT PLUS REPORT

Street Map



Subject Site

Roads, Highways, Rivers, Water Bodies

Railroads, Utilities

SITE ASSESSMENT PLUS REPORT

SITE INVENTORY

MAP ID	PROPERTY AND THE ADJACENT AREA (within 1/8 mile)	VISTA ID DISTANCE DIRECTION	A				B										C			D	
			NPL	CORRACTS	TSD	SPL	CERCLIS	SCL	LUST	SWLF	DEED RSTR	NORTH BAY	SOUTH BAY	CORTESE	TOXIC PITS		RCRA VIOL	TRIS	UST/AST	ERNS	GNRTR
1A	ARCO 1156 DAVIS ST SAN LEANDRO, CA 94577	*4024660* *0.00 MI* *ADJACENT*							X					X					X		
1A	ARCO 1156 DAVIS ST SAN LEANDRO, CA 94577	*200275103* *0.00 MI* *ADJACENT*																		X	
1A	ARCO 1156 DAVIS ST SAN LEANDRO, CA 94577	*200353242* *0.00 MI* *ADJACENT*																		X	
1B	FIRE STATION #2 1040 DAVIS SAN LEANDRO, CA 94577	*1228924* *0.00 MI* *ADJACENT*																	X		
2	POLIMAC MACHINE SHOP 383 PREDA ST SAN LEANDRO, CA 94577	*334298* *0.00 MI* *ADJACENT*																			X
2	PAULOVITS PROPERTY 381 PREDA SAN LEANDRO, CA 94577	*4988646* *0.00 MI* *ADJACENT*							X												
2	PAULOVITS PROPERTY 381 PREDA SAN LEANDRO, CA 94577	*3079921* *0.00 MI* *ADJACENT*										X									
2	PAULOVITS PROPERTY 381 REDA SAN LEANDRO, CA 94577	*5356934* *0.00 MI* *ADJACENT*												X							
2	SEALITE INCORPORATED 375-377 PREDA STREET SAN LEANDRO, CA 94577	*1595450* *<0.01 MI* *N*										X									
3A	UNOCAL 1300 DAVIS ST SAN LEANDRO, CA 94577	*1584002* *0.01 MI* *SW*							X												
3A	UNION OIL SS#2512 1300 DAVIS SAN LEANDRO, CA 94577	*1228473* *0.01 MI* *SW*																	X		
3B	1335 TO 1370 DAVIS STREET 1335 TO 1370 DAVIS ST SAN LEANDRO, CA	*3781288* *0.03 MI* *W*										X									

MAP ID	SITES IN THE SURROUNDING AREA (within 1/8 - 1/4 mile)	VISTA ID DISTANCE DIRECTION	A				B										C			D	
			NPL	CORRACTS	TSD	SPL	CERCLIS	SCL	LUST	SWLF	DEED RSTR	NORTH BAY	SOUTH BAY	CORTESE	TOXIC PITS	RCRA VIOL	TRIS	UST/AST	ERNS	GNRTR
4	JP MORGAN INVESTMENT MANAGMENT 1525 ALVARADO ST SAN LEANDRO, CA 94577	4984099 0.22 MI NE							X											
4	JP MORGAN INVESTMENT MANAGEMENT 1525 ALVARADO ST SAN LEANDRO, CA 94577	5351304 0.22 MI NE												X						
4	PGE GAS PLANT SAN LEANDRO ALVARDO ST JOHNS STS SAN LEANDRO, CA 94578	327892 0.23 MI NE					X													
5	WORLD SAVINGS OPERATION CENTER 794 DAVIS SAN LEANDRO, CA 94577	4024656 0.22 MI E																X		
5	CATERPILLAR INC 800 DAVIS STREET SAN LEANDRO, CA 94577	73569 0.22 MI E				X						X								•
5	F H DAILEY MOTOR CO 800 DAVIS SAN LEANDRO, CA 94577	1592933 0.22 MI E										X						X		
5	WORLD SAVINGS 800 DAVIS ST SAN LEANDRO, CA 94577	930287 0.22 MI E							X					X						

MAP ID	SITES IN THE SURROUNDING AREA (within 1/4 - 1/2 mile)	VISTA ID DISTANCE DIRECTION	A				B										C			D	
			NPL	CORRACTS	TSD	SPL	CERCLIS	SCL	LUST	SWLF	DEED RSTR	NORTH BAY	SOUTH BAY	CORTESE	TOXIC PITS	RCRA VIOL	TRIS	UST/AST	ERNS	GNRTR
6	EUROCAL 863 PERALTA AVE SAN LEANDRO, CA 94577	930329 0.34 MI NE							X					X						
6	WM CONCRETE 851 PERALTA AVE SAN LEANDRO, CA 94577	930327 0.34 MI NE							X					X						
6	BEST CONCRETE STEPS 715 PERALTA AVE SAN LEANDRO, CA 94577	1595509 0.35 MI NE							X					X						
6	BERGEN TIRES 700 PERALTA AVE SAN LEANDRO, CA 94577	1595508 0.36 MI NE							X					X						
7	LSW 1185 SAN LEANDRO BLVD SAN LEANDRO, CA 94577	5358000 0.36 MI E							X											
8	CITY OF SAN LEANDRO 960 SAN LEANDRO BLVD SAN LEANDRO, CA 94577	1228930 0.37 MI NE							X									•		
8	CORPORATION YARD SITE 960 SAN LEANDRO BOULEVARD SAN LEANDRO, CA 94577	3080349 0.37 MI NE						X												

MAP ID	SITES IN THE SURROUNDING AREA (within 1/4 - 1/2 mile)	VISTA ID / DISTANCE / DIRECTION	A				B										C			D	
			NPL	CORRACTS	TSD	SPL	CERCLIS	SCL	LUST	SWLF	DEED RSTR	NORTH BAY	SOUTH BAY	CORTESE	TOXIC PITS	RCRA VIOL	TRIS	UST/AST	ERNS	GNRTR
9	CHERRY CITY NURSERY 1034 PERALTA AVE SAN LEANDRO, CA 94577	1241437 0.37 MI N							X									•		
10	DEL MONTE AGRICULTURAL R D 850 THORNTON ST SAN LEANDRO, CA 94577	118528 0.41 MI SE												X				•		•
10	SAN LEANDRO VIII 850 THORNTON SAN LEANDRO, CA 94577	4989890 0.41 MI SE							X					X						
11	SENNA PROPERTY 350 SAN LEANDRO BLVD SAN LEANDRO, CA 94577	1596191 0.43 MI N							X											
12	CITY OF SAN LEANDRO CORP YARD 999 CARPENTER ST SAN LEANDRO, CA 94577	1176385 0.43 MI NE												X						
13	LIQUID GOLD OIL CORP 1696 MARTINEZ ST SAN LEANDRO, CA 94577	246083 0.45 MI E		X	X		X	X	X			X								
13	1696 MARTINEZ STREET 1696 MARTINEZ ST SAN LEANDRO, CA 94577	4570524 0.45 MI E										X								

MAP ID	SITES IN THE SURROUNDING AREA (within 1/2 - 1 mile)	VISTA ID / DISTANCE / DIRECTION	A				B										C			D	
			NPL	CORRACTS	TSD	SPL	CERCLIS	SCL	LUST	SWLF	DEED RSTR	NORTH BAY	SOUTH BAY	CORTESE	TOXIC PITS	RCRA VIOL	TRIS	UST/AST	ERNS	GNRTR

No Records Found

UNMAPPED SITES

	VISTA ID	A				B									C			D	
		NPL	CORRACTS	TSD	SPL	CERCLIS	SCL	LUST	SWLF	DEED RSTR	NORTH BAY	SOUTH BAY	CORTESE	TOXIC PITS	RCRA VIOL	TRIS	UST/AST	ERNS	GNRTR
FERMA CORPORATION DAVIS ST SAN LEANDRO, CA	5354254												X						

SITE ASSESSMENT PLUS REPORT

DETAILS

PROPERTY AND THE ADJACENT AREA (within 1/8 mile)

VISTA Address*:	ARCO 1156 DAVIS ST SAN LEANDRO, CA 94577	VISTA ID#:	4024660
		Distance/Direction:	0.00 MI / ADJACENT
		Plotted as:	Point

Map ID **1A**

STATE LUST - State Leaking Underground Storage Tank / SRC# 2733		EPA/Agency ID:	N/A
Agency Address:	*SAME AS ABOVE*		
Tank Status:	*NOT AVAILABLE*		
Media Affected:	*GROUNDWATER*		
Substance:	*WASTE OIL*		
Leak Cause:	*UNAVAILABLE*		
Remedial Action:	*NO ACTION TAKEN*		
Remedial Status 1:	*LEAK BEING CONFIRMED*		
Remedial Status 2:	*NOT AVAILABLE*		
Fields Not Reported:	*Discovery Date, Quantity (Units), Leak Source*		

Regional LUST - Regional Leaking Underground Storage Tank / SRC# 2732		Agency ID:	01-1903
Agency Address:	*ARCO FAC# 2111* *1156 DAVIS* *SAN LEANDRO, CA 94557*		
Tank Status:	*NOT AVAILABLE*		
Discovery Date:	*AUGUST 30, 1993*		
Media Affected:	*GROUNDWATER*		
Substance:	*WASTE OIL*		
Leak Cause:	*OTHER CAUSE*		
Leak Source:	*UNDERGROUND TANK*		
Remedial Action:	*NO ACTION TAKEN*		
Remedial Status 1:	*LEAK BEING CONFIRMED*		
Remedial Status 2:	*NOT AVAILABLE*		
Fields Not Reported:	*Quantity (Units)*		

STATE UST - State Underground Storage Tank / SRC# 1612		EPA/Agency ID:	N/A
Agency Address:	*ARCO FAC# 2111* *1156 DAVIS* *SAN LEANDRO, CA 94557*		
Underground Tanks:	*4*		
Aboveground Tanks:	*NOT REPORTED*		
Tanks Removed:	*NOT REPORTED*		

Tank ID:	*1U*	**Tank Status:**	*ACTIVE/IN SERVICE*
Tank Contents:	*UNLEADED GAS*	**Leak Monitoring:**	*UNKNOWN*
Tank Age:	*NOT REPORTED*	**Tank Piping:**	*BARE STEEL*
Tank Size (Units):	*12000 (GALLONS)*	**Tank Material:**	*FIBERGLASS*
Tank ID:	*2U*	**Tank Status:**	*ACTIVE/IN SERVICE*
Tank Contents:	*UNLEADED GAS*	**Leak Monitoring:**	*UNKNOWN*
Tank Age:	*NOT REPORTED*	**Tank Piping:**	*BARE STEEL*
Tank Size (Units):	*12000 (GALLONS)*	**Tank Material:**	*FIBERGLASS*

Tank ID:	*3U*	**Tank Status:**	*ACTIVE/IN SERVICE*
Tank Contents:	*UNLEADED GAS*	**Leak Monitoring:**	*UNKNOWN*
Tank Age:	*NOT REPORTED*	**Tank Piping:**	*BARE STEEL*
Tank Size (Units):	*12000 (GALLONS)*	**Tank Material:**	*FIBERGLASS*
Tank ID:	*4U*	**Tank Status:**	*ACTIVE/IN SERVICE*
Tank Contents:	*OIL(NOT SPECIFIED)*	**Leak Monitoring:**	*UNKNOWN*
Tank Age:	*NOT REPORTED*	**Tank Piping:**	*OTHER DESCRIPTIONS*
Tank Size (Units):	*550 (GALLONS)*	**Tank Material:**	*BARE STEEL*

CORTESE / SRC# 2298 — EPA/Agency ID: N/A

Agency Address: *ARCO, 1156 DAVIS ST, SAN LEANDRO, CA 94557*
List Name: *LEAKING TANK*
Site ID: *INV-ID01-002991*

VISTA Address*:	**ARCO** **1156 DAVIS ST** **SAN LEANDRO, CA 94577**	VISTA ID#:	200275103	Map ID **1A**
		Distance/Direction:	0.00 MI / ADJACENT	
		Plotted as:	Point	

ERNS - Emergency Response Notification System / SRC# 2255 — Agency ID: 94-0224

Agency Address: *ARCO, 1156 DAVIS ST, SAN LEANDRO, CA 95616*
Spill Date Time: *SEPTEMBER 30, 1993 08:00:00 AM*
Case Number: *94-0224*
Spill Location: *1156 DAVIS ST*
Source Agency: *E*
Discharger Org: *ARCO*
Material Spilled: *HYDRAULIC OIL, 0.00 (UNK)*
Fields Not Reported: *Discharger Name, Discharger Phone, Waterway Affected*

Air Release:	Land Release:	Water Release:	Ground Release:	Facility Release:	Other Release:
YES	*NO*	*NO*	*NO*	*NO*	*NO*

VISTA Address*:	**ARCO** **1156 DAVIS ST** **SAN LEANDRO, CA 94577**	VISTA ID#:	200353242	Map ID **1A**
		Distance/Direction:	0.00 MI / ADJACENT	
		Plotted as:	Point	

ERNS - Emergency Response Notification System / SRC# 2255 — Agency ID: 94-5730

Agency Address: *ARCO, 1156 DAVIS ST, SAN LEANDRO, CA 94546*
Spill Date Time: *AUGUST 19, 1994 08:00:00 AM*
Case Number: *94-5730*
Spill Location: *1156 DAVIS ST*
Source Agency: *E*
Discharger Org: *ARCO*
Material Spilled: *HYDROCARBON CONTAMINATION, 0.00 (OTH)*
Fields Not Reported: *Discharger Name, Discharger Phone, Waterway Affected*

Air Release:	Land Release:	Water Release:	Ground Release:	Facility Release:	Other Release:
NO	*YES*	*NO*	*NO*	*NO*	*NO*

VISTA Address*:	FIRE STATION #2 1040 DAVIS SAN LEANDRO, CA 94577	VISTA ID#:	1228924	Map ID 1B
		Distance/Direction:	0.00 MI / ADJACENT	
		Plotted as:	Point	

STATE UST - State Underground Storage Tank / SRC# 1612	EPA/Agency ID:	N/A

Agency Address:	SAME AS ABOVE
Underground Tanks:	1
Aboveground Tanks:	NOT REPORTED
Tanks Removed:	NOT REPORTED

Tank ID:	1U	Tank Status:	CLOSED REMOVED
Tank Contents:	DIESEL	Leak Monitoring:	UNKNOWN
Tank Age:	NOT REPORTED	Tank Piping:	UNKNOWN
Tank Size (Units):	550 (GALLONS)	Tank Material:	UNKNOWN

VISTA Address*:	POLIMAC MACHINE SHOP 383 PREDA ST SAN LEANDRO, CA 94577	VISTA ID#:	334298	Map ID 2
		Distance/Direction:	0.00 MI / ADJACENT	
		Plotted as:	Point	

RCRA-LgGen - RCRA-Large Generator / SRC# 2685	EPA ID:	CAD980891519

Agency Address:	SAME AS ABOVE
Generator Class:	GENERATORS WHO GENERATE AT LEAST 1000 KG./MONTH OF NON-ACUTELY HAZARDOUS WASTE OR 1 KG./MONTH OF ACUTELY HAZARDOUS WASTE.

VISTA Address*:	PAULOVITS PROPERTY 381 PREDA SAN LEANDRO, CA 94577	VISTA ID#:	4988646	Map ID 2
		Distance/Direction:	0.00 MI / ADJACENT	
		Plotted as:	Point	

STATE LUST - State Leaking Underground Storage Tank / SRC# 2733	Agency ID:	01NBC0034

Agency Address:	SAME AS ABOVE
Tank Status:	NOT AVAILABLE
Media Affected:	GROUNDWATER
Substance:	SOLVENTS
Leak Cause:	UNAVAILABLE
Remedial Action:	NO ACTION TAKEN
Remedial Status 1:	LEAK BEING CONFIRMED
Remedial Status 2:	NOT AVAILABLE
Fields Not Reported:	Discovery Date, Quantity (Units), Leak Source

Regional LUST - Regional Leaking Underground Storage Tank / SRC# 2732	Agency ID:	01NBC0034

Agency Address:	SAME AS ABOVE
Tank Status:	NOT AVAILABLE
Discovery Date:	JULY 11, 1991
Media Affected:	GROUNDWATER
Substance:	SOLVENTS
Leak Cause:	STRUCTURAL FAILURE
Leak Source:	UNDERGROUND TANK
Remedial Action:	NO ACTION TAKEN
Remedial Status 1:	LEAK BEING CONFIRMED
Remedial Status 2:	NOT AVAILABLE
Fields Not Reported:	Quantity (Units)

VISTA Address*:	PAULOVITS PROPERTY 381 REDA SAN LEANDRO, CA 94577	VISTA ID#:	5356934	Map ID
		Distance/Direction:	0.00 MI / ADJACENT	2
		Plotted as:	Point	
CORTESE / SRC# 2298		EPA/Agency ID:	N/A	

Agency Address:	*SAME AS ABOVE*
List Name:	*LEAKING TANK*
Site ID:	*INV-ID01-005129*

VISTA Address*:	UNOCAL 1300 DAVIS ST SAN LEANDRO, CA 94577	VISTA ID#:	1584002	Map ID
		Distance/Direction:	0.01 MI / SW	3A
		Plotted as:	Point	
STATE LUST - State Leaking Underground Storage Tank / SRC# 2733		Agency ID:	2480	

Agency Address:	*SAME AS ABOVE*
Tank Status:	*NOT AVAILABLE*
Media Affected:	*GROUNDWATER*
Substance:	*GASOLINE (UNSPECIFIED)*
Leak Cause:	*UNAVAILABLE*
Remedial Action:	*REMOVE FREE PRODUCT*
Remedial Status 1:	*CONTAMINATION ASSESSMENT*
Remedial Status 2:	*NOT AVAILABLE*
Fields Not Reported:	*Discovery Date, Quantity (Units), Leak Source*

Regional LUST - Regional Leaking Underground Storage Tank / SRC# 2732	Agency ID:	01-1572

Agency Address:	*UNOCAL* *1300 DAVIS ST* *SAN LEANDRO, CA*
Tank Status:	*NOT AVAILABLE*
Discovery Date:	*MARCH 15, 1989*
Media Affected:	*GROUNDWATER*
Substance:	*GASOLINE (UNSPECIFIED)*
Leak Cause:	*STRUCTURAL FAILURE*
Leak Source:	*UNDERGROUND TANK*
Remedial Action:	*REMOVE FREE PRODUCT*
Remedial Status 1:	*CONTAMINATION ASSESSMENT*
Remedial Status 2:	*NOT AVAILABLE*
Fields Not Reported:	*Quantity (Units)*

VISTA Address*:	UNION OIL SS#2512 1300 DAVIS SAN LEANDRO, CA 94577	VISTA ID#:	1228473	Map ID
		Distance/Direction:	0.01 MI / SW	3A
		Plotted as:	Point	
STATE UST - State Underground Storage Tank / SRC# 1612		EPA/Agency ID:	N/A	

Agency Address:	*SAME AS ABOVE*
Underground Tanks:	*3*
Aboveground Tanks:	*NOT REPORTED*
Tanks Removed:	*NOT REPORTED*

Tank ID:	*1U*	Tank Status:	*CLOSED REMOVED*
Tank Contents:	*UNLEADED GAS*	Leak Monitoring:	*MONITOR PRESENT*
Tank Age:	*NOT REPORTED*	Tank Piping:	*UNKNOWN*
Tank Size (Units):	*10000 (GALLONS)*	Tank Material:	*BARE STEEL*

PROPERTY AND THE ADJACENT AREA (within 1/8 mile) CONT.

Tank ID:	*2U*	**Tank Status:**	*CLOSED REMOVED*
Tank Contents:	*UNLEADED GAS*	**Leak Monitoring:**	*MONITOR PRESENT*
Tank Age:	*NOT REPORTED*	**Tank Piping:**	*UNKNOWN*
Tank Size (Units):	*10000 (GALLONS)*	**Tank Material:**	*BARE STEEL*
Tank ID:	*3U*	**Tank Status:**	*CLOSED REMOVED*
Tank Contents:	*OIL(NOT SPECIFIED)*	**Leak Monitoring:**	*UNKNOWN*
Tank Age:	*NOT REPORTED*	**Tank Piping:**	*UNKNOWN*
Tank Size (Units):	*280 (GALLONS)*	**Tank Material:**	*BARE STEEL*

SITES IN THE SURROUNDING AREA (within 1/8 - 1/4 mile)

VISTA Address*:	**JP MORGAN INVESTMENT MANAGMENT** **1525 ALVARADO ST** **SAN LEANDRO, CA 94577**	VISTA ID#: Distance/Direction: Plotted as:	4984099 0.22 MI / NE Point	Map ID **4**
STATE LUST - State Leaking Underground Storage Tank / SRC# 2733		EPA/Agency ID:	N/A	

Agency Address:	*SAME AS ABOVE*
Tank Status:	*NOT AVAILABLE*
Media Affected:	*DRINKING WATER SUPPLY*
Substance:	*WASTE OIL*
Leak Cause:	*UNAVAILABLE*
Remedial Action:	*EXCAVATE DISPOSE*
Remedial Status 1:	*CASE CLOSED/CLEANUP COMPLETE*
Remedial Status 2:	*NOT AVAILABLE*
Fields Not Reported:	*Discovery Date, Quantity (Units), Leak Source*

VISTA Address*:	**JP MORGAN INVESTMENT MANAGEMENT** **1525 ALVARADO ST** **SAN LEANDRO, CA 94577**	VISTA ID#: Distance/Direction: Plotted as:	5351304 0.22 MI / NE Point	Map ID **4**
CORTESE / SRC# 2298		EPA/Agency ID:	N/A	

Agency Address:	*JP MORGAN INVESTMENT MANAGEMENT* *1525 ALVARADO ST* *SAN LEANDRO, CA*
List Name:	*LEAKING TANK*
Site ID:	*INV-ID01-005174*

VISTA Address*:	**PGE GAS PLANT SAN LEANDRO** **ALVARDO ST JOHNS STS** **SAN LEANDRO, CA 94578**	VISTA ID#: Distance/Direction: Plotted as:	327892 0.23 MI / NE Point	Map ID **4**
CERCLIS / SRC# 2739		EPA ID:	CAD981415771	

Agency Address:	*SAME AS ABOVE*
NPL Status:	*NOT A PROPOSED, CURRENT, OR DELETED NPL SITE*
Site Ownership:	*UNKNOWN*
Lead Agency:	*NO DETERMINATION*
Site Description:	*NOT REPORTED*

Event Type:	Lead Agency:	Event Status:	Start Date:	Completion Date:
DISCOVERY	*OTHER*	*UNKNOWN*	*NOT REPORTED*	*JUNE 1, 1986*

Event Type:	Lead Agency:	Event Status:	Start Date:	Completion Date:
PRELIMINARY ASSESSMENT	*EPA FUND-FINANCED*	*NO FURTER REMEDIAL ACTION PLANNED*	*NOT REPORTED*	*DECEMBER 1, 1987*

Regional CERCLIS / SRC# 2462		EPA ID:	CAD981415771
Agency Address:	*SAME AS ABOVE*		
Regional Utility Description:			
NEW CERCLIS SITE			
Regional CERCLIS / SRC# 2462		EPA ID:	CAD981415771
Agency Address:	*SAME AS ABOVE*		
Regional Utility Description:			
PG7E GAS PLANT SITE			

				Map ID
VISTA Address*:	**WORLD SAVINGS OPERATION CENTER** **794 DAVIS** **SAN LEANDRO, CA 94577**	VISTA ID#: Distance/Direction: Plotted as:	4024656 0.22 MI / E Point	**5**
STATE UST - State Underground Storage Tank / SRC# 1612		EPA/Agency ID:	N/A	

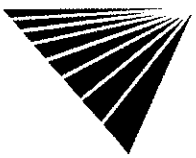
Agency Address:	*SAME AS ABOVE*		
Underground Tanks:	*1*		
Aboveground Tanks:	*NOT REPORTED*		
Tanks Removed:	*NOT REPORTED*		
Tank ID:	*1U*	**Tank Status:**	*ACTIVE/IN SERVICE*
Tank Contents:	*DIESEL*	**Leak Monitoring:**	*MONITOR PRESENT*
Tank Age:	*NOT REPORTED*	**Tank Piping:**	*FIBERGLASS*
Tank Size (Units):	*6000 (GALLONS)*	**Tank Material:**	*FIBERGLASS*

				Map ID
VISTA Address*:	**CATERPILLAR INC** **800 DAVIS STREET** **SAN LEANDRO, CA 94577**	VISTA ID#: Distance/Direction: Plotted as:	73569 0.22 MI / E Point	**5**
SPL - State Equivalent Priority List / SRC# 2617		Agency ID:	01350119	

Agency Address:	*SAME AS ABOVE*
Status:	*NON-NPL SITE*
Facility Type:	*NOT AVAILABLE*
Lead Agency:	*DEPT OF TOXIC SUBSTANCES CONTROL*
State Status:	*ANNUAL WORK PLAN*
Pollutant 1:	*CONTAMINATED SOIL*
Pollutant 2:	*WASTE OIL MIXED OIL*
Pollutant 3:	*HYDROCARBON SOLVENTS*

				Map ID
VISTA Address*:	**F H DAILEY MOTOR CO** **800 DAVIS** **SAN LEANDRO, CA 94577**	VISTA ID#: Distance/Direction: Plotted as:	1592933 0.22 MI / E Point	**5**
STATE UST - State Underground Storage Tank / SRC# 1612		EPA/Agency ID:	N/A	

Agency Address:	*SAME AS ABOVE*		
Underground Tanks:	*2*		
Aboveground Tanks:	*NOT REPORTED*		
Tanks Removed:	*NOT REPORTED*		
Tank ID:	*1U*	**Tank Status:**	*ACTIVE/IN SERVICE*
Tank Contents:	*UNLEADED GAS*	**Leak Monitoring:**	*UNKNOWN*
Tank Age:	*NOT REPORTED*	**Tank Piping:**	*UNKNOWN*
Tank Size (Units):	*2000 (GALLONS)*	**Tank Material:**	*BARE STEEL*



Tank ID:	2U	Tank Status:	ACTIVE/IN SERVICE
Tank Contents:	OIL(NOT SPECIFIED)	Leak Monitoring:	UNKNOWN
Tank Age:	NOT REPORTED	Tank Piping:	UNKNOWN
Tank Size (Units):	1000 (GALLONS)	Tank Material:	STEEL

VISTA Address*:	**WORLD SAVINGS** **800 DAVIS ST** **SAN LEANDRO, CA 94577**	VISTA ID#: Distance/Direction: Plotted as:	930287 0.22 MI / E Point	Map ID **5**

STATE LUST - State Leaking Underground Storage Tank / SRC# 2733		EPA/Agency ID:	N/A
Agency Address:	SAME AS ABOVE		
Tank Status:	NOT AVAILABLE		
Media Affected:	UNKNOWN		
Substance:	OTHER AUTO FUELS,OILS,FLUIDS		
Leak Cause:	UNAVAILABLE		
Remedial Action:	NO ACTION TAKEN		
Remedial Status 1:	LEAK BEING CONFIRMED		
Remedial Status 2:	NOT AVAILABLE		
Fields Not Reported:	Discovery Date, Quantity (Units), Leak Source		
Regional LUST - Regional Leaking Underground Storage Tank / SRC# 2732		Agency ID:	01-1681
Agency Address:	WORLD SAVINGS 800 DAVIS ST SAN LEANDRO, CA		
Tank Status:	NOT AVAILABLE		
Discovery Date:	MAY 4, 1987		
Media Affected:	UNKNOWN		
Substance:	OTHER AUTO FUELS,OILS,FLUIDS		
Leak Cause:	STRUCTURAL FAILURE		
Leak Source:	UNDERGROUND TANK		
Remedial Action:	NO ACTION TAKEN		
Remedial Status 1:	LEAK BEING CONFIRMED		
Remedial Status 2:	NOT AVAILABLE		
Fields Not Reported:	Quantity (Units)		
CORTESE / SRC# 2298		EPA/Agency ID:	N/A
Agency Address:	WORLD SAVINGS 800 DAVIS ST SAN LEANDRO, CA		
List Name:	LEAKING TANK		
Site ID:	INV-ID01-001795		

VISTA Address*:	EUROCAL 863 PERALTA AVE SAN LEANDRO, CA 94577	VISTA ID#: Distance/Direction: Plotted as:	930329 0.34 MI / NE Point	Map ID 6

STATE LUST - State Leaking Underground Storage Tank / SRC# 2733	EPA/Agency ID:	N/A

Agency Address:	*SAME AS ABOVE*
Tank Status:	*NOT AVAILABLE*
Media Affected:	*SOIL/SAND/LAND*
Substance:	*OTHER AUTO FUELS,OILS,FLUIDS*
Leak Cause:	*UNAVAILABLE*
Remedial Action:	*NO ACTION TAKEN*
Remedial Status 1:	*CASE CLOSED/CLEANUP COMPLETE*
Remedial Status 2:	*NOT AVAILABLE*
Fields Not Reported:	*Discovery Date, Quantity (Units), Leak Source*

Regional LUST - Regional Leaking Underground Storage Tank / SRC# 2732	Agency ID:	01-0573

Agency Address:	*EUROCAL* *863 PERALTA* *SAN LEANDRO, CA*
Tank Status:	*NOT AVAILABLE*
Discovery Date:	*DECEMBER 2, 1987*
Media Affected:	*SOIL/SAND/LAND*
Substance:	*OTHER AUTO FUELS,OILS,FLUIDS*
Leak Cause:	*STRUCTURAL FAILURE*
Leak Source:	*UNDERGROUND TANK*
Remedial Action:	*NO ACTION TAKEN*
Remedial Status 1:	*CASE CLOSED/CLEANUP COMPLETE*
Remedial Status 2:	*NOT AVAILABLE*
Fields Not Reported:	*Quantity (Units)*

CORTESE / SRC# 2298	EPA/Agency ID:	N/A

Agency Address:	*EUROCAL* *863 PERALTA AVE* *SAN LEANDRO, CA*
List Name:	*LEAKING TANK*
Site ID:	*INV-ID01-000699*

VISTA Address*:	WM CONCRETE 851 PERALTA AVE SAN LEANDRO, CA 94577	VISTA ID#: Distance/Direction: Plotted as:	930327 0.34 MI / NE Point	Map ID 6

STATE LUST - State Leaking Underground Storage Tank / SRC# 2733	EPA/Agency ID:	N/A

Agency Address:	*SAME AS ABOVE*
Tank Status:	*NOT AVAILABLE*
Media Affected:	*SOIL/SAND/LAND*
Substance:	*GASOLINE (UNSPECIFIED)*
Leak Cause:	*UNAVAILABLE*
Remedial Action:	*NO ACTION TAKEN*
Remedial Status 1:	*LEAK BEING CONFIRMED*
Remedial Status 2:	*NOT AVAILABLE*
Fields Not Reported:	*Discovery Date, Quantity (Units), Leak Source*

Regional LUST - Regional Leaking Underground Storage Tank / SRC# 2732		Agency ID:	01-1680
Agency Address:	WM CONCRETE 851 PERALTA SAN LEANDRO, CA		
Tank Status:	NOT AVAILABLE		
Discovery Date:	AUGUST 26, 1987		
Media Affected:	SOIL/SAND/LAND		
Substance:	GASOLINE (UNSPECIFIED)		
Leak Cause:	STRUCTURAL FAILURE		
Leak Source:	UNDERGROUND TANK		
Remedial Action:	NO ACTION TAKEN		
Remedial Status 1:	LEAK BEING CONFIRMED		
Remedial Status 2:	NOT AVAILABLE		
Fields Not Reported:	Quantity (Units)		
CORTESE / SRC# 2298		EPA/Agency ID:	N/A
Agency Address:	WM CONCRETE 851 PERALTA AVE SAN LEANDRO, CA		
List Name:	LEAKING TANK		
Site ID:	INV-ID01-001794		

VISTA Address*:	**BEST CONCRETE STEPS** **715 PERALTA AVE** **SAN LEANDRO, CA 94577**	VISTA ID#: Distance/Direction: Plotted as:	1595509 0.35 MI / NE Point	Map ID **6**
STATE LUST - State Leaking Underground Storage Tank / SRC# 2733		EPA/Agency ID:	N/A	
Agency Address:	SAME AS ABOVE			
Tank Status:	NOT AVAILABLE			
Media Affected:	SOIL/SAND/LAND			
Substance:	GASOLINE (UNSPECIFIED)			
Leak Cause:	UNAVAILABLE			
Remedial Action:	NO ACTION TAKEN			
Remedial Status 1:	LEAK BEING CONFIRMED			
Remedial Status 2:	NOT AVAILABLE			
Fields Not Reported:	Discovery Date, Quantity (Units), Leak Source			
Regional LUST - Regional Leaking Underground Storage Tank / SRC# 2732		Agency ID:	01-0203	
Agency Address:	BEST CONCRETE STEPS 715 PERALTA AVE SAN LEANDRO, CA			
Tank Status:	NOT AVAILABLE			
Discovery Date:	JUNE 13, 1990			
Media Affected:	SOIL/SAND/LAND			
Substance:	GASOLINE (UNSPECIFIED)			
Leak Cause:	STRUCTURAL FAILURE			
Leak Source:	UNDERGROUND TANK			
Remedial Action:	NO ACTION TAKEN			
Remedial Status 1:	LEAK BEING CONFIRMED			
Remedial Status 2:	NOT AVAILABLE			
Fields Not Reported:	Quantity (Units)			
CORTESE / SRC# 2298		EPA/Agency ID:	N/A	
Agency Address:	SAME AS ABOVE			
List Name:	LEAKING TANK			
Site ID:	INV-ID01-000325			

VISTA Address*:	BERGEN TIRES 700 PERALTA AVE SAN LEANDRO, CA 94577	VISTA ID#: Distance/Direction: Plotted as:	1595508 0.36 MI / NE Point	Map ID 6

STATE LUST - State Leaking Underground Storage Tank / SRC# 2733	EPA/Agency ID:	N/A

Agency Address:	*SAME AS ABOVE*
Tank Status:	*NOT AVAILABLE*
Media Affected:	*GROUNDWATER*
Substance:	*GASOLINE (UNSPECIFIED)*
Leak Cause:	*UNAVAILABLE*
Remedial Action:	*NO ACTION TAKEN*
Remedial Status 1:	*LEAK BEING CONFIRMED*
Remedial Status 2:	*NOT AVAILABLE*
Fields Not Reported:	*Discovery Date, Quantity (Units), Leak Source*

Regional LUST - Regional Leaking Underground Storage Tank / SRC# 2732	Agency ID:	01-0186

Agency Address:	*BERGER TIRES* *700 PERALTA AVE* *SAN LEANDRO, CA*
Tank Status:	*NOT AVAILABLE*
Discovery Date:	*JULY 5, 1990*
Media Affected:	*GROUNDWATER*
Substance:	*GASOLINE (UNSPECIFIED)*
Leak Cause:	*STRUCTURAL FAILURE*
Leak Source:	*UNDERGROUND TANK*
Remedial Action:	*NO ACTION TAKEN*
Remedial Status 1:	*LEAK BEING CONFIRMED*
Remedial Status 2:	*NOT AVAILABLE*
Fields Not Reported:	*Quantity (Units)*

CORTESE / SRC# 2298	EPA/Agency ID:	N/A

Agency Address:	*BERGER TIRES* *700 PERALTA AVE* *SAN LEANDRO, CA 94577*
List Name:	*LEAKING TANK*
Site ID:	*INV-ID01-000307*

VISTA Address*:	LSW 1185 SAN LEANDRO BLVD SAN LEANDRO, CA 94577	VISTA ID#: Distance/Direction: Plotted as:	5358000 0.36 MI / E Point	Map ID 7

STATE LUST - State Leaking Underground Storage Tank / SRC# 2733	EPA/Agency ID:	N/A

Agency Address:	*SAME AS ABOVE*
Tank Status:	*NOT AVAILABLE*
Media Affected:	*SOIL/SAND/LAND*
Substance:	*GASOLINE (UNSPECIFIED)*
Leak Cause:	*UNAVAILABLE*
Remedial Action:	*NO ACTION TAKEN*
Remedial Status 1:	*LEAK BEING CONFIRMED*
Remedial Status 2:	*NOT AVAILABLE*
Fields Not Reported:	*Discovery Date, Quantity (Units), Leak Source*

Regional LUST - Regional Leaking Underground Storage Tank / SRC# 2732	Agency ID:	01-0927

Agency Address:	*SAME AS ABOVE*
Tank Status:	*NOT AVAILABLE*
Discovery Date:	*OCTOBER 20, 1986*
Media Affected:	*SOIL/SAND/LAND*
Substance:	*GASOLINE (UNSPECIFIED)*
Leak Cause:	*STRUCTURAL FAILURE*
Leak Source:	*UNDERGROUND TANK*
Remedial Action:	*NO ACTION TAKEN*
Remedial Status 1:	*LEAK BEING CONFIRMED*
Remedial Status 2:	*NOT AVAILABLE*
Fields Not Reported:	*Quantity (Units)*

VISTA Address*:	**CITY OF SAN LEANDRO** **960 SAN LEANDRO BLVD** **SAN LEANDRO, CA 94577**	VISTA ID#:	1228930
		Distance/Direction:	0.37 MI / NE
		Plotted as:	Point

Map ID **8**

STATE LUST - State Leaking Underground Storage Tank / SRC# 2733	Agency ID:	4433

Agency Address:	*SAME AS ABOVE*
Tank Status:	*NOT AVAILABLE*
Media Affected:	*GROUNDWATER*
Substance:	*DIESEL*
Leak Cause:	*UNAVAILABLE*
Remedial Action:	*NO ACTION TAKEN*
Remedial Status 1:	*PRELIMINARY ASSESSMENT*
Remedial Status 2:	*NOT AVAILABLE*
Fields Not Reported:	*Discovery Date, Quantity (Units), Leak Source*

Regional LUST - Regional Leaking Underground Storage Tank / SRC# 2732	Agency ID:	01-0418

Agency Address:	*CITY OF SAN LEANDRO* *960 SAN LEANDRO BOULEVARD* *SAN LEANDRO, CA 94577*
Tank Status:	*NOT AVAILABLE*
Discovery Date:	*APRIL 6, 1989*
Media Affected:	*GROUNDWATER*
Substance:	*DIESEL*
Leak Cause:	*STRUCTURAL FAILURE*
Leak Source:	*UNDERGROUND TANK*
Remedial Action:	*NO ACTION TAKEN*
Remedial Status 1:	*PRELIMINARY ASSESSMENT*
Remedial Status 2:	*NOT AVAILABLE*
Fields Not Reported:	*Quantity (Units)*

VISTA Address*:	CORPORATION YARD SITE 960 SAN LEANDRO BOULEVARD SAN LEANDRO, CA 94577	VISTA ID#:	3080349	Map ID
		Distance/Direction:	0.37 MI / NE	8
		Plotted as:	Point	

SCL - State Equivalent CERCLIS List / SRC# 2616	Agency ID:	01550002

Agency Address:	*SAME AS ABOVE*
Facility Type:	*NOT AVAILABLE*
Lead Agency:	*NOT AVAILABLE*
State Status:	*REFERRED TO ANOTHER AGENCY*
Pollutant 1:	*UNKNOWN*
Pollutant 2:	*UNKNOWN*
Pollutant 3:	*UNKNOWN*
Fields Not Reported:	*Status*

VISTA Address*:	CHERRY CITY NURSERY 1034 PERALTA AVE SAN LEANDRO, CA 94577	VISTA ID#:	1241437	Map ID
		Distance/Direction:	0.37 MI / N	9
		Plotted as:	Point	

STATE LUST - State Leaking Underground Storage Tank / SRC# 2733	Agency ID:	4461

Agency Address:	*SAME AS ABOVE*
Tank Status:	*NOT AVAILABLE*
Media Affected:	*SOIL/SAND/LAND*
Substance:	*WASTE OIL*
Leak Cause:	*UNAVAILABLE*
Remedial Action:	*EXCAVATE DISPOSE*
Remedial Status 1:	*LEAK BEING CONFIRMED*
Remedial Status 2:	*NOT AVAILABLE*
Fields Not Reported:	*Discovery Date, Quantity (Units), Leak Source*

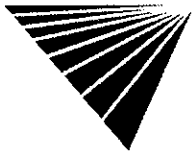
Regional LUST - Regional Leaking Underground Storage Tank / SRC# 2732	Agency ID:	01-0309

Agency Address:	*CHERRY CITY NURSERY* *1034 PERALTA AVE.* *SAN LEANDRO, CA 94577*
Tank Status:	*NOT AVAILABLE*
Discovery Date:	*DECEMBER 31, 1990*
Media Affected:	*SOIL/SAND/LAND*
Substance:	*WASTE OIL*
Leak Cause:	*STRUCTURAL FAILURE*
Leak Source:	*UNDERGROUND TANK*
Remedial Action:	*EXCAVATE DISPOSE*
Remedial Status 1:	*LEAK BEING CONFIRMED*
Remedial Status 2:	*NOT AVAILABLE*
Fields Not Reported:	*Quantity (Units)*

VISTA Address*:	DEL MONTE AGRICULTURAL R D 850 THORNTON ST SAN LEANDRO, CA 94577	VISTA ID#:	118528	Map ID
		Distance/Direction:	0.41 MI / SE	10
		Plotted as:	Point	

CORTESE / SRC# 2298	EPA/Agency ID:	N/A

Agency Address:	*DEL MONTE* *850 THORNTON ST* *SAN LEANDRO, CA 94577*
List Name:	*LEAKING TANK*
Site ID:	*INV-ID01-002384*



*** VISTA address includes enhanced city and ZIP.**
For more information call VISTA Information Solutions, Inc. at **1 - 800 - 767 - 0403.**

VISTA Address*:	SAN LEANDRO VIII 850 THORNTON SAN LEANDRO, CA 94577	VISTA ID#:	4989890	Map ID
		Distance/Direction:	0.41 MI / SE	10
		Plotted as:	Point	

STATE LUST - State Leaking Underground Storage Tank / SRC# 2733	Agency ID:	01NBC0010

Agency Address:	*SAME AS ABOVE*
Tank Status:	*NOT AVAILABLE*
Media Affected:	*SOIL/SAND/LAND*
Substance:	*WASTE OIL*
Leak Cause:	*UNAVAILABLE*
Remedial Action:	*NO ACTION TAKEN*
Remedial Status 1:	*PRELIMINARY ASSESSMENT*
Remedial Status 2:	*NOT AVAILABLE*
Fields Not Reported:	*Discovery Date, Quantity (Units), Leak Source*

Regional LUST - Regional Leaking Underground Storage Tank / SRC# 2732	Agency ID:	01-1297

Agency Address:	*SAN LEANDRO VIII* *850 THORNTON* *SAN LEANDRO, CA*
Tank Status:	*NOT AVAILABLE*
Discovery Date:	*JANUARY 26, 1987*
Media Affected:	*SOIL/SAND/LAND*
Substance:	*WASTE OIL*
Leak Cause:	*STRUCTURAL FAILURE*
Leak Source:	*UNDERGROUND TANK*
Remedial Action:	*NO ACTION TAKEN*
Remedial Status 1:	*PRELIMINARY ASSESSMENT*
Remedial Status 2:	*NOT AVAILABLE*
Fields Not Reported:	*Quantity (Units)*

CORTESE / SRC# 2298	EPA/Agency ID:	N/A

Agency Address:	*SAN LEANDRO VIII* *850 THORNTON ST* *SAN LEANDRO, CA 94577*
List Name:	*LEAKING TANK*
Site ID:	*INV-ID01-002384*

VISTA Address*:	SENNA PROPERTY 350 SAN LEANDRO BLVD SAN LEANDRO, CA 94577	VISTA ID#:	1596191	Map ID
		Distance/Direction:	0.43 MI / N	11
		Plotted as:	Point	

STATE LUST - State Leaking Underground Storage Tank / SRC# 2733	EPA/Agency ID:	N/A

Agency Address:	*SAME AS ABOVE*
Tank Status:	*NOT AVAILABLE*
Media Affected:	*GROUNDWATER*
Substance:	*DIESEL*
Leak Cause:	*UNAVAILABLE*
Remedial Action:	*NO ACTION TAKEN*
Remedial Status 1:	*PRELIMINARY ASSESSMENT*
Remedial Status 2:	*NOT AVAILABLE*
Fields Not Reported:	*Discovery Date, Quantity (Units), Leak Source*

Regional LUST - Regional Leaking Underground Storage Tank / SRC# 2732		Agency ID:	01-1318
Agency Address:	*SENNA PROPERTY 350 SAN LEANDRO BLVD SAN LEANDRO, CA*		
Tank Status:	*NOT AVAILABLE*		
Discovery Date:	*JUNE 15, 1990*		
Media Affected:	*GROUNDWATER*		
Substance:	*DIESEL*		
Leak Cause:	*STRUCTURAL FAILURE*		
Leak Source:	*UNDERGROUND TANK*		
Remedial Action:	*NO ACTION TAKEN*		
Remedial Status 1:	*PRELIMINARY ASSESSMENT*		
Remedial Status 2:	*NOT AVAILABLE*		
Fields Not Reported:	*Quantity (Units)*		

VISTA Address*:	**CITY OF SAN LEANDRO CORP YARD 999 CARPENTER ST SAN LEANDRO, CA 94577**	VISTA ID#: Distance/Direction: Plotted as:	1176385 0.43 MI / NE Point	Map ID **12**
CORTESE / SRC# 2298		EPA/Agency ID:	N/A	
Agency Address:	*SAME AS ABOVE*			
List Name:	*LEAKING TANK*			
Site ID:	*INV-ID01-000549*			

VISTA Address*:	**LIQUID GOLD OIL CORP 1696 MARTINEZ ST SAN LEANDRO, CA 94577**	VISTA ID#: Distance/Direction: Plotted as:	246083 0.45 MI / E Point	Map ID **13**
CERCLIS / SRC# 2739		EPA ID:	CAT080013923	
Agency Address:	*SAME AS ABOVE*			
NPL Status:	*NOT A PROPOSED, CURRENT, OR DELETED NPL SITE*			
Site Ownership:	*UNKNOWN*			
Lead Agency:	*NO DETERMINATION*			
Site Description:	*NOT REPORTED*			

Event Type:	Lead Agency:	Event Status:	Start Date:	Completion Date:
DISCOVERY	*EPA FUND-FINANCED*	*UNKNOWN*	*NOT REPORTED*	*OCTOBER 1, 1979*
SCREENING SITE INSPECTION	*EPA FUND-FINANCED*	*UNKNOWN*	*NOT REPORTED*	*SEPTEMBER 1, 1985*
PRELIMINARY ASSESSMENT	*EPA FUND-FINANCED*	*UNKNOWN*	*OCTOBER 1, 1984*	*JANUARY 1, 1986*
SCREENING SITE INSPECTION	*EPA FUND-FINANCED*	*UNKNOWN*	*NOT REPORTED*	*SEPTEMBER 6, 1990*
SCREENING SITE INSPECTION	*EPA FUND-FINANCED*	*NO FURTER REMEDIAL ACTION PLANNED*	*NOT REPORTED*	*JANUARY 28, 1991*

Regional CERCLIS / SRC# 2462		EPA ID:	CAT080013923
Agency Address:	*SAME AS ABOVE*		
Regional Utility Description:			
OILY WASTES			

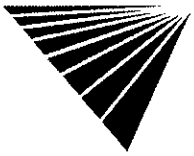
Regional CERCLIS / SRC# 2462		EPA ID:	CAT080013923
Agency Address:	*SAME AS ABOVE*		
Regional Utility Description:			
PCB'S			

Regional CERCLIS / SRC# 2462		EPA ID:	CAT080013923
Agency Address:	*SAME AS ABOVE*		
Regional Utility Description:			
OTHER:METALS			
Regional CERCLIS / SRC# 2462		EPA ID:	CAT080013923
Agency Address:	*SAME AS ABOVE*		
Regional Utility Description:			
DRUMS			
Regional CERCLIS / SRC# 2462		EPA ID:	CAT080013923
Agency Address:	*SAME AS ABOVE*		
Regional Utility Description:			
TANK			
Regional CERCLIS / SRC# 2462		EPA ID:	CAT080013923
Agency Address:	*SAME AS ABOVE*		
Regional Utility Description:			
OTHER:SUMP AND PONDS			
Regional CERCLIS / SRC# 2462		EPA ID:	CAT080013923
Agency Address:	*SAME AS ABOVE*		
Regional Utility Description:	-		
RCRA REGULATED: TREAT STORE DISPOSE FACILITY TRANSPORTER SEE N			
Regional CERCLIS / SRC# 2462		EPA ID:	CAT080013923
Agency Address:	*SAME AS ABOVE*		
Regional Utility Description:			
OTIF PART A FILE			
Regional CERCLIS / SRC# 2462		EPA ID:	CAT080013923
Agency Address:	*SAME AS ABOVE*		
Regional Utility Description:			
STS SITE			
Regional CERCLIS / SRC# 2462		EPA ID:	CAT080013923
Agency Address:	*SAME AS ABOVE*		
Regional Utility Description:			
PENDING: SITE INSPECTION			
SCL - State Equivalent CERCLIS List / SRC# 2616		Agency ID:	01290023
Agency Address:	*LIQUID GOLD OIL CORPORATION* *1696 MARTINEZ STREET* *SAN LEANDRO, CA 94577*		
Facility Type:	*NOT AVAILABLE*		
Lead Agency:	*NOT AVAILABLE*		
State Status:	*REFERRED TO ANOTHER AGENCY*		
Pollutant 1:	*LEAD*		
Pollutant 2:	*CONTAMINATED SOIL*		
Pollutant 3:	*WASTE OIL MIXED OIL*		
Fields Not Reported:	*Status*		

CORRACTS / SRC# 2685		EPA ID:	CAT080013923
Agency Address:	SAME AS ABOVE		
Prioritization Status:	HIGH		
RCRA Facility Assessment Completed:	NO		
Notice of Contamination:	NO		
Determination of need For a RFI (RCRA Facility Investigation):	NO		
RFI Imposed:	NO		
RFI Workplan Notice of Deficiency Issued:	NO		
RFI Workplan Approved:	NO		
RFI Report Received:	NO		
RFI Approved:	NO		
No Further Corrective Action at this Time:	NO		
Stabilization Mesaures Evaluation:	NO		
CMS (Corrective Measure Study) Imposition:	NO		
CMS Workplan Approved:	NO		
CMS Report Received:	NO		
CMS Approved:	NO		
Date for Remedy Selection (CM Imposed):	NO		
Corrective Measures Design Approved:	NO		
Corrective Measures Investigation Workplan Approved:	NO		
Certification of Remedy Completion:	NO		
Stabilization Measures Implementation:	NO		
Stabilization Measures Completed:	NO		
Corrective Action Process Termination:	NO		

RCRA-TSD / SRC# 2685		EPA ID:	CAT080013923
Agency Address:	SAME AS ABOVE		
Off-Site Waste Received:	NO		
Land Disposal:	NO		
Incinerator:	NO		
Storage/Treatment:	NO		

Regional LUST - Regional Leaking Underground Storage Tank / SRC# 2784		Agency ID:	6B1400504T
Agency Address:	SCHAT'S BAKERY 120 MANDICH LANE BISHOP, CA 93514		
Tank Status:	NOT AVAILABLE		
Media Affected:	SOIL/SAND/LAND		
Substance:	GASOLINE (UNSPECIFIED)		
Leak Cause:	UNKNOWN		
Leak Source:	REPORTED AS "UNKNOWN" BY AGENCY		
Remedial Action:	EXCAVATE DISPOSE		
Remedial Status 1:	CASE CLOSED/CLEANUP COMPLETE		
Remedial Status 2:	NOT AVAILABLE		
Fields Not Reported:	Discovery Date, Quantity (Units)		

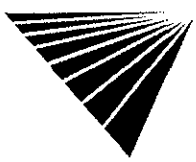


SITES IN THE SURROUNDING AREA (within 1/2 - 1 mile)

No Records Found

UNMAPPED SITES

Records Found, No Details Displayed



SITE ASSESSMENT PLUS REPORT

DESCRIPTION OF DATABASES SEARCHED

A) DATABASES SEARCHED TO 1 MILE

NPL
SRC#: 2640

VISTA conducts a database search to identify all sites within 1 mile of your property.
The agency release date for NPL was September, 1995.

The National Priorities List (NPL) is the EPA's database of uncontrolled or abandoned hazardous waste sites identified for priority remedial actions under the Superfund program. A site must meet or surpass a predetermined hazard ranking system score, be chosen as a state's top priority site, or meet three specific criteria set jointly by the US Dept of Health and Human Services and the US EPA in order to become an NPL site.

SPL
SRC#: 2617

VISTA conducts a database search to identify all sites within 1 mile of your property.
The agency release date for Calsites Database: Annual Workplan Sites was August, 1995.

This database is provided by the Cal. Environmental Protection Agency, Dept. of Toxic Substances Control. Annual Work Plan (AWP) sites and sites where Preliminary Endangerment Assessments are a high priority are included.

CORRACTS
SRC#: 2685

VISTA conducts a database search to identify all sites within 1 mile of your property.
The agency release date for RCRA Corrective Action Sites List was October, 1995.

The EPA maintains this database of RCRA facilities which are undergoing "corrective action". A "corrective action order" is issued pursuant to RCRA Section 3008 (h) when there has been a release of hazardous waste or constituents into the environment from a RCRA facility. Corrective actions may be required beyond the facility's boundary and can be required regardless of when the release occurred, even if it predates RCRA.

RCRA-TSD
SRC#: 2685

VISTA conducts a database search to identify all sites within 1 mile of your property.
The agency release date for RCRIS was October, 1995.

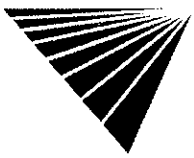
The EPA's Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilities database is a compilation by the EPA of facilities which report generation, storage, transportation, treatment or disposal of hazardous waste. RCRA TSDs are facilities which treat, store and/or dispose of hazardous waste.

B) DATABASES SEARCHED TO 1/2 MILE

CERCLIS
SRC#: 2738

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for CERCLIS was December, 1995.

The CERCLIS List contains sites which are either proposed to or on the National Priorities List(NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL. The information on each site includes a history of all pre-remedial, remedial, removal and community relations activiies or events at the site, financial funding information for the events, and unrestricted enforcement activities.



NFRAP
SRC#: 2739

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for CERCLIS was December, 1995.

NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly, or the contamination was not serious enough to require Federal Superfund action or NPL consideration.

Cal Cerclis
SRC#: 2462

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for Ca Cerclis w/Regional Utility Description was June, 1995.

This database is provided by the U.S. Environmental Protection Agency, Region 9. These are regional utility descriptions for California CERCLIS sites.

SCL
SRC#: 2616

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for Calsites Database: All Sites except Annual Workplan Sites (incl. ASPIS) was August, 1995.

This database is provided by the Department of Toxic Substances Control. These are lower priority than the SPL sites.

SWLF
SRC#: 2232

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for Ca Solid Waste Information System (SWIS) was March, 1995.

This database is provided by the Integrated Waste Management Board.

WMUDS
SRC#: 2463

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for Waste Management Unit Database System (WMUDS) was June, 1995.

This database is provided by the State Water Resources Control Board. This is used for program tracking and inventory of waste management units. This system contains information from the following eight main databases: Facility, Waste Management Unit, SWAT Program Information, SWAT Report Summary Information, Chapter 15 (formerly Subchapter 15), TPCA Program Information, RCRA Program Information, and Closure Information.

LUST
SRC#: 2733

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for Lust Information System (LUSTIS) was December, 1995.

This database is provided by the California Environmental Protection Agency.

LUST RG5
SRC#: 2520

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for Region #5-Central Valley Undergound Tank Tracking System was July, 1995.

This database is provided by the Regional Water Quality Control Board, Region #5.

LUST RG2
SRC#: 2732

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for Region #2-San Francisco Bay Fuel Leaks List was November, 1995.

This database is provided by the Regional Water Quality Control Board, Region #2.

CORTESE
SRC#: 2298

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for Cortese List-Hazardous Waste Substance Site List was February, 1995.

This database is provided by the Office of Environmental Protection, Office of Hazardous Materials.

Deed Restrictions
SRC#: 1703

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for Deed Restriction Properties Report was April, 1994.

This database is provided by the Department of Health Services-Land Use and Air Assessment. These are voluntary deed restriction agreements with owners of property who propose building residences, schools, hospitals, or day care centers on property that is "on or within 2,000 feet of a significant disposal of hazardous waste".

Toxic Pits
SRC#: 2229

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for Summary of Toxic Pits Cleanup Facilities was February, 1995.

This database is provided by the Water Quality Control Board, Division of Loans Grants.

North Bay
SRC#: 1718

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for North Bay County Toxic List-Region #2 Surface Spills was April, 1994.

This database is provided by the Regional Water Quality Control Board, Region #2.

South Bay
SRC#: 1719

VISTA conducts a database search to identify all sites within 1/2 mile of your property.
The agency release date for South Bay Site Management System was April, 1994.

This database is provided by the San Francisco Bay Region.

C) DATABASES SEARCHED TO 1/4 MILE

RCRA-Viols/En
SRC#: 2685

VISTA conducts a database search to identify all sites within 1/4 mile of your property.
The agency release date for RCRIS was October, 1995.

The EPA's Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilities database is a compilation by the EPA of facilities which report generation, storage, transportation, treatment or disposal of hazardous waste. RCRA Violators are facilities which have been cited for RCRA Violations at least once since 1980. RCRA Enforcements are enforcement actions taken against RCRA violators.

UST's
SRC#: 1612

VISTA conducts a database search to identify all sites within 1/4 mile of your property.
The agency release date for Underground Storage Tank Registrations Database was January, 1994.

This database is provided by the State Water Resources Control Board, Office of Underground Storage Tanks.

AST's
SRC#: 2615

VISTA conducts a database search to identify all sites within 1/4 mile of your property.
The agency release date for Aboveground Storage Tank Database was October, 1995.

This database is provided by the State Water Resources Control Board.

TRIS
SRC#: 2587

VISTA conducts a database search to identify all sites within 1/4 mile of your property.
The agency release date for TRIS was May, 1995.

Section 313 of the Emergency Planning and Community Right-to-Know Act (also known as SARA Title III) of 1986 requires the EPA to establish an inventory of Toxic Chemicals emissions from certain facilities(Toxic Release Inventory System). Facilities subject to this reporting are required to complete a Toxic Chemical Release Form(Form R) for specified chemicals.

D) DATABASES SEARCHED TO 1/8 MILE

ERNS
SRC#: 2255

VISTA conducts a database search to identify all sites within 1/8 mile of your property.
The agency release date for ERNS was March, 1995.

The Emergency Response Notification System (ERNS) is a national database used to collect information on reported releases of oil and hazardous substances. The database contains information from spill reports made to federal authorities including the EPA, the US Coast Guard, the National Response Center and the Department of transportation. A search of the database records for the period October 1986 through September 1994 revealed the following information regarding reported spills of oil or hazardous substances in the stated area.

RCRA-LgGen
SRC#: 2685

VISTA conducts a database search to identify all sites within 1/8 mile of your property.
The agency release date for RCRIS was October, 1995.

The EPA's Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilities database is a compilation by the EPA of facilities which report generation, storage, transportation, treatment or disposal of hazardous waste. RCRA Large Generators are facilities which generate at least 1000 kg./month of non-acutely hazardous waste (or 1 kg./month of acutely hazardous waste).

RCRA-SmGen
SRC#: 2685

VISTA conducts a database search to identify all sites within 1/8 mile of your property.
The agency release date for RCRIS was October, 1995.

The EPA's Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilities database is a compilation by the EPA of facilities which report generation, storage, transportation, treatment or disposal of hazardous waste. RCRA Small and Very Small generators are facilities which generate less than 1000 kg./month of non-acutely hazardous waste.

End of Report

APPENDIX C

WELL PERMITS

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
5997 PARKSIDE DRIVE ♦ PLEASANTON, CALIFORNIA 94588 ♦ (510) 484-2600

TELEFAX TRANSMITTAL

DATE: 28 Feb 96

DELIVER TO: Lot Davis

NAME OF FIRM: Emeon

FAX PHONE #: (408) 437-9526

FROM: Wyman Hong

NUMBER OF PAGES: 2
(Including transmittal)

FOR VOICE CONTACT CALL: (510) 484-2600

FOR RETURN FAX: (510) 462-3914

REMARKS: Drilling permit 96126 for a monitoring well construction project at 1156 Davis St in San Leandro for Arco.

ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94588 VOICE (510) 484-2600
FAX (510) 462-3914

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT ARCO Service Station 2111
1156 Davis Street, San Leandro, CA

CLIENT
Name ARCO Products Company
Address P.O. Box 612530 Voice (408) 437-9526
City San Jose, CA Zip 95161

APPLICANT
Name EMCON
Fax (408) 437-9526
Address 1921 Ringwood Ave. Voice (408) 453-7300
City San Jose, CA Zip 95131

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	___	General	___
Water Supply	___	Contamination	___
Monitoring	X	Well Destruction	___
Vadose	X		

PROPOSED WATER SUPPLY WELL USE
Domestic ___ Industrial ___ Other ___
Municipal ___ Irrigation ___

DRILLING METHOD:
Mud Rotary ___ Air Rotary ___ Auger X
Cable ___ Other ___

DRILLER'S LICENSE NO. C57 # 554979

WELL PROJECTS
Drill Hole Diameter 8 1/2 / 10 in. Maximum
Casing Diameter 2 1/4 in. Depth 30 ft.
Surface Seal Depth 5-10 ft. Number 7

GEOTECHNICAL PROJECTS
Number of Borings ___ Maximum
Hole Diameter ___ in. Depth ___ ft.

ESTIMATED STARTING DATE 2-28-96
ESTIMATED COMPLETION DATE 2-28-96

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE Robert K. Davis, EMCON Date ___

FOR OFFICE USE

PERMIT NUMBER 96126
LOCATION NUMBER ___

PERMIT CONDITIONS

Circled Permit Requirements Apply

(A.) GENERAL
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well Projects, or drilling logs and location sketch for geotechnical projects.
3. Permit is void if project not begun within 90 days of approval date.

(B.) WATER WELLS, INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

C. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

E. WELL DESTRUCTION. See attached.

Approved Wyman Hong Date 26 Feb 96
Wyman Hong

91992

Service No._____

CITY OF SAN LEANDRO
APPLICATION TO PERFORM WORK IN THE PUBLIC RIGHT-OF-WAY

95-87
Permit Number

2-27-96
Date Approved

Work Site: ARCO Station # 2111, 156 Davis St., San Leandro

Applicant: Name ROB DAVIS, EMKON Address 1921 Ringwood Ave., San Jose, CA Tel. (408) 453-7300

Owner: Name ARCO Products Co. Address P.O. Box 5811 San Mateo, CA Tel._____

Purpose of Permit:

☐ Utility ☐ Street Excavation ☐ Curb, Gutter Sidewalk, Driveway ☒ Other Well Installation

Detailed Description and Dimensions of Work: one monitoring well will be installed in the eastern shoulder of Prado St. in the parking lane. The well will be completed in a flush mount 8" dia. well box

Plan Submitted: Yes ✓ No _____

Date Work to be Started: 2-27-96

Building Permit No._____

Oro Loma Permit No._____

Profile Submitted: Yes _____ No _____

Date Work To Be Completed By: 2/27/96

State Encroachment Permit No._____

Alameda County Flood Control Permit No._____

Compliance with State Labor Code: In accordance with Section 3800.

☒ Applicant has on file, with the City of San Leandro, evidence that workman's compensation insurance is carried.

☐ Applicant will not employ anyone so as to become subject to the workman's compensation laws of California.

Statement of State Contractor's License: In accordance with Section 7031.5 of the State Business and Professions Code.

☒ Applicant has State License No._____, Class_____ in full force and effect.

☐ Applicant is exempt from the State Contractor's License Law for the following reason(s):

By the application and acceptance of this permit, the undersigned intending to be legally bound does hereby agree that all work performed will be in accordance with all applicable provisions of this permit and all regulations, provisions, and specifications as adopted by the City. Further, the undersigned agrees that this permit is to serve as a guaranty for payment of all permit and/or inspection charges as billed by the City. Any misrepresentation of information requested from the applicant on this form shall make this permit null and void.

Signed: Robert Gibson EMKON Date: 2/27/96

PLEASE CALL 577-2708 FOR INSPECTIONS

SPECIAL PROVISIONS

Backfill Required PER CITY & ALAMEDA COUNTY

Pavement Section Required STD. DETAILS & SPEC.

Minimum Depth of Cover

Police & Fire Dept. to be notified 24 hours prior to start: YES X NO____

* NO STREET CLOSURE ALLOWED.

SEE REVERSE SIDE FOR GENERAL PROVISIONS APPLICABLE TO ALL PERMIT WORK

PERMIT IS VALID WHEN SIGNED

Any omission on the part of the City to specify on this permit any rule, regulation, provision, or specification shall not excuse the permittee from complying with all requirements of law and appropriate ordinances and all applicable regulations, provisions, and specifications adopted by the City.

ISSUE FOR CITY ENGINEER

INSPECTION RECORD

Date	Comments	Insp.	Hrs. Chrgd.

NOTE: 1 hr. minimum charge per inspection stop

Hours forwarded from reverse side:_____

TOTAL HOURS CHARGED:_____

FEES

PERMIT FEE: 125 - TO ACCT #3306

RESTORE/INSPECT DEPOSIT: TO CN#_____

STREET CUT FEE:_____ TO ACCT #3304

TOTAL: 125

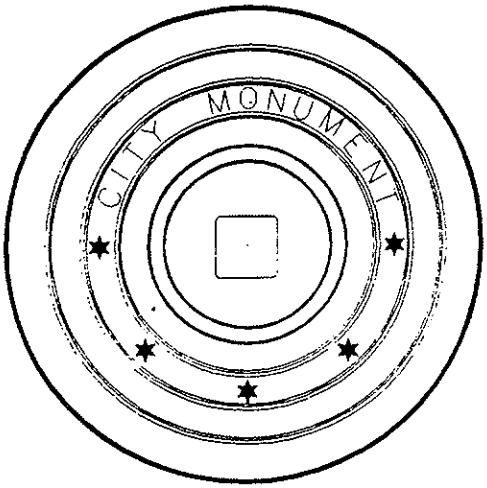
RECEIVED CITY OF SAN LEANDRO FEB 27 1996 ENG'G / TRANS.

☐ All charges collected at permit issuance

☐ All charges to be billed to

CN#_____

Rev. Date 8/91

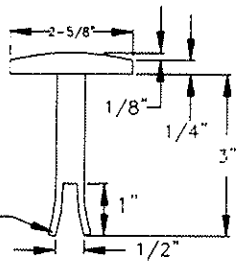


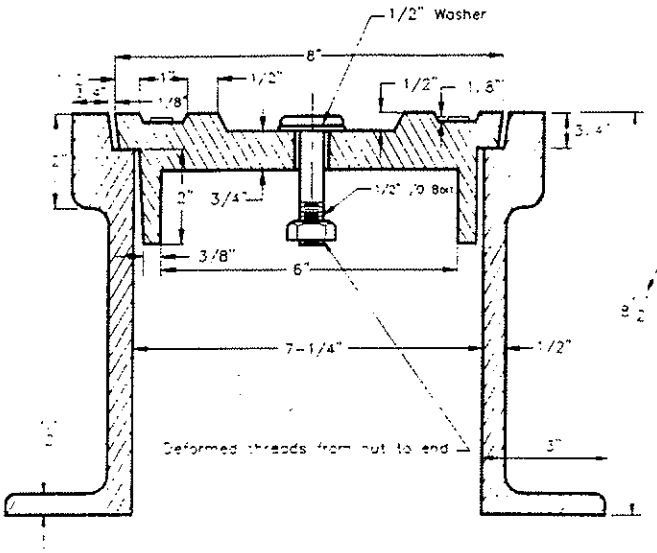
Note: Frame and cover shall be Phoenix Iron Works P-200', D & L Supply K-6001, or approved equal

Red Brass
Copper 85%
Tin 5%
Zinc 5%
Lead 5%

Disc shall be obtained from the City of San Leandro

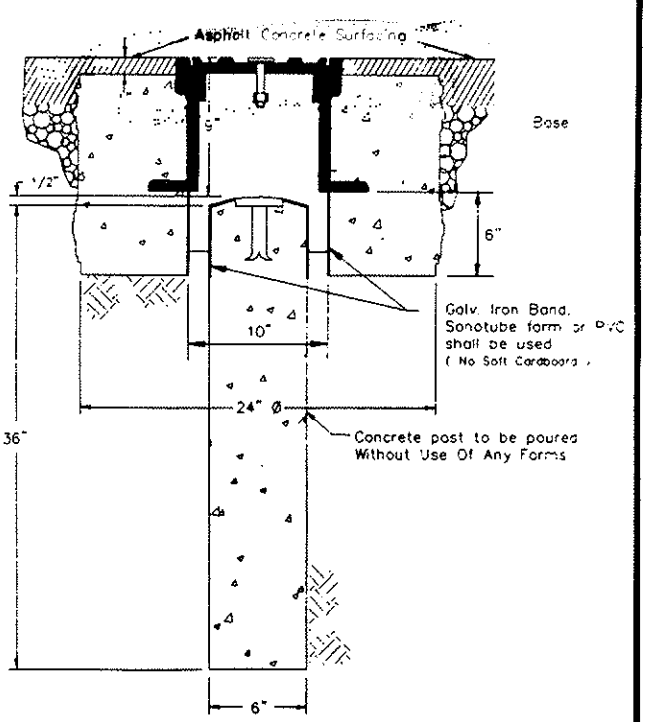
Spread as indicated





4-1/2" may be used on retrofit if approved by City Engineer.

LEAVE CONCRETE 1-1/2" BELOW FINISH GRADE & PATCH WITH A.C. OR HYDRA PATCH



NOTE:
All concrete shall be 470-C-2500
Top of monument shall have a smooth, rounded finish.

Installation shall comform to Utility Frame and Cover Adjustment Dwg. **222** Case 3101

ACAD FILE. MONUMENT DWG

CITY OF SAN LEANDRO • STANDARD PLANS

NO.	REVISIONS	DATE

SURVEY MONUMENT

APPROVED
City Engineer R.C.E. No.14942

DRAWN	CHECKED	DATE	SCALE	SHEET	DWG. NO.	CASE
RLF	JSN	April 5, 1994	NONE	1 OF 1	**130**	3101

APPENDIX D

FIELD AND LABORATORY PROCEDURES

Exploratory Boring and Soil Sampling

EXPLORATORY BORINGS AND SOIL SAMPLING

General procedures for drilling and sampling exploratory borings are discussed below.

Before a drilling rig is mobilized, access issues with private property owners are resolved and an underground utility locating service contracted to investigate proposed boring sites and arrange for site visits by public and private utility companies. The utility companies locate their installations with the aid of maps and the locating service verifies and marks the locations. Final boring locations are determined after these assessments are made. To confirm that no subsurface utilities will obstruct drilling, field personnel excavate the upper four feet of soil from each boring location with a posthole digger.

For sites characterized by relatively shallow (less than 100-feet-deep) groundwater, exploratory borings are drilled with 8- to 12-inch hollow-stem auger drilling equipment. The augers are steam-cleaned to prevent possible cross-contamination between boreholes. Where chemical analysis of samples is indicated, sampling equipment is also steam-cleaned between each sampling event.

Soil samples are collected at depths no farther apart than 5 feet using a modified California split-spoon sampler which is fitted with stainless-steel liners. As the sampler is driven into undisturbed soil ahead of the auger tip, soil accumulates in the liners. The sampler is retrieved from the ground and the liners are removed, sealed with Teflon® tape and polypropylene end-caps, and stored on ice pending selection for analysis and transport to the laboratory. Chain-of-custody documentation accompanies samples to the laboratory.

Field characterization of contamination is based on visual and olfactory observations and on the results of a headspace analysis, in which a soil sample is removed from the liner, sealed in a mason jar, and exposed to direct sunlight for 10 to 15 minutes. The jar is shaken to release volatile hydrocarbons into the headspace between the soil and the jar cover. The headspace is probed by a tube attached to a portable photoionization detector (PID), by which volatile hydrocarbon content is measured. A minimum of one sample, typically that having the highest PID reading from a boring, is submitted for chemical analysis.

A detailed boring log is maintained for each exploratory boring from auger-return material and representative soil samples. Soil is logged in the field according to the Unified Soil Classification System, and the logging supervised by a state-registered geologist. Borings not completed as wells are backfilled with a neat-cement slurry by the tremie method.

Drill cuttings are stockpiled on site and covered with plastic sheeting until the results of chemical analyses are known. The petroleum hydrocarbon content of the stockpile is determined by analysis of a composite formed from samples collected from the subsurface of the stockpile. Recommendations for disposal of the cuttings are made on the basis of the analysis, and the cuttings are disposed of by the client.

Sampling and Analysis Procedures

EMCON's sampling and analysis procedures for soils provide consistent and reproducible results and ensure that the objectives of the sampling program are met.

The following publications were used as guidelines for developing these procedures:

- *Leaking Underground Fuel Tank* (LUFT) *Field Manual* (State Water Resources Control Board, May 1988, revised October 1989)
- *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods* (EPA, SW-846, 3rd edition, November 1986)

Sample Handling

Sample containers are labeled immediately after sample collection, and are kept in ice chests with ice which is replaced daily until the containers are received at the laboratory. As a sample is collected, it is logged on the chain-of-custody record that accompanies samples to the laboratory.

Samples are transferred from the site to EMCON's laboratory by EMCON field personnel. Laboratory personnel assign a different number to each sample container and the number is recorded on the chain-of-custody record and used to identify the sample on all subsequent internal chain-of-custody and analytical records. Within 24 hours of sample receipt, samples are routinely shipped from EMCON to laboratories performing the selected analyses. EMCON's laboratory manager ensures that the holding times for requested analyses are not exceeded.

Sample Documentation

The procedures for sample handling provide chain-of-custody control from collection through storage. Sample documentation includes the following:

- Labels for identifying individual samples
- Chain-of-custody records for documenting possession and transfer of samples

- Laboratory analysis requests for documenting analyses to be performed

Labels

Sample labels contain the following information:

- Project number
- Sample number (i.e., boring designation)
- Sampler's initials
- Date and time of collection

Sampling and Analysis Chain-of-Custody Record

The sampling and analysis chain-of-custody record (Figure 1), initiated at the time of sampling, includes the boring number, sample type, analytical request, date of sampling, the name of the sampler, and other information deemed pertinent. The sampler signs his name and records the date and time on the record sheet when transferring the samples to another person. Custody transfers are recorded for every sample; for example, if samples are split and sent to more than one laboratory, a record sheet accompanies each sample. The number of custodians in the chain of possession is kept to a minimum. A copy of the sampling and analysis chain-of-custody record is returned to EMCON with the analytical results.

Soil Analysis Request

The Soil Analysis Request (Figure 2) or the purchase order that accompanies samples to the laboratory serves as official communication of the particular analysis(es) required for each sample and is evidence that the chain of custody is complete.

At a minimum, the soil analysis request includes the following:

- Date submitted
- Specific analytical parameters
- Boring number
- Sample source

Analytical Methods

Samples collected as part of the proposed sampling programs are analyzed by accepted analytical procedures. The same publications cited under "Sampling and Analysis Procedures are the primary references.

The laboratories performing the analyses are certified by the Department of Health Services (DHS) for hazardous waste testing.

Quality Control

Quality assurance measures confirm the integrity of field and laboratory data generated during the monitoring program. Procedures for assessing data quality are discussed in this section. Field and laboratory quality assurance data are evaluated in the technical reports.

Laboratory Quality Assurance

Laboratory quality assurance includes procedures required under the DHS Hazardous Waste Testing Program. For sites where Columbia Analytical Services conducts the chemical tests, quality assurance procedures include the reporting of surrogate recoveries, matrix spike recoveries, and matrix spike duplicates (or duplicate) results.

Method blanks are analyzed daily for the purpose of assessing the effect of the laboratory environment on analytical results, and are performed for each constituent analyzed.

Samples to be analyzed for organic constituents contain surrogate spike compounds. Surrogate recoveries are used to determine whether analytical instruments are operating within limits. Surrogate recoveries are compared with control limits established and updated by the laboratory on the basis of its historical operation.

Matrix spikes are analyzed at a frequency of approximately 10 percent. Matrix spike results are evaluated to determine whether the sample matrix is interfering with the laboratory analysis, and provide a measure of the accuracy of the analytical data. Matrix spike recoveries are compared with control limits established and updated by the laboratory on the basis of its historical operation.

Laboratory duplicates are analyzed at a frequency of approximately 10 percent. Spike duplicate results are evaluated to determine the reproducibility (precision) of the analytical method. Reproducibility values are compared with control limits established and updated by the laboratory on the basis of its historical operation.

Laboratory QC data included with the analytical results are method blanks, surrogate spike recoveries (for organic parameters only), matrix spike recoveries, and matrix spike duplicates.

When other state-certified laboratories conduct the testing, each laboratory will follow its own internal QA/QC program.

Groundwater Well Installation

GROUNDWATER WELL INSTALLATION PROCEDURES

Well permits are obtained from local and state regulatory agencies preparatory to drilling exploratory borings that will be completed as groundwater wells.

The exploratory borings to be converted to verification monitoring wells or extraction wells are drilled no deeper than 20 feet into saturated soil, or until a layer at least 3 feet thick of relatively impermeable clayey material (aquitard) is encountered, whichever comes first. If the aquitard is sufficiently thick, it is backfilled with bentonite through a tremie pipe. Borings are converted to verification monitoring wells with 2-inch-diameter, flush-threaded, polyvinyl chloride (PVC) casing with a screened section of machine-perforated, 0.020-inch slots. For extraction wells, the boring is reamed with a 12-inch-diameter auger, and 6-inch-diameter casing is installed inside the enlarged borehole.

Boring depths and screen lengths are determined from geologic profiles of the boring. Screened sections of casing extend through the saturated interval as much as 5 feet above first-encountered groundwater. A well is completed by the placement of various materials in the annular space around the casing. The annulus is filled to approximately 2 feet above the screen with a sand pack of a grain size predetermined by sieve analysis of the soil. The sand pack is covered with a bentonite plug at least 1-foot thick, and the remaining annular space is sealed within 1 foot of the surface with a sanitary seal of neat cement in compliance with regulatory guidelines. The wells are completed to ground surface with PVC casing. The well heads are protected with traffic-proof vault boxes set in concrete and capped with water-tight locking devices. Well locations are surveyed and top-of-casing elevations measured to the nearest 0.01 foot. Detailed well completion diagrams are prepared. Water well drillers' reports containing geological data, well locations and construction details are submitted to the California Department of Water Resources.

Groundwater Sampling and Analysis

GROUNDWATER SAMPLING AND ANALYSIS

EMCON's sampling and analysis procedures for water-quality monitoring are designed to provide consistent and reproducible results and ensure that the objectives of the monitoring program are met.

The following publications were used as guidelines for developing these procedures:

- Procedures Manual for Ground-Water Monitoring at Solid Waste Disposal Facilities (EPA-530/SW-611, August 1977)
- RCRA Ground-Water Monitoring Technical Enforcement Guidance Document (OSWER 9950.1, September 1986)
- Test Methods for Evaluating Solid Waste: Physical/Chemical Methods (EPA SW-846, 3rd edition, November 1986)
- Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater (EPA-600/4-82-057, July 1982)
- Methods for Chemical Analysis of Water and Wastes (EPA-600/4-79-020, revised March 1983)

Sample Collection

Sample collection procedures include equipment cleaning, well purging, and water-level, floating-hydrocarbon thickness, and total well-depth measuring.

Equipment Cleaning

The bottles, caps, and septa used to hold samples for volatile and semivolatile organic analysis are triple-rinsed with high-purity deionized water and dried overnight, the bottles at 200°C, the caps and septa at 60°C. The bottles, caps, and septa are protected from solvent contact between drying and use at the site.

The plastic bottles and caps used to hold samples for metals analysis are soaked overnight in a 1 percent nitric acid solution, triple-rinsed with deionized water, and air-dried.

Equipment for sampling groundwater (i.e., pumps, bailers, etc.) is first disassembled, cleaned thoroughly with diluted detergent, and steam-rinsed with deionized water. Parts such as plastic pump valves and bladders, which may absorb contaminants, are cleaned before each use or replaced. The inside of the positive-displacement (bladder) pump tubing is cleaned overnight with a low-flow, inert air source heated to 120°C.

A pump blank made of organic-free water is pumped through the clean bladder-pump assembly, and the resulting effluent is sampled and analyzed by EPA Method 601 or 602. Analytical results must be below the method reporting limit for each constituent analyzed before the pump is used at the site.

The surfaces of well equipment that comes in contact with groundwater during well purging and sampling are steam-cleaned with deionized water between each use.

Water-Level, Floating Hydrocarbon, and Total Well-Depth Measurements

Water levels, floating-hydrocarbon thickness, and total well-depth are measured before wells are purged and sampled. An electric sounder, a bottom-filling, clear Teflon® bailer, or an oil-water interface probe is used to make these measurements. The electric sounder is a transistorized instrument with a reel-mounted, two-conductor, coaxial cable which connects the control panel to the sensor. The cable is stamped in 1-foot increments. The sensor is lowered into the well and as it makes contact with the water, which acts as an electrolyte, a low-current circuit is completed. The current is amplified and fed into an indicator light and an audible buzzer, which produce a signal as the sensor touches the water. A sensitivity control compensates for highly saline or conductive water. The sounder is decontaminated after each use with a deionized-water rinse. The bailer is lowered to a point just below the liquid level, retrieved, and inspected for floating hydrocarbon.

Alternately, an oil-water interface sonic probe can be used to measure floating-hydrocarbon thickness. The probe emits a continuous tone when immersed in a nonconductive fluid, such as oil or gasoline, and an intermittent tone when immersed in a conductive fluid, such as water. Fluid levels are recorded relative to which tone is emitted. The sonic probe is decontaminated after each use with a deionized-water rinse.

Fluid measurements are recorded to the nearest 0.01 foot in a field logbook. The groundwater elevation at the monitoring wells is calculated by subtracting the measured depth to water from the surveyed top-of-casing elevation. When possible, depth to water is measured in all wells on the same day. Water levels are converted to elevations above mean sea level (MSL) and contoured on a groundwater map. Total well depth, recorded to the nearest 0.5 foot, is measured by means of an electric sounder which is lowered to the bottom of a well. This measurement is used for calculating purge volumes and determining the degree to which silt may have obstructed the well screen.

Well Purging

Before a monitoring well is sampled, it is purged of standing water in the casing and gravel pack by one of several devices: a bladder pump, a pneumatic displacement pump, a centrifugal pump, or a Teflon bailer. Water will be evacuated from the well until the amount equals the calculate purge volume (as shown in Monitoring Well Purging Protocol, Figure 3), which will allow indicator parameters to stabilize, or until the well is evacuated to practical limits of dryness, if this occurs before the calculated purge volume is removed. These low-yield monitoring wells are allowed to recharge until the volume of water is sufficient for sampling, but not longer than 24 hours. If insufficient water has recharged after 24 hours, a monitoring well is recorded as dry for the sampling event.

The pH, specific conductance, and the temperature meter are calibrated daily before field activities are begun. Meter calibration is checked daily during field activities to verify performance. Field measurements are recorded on a water-sample field-data sheet (Figure 4) and kept in a waterproof logbook. Data sheets are reviewed by the sampling coordinator at the end of the sampling event.

Well Sampling

A Teflon bailer or a bladder pump is the only acceptable equipment for well sampling. When samples are collected for volatile organic compound (VOC) analysis with a bladder pump, the pump flow is regulated to approximately 100 milliliters per minute to minimize pump-effluent turbulence and aeration. Samples for VOC analysis are preserved in 40-milliliter glass bottles (or larger), which are fitted with Teflon-lined septa. The bottles are filled completely to force out air and to aid in forming a positive meniscus. Bottles are capped with convex Teflon septa to seal out air, and are inverted and tapped to verify that no air bubbles remain. Containers of samples to be analyzed for other constituents are filled, filtered as required, and capped.

When required, an appropriate field-filtration technique is used to determine dissolved concentrations of metals. When a Teflon bailer is used, the contents are emptied into a pressure transfer vessel. A disposable 0.45-micron acrylic copolymer filter is threaded onto the transfer vessel at the discharge point and the vessel is sealed. The vessel is pressurized with a hand pump and the filtrate directed into appropriate containers. Each filter is used once and discarded.

When a bladder pump is used to collect samples for dissolved constituents, a sample is filtered through a disposable 0.450-micron acrylic copolymer filter attached directly to the pump effluent line with a pressure fitting. As the pump cycles, the effluent is pressured through the filter and directed into an appropriate container. Each filter is used once and discarded.

Sample Preservation and Handling

Procedures for handling and preserving samples are consistent with the guidelines referenced in the Introduction. Sample containers vary depending on the type of analysis required (e.g., volatile organics, hydrocarbons, or dissolved metals) and are nonreactive with a given chemical.

Sample Handling

Sample containers are labeled immediately after sample collection, and are kept on cold packs which are replaced daily until the containers are received at the laboratory. As a sample is collected, it is logged on the chain-of-custody record that accompanies samples to the laboratory.

Samples are transferred from the site to EMCON's laboratory by the sampling team. Laboratory personnel assign a different number to each sample container and the number is recorded on the chain-of-custody record and used to identify the sample on all subsequent internal chain-of-custody and analytical records. Within 24 hours of sample receipt, samples are routinely shipped from EMCON to laboratories performing the selected analyses. EMCON's laboratory manager ensures that the holding times for requested analyses are not exceeded.

Sample Documentation

The procedures for sample handling provide chain-of-custody control from collection through storage. Sample documentation includes the following:

- Field logbooks for documenting sampling activities in the field
- Labels for identifying individual samples
- Chain-of-custody records for documenting possession and transfer of samples
- Laboratory analysis requests for documenting analyses to be performed

Field Logbook

In the field, the sampler records the following information on the water sample field data sheet (Figure 4) for each sample:

- Project number

- Client name
- Location
- Sampler's name
- Date and time
- Well accessibility and integrity
- Pertinent well data (e.g., casing diameter, depth to water, well depth)
- Calculated and actual purge volumes
- Purging equipment
- Sampling equipment
- Appearance of each sample (e.g., color, turbidity, sediment)
- Results of field analyses (temperature, pH, specific conductance)
- General comments

The field logbooks are signed by the sampler.

Labels

Sample labels contain the following information:

- Project number
- Sample number (i.e., well designation)
- Sampler's initials
- Date and time of collection
- Type of preservative used (if any)

Sampling and Analysis Chain-of-Custody Record

The sampling and analysis chain-of-custody record (Figure 1), initiated at the time of sampling, includes the well number, sample type, analytical request, date of sampling, the

name of the sampler, and other information deemed pertinent. The sampler signs his name and records the date and time on the record sheet when transferring the samples to another person. Custody transfers are recorded for every sample; for example, if samples are split and sent to more than one laboratory, a record sheet accompanies each sample. The number of custodians in the chain of possession is kept to a minimum. A copy of the sampling and analysis chain-of-custody-record is returned to EMCON with the analytical results.

Groundwater Sampling and Analysis Request

The Groundwater Sampling and Analysis Request or the purchase order that accompanies samples to the laboratory serves as official communication of the particular analysis(es) required for each sample and is evidence that the chain of custody is complete (Figure 5).

At a minimum, the groundwater sampling and analysis request includes the following:

- Date submitted
- Specific analytical parameters
- Well number
- Sample source

Analytical Methods

Samples collected as part of the proposed monitoring programs are analyzed by accepted analytical procedures. The following publications are the primary references:

- Methods for Chemical Analysis of Water and Wastes (EPA-600/4-79-020, revised March 1983)
- Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater (EPA-600/4-82-057), July 1982)
- Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods (EPA SW-846, 3rd edition, November 1986)
- Leaking Underground Fuel Tank (LUFT) Manual, State Water Resources Control Board, State of California Leaking Underground Fuel Tank Task Force, May 1988

The laboratories performing the analyses are certified by the Department of Health services (DHS) for hazardous waste testing.

Quality Control

Quality assurance measures confirm the integrity of field and laboratory data generated during the monitoring program. Procedures for assessing data quality are discussed in this section. Field and laboratory quality assurance data are evaluated in the technical reports.

Field Quality Assurance

Field quality assurance for each monitoring event includes the documentation of field instrument calibration and collection and analysis of trip blanks, field blanks, and duplicate samples. Split samples may also be included in the monitoring program.

Trip and Field Blanks

Trip and field blanks are used to detect contamination introduced through sampling procedures, external field conditions, sample transportation, container preparation, sample storage, and the analytical process.

Trip blanks are prepared at the same time and location as the sample containers for a given sampling event. Trip blanks accompany the containers to and from that event, but are never opened or exposed to the air. One trip blank for volatile organic parameters is typically included for each sampling event.

Field blanks are prepared in the same manner as trip blanks, but are exposed to the ambient atmosphere at a specific monitoring point during sample collection for the purpose of determining the influence of external field conditions on sample integrity. One field blank for volatile organic parameters is typically included for each day of sampling.

Duplicate Samples

Duplicate samples are collected so that field precision can be documented. For each sampling event, a specified percentage (typically 5 percent) of monitoring well samples is collected in duplicate. Where possible, field duplicates are collected at sampling points known or suspected to contain constituents of interest. Duplicates are packed and shipped blind to the laboratory to be analyzed with the samples from that particular event (i.e., duplicates have no special markings indicating that they are quality control samples).

Laboratory Quality Assurance

Laboratory quality assurance includes procedures required under the DHS Hazardous Waste Testing Program. For sites where Columbia Analytical Services conducts the chemical tests, its quality assurance procedures include the reporting of surrogate recoveries, matrix spike recoveries, and matrix spike duplicates (or duplicate) results.

Method blanks are analyzed daily for the purpose of assessing the effect of the laboratory environment on analytical results, and are performed for each constituent analyzed.

Samples to be analyzed for organic constituents contain surrogate spike compounds. Surrogate recoveries are used to determine whether analytical instruments are operating within limits. Surrogate recoveries are compared with control limits established and updated by the laboratory on the basis of its historical operation.

Matrix spikes are analyzed at a frequency of approximately 10 percent. Matrix spike results are evaluated to determine whether the sample matrix is interfering with the laboratory analysis, and provide a measure of the accuracy of the analytical data. Matrix spike recoveries are compared with control limits established and updated by the laboratory on the basis of its historical operation.

Laboratory duplicates are analyzed at a frequency of approximately 10 percent. Spike duplicate results are evaluated to determine the reproducibility (precision) of the analytical method. Reproducibility values are compared with control limits established and updated by the laboratory on the basis of its historical operation.

Laboratory QC data included with the analytical results are method blanks, surrogate spike recoveries (for organic parameters only), matrix spike recoveries, and matrix spike duplicates.

When other state-certified laboratories conduct the testing, each laboratory will follow its own internal QA/QC program.

APPENDIX E

WASTE MANIFESTS

DILLARD ENVIRONMENTAL SERVICES

A Division of Dillard Trucking, Inc.

P.O. Box 218

Byron, CA 94514

Tel# (510) 634-6850 Fax# (510) 634-0569

April 9, 1996

Emcon

Attn: Rob Davis

Re: ARCO Station 02111 - 1156 Davis St., San Leandro, CA
Removed: 4 cubic yards / 5.07 tons

Dear Mr. Davis:

Please be advised that the stockpile from the above referenced site has been removed. The soil was transported for disposal to BFI/Vasco in Livermore, CA on April 3,1996.

Should you have any questions, please do not hesitate to call.

Sincerely,

DILLARD ENVIRONMENTAL SERVICES,
A Division of Dillard Trucking, Inc.

Jessica Drake
Project Manager

JDD/rc

cc: file

Facsimile Cover Sheet

To:	Rob Davis
Company:	Emcon
Phone:	
Fax:	437-9526

From:	Stephen Shimane
Company:	INTEGRATED WASTESTREAM MANAGEMENT, INC.
Phone:	(408) 942-8955
Fax:	(408) 942-1499

Date: 4/19/96 **Pages:** 2 (Including cover page)

RE: Arco Purge Water Transport Form

Comments: As requested, attached is the transport form for the 5 water drums disposed on 4/2/96 at Seaport Environmental, Redwood City.

If you have any questions, please call.

Thank you,
Steve

TF NUMBER: AR040296

MONITORING WELL PURGE WATER TRANSPORT FORM

GENERATOR INFORMATION

NAME: ARCO PRODUCTS COMPANY, ATTN: BERNARD BRUSZAK
ADDRESS: 1055 WEST 7TH STREET, P.O. BOX 2570
CITY,STATE,ZIP: LOS ANGELES, CA 90051 PHONE #: (415) 571-2434

DESCRIPTION OF WATER: MONITORING WELL PURGE WATER

THE GENERATOR CERTIFIES THAT THIS WATER AS DESCRIBED IS NON-HAZARDOUS

SITE INFORMATION

	STA #	JOB #	ADDRESS	DRUMS	GALS
1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
2	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
4	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
5	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
6	A-2111	60168-DW	1156 Davis Street, San Leandro, CA	5	200
7	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
8					
9					
10					
11					
12					
13					
14					
15					
				Total Gallons:	1,400

TRANSPORTER INFORMATION

NAME: INTEGRATED WASTESTREAM MANAGEMENT, INC.
ADDRESS: 950 AMES AVE.
CITY,STATE,ZIP: MILPITAS, CA 95035 PHONE #: (408) 942-8955

TRUCK ID #: 102 X ADICO Barry Adico 4/2/96
(Typed or printed full name & signature) (Date and Time)

RECEIVING FACILITY INFORMATION

NAME: SEAPORT
ADDRESS: 675 SEAPORT BLVD
CITY,STATE,ZIP: REDWOOD CITY, CA 94063 PHONE #: (415) 364-8154

APPROVAL #: 505-099 [illegible] 4 2 96
(Typed or printed full name & signature) (Date)

APPENDIX F

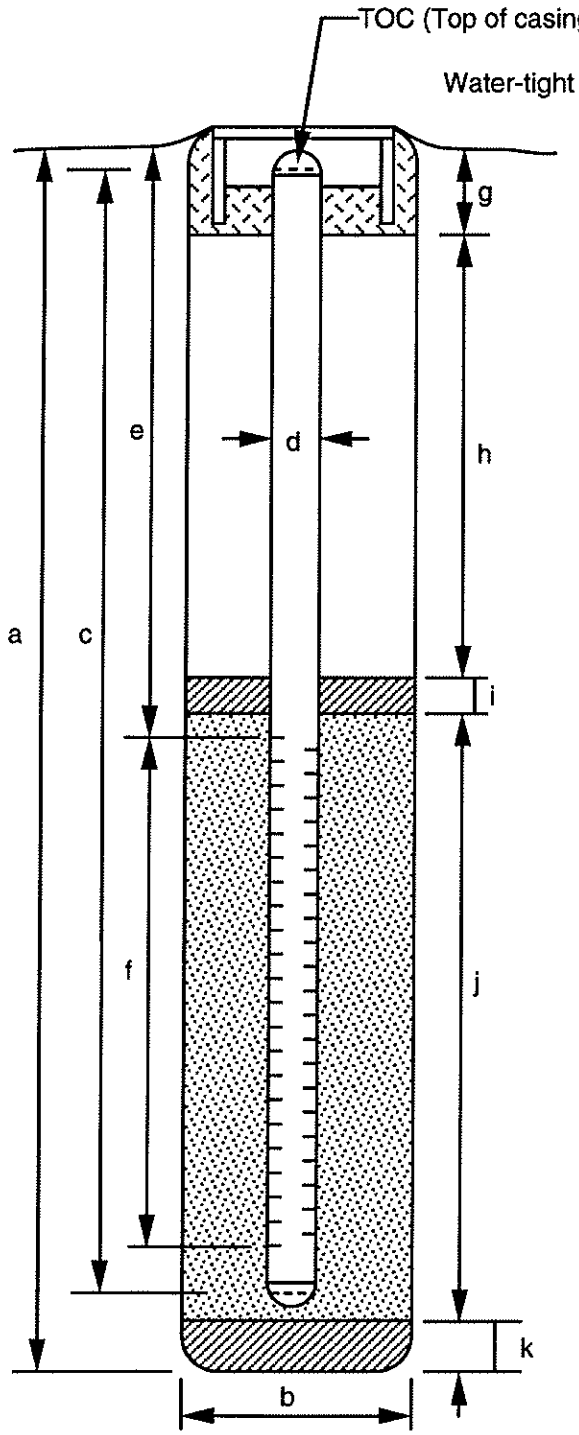
EXPLORATORY BORING LOGS AND WELL CONSTRUCTION DETAILS

WELL DETAILS

EMCON ASSOCIATES

PROJECT NUMBER 0805-127.01
PROJECT NAME ARCO 2111
LOCATION 1156 Davis Street, San Leandro
WELL PERMIT NO. na

BORING / WELL NO. MW-1
TOP OF CASING ELEV. 39.60
GROUND SURFACE ELEV. 38.84
DATUM M.S.L.
INSTALLATION DATE 7/12/95



EXPLORATORY BORING

a. Total depth 30.0 ft.
b. Diameter 10.0 in.
Drilling method Hollow Stem Auger

WELL CONSTRUCTION

c. Total casing length na ft.
Material Schedule 40 PVC
d. Diameter 4.0 in.
e. Depth to top perforations 12.5 ft.
f. Perforated length 13.7 ft.
Perforated interval from 12.5 to 26.2 ft.
Perforation type Machine Slotted
Perforation size 0.020 inch
g. Surface seal 1.0 ft.
Material Concrete
h. Backfill 9.5 ft.
Material Cement
i. Seal 1.5 ft.
Material Bentonite
j. Gravel pack 16.5 ft.
Gravel pack interval from 10.5 to 27.0 ft.
Material 2/12 Sand
k. Bottom seal/fill 3.0 ft.
Material Bentonite

Form prepared by R. Davis

LOG OF EXPLORATORY BORING

PROJECT NUMBER: **0805-127.001**

BORING NO.: **MW-1**

PROJECT NAME: **ARCO Service Station 2111**

PAGE: **1 of 2**

BY: **R. Davis**

DATE: **7/12/95**

SURFACE ELEVATION: **39.84 ft.**

RECOVERY (ft/ft)		PENETRATION (blws/ft)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
							ASPHALT	
							FILL - SANDY GRAVEL (GP).	
							@3.2': cobbles to 5".	
80%	0	22		5			CLAYEY GRAVEL (GC), dark brown (7.5YR, 4/4); 20-25% medium plasticity fines; 30% fine to coarse sand; 45-50% fine to coarse gravel to 1.5"; medium dense; damp; no product odor.	
							SILTY CLAY (CL), dark brown (10YR, 3/3); 95-100% low to medium plasticity fines; trace to 5% fine sand; stiff to very stiff;damp; no product odor.	
100%	0	27		10			@10.0-11.5': dark grayish brown (2.5Y, 4/2); increased silt content; trace dark brown organic fragments (0.5-2.0mm); very stiff; damp; no product odor.	
							@15.0-16.5': SILTY CLAY (CL) and CLAYEY SILT (ML)- Interbedded, 70/30:	
90%	0	29	▽	15			SILTY CLAY (CL), dark brown (10YR, 3/3); 95-100% low to medium plasticity fines; trace to 5% fine sand; stiff to very stiff;damp; no product odor.	
							CLAYEY SILT (ML), light olive brown (2.5Y, 5/4); 95-100% low plasticity fines; trace to 5% fine sand; very stiff to hard; damp; no product odor.	
							@17.5': driller noted easier drilling in looser material.	
				20				

EMCON ASSOCIATES

REMARKS

Boring drilled with 8" diameter hollow-stem augers and reamed with 10" diameter augers. Samples were taken using a 2" diameter modified-California split spoon sampler. Boring converted into a 4" diameter polyvinyl chloride (PVC) groundwater monitoring well. See explanation sheet for definition of symbols used in well detail and sample columns of this log. See explanation sheet for definition of symbols on this log.

LOG OF EXPLORATORY BORING

PROJECT NUMBER: **0805-127.001**

BORING NO.: **MW-1**

PROJECT NAME: **ARCO Service Station 2111**

PAGE: **2** of **2**

BY: **R. Davis**

DATE: **7/12/95**

SURFACE ELEVATION: **39.84 ft.**

RECOVERY (ft/ft)		PENETRATION (blws/ft)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
100%	0	24					CLAYEY SANDY SILT (ML), light olive brown (2.5Y, 5/4) with yellowish brown (10YR, 5/6) mottling; 85-90% low to medium plasticity fines; 10-15% fine to coarse sand; firm; wet; no product odor. @22': driller noted harder drilling in more competant material.	
60%	0	15		25			@25.0-26.5': 5-10% fine sand; very stiff; damp to wet (moisture visible in voids); no odor.	
40%	0	8		30			SILTY CLAY (CL), dark greyish brown (2.5Y, 4/2); 90-95% low- to medium-plasticity fines; 5-10% fine sand; soft to firm; very moist, wet in void spaces; no product odor. BORING TERMINATED AT 30.0 FEET BGS.	
				35				
				40				

EMCON ASSOCIATES

REMARKS

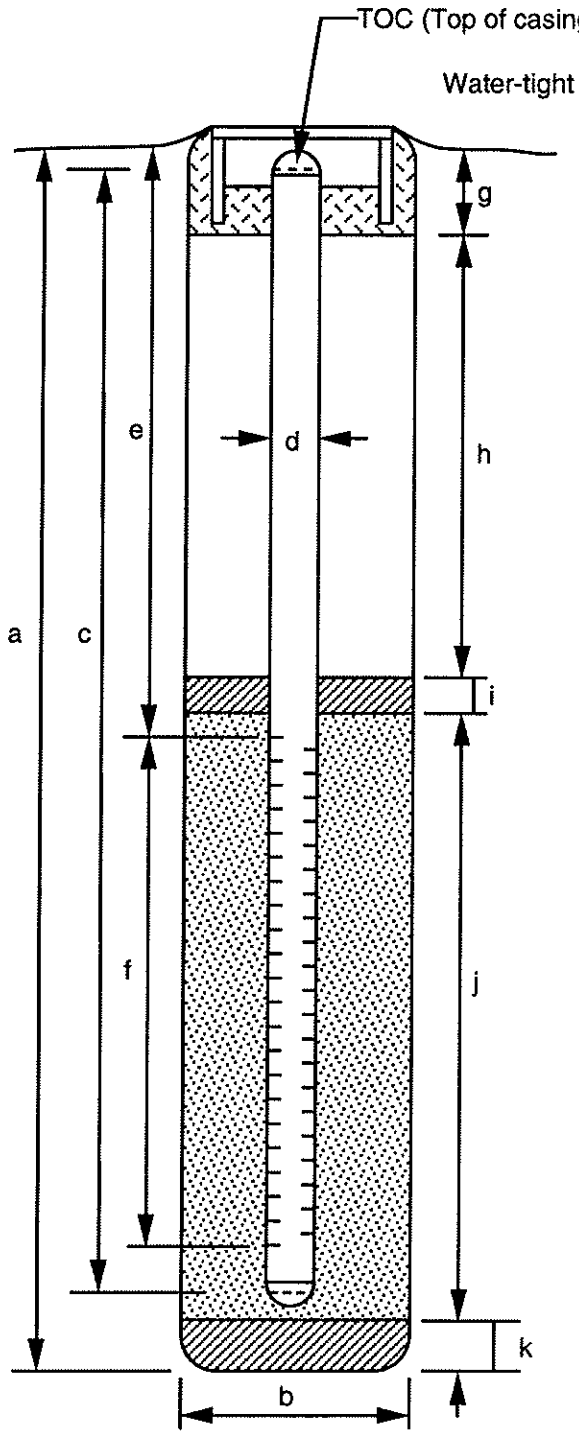
Boring drilled with 8" diameter hollow-stem augers and reamed with 10" diameter augers. Samples were taken using a 2" diameter modified-California split spoon sampler. Boring converted into a 4" diameter polyvinyl chloride (PVC) groundwater monitoring well. See explanation sheet for definition of symbols used in well detail and sample columns of this log. See explanation sheet for definition of symbols on this log.

WELL DETAILS

EMCON ASSOCIATES

PROJECT NUMBER 0805-127.01
PROJECT NAME ARCO 2111
LOCATION 1156 Davis Street, San Leandro
WELL PERMIT NO. na

BORING / WELL NO. MW-2
TOP OF CASING ELEV. 37.99
GROUND SURFACE ELEV. 38.71
DATUM M.S.L.
INSTALLATION DATE 7/12/95



EXPLORATORY BORING

a. Total depth 30.5 ft.
b. Diameter 10.0 in.
Drilling method Hollow Stem Auger

WELL CONSTRUCTION

c. Total casing length na ft.
Material Schedule 40 PVC
d. Diameter 4.0 in.
e. Depth to top perforations 12.0 ft.
f. Perforated length 14.2 ft.
Perforated interval from 12.0 to 26.2 ft.
Perforation type Machine Slotted
Perforation size 0.020 inch
g. Surface seal 1.0 ft.
Material Concrete
h. Backfill 7.5 ft.
Material Cement
i. Seal 1.5 ft.
Material Bentonite
j. Gravel pack 17.0 ft.
Gravel pack interval from 10.0 to 27.0 ft.
Material 2/12 Sand
k. Bottom seal/fill 3.5 ft.
Material Bentonite & Native Slough

Form prepared by R. Davis

LOG OF EXPLORATORY BORING

PROJECT NUMBER: **805-127.01**

BORING NO.: **MW-2**

PROJECT NAME: **ARCO Service Station 2111**

PAGE: **1** of **2**

BY: **R. Davis**

DATE: **7/12/85**

SURFACE ELEVATION: **38.71 ft.**

RECOVERY (ft/ft)		PENETRATION (blws/ft)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
							ASPHALT FILL - SANDY GRAVEL (GP).	
100%	0	18		5			CLAYEY SILT (ML), very dark grayish brown (2.5Y, 3/2); 85-90% low- to medium-plasticity fines; 10-15% fine to coarse sand; stiff to very stiff; damp; no odor.; @5.5': trace fine gravel.	
100%	0	20		10			SILTY CLAY (CL), dark brown (2.5Y, 4/2); low- to medium- plasticity fines; trace coarse sand and fine gravel; stiff to very stiff; damp; no product odor.	
100%	0	20		15			@15.0-17.5': very dark grayish brown (2.5Y, 3/2) with yellowish brown mottling; 90-100% low- to medium-plasticity fines; trace to 10% fine to coarse sand; very stiff; damp to moist; no product odor.	
100%	6.2	26	▽					
100%	9.3	23					@18.0-19.5': as above with grayish mottling; low-to medium- plasticity fines, higher silt content than above; very stiff; moist to wet; product odor.	
				20				

REMARKS

Boring drilled with 8" diameter hollow-stem augers and reamed with 10" diameter augers. Samples were taken using a 2" diameter modified-California split spoon sampler. Boring converted into a 4" diameter polyvinyl chloride (PVC) groundwater monitoring well. See explanation sheet for definition of symbols used in well detail and sample columns of this log. See explanation sheet for definition of symbols on this log.

EMCON ASSOCIATES

LOG OF EXPLORATORY BORING

PROJECT NUMBER: **805-127.01**

BORING NO.: **MW-2**

PROJECT NAME: **ARCO Service Station 2111**

PAGE: **2** of **2**

BY: **R. Davis**

DATE: **7/12/85**

SURFACE ELEVATION: **38.71 ft.**

RECOVERY (ft/ft)		PENETRATION (blws/ft)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
100%	183	22					SILTY CLAY (CL), continued.	
90%	44	35					SANDY CLAY (CL), light olive brown (2.5Y, 5/4); 70% medium- plasticity fines; 30% fine to coarse sand; very stiff to hard; moist; no odor.	
	78							
25%		14					GRAVEL (GP), dark grayish brown (2.5Y, 4/2); 5-10% low- plasticity fines; 35% fine to coarse sand; 55-60% fine gravel; medium dense; wet; product odor.	
30%		23		25			@25.0-27.2': 10% fines; 40% fine to coarse sand, f:m:c= 2:1:1; 50% fine to coarse gravel to 1.25"; wet; product odor.	
20%		13						
							@27.5-30.5': poor recovery of native material because of heaving sands inside augers.	
5%		16					CLAY to SANDY CLAY (CL),.light olive brown (2.5Y, 5/4); 75-90% low- to medium-plasticity fines; 10-25% fine to coarse sand; trace fine gravel, rounded; stiff; wet; no product odor.	
10%		19		30			BORING TERMINATED AT 30.5 FEET BGS.	
				35				
				40				

EMCON ASSOCIATES

REMARKS

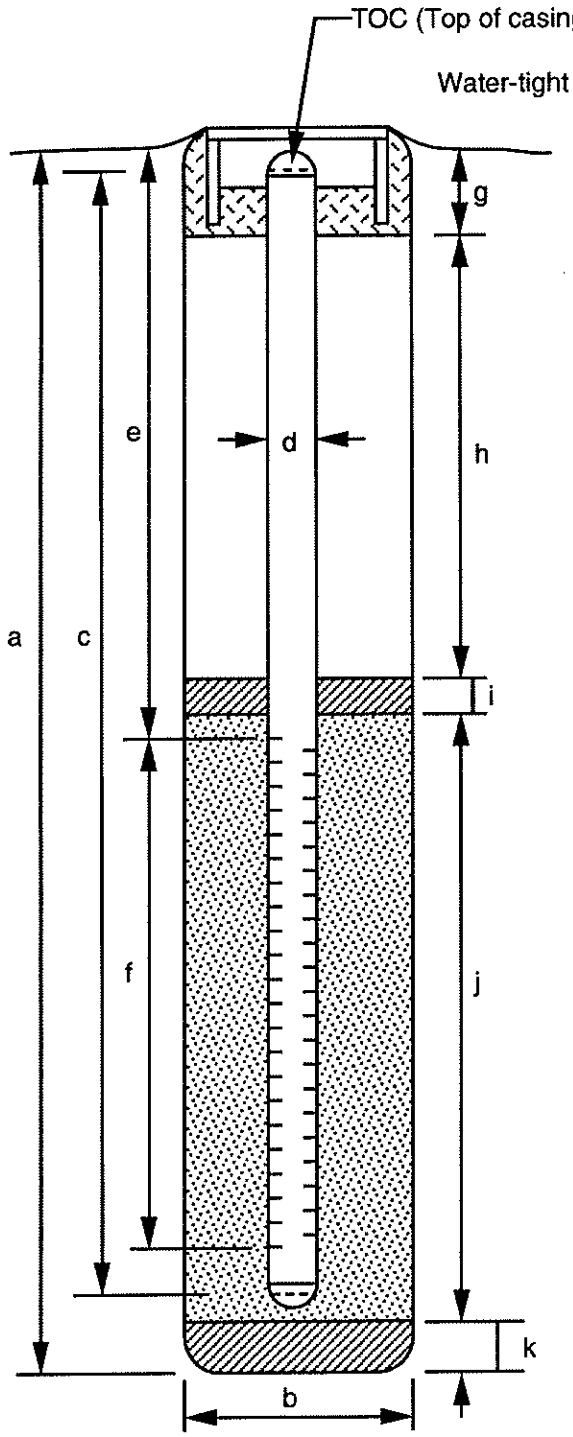
Boring drilled with 8" diameter hollow-stem augers and reamed with 10" diameter augers. Samples were taken using a 2" diameter modified-California split spoon sampler. Boring converted into a 4" diameter polyvinyl chloride (PVC) groundwater monitoring well. See explanation sheet for definition of symbols used in well detail and sample columns of this log. See explanation sheet for definition of symbols on this log.

WELL DETAILS

EMCON ASSOCIATES

PROJECT NUMBER 0805-127.01
PROJECT NAME ARCO 2111
LOCATION 1156 Davis Street, San Leandro
WELL PERMIT NO. na

BORING / WELL NO. MW-3
TOP OF CASING ELEV. 39.32
GROUND SURFACE ELEV. 40.01
DATUM M.S.L.
INSTALLATION DATE 7/13/95



EXPLORATORY BORING

a. Total depth 40.0 ft.
b. Diameter 10.0 in.
Drilling method Hollow Stem Auger

WELL CONSTRUCTION

c. Total casing length na ft.
Material Schedule 40 PVC
d. Diameter 4.0 in.
e. Depth to top perforations 11.9 ft.
f. Perforated length 14.3 ft.
Perforated interval from 11.9 to 26.2 ft.
Perforation type Machine Slotted
Perforation size 0.020 inch
g. Surface seal 1.0 ft.
Material Concrete
h. Backfill 8.5 ft.
Material Cement
i. Seal 1.5 ft.
Material Bentonite
j. Gravel pack 16.0 ft.
Gravel pack interval from 11.0 to 27.0 ft.
Material 2/12 Sand
k. Bottom seal/fill 13.0 ft.
Material Bentonite

Form prepared by R. Davis

LOG OF EXPLORATORY BORING

PROJECT NUMBER: **805-127.01**

BORING NO.: **MW-3**

PROJECT NAME: **ARCO Service Station 2111**

PAGE: **1** of **3**

BY: **R. Davis**

DATE: **7/12/95**

SURFACE ELEVATION: **40.01 ft.**

RECOVERY (ft/ft)		PENETRATION (blws/ft)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
							ASPHALT	
							FILL - SANDY GRAVEL (GP).	
60%		27		5			SILTY CLAY (CL), very dark grayish brown (10YR, 3/2); 95-100% low- to medium-plasticity fines; trace to 5% fine sand; very stiff; damp; no odor.	
	0							
70%		21					@7.0': 10% fine to coarse sand; trace fine gravel.	
	6.0							
60%		32						
	0							
60%		26		10			@10.0-14.5': 95% medium-plasticity fines; 5% fine to medium sand; very stiff to hard; damp; no odor.	
	0.9							
100%		25						
	0							
100%		41						
	0							
60%		28					@14.5-15.5': mottled olive brown (2.5Y, 5/4) and dark olive gray (5Y, 3/2); moist; no odor.	
	0						CLAYEY SAND (SC) AND SANDY CLAY (CL) -Interbedded, 60/40:	
100%		25		15			CLAYEY SAND (SC), olive gray (5Y, 5/2); 40% low- to medium- plasticity fines; 60% fine to medium sand, f:m=3:1; medium dense; moist to wet; no odor.	
	0							
80%		33	▽				SANDY CLAY (CL), olive gray (5Y, 5/2); 60-70% low- to medium- plasticity fines; 30-40% fine to medium sand; moist; reddish brown veins; no odor.	
100%		18					@16.7-20.0': 80-85% low- to medium-plasticity fines; 15-20% fine to coarse sand; stiff; moist; no odor.	
	0			20				

EMCON ASSOCIATES

REMARKS

Boring drilled with 8" diameter hollow-stem augers and reamed with 10" diameter augers. Samples were taken using a 2" diameter modified-California split spoon sampler. Boring converted into a 4" diameter polyvinyl chloride (PVC) groundwater monitoring well. See explanation sheet for definition of symbols used in well detail and sample columns of this log. See explanation sheet for definition of symbols on this log.

LOG OF EXPLORATORY BORING

PROJECT NUMBER: **805-127.01**

BORING NO.: **MW-3**

PROJECT NAME: **ARCO Service Station 2111**

PAGE: **2** of **3**

BY: **R. Davis**

DATE: **7/12/95**

SURFACE ELEVATION: **40.01 ft.**

RECOVERY (ft/ft)		PENETRATION (blws/ft)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
100%		25						
	0						SANDY CLAY (CL), continued.	
90%		39						
	0						@20.0-23.0': very stiff; moist to wet (moisture visible in voids).	
60%		17						
	0							
50%		37		25				
	0							
90%		33						
90%		27						
							SANDY SILT (ML), yellowish brown (10YR, 5/4) with light brownish gray (2.5Y, 6/2) mottling; 40% low- to medium-plasticity fines; medium dense; wet; no odor.	
100%		16						
	0			30				
60%		20						
60%		26						
	0						SILTY CLAY (CL), yellowish brown (10YR, 5/4); 75-80% low- to medium-plasticity fines; 20-25% fine to medium sand, f:m=5:1; stiff; wet (moisture visible in voids and fractures); no odor.	
100%		30						
	0						CLAYEY SAND (SC), yellowish brown (10YR, 5/4) with light brownish gray (2.5Y, 6/2) mottling; 40% low- to medium- plasticity fines; medium dense; wet; no odor.	
100%		24		35				
	0						SILTY CLAY (CL), yellowish brown (10YR, 5/4); 75-80% low- to medium-plasticity fines; 20-25% fine to medium sand, f:m=5:1; stiff; wet (moisture visible in voids and fractures); no odor.	
100%		37						
100%		76					@34.5-40.0': trace coarse sand and fine gravel.	
	0							
100%		61		40				

REMARKS

Boring drilled with 8" diameter hollow-stem augers and reamed with 10" diameter augers. Samples were taken using a 2" diameter modified-California split spoon sampler. Boring converted into a 4" diameter polyvinyl chloride (PVC) groundwater monitoring well. See explanation sheet for definition of symbols used in well detail and sample columns of this log. See explanation sheet for definition of symbols on this log.

EMCON ASSOCIATES

LOG OF EXPLORATORY BORING

PROJECT NUMBER: **805-127.01**

BORING NO.: **MW-3**

PROJECT NAME: **ARCO Service Station 2111**

PAGE: **3** of **3**

BY: **R. Davis**

DATE: **7/12/95**

SURFACE ELEVATION: **40.01 ft.**

RECOVERY (ft/ft)		PENETRATION (blws/ft)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
				45			SILTY GRAVEL (GM), light olive brown (2.5Y, 5/4); 10-20% low- plasticity fines; 30% fine to coarse sand; 50-60% fine to coarse gravel; dense; wet; no odor. BORING TERMINATED AT 40.5 FEET.	
				50				
				55				
				60				

EMCON ASSOCIATES

REMARKS

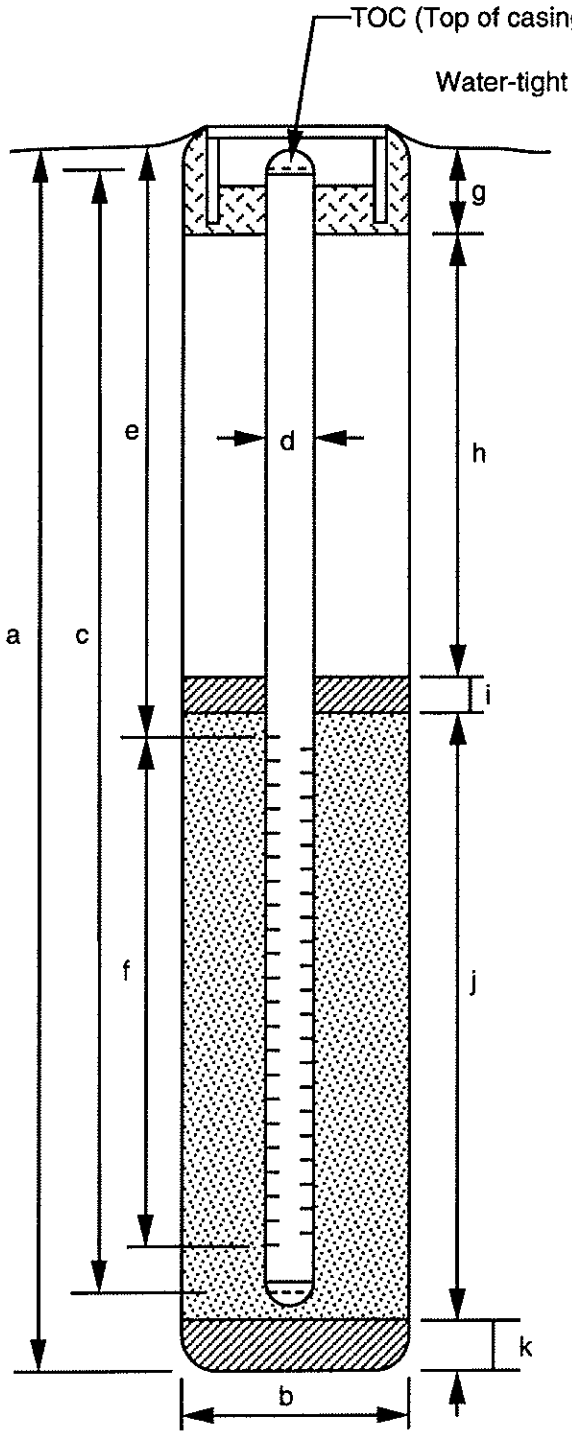
Boring drilled with 8" diameter hollow-stem augers and reamed with 10" diameter augers. Samples were taken using a 2" diameter modified-California split spoon sampler. Boring converted into a 4" diameter polyvinyl chloride (PVC) groundwater monitoring well. See explanation sheet for definition of symbols used in well detail and sample columns of this log. See explanation sheet for definition of symbols on this log.

WELL DETAILS

EMCON ASSOCIATES

PROJECT NUMBER 0805-127.01
PROJECT NAME ARCO 2111
LOCATION 1156 Davis Street, San Leandro
WELL PERMIT NO. na

BORING / WELL NO. MW-4
TOP OF CASING ELEV. 38.10
GROUND SURFACE ELEV. 38.88
DATUM M.S.L.
INSTALLATION DATE 7/13/95



EXPLORATORY BORING

a. Total depth 28.5 ft.
b. Diameter 10.0 in.
Drilling method Hollow Stem Auger

WELL CONSTRUCTION

c. Total casing length na ft.
Material Schedule 40 PVC
d. Diameter 4.0 in.
e. Depth to top perforations 10.0 ft.
f. Perforated length 14.0 ft.
Perforated interval from 10.0 to 24.0 ft.
Perforation type Machine Slotted
Perforation size 0.020 inch
g. Surface seal 1.0 ft.
Material Concrete
h. Backfill 6.0 ft.
Material Cement
i. Seal 1.5 ft.
Material Bentonite
j. Gravel pack 16.5 ft.
Gravel pack interval from 8.5 to 25.0 ft.
Material 2/12 Sand
k. Bottom seal/fill 3.5 ft.
Material Native Slough

Form prepared by R. Davis

LOG OF EXPLORATORY BORING

PROJECT NUMBER: **805-127.01**

BORING NO.: **MW-4**

PROJECT NAME: **ARCO Service Station 2111**

PAGE: **1** of **2**

BY: **R. Davis**

DATE: **7/13/95**

SURFACE ELEVATION: **38.88 ft.**

RECOVERY (ft/ft)		PENETRATION (blws/ft)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
							ASPHALT	
							FILL, SANDY GRAVEL (GP).	
40%	0	16		5			CLAYEY GRAVEL (GC), very dark grayish brown (10YR, 3/2); 90-95% medium plasticity fines; 5-10% fine to medium sand; stiff; damp; no product odor.	
100%	0	20	▽	10			@10.0-11.5':very stiff; trace calcium carbonate fragments in small voids (0.1-0.25"); damp; no product odor.	
100%	0	28		15			@15.0-16.5':mottled light olive brown (2.5Y, 5/4) and light gray (2.5Y, 7/2); rootholes and small fractures visible.	
				20			SANDY CLAY (CL), mottled light olive brown (2.5Y, 5/4) and dark yellowish brown (10YR, 4/4); 65% medium-plasticity fines; 25% fine to coarse sand, f:m:c=2:1:1; 10% fine to coarse gravel; stiff to very stiff; wet (moisture visible in voids); no product odor.	

EMCON ASSOCIATES

REMARKS

Boring drilled with 8" diameter hollow-stem augers and reamed with 10" diameter augers. Samples were taken using a 2" diameter modified-California split spoon sampler. Boring converted into a 4" diameter polyvinyl chloride (PVC) groundwater monitoring well. See explanation sheet for definition of symbols used in well detail and sample columns of this log. See explanation sheet for definition of symbols on this log.

LOG OF EXPLORATORY BORING

PROJECT NUMBER: **805-127.01**

BORING NO.: **MW-4**

PROJECT NAME: **ARCO Service Station 2111**

PAGE: **2** of **2**

BY: **R. Davis**

DATE: **7/13/85**

SURFACE ELEVATION: **38.88 ft.**

RECOVERY (ft/ft)		PENETRATION (blws/ft)	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
100%	0	24					SANDY CLAY (CL), continued.	
90%	0	26		25			@25.0-27.7': 25% fine to medium sand; iron oxide staining; firm; wet; no product odor.; 70% medium-plasticity fines; 30% fine to coarse sand ; very stiff; moist; no odor.	
60%		56					CLAYEY GRAVEL (GC) TO CLAYEY SAND (SC), light olive brown (2.5Y, 5/4); 10-20% medium plastic fines; 40-45% fine to coarse sand, f:m:c=1:2:4; 40-45% fine gravel; very dense; wet; no product odor.	
				30			BORING TERMINATED AT 28.5 FEET BGS.	
				35				
				40				

EMCON ASSOCIATES

REMARKS

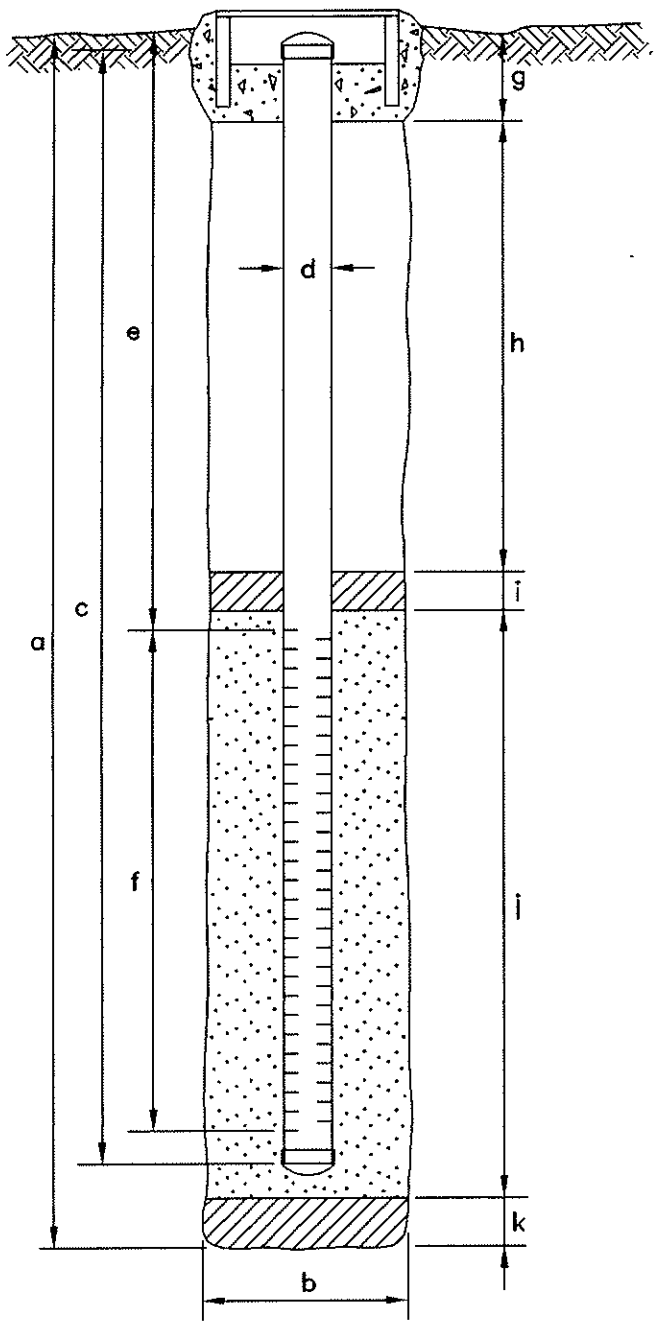
Boring drilled with 8" diameter hollow-stem augers and reamed with 10" diameter augers. Samples were taken using a 2" diameter modified-California split spoon sampler. Boring converted into a 4" diameter polyvinyl chloride (PVC) groundwater monitoring well. See explanation sheet for definition of symbols used in well detail and sample columns of this log. See explanation sheet for definition of symbols on this log.

WELL DETAILS

EMCON

PROJECT NUMBER 20805-127.001
PROJECT NAME Arco Station #2111
COUNTY San Leandro
WELL PERMIT NO. 96126 (ZONE 7)

BORING/WELL NO. MW-5
TOP OF CASING ELEV. 37.21
GROUND SURFACE ELEV. 37.66
DATUM MSL
INSTALLATION DATE 3/1/96



EXPLORATORY BORING

a. Total depth 30 ft.
b. Diameter 8 in.
Drilling method HOLLOW STEM AUGER

WELL CONSTRUCTION

c. Total casing length 24 ft.
Material SCH 40 PVC
d. Diameter 2 in.
e. Depth to top perforations 9.4 ft.
f. Perforated length 14.0 ft.
Perforated interval from 9.4 to 23.4 ft.
Perforation type MACHINE SLOTTED
Perforation size 0.010 INCH
g. Surface seal 0.5 ft.
Seal material CONCRETE
h. Backfill 6.5 ft.
Backfill material CEMENT
i. Seal 1.0 ft.
Seal material BENTONITE
j. Gravel pack 15.0 ft.
Pack material #2/12 SAND
k. Bottom seal 6.0 ft.
Seal material BENTONITE

DETAILCB.DWG

LOG OF EXPLORATORY BORING

PROJECT NUMBER **20805-127.001** BORING NO. **MW-5**

PROJECT NAME **Arco Service Station #2111, San Leandro, California** PAGE **1 OF 2**

BY **R. Davis** DATE **3/1/96** SURFACE ELEV. **37.66 ft.**

PID Reading (ppm)	Sample Recovery (ft./ft.)	Penetration (Blows per 6")	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
							ASPHALT.	
							ROADBASE FILL: CLAYEY GRAVEL, no product odor.	
0.0	1.5/1.5	4 15 20		5			**SILTY CLAY (CL)**, dark grayish brown (10YR, 3/2); 100% low to medium-plasticity fines; trace fine sand; roots and rootholes common; hard; damp; no odor.	
0.0	1.5/1.5	7 13 19		10			@9-10.5': very dark grayish brown (10YR, 3/2); rootholes common; hard; damp; no hydrocarbon odor.	
0.0	1.5/1.5	5 11 12		15			@14-15.5': light olive brown (2.5Y, 5/4) with trace black mottling; 90% low to medium-plasticity fines; 10% fine-grained sand; hard; moist; no hydrocarbon odor.	
							@17': Water visible inside augers.	
0.0	1.5/1.5	15 18		20			@19-20.5': as above; grayish veins present; hard; wet; no hydrocarbon odor.	

REMARKS

Boring drilled to a depth of 30 feet below grade (fbg) by West Hazmat using 8" dia. hollow-stem auger equipment. Boring completed as a 2" dia. PVC groundwater monitoring well screened from 9 to 24 fbg. Groundwater was first encountered at 17 fbg and stabilized at 13 fbg.

EMCON

LOG OF EXPLORATORY BORING

PROJECT NUMBER **20805-127.001** BORING NO. **MW-5**

PROJECT NAME **Arco Service Station #2111, San Leandro, California** PAGE **2 OF 2**

BY **R. Davis** DATE **3/1/96** SURFACE ELEV. **37.66 ft.**

PID Reading (ppm)	Sample Recovery (ft./ft.)	Penetration (Blows per 6")	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
		25					**SILTY CLAY (CL)**, continued.	
0.0	1.5/1.5	4 4 8		25			@24-25.5': as above; no hydrocarbon odor.	
0.0	1.5/1.5	7 11 15		30			@28.5-30': as above; wet; no hydrocarbon odor.	
							BORING TERMINATED AT 30 FBG.	
				35				
				40				

EMCON

REMARKS

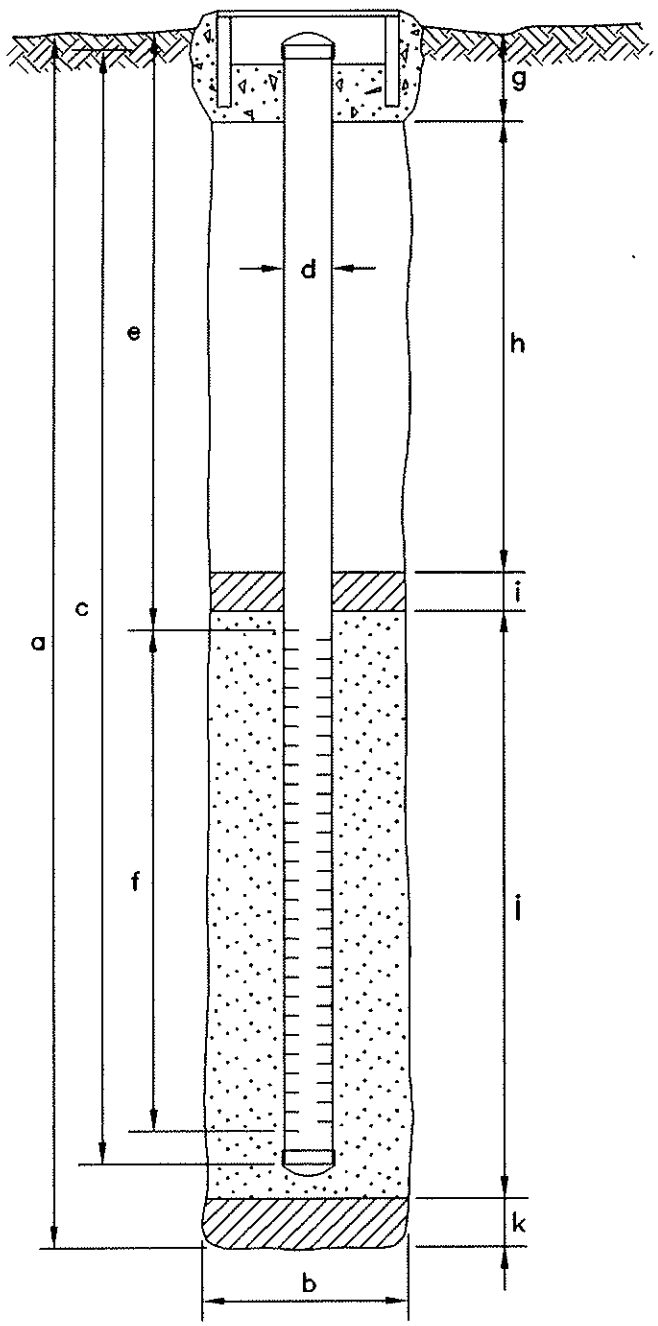
Boring drilled to a depth of 30 feet below grade (fbg) by West Hazmat using 8" dia. hollow-stem auger equipment. Boring completed as a 2" dia. PVC groundwater monitoring well screened from 9 to 24 fbg. Groundwater was first encountered at 17 fbg and stabilized at 13 fbg.

WELL DETAILS

EMCON

PROJECT NUMBER 20805-127.001
PROJECT NAME Arco Station #2111
COUNTY San Leandro
WELL PERMIT NO. 96126 (ZONE 7)

BORING/WELL NO. MW-6
TOP OF CASING ELEV. 37.11
GROUND SURFACE ELEV. 38.19
DATUM MSL
INSTALLATION DATE 3/1/96



EXPLORATORY BORING

a. Total depth 27.5 ft.
b. Diameter 8 in.
Drilling method HOLLOW STEM AUGER

WELL CONSTRUCTION

c. Total casing length 24 ft.
Material SCH 40 PVC
d. Diameter 2 in.
e. Depth to top perforations 10 ft.
f. Perforated length 15 ft.
Perforated interval from 10 to 25 ft.
Perforation type MACHINE SLOTTED
Perforation size 0.010 INCH
g. Surface seal 0.5 ft.
Seal material CONCRETE
h. Backfill 7.5 ft.
Backfill material CEMENT
i. Seal 1.0 ft.
Seal material BENTONITE
j. Gravel pack 16.0 ft.
Pack material #2/12 SAND
k. Bottom seal 2.5 ft.
Seal material NATIVE SLOUGH

DETAILCB.DWG

LOG OF EXPLORATORY BORING

PROJECT NUMBER **20805-127.001** BORING NO. **MW-6**

PROJECT NAME **Arco Service Station #2111, San Leandro, California** PAGE **1 OF 2**

BY **R. Davis** DATE **3/1/96** SURFACE ELEV. **38.19 ft.**

PID Reading (ppm)	Sample Recovery (ft./ft.)	Penetration (Blows per 6")	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
							ASPHALT.	
							ROADBASE FILL: CLAYEY GRAVEL (GC), no hydrocarbon odor.	
0.0	1.3/1.5	6 10 10		5			**CLAY (CL)**, dark grayish brown (10YR, 3/2); 100% medium-plasticity fines; trace fine sand; very stiff; damp; no hydrocarbon odor.	
0.0	1.5/1.5	7 11 20		10			@9-10.5': as above; 10% fine gravel, angular; very stiff; damp; no hydrocarbon odor.	
0.0	1.5/1.5	6 11 12	▼	15			@14-15.5': light olive brown (2.5Y, 5/4) with trace black mottling; 100% low to medium-plasticity fines (high silt content); trace fine sand; very stiff; moist; no hydrocarbon odor.	
0.0	1.5/1.5	7 12 15	▽				@16.5-18': as above; wet; no product odor.	
0.0	1.4/1.5	8 9		20			@19-20.5': as above; trace black mottling; 10-20% fine to coarse-grained sand; no hydrocarbon odor.	

REMARKS

Boring drilled to a depth of 27.5 feet below grade (fbg) by West Hazmat using 8" dia. hollow-stem auger equipment. Boring completed as a 2" dia. PVC groundwater monitoring well screened from 10 to 25 fbg. Groundwater was first encountered at 16 fbg and stabilized at 14 fbg.

EMCON

LOG OF EXPLORATORY BORING

PROJECT NUMBER **20805-127.001** BORING NO. **MW-6**

PROJECT NAME **Arco Service Station #2111, San Leandro, California** PAGE **2 OF 2**

BY **R. Davis** DATE **3/1/96** SURFACE ELEV. **38.19 ft.**

PID Reading (ppm)	Sample Recovery (ft./ft.)	Penetration (Blows per 6")	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
		13					**CLAY (CL)**, continued.	
0.0	0.9/1.5	15 19 25					**CLAYEY GRAVEL (GC)**, light olive brown (2.5Y, 5/4); 20-25% low to medium- plasticity fines; 20% fine to coarse-grained sand; 55-60% fine to coarse gravel (to 2" dia.); dense; wet; no hydrocarbon odor.	
0.0	1.0/1.5	25 28 50/5.5"		25			@24.5-27.5': as above; no hydrocarbon odor.	
0.0	0.8/1.5	10 25 45					**BORING TERMINATED AT 27.5 FBG.**	
				30				
				35				
				40				

REMARKS

Boring drilled to a depth of 27.5 feet below grade (fbg) by West Hazmat using 8" dia. hollow-stem auger equipment. Boring completed as a 2" dia. PVC groundwater monitoring well screened from 10 to 25 fbg. Groundwater was first encountered at 16 fbg and stabilized at 14 fbg.

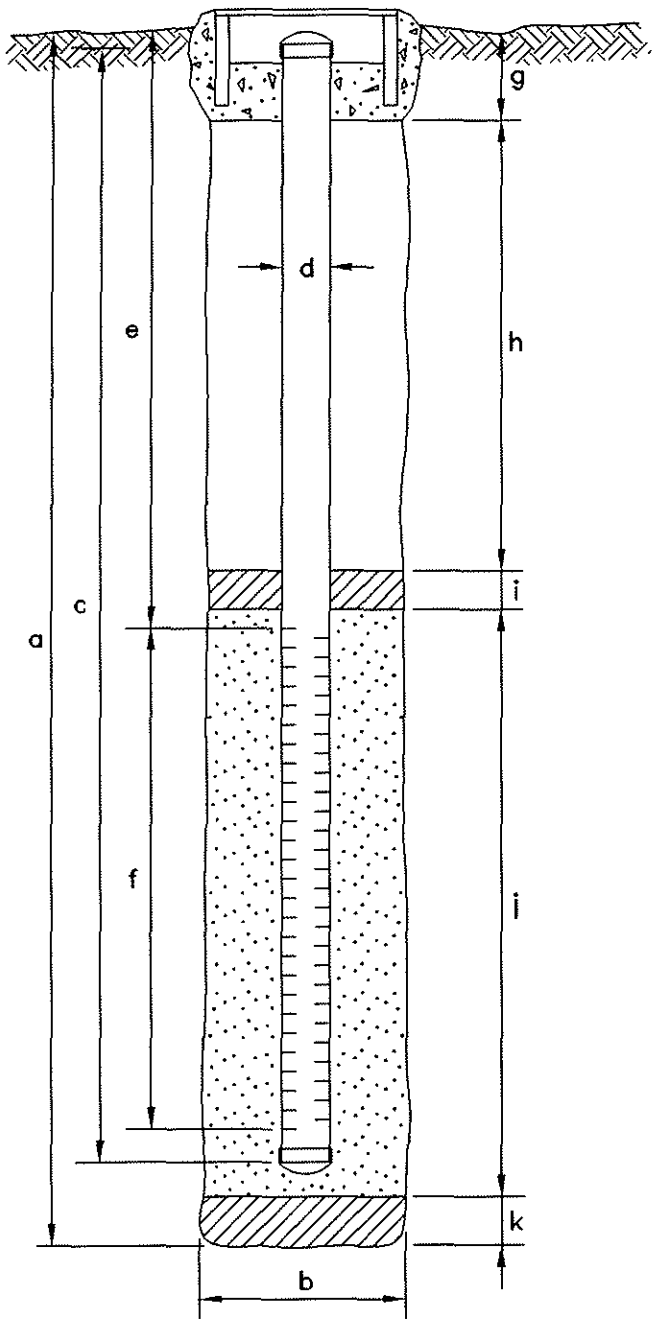
EMCON

WELL DETAILS

EMCON

PROJECT NUMBER 20805-127.001
PROJECT NAME Arco Station #2111
COUNTY San Leandro
WELL PERMIT NO. 96126 (ZONE 7)

BORING/WELL NO. MW-7
TOP OF CASING ELEV. 38.68
GROUND SURFACE ELEV. 38.99
DATUM MSL
INSTALLATION DATE 2/29/96



EXPLORATORY BORING

a. Total depth 33.5 ft.
b. Diameter 10 in.
Drilling method HOLLOW STEM AUGER

WELL CONSTRUCTION

c. Total casing length 27 ft.
Material SCH 40 PVC
d. Diameter 4 in.
e. Depth to top perforations 12 ft.
f. Perforated length 15 ft.
Perforated interval from 12 to 27 ft.
Perforation type MACHINE SLOTTED
Perforation size 0.010 INCH
g. Surface seal 0.5 ft.
Seal material CONCRETE
h. Backfill 9.0 ft.
Backfill material CEMENT
i. Seal 1.0 ft.
Seal material BENTONITE
j. Gravel pack 16.5 ft.
Pack material #2/12 SAND
k. Bottom seal 6.5 ft.
Seal material NATIVE SLOUGH

DETAILCB.DWG

LOG OF EXPLORATORY BORING

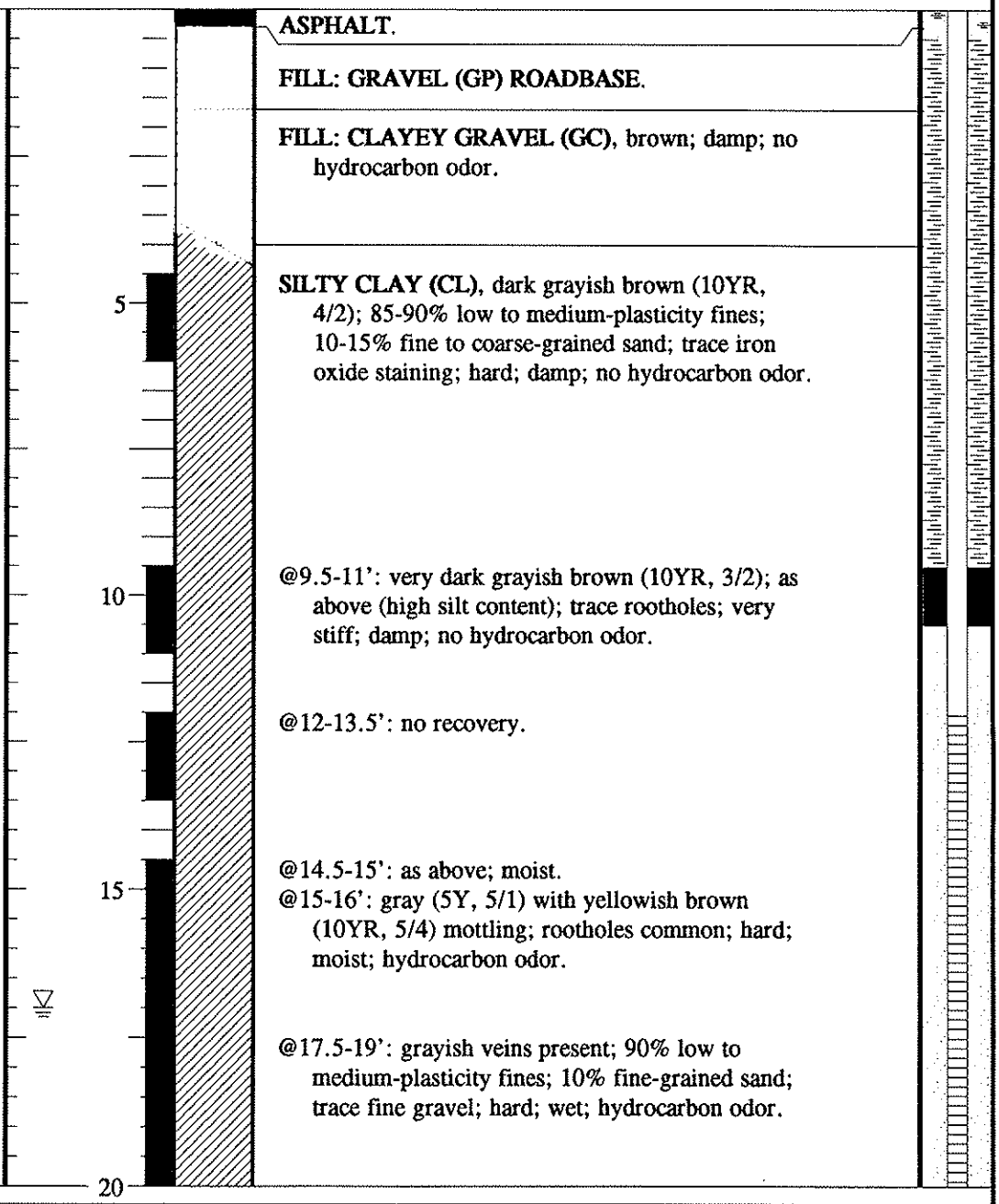
PROJECT NUMBER **20805-127.001** BORING NO. **MW-7**

PROJECT NAME **Arco Service Station #2111, San Leandro, California** PAGE **1 OF 2**

BY **R. Davis** DATE **2/29/96** SURFACE ELEV. **38.99 ft.**

PID Reading (ppm)	Sample Recovery (ft./ft.)	Penetration (Blows per 6")	DESCRIPTION
			ASPHALT.
			FILL: GRAVEL (GP) ROADBASE.
			FILL: CLAYEY GRAVEL (GC), brown; damp; no hydrocarbon odor.
2.8	1.0/1.5	16 20 26	**SILTY CLAY (CL)**, dark grayish brown (10YR, 4/2); 85-90% low to medium-plasticity fines; 10-15% fine to coarse-grained sand; trace iron oxide staining; hard; damp; no hydrocarbon odor.
7.9	1.2/1.5	5 8 18	@9.5-11': very dark grayish brown (10YR, 3/2); as above (high silt content); trace rootholes; very stiff; damp; no hydrocarbon odor.
--	0/1.5	--	@12-13.5': no recovery.
28.0	1.5/1.5	7 17 20	@14.5-15': as above; moist. @15-16': gray (5Y, 5/1) with yellowish brown (10YR, 5/4) mottling; rootholes common; hard; moist; hydrocarbon odor.
34.0	1.5/1.5	8 18 22	
77.0	1.0/1.5	9 12 20	@17.5-19': grayish veins present; 90% low to medium-plasticity fines; 10% fine-grained sand; trace fine gravel; hard; wet; hydrocarbon odor.
101.0	1.3/1.5	13 15	

GROUND WATER LEVELS | DEPTH IN FT. | SAMPLES | LITHO-GRAPHIC COLUMN | WELL DETAIL



EMCON

REMARKS

Boring drilled to a depth of 33.5 feet below grade (fbg) by West Hazmat using 10" dia. hollow-stem auger equipment. Boring completed as a 4" dia. PVC groundwater monitoring well screened from 12 to 27 fbg. Groundwater was encountered at 17 fbg.

LOG OF EXPLORATORY BORING

PROJECT NUMBER **20805-127.001** BORING NO. **MW-7**

PROJECT NAME **Arco Service Station #2111, San Leandro, California** PAGE **2 OF 2**

BY **R. Davis** DATE **2/29/96** SURFACE ELEV. **38.99 ft.**

PID Reading (ppm)	Sample Recovery (ft./ft.)	Penetration (Blows per 6")	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
		20					**SANDY CLAY (CL)**, yellowish brown (10YR, 5/4) with gray (5Y, 5/1) mottling; 65-75% low to medium-plasticity fines; 25-30% fine to coarse-grained sand; 5% fine gravel; very stiff; wet; hydrocarbon odor.	
--	1.3/1.5	8						
		15						
		15						
--	0.5/1.5	20						
		22						
		30						
--	0.2/1.5	50/6"					**CLAYEY SAND (SC)**, mottled olive brown (2.5Y, 4/4) to yellowish brown (10YR, 5/4); 25-30% low to medium-plasticity fines; 45-50% fine to coarse-grained sand; 25% fine to coarse gravel; dense; wet; hydrocarbon odor.	
--	0.2/0.5	50/6"		25			@22-23.5': very dense; wet; hydrocarbon odor.	
							@23.5-25': no recovery; very dense.	
--	0.1/0.5	50/6"						
--	0.2/0.5	50/6"					**From 25 to 32.5'**: Minimal recovery due to heaving sands.	
--	0.2/0.5	50/6"		30				
--	0.5/0.5	50/6"						
1.4	0.6/1.0	50					**CLAY (CL)**, mottled yellowish brown (10YR, 5/4) to dark brown (10YR, 5/2); 85-95% medium-plasticity fines; 5-15% fine to coarse-grained sand; hard; wet; no hydrocarbon odor.	
		50		35			**BORING TERMINATED AT 33.5 FBG.**	
				40				

EMCON

REMARKS

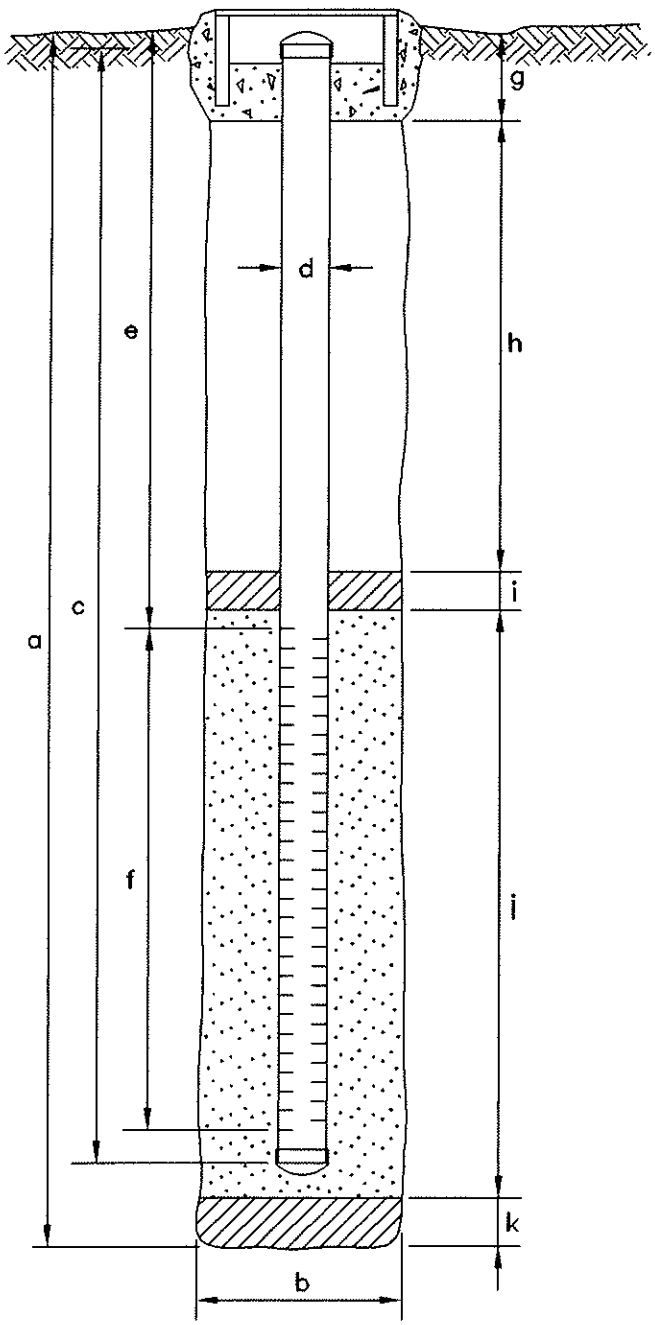
Boring drilled to a depth of 33.5 feet below grade (fbg) by West Hazmat using 10" dia. hollow-stem auger equipment. Boring completed as a 4" dia. PVC groundwater monitoring well screened from 12 to 27 fbg. Groundwater was encountered at 17 fbg.

WELL DETAILS

EMCON

PROJECT NUMBER 20805-127.001
PROJECT NAME Arco Station #2111
COUNTY San Leandro
WELL PERMIT NO. 96126 (ZONE 7)

BORING/WELL NO. VW-1
TOP OF CASING ELEV. 38.94
GROUND SURFACE ELEV. 39.39
DATUM MSL
INSTALLATION DATE 2/29/96



EXPLORATORY BORING

a. Total depth 20 ft.
b. Diameter 10 in.
Drilling method HOLLOW STEM AUGER

WELL CONSTRUCTION

c. Total casing length 19.5 ft.
Material SCH 40 PVC
d. Diameter 4 in.
e. Depth to top perforations 5 ft.
f. Perforated length 15 ft.
Perforated interval from 5 to 20 ft.
Perforation type MACHINE SLOTTED
Perforation size 0.020 INCH
g. Surface seal 0.5 ft.
Seal material CONCRETE
h. Backfill 3.0 ft.
Backfill material CEMENT
i. Seal 1.5 ft.
Seal material BENTONITE
j. Gravel pack 15.0 ft.
Pack material #2/12 SAND
k. Bottom seal NA ft.
Seal material NA

DETAILCB.DWG

LOG OF EXPLORATORY BORING

PROJECT NUMBER **20805-127.001** BORING NO. **VW-1**

PROJECT NAME **Arco Service Station #2111, San Leandro, California** PAGE **1 OF 1**

BY **R. Davis** DATE **2/29/96** SURFACE ELEV. **39.39 ft.**

PID Reading (ppm)	Sample Recovery (ft./ft.)	Penetration (Blows per 6")	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
							ASPHALT.	
							ROADBASE FILL: GRAVEL (GP).	
							FILL: CLAYEY GRAVEL (GC), light yellowish brown; no hydrocarbon odor.	
2.7	1.0/1.5	8 16 17		5			**SILTY CLAY (CL)**, dark grayish brown (10YR, 3/2); 95-100% low to medium-plasticity fines; trace to 5% fine-grained sand; occassional rootholes and orange mottling; hard; damp; no hydrocarbon odor.	
2.2	1.2/1.5	10 11 16		10			@9.5-11': light olive brown (2.5Y, 5/4) with occassional dark brown mottling; rootholes present; very stiff; damp; no hydrocarbon odor.	
1.3	1.0/1.5	7 10 14					@12-13.5': mottled gray (5Y, 5/1) and light olive brown (2.5Y, 5/4); 90% low to medium-plasticity fines; 10% fine to medium-grained sand; rootholes present; very stiff; moist; hydrocarbon odor.	
5.3	1.2/1.5	9 10 12	▽	15			@14.5-16': as above; moist; hydrocarbon odor. @16': wet (moisture visible in voids); hydrocarbon odor.	
16.0	1.3/1.5	4 9 12					@17-18.5': as above; wet; hydrocarbon odor.	
210.0	1.3/1.5	7 7 17		20			@18.5-20': as above; 30% fine to coarse-grained sand; wet; hydrocarbon odor. **BORING TERMINATED AT 20 FBG.**	

REMARKS

Boring drilled to a depth of 20 feet below grade (fbg) by West Hazmat using 10" dia. hollow-stem auger equipment. Boring completed as a 4" dia. PVC vapor extraction well screened from 5 to 15 fbg. Groundwater was encountered at 16 fbg.

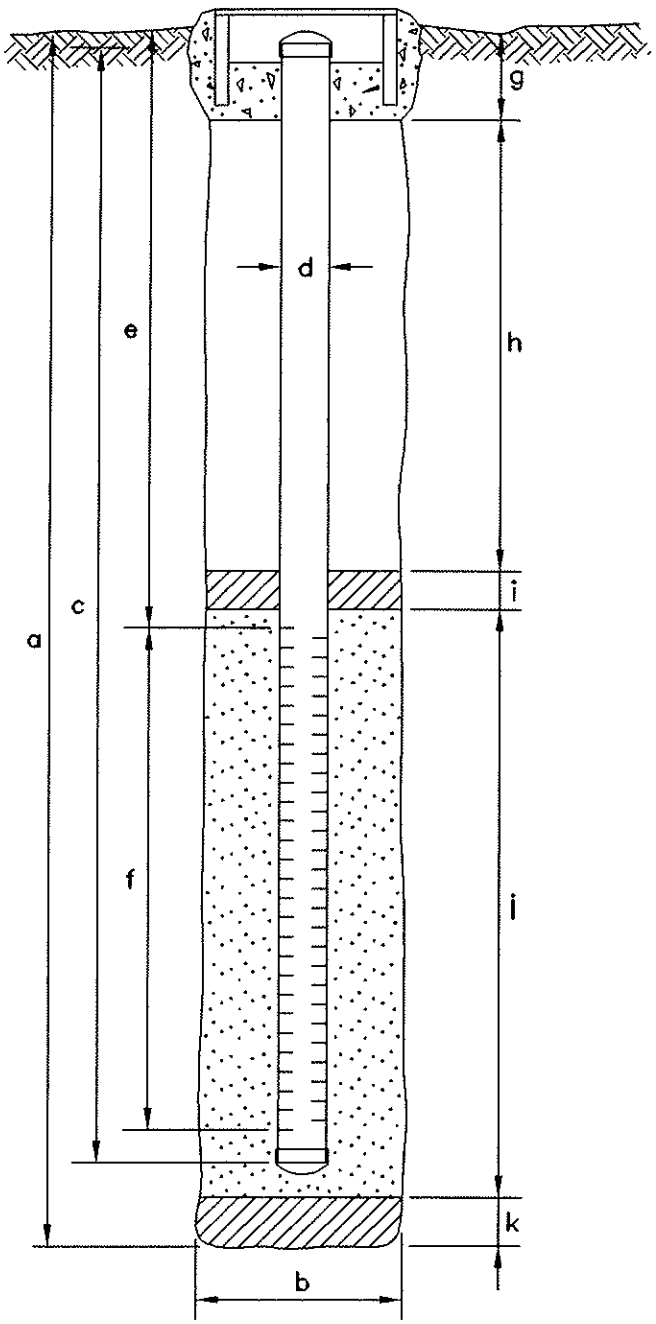
EMCON

WELL DETAILS

EMCON

PROJECT NUMBER 20805-127.001
PROJECT NAME Arco Station #2111
COUNTY San Leandro
WELL PERMIT NO. 96126 (ZONE 7)

BORING/WELL NO. VW-2
TOP OF CASING ELEV. 38.28
GROUND SURFACE ELEV. 38.99
DATUM MSL
INSTALLATION DATE 2/29/96



EXPLORATORY BORING

a. Total depth 20 ft.
b. Diameter 10 in.
Drilling method HOLLOW STEM AUGER

WELL CONSTRUCTION

c. Total casing length 19.5 ft.
Material SCH 40 PVC
d. Diameter 4 in.
e. Depth to top perforations 5 ft.
f. Perforated length 15 ft.
Perforated interval from 5 to 20 ft.
Perforation type MACHINE SLOTTED
Perforation size 0.020 INCH
g. Surface seal 0.5 ft.
Seal material CONCRETE
h. Backfill 3.5 ft.
Backfill material CEMENT
i. Seal 1.0 ft.
Seal material BENTONITE
j. Gravel pack 15.0 ft.
Pack material #2/12 SAND
k. Bottom seal NA ft.
Seal material NA

DETAILCB.DWG

LOG OF EXPLORATORY BORING

PROJECT NUMBER **20805-127.001** BORING NO. **VW-2**

PROJECT NAME **Arco Service Station #2111, San Leandro, California** PAGE **1 OF 2**

BY **R. Davis** DATE **2/29/96** SURFACE ELEV. **38.99 ft.**

PID Reading (ppm)	Sample Recovery (ft./ft.)	Penetration (Blows per 6")	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
							ASPHALT.	
							ROADBASE FILL.	
							FILL: SANDY SILTY CLAY (CL), dark grayish brown (10YR, 3/2).	
0.4	1.0/1.5	15 22 30		5			**SILTY CLAY (CL)**, light olive brown (2.5Y, 5/4) with grayish orange mottling; 90% low to medium-plasticity fines; 10% fine to medium-grained sand; hard; damp; no hydrocarbon odor.	
2.2	1.5/1.5	7 8 14		10			@9.5-11': dark grayish brown (10YR, 3/2); damp; no hydrocarbon odor.	
12.0	1.5/1.5	9 14 20					@12-13.5': as above; no hydrocarbon odor.	
74.0	1.2/1.5	7 17 18	▽	15			@14.5-16': olive gray (2.5Y, 5/1); increasing silt content; rootholes present; moist; hydrocarbon odor.	
79.0	--	6 10 17						
159.0	--	6 12 17		20			**SANDY CLAY (CL)**, mottled yellowish brown (10YR, 5/4) to light olive brown (2.5Y, 5/4); 75-80% low to medium-plasticity fines; 15-20% fine to coarse-grained sand; 5% fine gravel; very	

EMCON

REMARKS

Boring drilled to a depth of 20 feet below grade (fbg) by West Hazmat using 10" dia. hollow-stem auger equipment. Boring completed as a 4" dia. PVC vapor extraction well screened from 5 to 20 fbg. Groundwater was encountered at 16 fbg.

LOG OF EXPLORATORY BORING

PROJECT NUMBER **20805-127.001** BORING NO. **VW-2**

PROJECT NAME **Arco Service Station #2111, San Leandro, California** PAGE **2 OF 2**

BY **R. Davis** DATE **2/29/96** SURFACE ELEV. **38.99 ft.**

PID Reading (ppm)	Sample Recovery (ft./ft.)	Penetration (Blows per 6")	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
							stiff; wet; hydrocarbon odor. **BORING TERMINATED AT 20 FBG.**	

25

30

35

40

REMARKS

Boring drilled to a depth of 20 feet below grade (fbg) by West Hazmat using 10" dia. hollow-stem auger equipment. Boring completed as a 4" dia. PVC vapor extraction well screened from 5 to 20 fbg. Groundwater was encountered at 16 fbg.

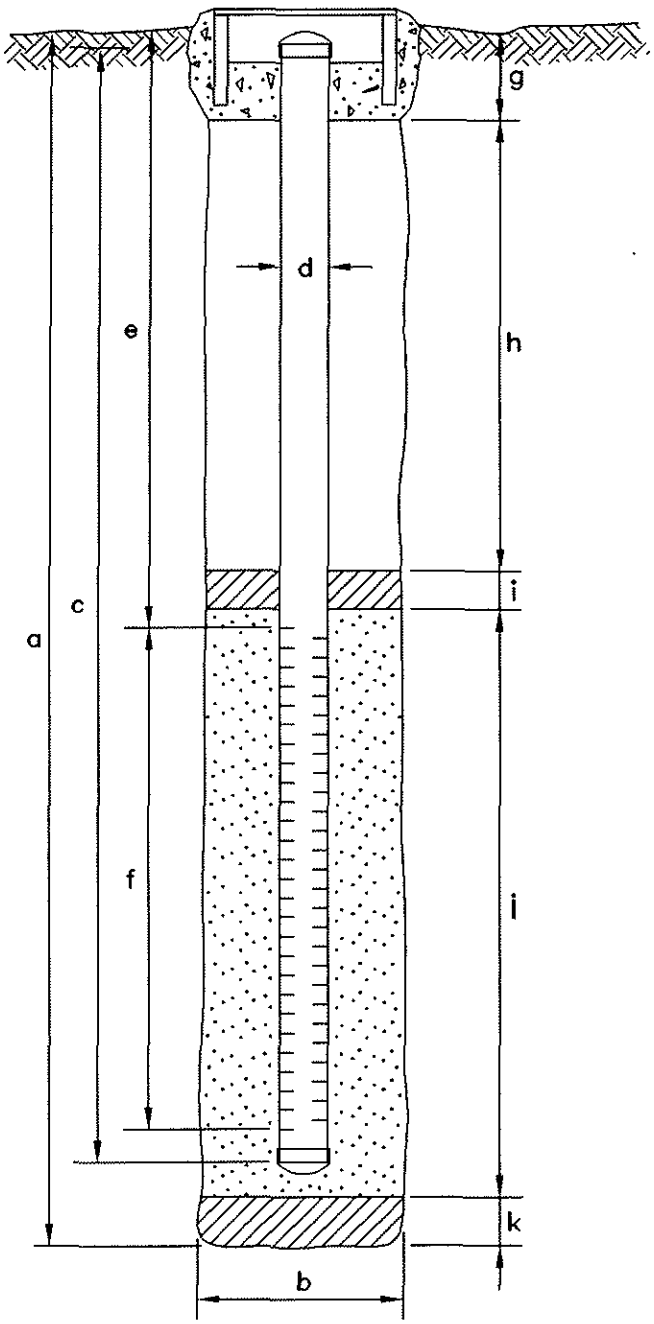
EMCON

WELL DETAILS

EMCON

PROJECT NUMBER 20805-127.001
PROJECT NAME Arco Station #2111
COUNTY San Leandro
WELL PERMIT NO. 96126 (ZONE 7)

BORING/WELL NO. VW-3
TOP OF CASING ELEV. 38.01
GROUND SURFACE ELEV. 38.71
DATUM MSL
INSTALLATION DATE 2/29/96



EXPLORATORY BORING

a. Total depth 20 ft.
b. Diameter 10 in.
Drilling method HOLLOW STEM AUGER

WELL CONSTRUCTION

c. Total casing length 19.5 ft.
Material SCH 40 PVC
d. Diameter 4 in.
e. Depth to top perforations 5 ft.
f. Perforated length 15 ft.
Perforated interval from 5 to 20 ft.
Perforation type MACHINE SLOTTED
Perforation size 0.020 INCH
g. Surface seal 0.5 ft.
Seal material CONCRETE
h. Backfill 3.0 ft.
Backfill material CEMENT
i. Seal 1.5 ft.
Seal material BENTONITE
j. Gravel pack 15.0 ft.
Pack material #2/12 SAND
k. Bottom seal NA ft.
Seal material NA

DETAILCB.DWG

LOG OF EXPLORATORY BORING

PROJECT NUMBER **20805-127.001** BORING NO. **VW-3**

PROJECT NAME **Arco Service Station #2111, San Leandro, California** PAGE **1 OF 1**

BY **R. Davis** DATE **2/28/96** SURFACE ELEV. **38.71 ft.**

PID Reading (ppm)	Sample Recovery (ft./ft.)	Penetration (Blows per 6")	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION	WELL DETAIL
							ASPHALT.	
							FILL MATERIAL.	
5.2	1.5/1.5	7 14 20		5			**CLAY (CL)**, dark grayish brown (10YR, 4/2); 90% medium-plasticity fines; 10% fine-grained sand; rootholes present; iron oxide staining in veins; damp; no hydrocarbon odor.	
6.6	1.5/1.5	7 17 20		10			@9.5-11': very dark grayish brown (10YR, 3/2) with occassional gray and orange-brown (iron oxide) mottling; 90% low to medium-plasticity fines; 10% fine-grained sand; increasing silt content; hard; damp; no hydrocarbon odor.	
15.5	--	8 14 22	▽	15			**CLAYEY, SANDY SILT (ML)**, gray (5Y, 5/1); 80-85% low-plasticity fines; 15-20% fine-grained sand; hard; moist; hydrocarbon odor. @16': wet; hydrocarbon odor.	
2.2	--	6 9 11		20			**SILTY SANDY CLAY (CL)**, mottled yellowish brown (10YR, 5/4) to light olive brown (2.5Y, 5/4); 75-80% low to medium-plasticity fines; 15-20% fine to coarse-grained sand; 5% fine gravel; very stiff; wet; hydrocarbon odor. **BORING TERMINATED AT 20 FBG.**	

EMCON

REMARKS

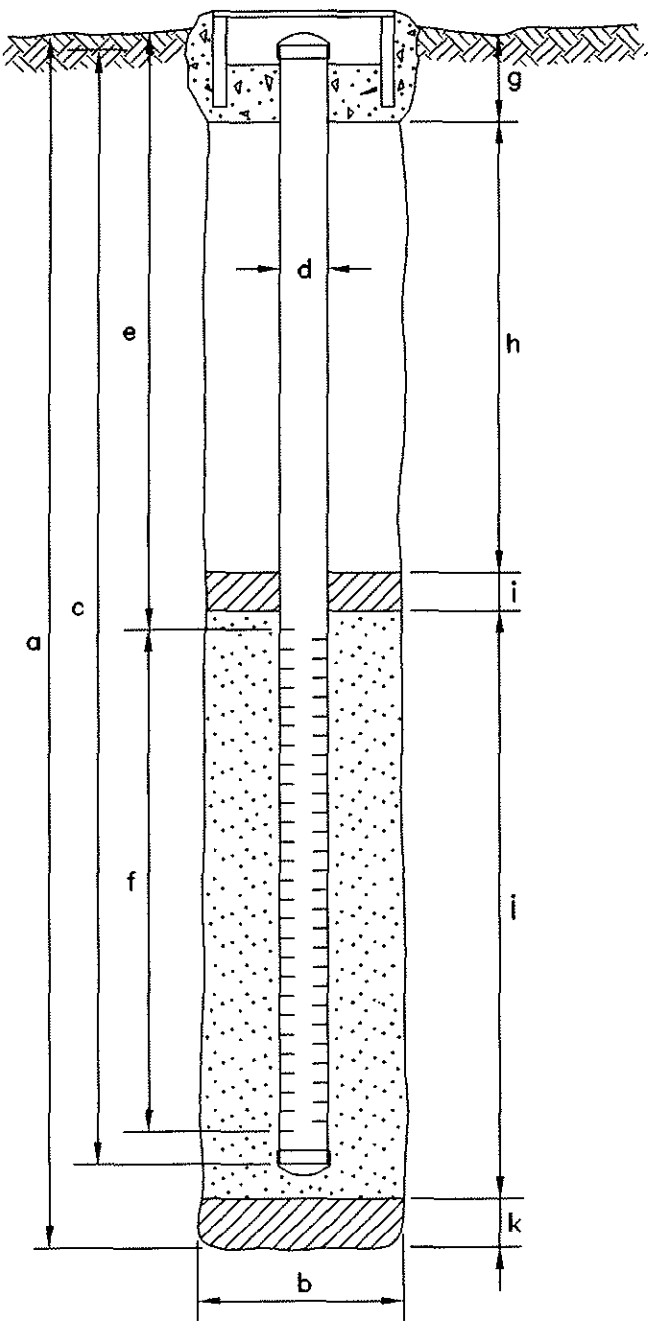
Boring drilled to a depth of 20 feet below grade (fbg) by West Hazmat using 10" dia. hollow-stem auger equipment. Boring completed as a 4" dia. PVC vapor extraction well screened from 5 to 20 fbg. Groundwater was encountered at 16 fbg.

WELL DETAILS

EMCON

PROJECT NUMBER 20805-127.001
PROJECT NAME Arco Station #2111
COUNTY San Leandro
WELL PERMIT NO. 96126 (ZONE 7)

BORING/WELL NO. VW-4
TOP OF CASING ELEV. 38.38
GROUND SURFACE ELEV. 39.23
DATUM MSL
INSTALLATION DATE 2/28/96



EXPLORATORY BORING

a. Total depth 20 ft.
b. Diameter 10 in.
Drilling method HOLLOW STEM AUGER

WELL CONSTRUCTION

c. Total casing length 19.5 ft.
Material SCH 40 PVC
d. Diameter 4 in.
e. Depth to top perforations 6.5 ft.
f. Perforated length 13 ft.
Perforated interval from 6.5 to 19.5 ft.
Perforation type MACHINE SLOTTED
Perforation size 0.020 INCH
g. Surface seal 0.5 ft.
Seal material CONCRETE
h. Backfill 4.5 ft.
Backfill material CEMENT
i. Seal 1.5 ft.
Seal material BENTONITE CHIPS
j. Gravel pack 13.5 ft.
Pack material #2/12 SAND
k. Bottom seal NA ft.
Seal material NA

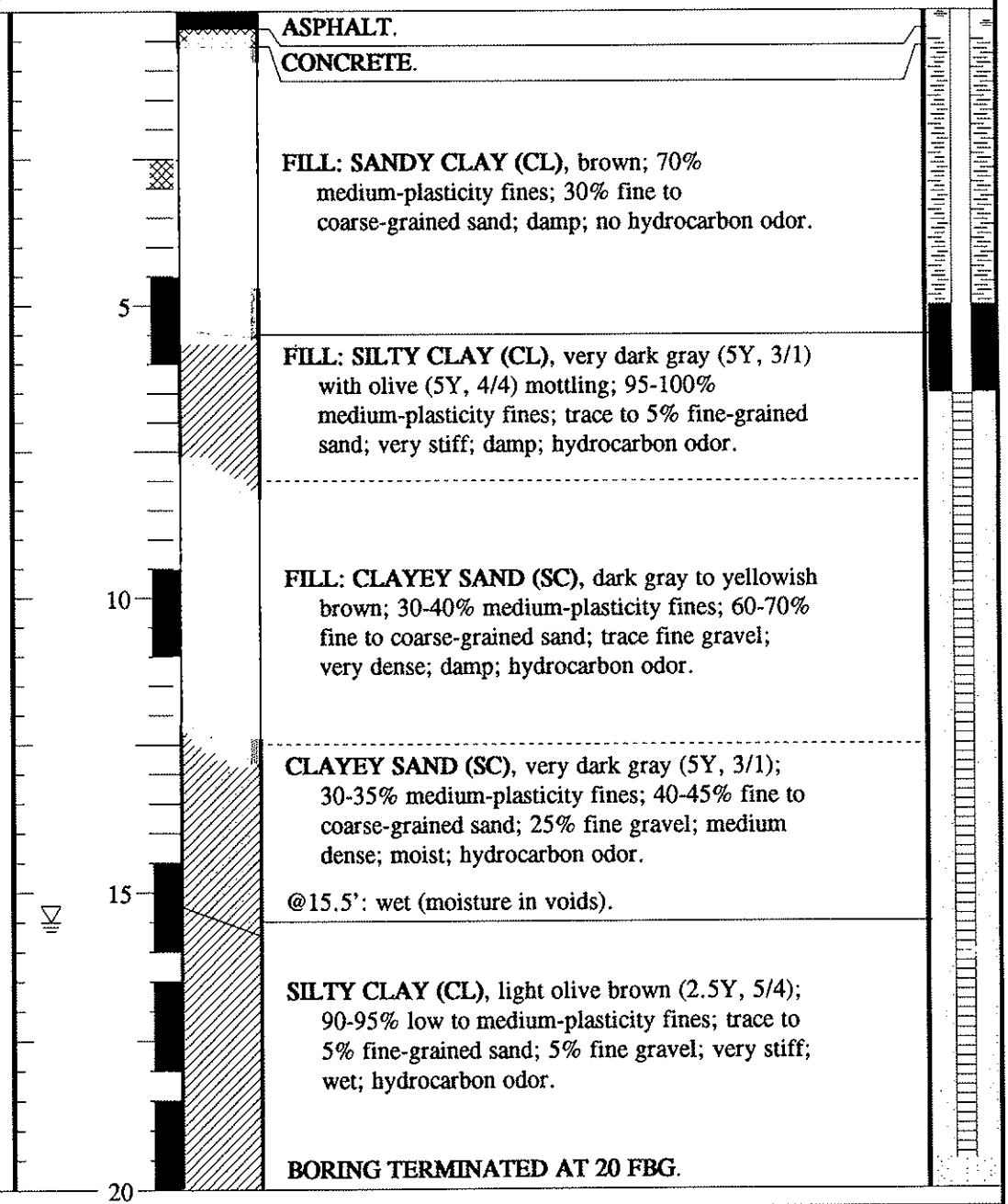
DETAILCB.DWG

LOG OF EXPLORATORY BORING

PROJECT NUMBER	**20805-127.001**	BORING NO.	**VW-4**
PROJECT NAME	**Arco Service Station #2111, San Leandro, California**	PAGE	**1 OF 1**
BY **R. Davis**	DATE **2/28/96**	SURFACE ELEV.	**39.23 ft.**

PID Reading (ppm)	Sample Recovery (ft./ft.)	Penetration (Blows per 6")	DESCRIPTION
			ASPHALT.
			CONCRETE.
0.5			**FILL: SANDY CLAY (CL)**, brown; 70% medium-plasticity fines; 30% fine to coarse-grained sand; damp; no hydrocarbon odor.
7.0	1.2/1.5	9 15 16	**FILL: SILTY CLAY (CL)**, very dark gray (5Y, 3/1) with olive (5Y, 4/4) mottling; 95-100% medium-plasticity fines; trace to 5% fine-grained sand; very stiff; damp; hydrocarbon odor.
23.1	0.8/1.5	22 25 29	**FILL: CLAYEY SAND (SC)**, dark gray to yellowish brown; 30-40% medium-plasticity fines; 60-70% fine to coarse-grained sand; trace fine gravel; very dense; damp; hydrocarbon odor.
92.3	1.2/1.5	6 9 15	**CLAYEY SAND (SC)**, very dark gray (5Y, 3/1); 30-35% medium-plasticity fines; 40-45% fine to coarse-grained sand; 25% fine gravel; medium dense; moist; hydrocarbon odor. @15.5': wet (moisture in voids).
281.0	1.5/1.5	9 12 16	**SILTY CLAY (CL)**, light olive brown (2.5Y, 5/4); 90-95% low to medium-plasticity fines; trace to 5% fine-grained sand; 5% fine gravel; very stiff; wet; hydrocarbon odor.
878.0	1.5/1.5	6 7 15	**BORING TERMINATED AT 20 FBG.**

GROUND WATER LEVELS | DEPTH IN FT. | SAMPLES | LITHO-GRAPHIC COLUMN | WELL DETAIL



EMCON

REMARKS

Boring drilled to a depth of 20 feet below grade (fbg) by West Hazmat using 10" dia. hollow-stem auger equipment. Boring completed as a 4" dia. PVC vapor extraction well screened from 6.5 to 19.5 fbg. Groundwater was encountered at 15.5 fbg.

APPENDIX G

FIELD DATA SHEETS

GROUND WATER SAMPLING AND ANALYSIS REQUEST

PROJECT MGR. AUTHORIZATION: TLD

EMCON ASSOCIATES

PROJECT NAME: ARCO 7111 — PROJECT NO.: 0805-127.001

DATE SUBMITTED: 3/12/96 — PM/GEOLOGIST: John Young / Rob Davis

SPECIAL INSTRUCTIONS / CONSIDERATIONS (well access, time frame): Please sample offsite well MW-5 between 11 Am and 2 Pm to minimize impact to traffic in the Church Driveway. Pastor Sura Phoenix (510) 638-7051 is our contact at the Church. Bring traffic control for MW-6 (it's in the shoulder of Prada St.)

WELL LOCK NUMBER: Dolphin ← Replace w/ Emcon locks.

☐ CHECK BOX TO AUTHORIZE DATA ENTRY

	WELL NO. OR SOURCE	CASING DIAMETER	CASING LENGTH	DEPTH TO WATER	ANALYSES REQUESTED
*	MW-5	2"	24'	~16'	TPHG, BTEX, DTW, Develop (Surge + Bail)
	MW-6	2"	25'	↓	↓ ↓ ↓ ↓
	MW-7	4"	27'	↓	↓ ↓ ↓ ↓
*	Put MW-5 on a separate C.O.C.				
	V-1	4"	20'	15'	TPHG, BTEX, DTW, no development!
	V-2	↓	↓	↓	↓ ↓ ↓
	V-3	↓	↓	↓	↓ ↓ ↓
	V-4	↓	↓	↓	↓ ↓ ↓
→	put these 4 on a separate chain of custody				

NOTE: IT IS VERY IMPORTANT TO INCLUDE A COPY OF PROJECT PROPOSAL AND A WELL LOCATION MAP OR SKETCH WITH THIS REQUEST.

FIELD REPORT
DEPTH TO WATER / FLOATING PRODUCT SURVEY

PROJECT # : **20805-127.002** STATION ADDRESS : **1156 Davis Street, San Leandro** DATE : 3/21/96

ARCO STATION # : **2111** FIELD TECHNICIAN : Joe Williams DAY : Thursday

DTW Order	WELL ID	Well Box Seal	Well Lid Secure	Gasket	Lock	Locking Well Cap	FIRST DEPTH TO WATER (feet)	SECOND DEPTH TO WATER (feet)	DEPTH TO FLOATING PRODUCT (feet)	FLOATING PRODUCT THICKNESS (feet)	WELL TOTAL DEPTH (feet)	COMMENTS
1	**V-1**	ok	yes	None	None	ok	10.55	10.55	ND	ND	19.70	
2	**V-2**	ok	yes	None	None	ok	13.02	13.02	ND	ND	19.70	
3	**V-3**	ok	yes	None	None	ok	12.46	12.46	ND	ND	19.50	
4	**V-4**	ok	yes	None	None	ok	13.00	13.00	ND	ND	18.30	

SURVEY POINTS ARE TOP OF WELL CASINGS

FIELD REPORT
DEPTH TO WATER / FLOATING PRODUCT SURVEY

PROJECT # : 21775-226.002 STATION ADDRESS : 1156 Davis Street, San Leandro DATE : 3/21/96

ARCO STATION # : 2111 FIELD TECHNICIAN : Joe Williams DAY : Thursday

DTW Order	WELL ID	Well Box Seal	Well Lid Secure	Gasket	Lock	Locking Well Cap	FIRST DEPTH TO WATER (feet)	SECOND DEPTH TO WATER (feet)	DEPTH TO FLOATING PRODUCT (feet)	FLOATING PRODUCT THICKNESS (feet)	WELL TOTAL DEPTH (feet)	COMMENTS
1	**MW-1**	ok	yes	None	3490	ok	14.72	14.72	ND	ND	26.2	
2	**MW-4**	ok	yes	None	3490	ok	12.74	12.74	ND	ND	21.7	Need new lock
3	**MW-3**	ok	yes	None	3490	ok	14.17	14.17	ND	ND	26.7	
4	**MW-2**	ok	yes	None	3490	ok	12.84	12.84	ND	ND	26.7	
5	**MW-5**	ok	yes	ok	Dolphin	ok	12.60	12.60	ND	ND	23.9	**Please replace lock w/ 3490**
6	**MW-6**	Bad	~~yes~~	ok	Dolphin	ok	11.55	11.55	ND	ND	25.2	**Please replace lock w/ 3490**
7	**MW-7**	ok	ok	None	Dolphin	Bad	13.32	13.32	ND	ND	27.2	**Please replace lock w/ 3490**
												Need new cap

SURVEY POINTS ARE TOP OF WELL CASINGS

WELL DEVELOPMENT FIELD DATA SHEET

Project Number: 6805-127.001 Performed By: M. Ross

Client: ARCO 2111 Date: 3-18-96

Location: San Bruno Well ID: MW-5

Casing Diameter: ✓ 2 inch ___ 3 inch ___ 4 inch ___ 4.5 inch ___ 6 inch Other ___

Depth to Water (feet): Start 13.54 End 14.41

Well Total Depth (feet): Start 23.7 End 23.9

One Casing Volume at Start (gal): 1.82 Total Volume Purged (gal): 50.0

DEVELOPMENT METHOD

✓ Centrifugal Pump ___ Bailer (Teflon ®) ✓ Surge Block (Swab)

___ Submersible Pump ___ Bailer (PVC) ___ Other ___

FIELD INSTRUMENTS

✓ pH, EC, Temp. Meter ✓ NTU Meter ✓ Imhoff Cone ___ Colorimeter Other ___

Purge Water Disposal Method: DRUMS

Date	Time	Cumulative Discharge (gal)	Temp. (° F)	E.C. @ 25° C (µmho/cm)	pH (Stnd)	Turbidity Visual (Heavy, Moderate, Light, Trace) NTU Scale = (0 - 200 or 0 - 1000)	Color Visual (Clear, Cloudy, Yellow, Brown...) Cobalt Scale = (0 to 500)	Odor	Settleable Solids (%)
3-18-96	1135	10.0	75.4	1385	6.82	HEAVY >1000	BRN >500	NONE	70%
↓	1150	20.0	74.4	912	6.77	HEAVY >1000	BRN >500	NONE	60%
↓	1205	40.0	74.3	854	6.76	HEAVY >1000	BRN >500	NONE	30%
✓	1220	50.0	75.0	854	6.81	~~BRN~~ HEAVY >1000	BRN >500	NONE	5%

WELL INTEGRITY: OK LOCK #: NONE

REMARKS: NEEDS NEW LOCK

WELL KEPT DRYING

SIGNATURE: [signature] REVIEWED BY: SIT Page 1 of 10

Rev. 1, 4/90

Rev. 3, 2/94

WATER SAMPLE FIELD DATA SHEET

EMCON ASSOCIATES

PROJECT NO: 2105-177.001 SAMPLE ID: MW-5 (79)

PURGED BY: J. Williams CLIENT NAME: ARCO #7111

SAMPLED BY: J. Williams LOCATION: San Leandro, CA

TYPE: Ground Water X Surface Water ___ Treatment Effluent ___ Other ___

CASING DIAMETER (inches): 2 X 3 ___ 4 ___ 4.5 ___ 6 ___ Other ___

CASING ELEVATION (feet/MSL): N/A VOLUME IN CASING (gal.): 1.84

DEPTH TO WATER (feet): 12.66 CALCULATED PURGE (gal.): 5.53

DEPTH OF WELL (feet): 22.9 ACTUAL PURGE VOL. (gal.): 6.0

DATE PURGED: 3/27/96 Start (2400 Hr) 1206 End (2400 Hr) 1209

DATE SAMPLED: " Start (2400 Hr) 1715 End (2400 Hr) —

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
1207	2.0	6.76	894	67.5	BRN	Heavy
1208	4.0	6.77	909	67.1	"	"
1209	6.0	6.77	900	67.2	"	"

D. O. (ppm): NR ODOR: None COLOR (COBALT 0 - 500): NR TURBIDITY (NTU 0 - 200 or 0 - 1000): NR

Field QC samples collected at this well: NR

Parameters field filtered at this well: NR

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
___ 2" Bladder Pump	___ Bailer (Teflon®)	___ 2" Bladder Pump	X Bailer (Teflon®)
X Centrifugal Pump	___ Bailer (PVC)	___ DDL Sampler	___ Bailer (Stainless Steel)
___ Submersible Pump	___ Bailer (Stainless Steel)	___ Dipper	___ Submersible Pump
___ Well Wizard™	___ Dedicated	___ Well Wizard™	___ Dedicated
Other: ___		Other: ___	

WELL INTEGRITY: Good LOCK #: ___

REMARKS: RETC LOCK

Meter Calibration: Date: 3/27/96 Time: ___ Meter Serial #: 9705 Temperature °F: ___

(EC 1000 ___ / ___) (DI ___) (pH 7 ___ / ___) (pH 10 ___ / ___) (pH 4 ___ / ___)

Location of previous calibration: MW-6

Signature: [signature] Reviewed By: GF Page 2 of 10

WELL DEVELOPMENT FIELD DATA SHEET

Project Number: 7905-127.001 Performed By: M. ROSS

Client: ARCO 2111 Date: 3-18-96

Location: San Leandro, CA Well ID: MW-6

Casing Diameter: ✓ 2 inch ___ 3 inch ___ 4 inch ___ 4.5 inch ___ 6 inch Other ___

Depth to Water (feet): Start 11.53 End 12.03

Well Total Depth (feet): Start 24.9 End 25.0

One Casing Volume at Start (gal): 2.18 Total Volume Purged (gal): 50.0

DEVELOPMENT METHOD

✓ Centrifugal Pump ___ Bailer (Teflon ®) ✓ Surge Block (Swab)

___ Submersible Pump ___ Bailer (PVC) ___ Other ___

FIELD INSTRUMENTS

✓ pH, EC, Temp. Meter ✓ NTU Meter ✓ Imhoff Cone ___ Colorimeter Other ___

Purge Water Disposal Method: DRUMS

Date	Time	Cumulative Discharge (gal)	Temp. (° F)	E.C. @ 25° C (µmho/cm)	pH (Stnd)	Turbidity Visual (Heavy, Moderate, Light, Trace) NTU Scale = 0 - 200 or 0 - 1000	Color Visual (Clear, Cloudy, Yellow, Brown...) Cobalt Scale = 0 to 500	Odor	Settleable Solids (%)
3-18-96	1040	10.0	74.8	996	6.46	HEAVY > 1000	BROWN > 500	NONE	75%
↓	1045	20.0	73.0	1046	6.52	HEAVY > 1000	BROWN > 500	NONE	65%
↓	1050	30.0	72.9	879	6.59	HEAVY > 1000	BROWN > 500	NONE	35%
↓	1055	40.0	73.7	833	6.61	HEAVY > 1000	BROWN > 500	NONE	15%
↓	1100	50.0	73.1	821	6.59	HEAVY > 1000	BROWN 7500	NONE	5%

WELL INTEGRITY : OK- LOCK # : NONE

REMARKS : NEEDS NEW WELL CAP AND LOCK

SIGNATURE: M. Ross REVIEWED BY: SF Page 3 of 10

Rev. 1, 4/90

Rev. 3, 2/94

WATER SAMPLE FIELD DATA SHEET

EMCON

PROJECT NO: 20505-177 GC1 SAMPLE ID: MW-6 (75)
PURGED BY: J. Williams CLIENT NAME: ARCC 7111
SAMPLED BY: " LOCATION: SAN LEANDRO

TYPE: Ground Water ✓ Surface Water ___ Treatment Effluent ___ Other ___

CASING DIAMETER (inches): 2 ✓ 3 ___ 4 ___ 4.5 ___ 6 ___ Other ___

CASING ELEVATION (feet/MSL): NR VOLUME IN CASING (gal.): 2.27
DEPTH TO WATER (feet): 11.55 CALCULATED PURGE (gal.): 6.65
DEPTH OF WELL (feet): 25.2 ACTUAL PURGE VOL. (gal.): 7

DATE PURGED: 3-22-96 Start (2400 Hr) 1020 End (2400 Hr) 1024
DATE SAMPLED: " Start (2400 Hr) 1027 End (2400 Hr) —

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
1021	2.5	6.32	916	67.6	BRN	Heavy
1027	5.0	6.46	951	67.9	"	"
1024	7.0	6.51	951	65.3	"	"

D. O. (ppm): NR ODOR: none NR (COBALT 0 - 500) NR (NTU 0 - 200 or 0 - 1000)

Field QC samples collected at this well: NR Parameters field filtered at this well: NR

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
___ 2" Bladder Pump	___ Bailer (Teflon®)	___ 2" Bladder Pump	✓ Bailer (Teflon®)
✓ Centrifugal Pump	___ Bailer (PVC)	___ DDL Sampler	___ Bailer (Stainless Steel)
___ Submersible Pump	___ Bailer (Stainless Steel)	___ Dipper	___ Submersible Pump
___ Well Wizard™	___ Dedicated	___ Well Wizard™	___ Dedicated
Other: ___		Other: ___	

WELL INTEGRITY: RAD SEAL LOCK #: 2496

REMARKS: Oil sample taken

Meter Calibration: Date: 3-22-96 Time: 1020 Meter Serial #: 92C8 Temperature °F: 72.3
(EC 1000 2910 / 1000) (DI ___) (pH 7 7.01 / 7.00) (pH 10 10.01 / 10.00) (pH 4 3.98 ___)

Location of previous calibration: ___

Signature: [signature] Reviewed By: [signature] Page 4 of 10

WELL DEVELOPMENT FIELD DATA SHEET

Project Number: 0805-127.001 Performed By: M. Ross

Client: ARCO 2111 Date: 3-12-96

Location: San Leandro, CA Well ID: MW-7

Casing Diameter: ___ 2 inch ___ 3 inch ✓ 4 inch ___ 4.5 inch ___ 6 inch Other ___

Depth to Water (feet): Start 12.86 End 26.79

Well Total Depth (feet): Start 25.7 End 27.2

One Casing Volume at Start (gal): 8.45 Total Volume Purged (gal): 35.0

DEVELOPMENT METHOD

✓ Centrifugal Pump ___ Bailer (Teflon ®) ___ Surge Block (Swab)

___ Submersible Pump ___ Bailer (PVC) ___ Other ___

FIELD INSTRUMENTS

✓ pH, EC, Temp. Meter ✓ NTU Meter ✓ Imhoff Cone ___ Colorimeter Other ___

Purge Water Disposal Method: DRUMS

Date	Time	Cumulative Discharge (gal)	Temp. (° F)	E.C. @ 25° C (µmho/cm)	pH (Stnd)	Turbidity Visual (Heavy, Moderate, Light, Trace) NTU Scale = (0 - 200 or 0 - 1000)	Color Visual (Clear, Cloudy, Yellow, Brown...) Cobalt Scale = (0 to 500)	Odor	Settleable Solids (%)
3-12-96	1320	15.0	77.3	1366	7.38	HEAVY >1000	BRN > 500	NONE	60%
↓	1355	20.0	76.9	1202	7.39	HEAVY >1000	BRN > 500	NONE	15%
↓	1420	30.0	76.2	1114	6.95	HEAVY >1000	BRN > 500	NONE	7%
↓	1440	35.0	77.0	1162	6.93	HEAVY >1000	BRN > 500	NONE	5%

WELL INTEGRITY: OK LOCK #: NONE

REMARKS: NEEDS a LOCK

WELL RIGHT DRIVING

SIGNATURE: [signature] REVIEWED BY: SK Page 5 of 10

Rev. 1, 4/90

Rev. 3, 2/94

EMCON

WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 20805-127.001 SAMPLE ID: MW-7(27')

PURGED BY: J. Williams CLIENT NAME: ARCO 2111

SAMPLED BY: ✓ LOCATION: San Leandro, CA

TYPE: Ground Water X Surface Water ___ Treatment Effluent ___ Other ___

CASING DIAMETER (inches): 2 ___ 3 ___ 4 ✓ 4.5 ___ 6 ___ Other ___

CASING ELEVATION (feet/MSL): NR VOLUME IN CASING (gal.): 9.06

DEPTH TO WATER (feet): 13.32 CALCULATED PURGE (gal.): 27.20

DEPTH OF WELL (feet): 27.2 ACTUAL PURGE VOL. (gal.): 10.0

DATE PURGED: 3-22-96 Start (2400 Hr) 1042 End (2400 Hr) 1045

DATE SAMPLED: ✓ Start (2400 Hr) 1049 End (2400 Hr) —

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
~~1043~~ 1044	9.0	6.80	1108	69.5	Brn	Heavy
	~~10~~ well dried at 10 gallons				|	/
					|	/
~~1048~~ 1050	recharge	6.92	1150	69.7	✓	✓

D. O. (ppm): NR ODOR: none NR NR

(COBALT 0 - 500) (NTU 0 - 200 or 0 - 1000)

Field QC samples collected at this well: NR

Parameters field filtered at this well: NR

PURGING EQUIPMENT

- ___ 2" Bladder Pump
- ✓ Centrifugal Pump
- ___ Submersible Pump
- ___ Well Wizard™
- ___ Bailer (Teflon®)
- ___ Bailer (PVC)
- ___ Bailer (Stainless Steel)
- ___ Dedicated

Other: ___

SAMPLING EQUIPMENT

- ___ 2" Bladder Pump
- ___ DDL Sampler
- ___ Dipper
- ___ Well Wizard™
- ✓ Bailer (Teflon®)
- ___ Bailer (Stainless Steel)
- ___ Submersible Pump
- ___ Dedicated

Other: ___

WELL INTEGRITY: Good LOCK #: ~~ARCO~~ 3259

REMARKS: All samples taken

Meter Calibration: Date: 3/22/96 Time: ___ Meter Serial #: 2208 Temperature °F: ___

(EC 1000 ___ / ___) (DI ___) (pH 7 ___ / ___) (pH 10 ___ / ___) (pH 4 ___ / ___)

Location of previous calibration: MW-6

Signature: [signature] Reviewed By: [signature] Page 7 of 7

Rev. 3, 2/94

EMCON

WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 20805-127.001 SAMPLE ID: ~~[illegible]~~ U-1(19')

PURGED BY: ~~M. [illegible]~~ T. Williams CLIENT NAME: ARCO 2111

SAMPLED BY: " LOCATION: San Leandro

TYPE: Ground Water X Surface Water ___ Treatment Effluent ___ Other ___

CASING DIAMETER (inches): 2 ___ 3 ___ 4 ✓ 4.5 ___ 6 ___ Other ___

CASING ELEVATION (feet/MSL): NR VOLUME IN CASING (gal.): 5.97

DEPTH TO WATER (feet): 10.55 CALCULATED PURGE (gal.): 17.93

DEPTH OF WELL (feet): 19.70 ACTUAL PURGE VOL. (gal.): 10.0

DATE PURGED: 3/22/94 Start (2400 Hr) 1054 End (2400 Hr) 1056

DATE SAMPLED: " Start (2400 Hr) 1100 End (2400 Hr) —

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
1055	6.0	6.85	2080	68.5	Brn	Heavy
	~~12.0~~ well Dried at 10.0 gallons				|	|
	~~18.0~~				|	|
1101	recharge	6.64	1562	68.2	"	"

D. O. (ppm): NR ODOR: Strong NR NR

(COBALT 0 - 500) (NTU 0 - 200 or 0 - 1000)

Field QC samples collected at this well: NR

Parameters field filtered at this well: NR

PURGING EQUIPMENT

- ___ 2" Bladder Pump
- ✓ Centrifugal Pump
- ___ Submersible Pump
- ___ Well Wizard™
- ___ Bailer (Teflon®)
- ___ Bailer (PVC)
- ___ Bailer (Stainless Steel)
- ___ Dedicated

Other: ___

SAMPLING EQUIPMENT

- ___ 2" Bladder Pump
- ___ DDL Sampler
- ___ Dipper
- ___ Well Wizard™
- ✓ Bailer (Teflon®)
- ___ Bailer (Stainless Steel)
- ___ Submersible Pump
- ___ Dedicated

Other: ___

WELL INTEGRITY: Good LOCK #: ARCO-Key

REMARKS: GW Sample taken

Meter Calibration: Date: 3/22/94 Time: ___ Meter Serial #: 9208 Temperature °F: ___

(EC 1000 ___ / ___) (DI ___) (pH 7 ___ / ___) (pH 10 ___ / ___) (pH 4 ___ / ___)

Location of previous calibration: ___

Signature: [signature] Reviewed By: [signature] Page 7 of 10

Rev. 3, 2/94

WATER SAMPLE FIELD DATA SHEET

EMCON

PROJECT NO: 20805-177.CC1 SAMPLE ID: V-2

PURGED BY: T. Williams CLIENT NAME: ARCO #2111

SAMPLED BY: " LOCATION: San Leandro, CA

TYPE: Ground Water 1 Surface Water ___ Treatment Effluent ___ Other ___

CASING DIAMETER (inches): 2 ___ 3 ___ 4 ✓ 4.5 ___ 6 ___ Other ___

CASING ELEVATION (feet/MSL): NK VOLUME IN CASING (gal.): 4/34

DEPTH TO WATER (feet): 13.02 CALCULATED PURGE (gal.): 13.09

DEPTH OF WELL (feet): 19.70 ACTUAL PURGE VOL. (gal.): 8.0

DATE PURGED: 3/22/96 Start (2400 Hr) 1106 End (2400 Hr) 1109

DATE SAMPLED: " Start (2400 Hr) 1113 End (2400 Hr) —

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
1106	4.5	6.89	2060	69.5	BRN	Hvy
1109	Backup	6.89	2120	69.4	"	"
	1					

D. O. (ppm): NK ODOR: Strong

COLOR: NK (COBALT 0 - 500)

TURBIDITY: NR (NTU 0 - 200 or 0 - 1000)

Field QC samples collected at this well: NK

Parameters field filtered at this well: NK

PURGING EQUIPMENT

- ___ 2" Bladder Pump
- ✓ Centrifugal Pump
- ___ Submersible Pump
- ___ Well Wizard™
- ___ Bailer (Teflon®)
- ___ Bailer (PVC)
- ___ Bailer (Stainless Steel)
- ___ Dedicated
- Other: ___

SAMPLING EQUIPMENT

- ___ 2" Bladder Pump
- ___ DDL Sampler
- ___ Dipper
- ___ Well Wizard™
- ✓ Bailer (Teflon®)
- ___ Bailer (Stainless Steel)
- ___ Submersible Pump
- ___ Dedicated
- Other: ___

WELL INTEGRITY: Good LOCK #: 3490

REMARKS: Well dried at 5.0 Gallons
Oil sampler taken

Meter Calibration: Date: 3/22/96 Time: ___ Meter Serial #: 9205 Temperature °F: ___

(EC 1000 ___ / ___) (DI ___) (pH 7 ___ / ___) (pH 10 ___ / ___) (pH 4 ___ / ___)

Location of previous calibration: ___

Signature: [signature] Reviewed By: [signature] Page 8 of 10

Rev. 3, 2/94

WATER SAMPLE FIELD DATA SHEET

EMCON ASSOCIATES

PROJECT NO: 20805-127.002 SAMPLE ID: V-3 (19')

PURGED BY: J. Williams CLIENT NAME: ARCO #2111

SAMPLED BY: " LOCATION: San Leandro, CA

TYPE: Ground Water X Surface Water ___ Treatment Effluent ___ Other ___

CASING DIAMETER (inches): 2 ___ 3 ___ 4 ✓ 4.5 ___ 6 ___ Other ___

CASING ELEVATION (feet/MSL):	NR	VOLUME IN CASING (gal.):	4.59
DEPTH TO WATER (feet):	12.46	CALCULATED PURGE (gal.):	13.79
DEPTH OF WELL (feet):	19.50	ACTUAL PURGE VOL. (gal.):	14

DATE PURGED: 3/22/96 Start (2400 Hr) 1022 End (2400 Hr) 1128

DATE SAMPLED: " Start (2400 Hr) 1135 End (2400 Hr) —

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
1024	4.5	6.90	1644	66.9	Brn	Heavy
1126	9.0	6.83	1645	67.3	↓	↓
1128	14.0	6.81	1646	67.7	↓	↓

D. O. (ppm): N/A ODOR: Strong

N/A (COBALT 0 - 500) N/A (NTU 0 - 200 or 0 - 1000)

Field QC samples collected at this well: N/A

Parameters field filtered at this well: N/A

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
___ 2" Bladder Pump	___ Bailer (Teflon®)	___ 2" Bladder Pump	X Bailer (Teflon®)
X Centrifugal Pump	___ Bailer (PVC)	___ DDL Sampler	___ Bailer (Stainless Steel)
___ Submersible Pump	___ Bailer (Stainless Steel)	___ Dipper	___ Submersible Pump
___ Well Wizard™	___ Dedicated	___ Well Wizard™	___ Dedicated
Other: ___		Other: ___	

WELL INTEGRITY: Good LOCK #: "

REMARKS: all samples taken sheen

Meter Calibration: Date: 3/22/96 Time: ___ Meter Serial #: 9205 Temperature °F: ___

(EC 1000 ___ / ___) (DI ___) (pH 7 ___ / ___) (pH 10 ___ / ___) (pH 4 ___ / ___)

Location of previous calibration: ___

Signature: [signature] Reviewed By: [signature] Page 9 of 10

Rev. 3, 2/94

EMCON

WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 20805-127.00.2 SAMPLE ID: V-4 (18')

PURGED BY: J. Williams CLIENT NAME: ARCO # 2111

SAMPLED BY: 〃 LOCATION: San Leandro, CA

TYPE: Ground Water X Surface Water ___ Treatment Effluent ___ Other___

CASING DIAMETER (inches): 2 ___ 3 ___ 4 ✓ 4.5 ___ 6 ___ Other___

CASING ELEVATION (feet/MSL): NR VOLUME IN CASING (gal.): 3.26

DEPTH TO WATER (feet): 13.00 CALCULATED PURGE (gal.): 10.38

DEPTH OF WELL (feet): 18.30 ACTUAL PURGE VOL. (gal.): 6.0

DATE PURGED: 3/22/96 Start (2400 Hr) 1140 End (2400 Hr) 1141

DATE SAMPLED: 〃 Start (2400 Hr) 1146 End (2400 Hr) —

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
1141	3.5	6.75	2070	17.3	BRN	Heavy
	well dried at		6.0 gallons		|	|
1147	recharge	6.79	2070	66.8	↓	↓

D. O. (ppm): NR ODOR: Strong NR (COBALT 0 - 500) NR (NTU 0 - 200 or 0 - 1000)

Field QC samples collected at this well: NR

Parameters field filtered at this well: NR

PURGING EQUIPMENT

___ 2" Bladder Pump
✓ Centrifugal Pump
___ Submersible Pump
___ Well Wizard™
___ Bailer (Teflon®)
___ Bailer (PVC)
___ Bailer (Stainless Steel)
___ Dedicated

Other: ___

SAMPLING EQUIPMENT

___ 2" Bladder Pump
___ DDL Sampler
___ Dipper
___ Well Wizard™
✓ Bailer (Teflon®)
___ Bailer (Stainless Steel)
___ Submersible Pump
___ Dedicated

Other: ___

WELL INTEGRITY: Good LOCK #: ___

REMARKS: all samples taken [illegible]

Meter Calibration: Date: 3/22/96 Time: ___ Meter Serial #: 9208 Temperature °F: ___

(EC 1000 ___ / ___) (DI ___) (pH 7 ___ / ___) (pH 10 ___ / ___) (pH 4 ___ / ___)

Location of previous calibration: MW-6

Signature: [signature] Reviewed By: [signature] Page 10 of 10

APPENDIX H

TOPOGRAPHIC WELL SURVEY

GRAPHIC SCALE

40 0 20 40

(IN FEET)

1 inch = 40 ft.

DATE: 3-18-96

PVC=39.60
MW-1 RIM=39.84

PVC=39.32
MW-3 RIM=40.01

PVC=38.10
MW-4 RIM=38.88

ARCO

PREDA ST.

PVC=38.38
V-4 RIM=39.23

PVC=37.11
MW-6 RIM=38.19

PVC=38.94
V-1 RIM=39.39

PVC=37.21
MW-5 RIM=37.66

PVC=37.99
MW-2 RIM=38.71

PVC=38.28
V-2 RIM=38.99

PVC=38.68
MW-7 RIM=38.99

PVC=38.01
V-3 RIM=38.71

38.31
TC @ CB – LOCAL BENCHMARK

FACE OF CURB

DAVIS ST.

PROFESSIONAL LAND SURVEYOR
LOUIS WADE HAMMOND
EXP. 3-31-98
№ 6163
STATE OF CALIFORNIA

BENCHMARK

Designation X 1435 Date Adjust 061591
Elevation in Feet 1988 datum = 54.583 YearObserved 1989
ACRN = HT3557 ********** BENCH MARK DESCRIPTION **********
DESIGNATION -- X 1435 STATE--CA COUNTY--ALAMEDA
QUAD--0371221 QSN-- LATITUDE = N374325. LONGITUDE = W1220939.
MONUMENT BY--NGS YR--1988 MARK TYPE--VERTICAL CONTROL DISK
STAMPING--X 1435 1988
***** SPECIFIC SETTING--PIER ***** MARK ORIGIN --- NGS
IN SAN LEANDRO, AT THE INTERSECTION OF DAVIS STREET AND THE BART RAILROAD, SET VERTICALLY IN THE SOUTHEAST FACE OF THE FIRST PIER SOUTHEAST OF THE STREET OF THE RAILROAD OVERPASS OF THE STREET, 10.0 M (32.8 FT) SOUTHEAST OF THE CENTERLINE OF THE NORTHBOUND LANES OF THE STREET, 1.4 M (4.6 FT) ABOVE THE LEVEL OF A SIDEWALK, AND NEAR THE CENTER OF THE OVERPASS.

WELL SURVEY

ARCO # 2111
1156 DAVIS ST.
SAN LEANDRO, CALIFORNIA

L. Wade Hammond
Licensed Land Surveyor
No. 6163
6310 Thornton Avenue
Newark, California
94560
Tel:(510) 796-2624
Fax:(510) 790-2650

APPENDIX I

CERTIFIED ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY DOCUMENTATION

Columbia Analytical Services inc.

March 20, 1996

Service Request No: S9600366

John Young
EMCON
1921 Ringwood Avenue
San Jose, CA 95131

Re: **2111 San Leandro / 20805-127.001 / TO#2111-94-2B**

Dear Mr. Young:

The following pages contain analytical results for sample(s) received by the laboratory on March 5, 1996. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. Listed above -- to help expedite our service please refer to this number when contacting the laboratory.

Analytical results were produced by procedures consistent with Columbia Analytical Services' (CAS) Quality Assurance Manual (with any deviations noted). Signature of this CAS Analytical Report below confirms that pages 2 through 11, following, have been thoroughly reviewed and approved for release in accord with CAS Standard Operating Procedure ADM-DatRev3.

Please feel welcome to contact me should you have questions or further needs.

Sincerely,

Steven L. Green
Project Chemist

Cristina V. Rayburn

Greg Anderson
Regional QA Coordinator

SLG/jk

COLUMBIA ANALYTICAL SERVICES, Inc.

Acronyms

A2LA	American Association for Laboratory Accreditation
ASTM	American Society for Testing and Materials
BOD	Biochemical Oxygen Demand
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
CAM	California Assessment Metals
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
COD	Chemical Oxygen Demand
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank sample
ICP	Inductively Coupled Plasma atomic emission spectrometry
ICV	Initial Calibration Verification sample
J	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified
MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U. S. EPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl tert-Butyl Ether
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the paper industry for Air and Stream Improvement
ND	Not Detected at or above the method reporting/detection limit (MRL/MDL)
NIOSH	National Institute for Occupational Safety and Health
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	Standard Methods for the Examination of Water and Wastewater, 18th Ed., 1992
STLC	Solubility Threshold Limit Concentration
SW	Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Ed., 1986 and as amended by Updates I, II, IIA, and IIB.
TCLP	Toxicity Characteristic Leaching Procedure
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
tr	Trace level. The concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)

ACRONLST.DOC 7/14/95

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	ARCO Products Company	**Service Request:**	S9600366
Project:	2111 San Leandro/20805-127.001	**Date Collected:**	2/28-3/1/96
Sample Matrix:	Soil	**Date Received:**	3/5/96
		Date Extracted:	NA
		Date Analyzed:	3/11-13/96

BTEX and TPH as Gasoline
EPA Methods 5030/8020/California DHS LUFT Method
As Received Basis

Analyte:	**TPH as Gasoline**	**Benzene**	**Toluene**	**Ethyl-benzene**	**Xylenes, Total**
Units:	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Method Reporting Limit:	1	0.005	0.005	0.005	0.005
Sample Name	**Lab Code**				
MW-5, 5'	S9600366-001	ND	ND	ND	ND	ND
MW-5, 10'	S9600366-002	ND	ND	ND	ND	ND
MW-5, 15'	S9600366-003	ND	ND	ND	ND	ND
MW-5, 30'	S9600366-006	ND	ND	ND	ND	ND
MW-6, 5'	S9600366-007	ND	ND	ND	ND	ND
MW-6, 10'	S9600366-008	ND	ND	ND	ND	ND
MW-6, 15'	S9600366-009	ND	ND	ND	ND	ND
MW-6, 27'	S9600366-012	ND	ND	ND	ND	ND
MW-7, 5.5'	S9600366-013	ND	ND	ND	ND	ND
MW-7, 10'	S9600366-014	ND	0.01	ND	ND	ND
MW-7, 15'	S9600366-015	1	0.11	ND	0.080	0.090
MW-7, 21'	S9600366-017	55	<0.1*	<0.2*	0.80	1.5
MW-7, 33	S9600366-018	ND	ND	ND	ND	0.006
V-1, 5.5'	S9600366-019	ND	ND	ND	ND	ND
V-1, 10.5'	S9600366-020	ND	ND	ND	ND	ND
V-1, 13'	S9600366-021	1	0.020	ND	ND	ND
V-1, 19.5'	S9600366-024	40	0.10	ND	0.50	0.80
V-2, 5.5'	S9600366-025	ND	ND	ND	ND	ND
V-2, 10.5'	S9600366-026	ND	ND	ND	ND	ND
V-2, 13'	S9600366-027	4	0.20	<0.025*	0.080	0.080
V-2, 15.5'	S9600366-028	18	0.30	<0.05*	0.30	0.40
V-2, 19.5'	S9600366-030	230	<0.5*	<1.*	<1.*	2

* Raised MRL due to high analyte concentration requiring a dilution.

5ABTXGAS/061694

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	ARCO Products Company	**Service Request:**	S9600366
Project:	2111 San Leandro/20805-127.001	**Date Collected:**	2/28-3/1/96
Sample Matrix:	Soil	**Date Received:**	3/5/96
		Date Extracted:	NA
		Date Analyzed:	3/11-13/96

BTEX and TPH as Gasoline
EPA Methods 5030/8020/California DHS LUFT Method
As Received Basis

Analyte:	**TPH as Gasoline**	**Benzene**	**Toluene**	**Ethyl-benzene**	**Xylenes, Total**
Units:	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Method Reporting Limit:	1	0.005	0.005	0.005	0.005
Sample Name	**Lab Code**				
V-3, 5'	S9600366-031	ND	ND	ND	ND	ND
V-3, 10'	S9600366-032	ND	0.020	ND	ND	0.005
V-3, 15'	S9600366-033	ND	ND	ND	ND	ND
V-3, 19.5'	S9600366-034	76	<0.1*	<0.2*	0.4	0.8
V-4, 5'	S9600366-035	ND	ND	ND	ND	ND
V-4, 10.5'	S9600366-036	12	<0.05*	<0.1*	<0.1*	<0.1*
V-4, 15'	S9600366-037	1100	<1*	<2*	<2*	3
V-4, 19.5'	S9600366-039	420	<0.5*	<1*	<1*	3
Method Blank	S9600311-SB	ND	ND	ND	ND	ND
Method Blank	S9600312-SB	ND	ND	ND	ND	ND
Method Blank	S9600313-SB	ND	ND	ND	ND	ND

* Raised MRL due to high analyte concentration requiring a dilution.

APPENDIX A

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: ARCO Products Company
Project: 2111 San Leandro/20805-127.001
Sample Matrix: Soil

Service Request: S9600366
Date Collected: 2/28-3/1/96
Date Received: 3/5/96
Date Extracted: NA
Date Analyzed: 3/11-13/96

Surrogate Recovery Summary
TPH as Gasoline/BTEX
EPA Methods 5030/8020/California DHS LUFT Method

Sample Name	Lab Code	PID Detector Percent Recovery 4-Bromofluorobenzene	FID Detector Percent Recovery α,α,α–Trifluorotoluene
MW-5, 5'	S9600366-001	79	116
MW-5, 10'	S9600366-002	84	12
MW-5, 15'	S9600366-003	91	94
MW-5, 30'	S9600366-006	93	113
MW-6, 5'	S9600366-007	88	108
MW-6, 10'	S9600366-008	90	106
MW-6, 15'	S9600366-009	90	107
MW-6, 27'	S9600366-012	90	126
MW-7, 5.5'	S9600366-013	72	117
MW-7, 10'	S9600366-014	76	108
MW-7, 15'	S9600366-015	78	124
MW-7, 21'	S9600366-017	82	116
MW-7, 33	S9600366-018	95	112
V-1, 5.5'	S9600366-019	64	107
V-1, 10.5'	S9600366-020	89	103
V-1, 13'	S9600366-021	68	120
V-1, 19.5'	S9600366-024	83	104
V-2, 5.5'	S9600366-025	53	97
V-2, 10.5'	S9600366-026	76	129
V-2, 13'	S9600366-027	90	134
V-2, 15.5'	S9600366-028	88	110
V-2, 19.5'	S9600366-030	86	104
	CAS Acceptance Limits:	51-137	51-137

SUR2/060194

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: ARCO Products Company
Project: 2111 San Leandro/20805-127.001
Sample Matrix: Soil

Service Request: S9600366
Date Collected: 2/28-3/1/96
Date Received: 3/5/96
Date Extracted: NA
Date Analyzed: 3/11-13/96

Surrogate Recovery Summary
TPH as Gasoline/BTEX
EPA Methods 5030/8020/California DHS LUFT Method

Sample Name	Lab Code	PID Detector Percent Recovery 4-Bromofluorobenzene	FID Detector Percent Recovery α,α,α-Trifluorotoluene
V-3, 5'	S9600366-031	78	121
V-3, 10'	S9600366-032	90	123
V-3, 15'	S9600366-033	93	159*
V-3, 19.5'	S9600366-034	84	121
V-4, 5'	S9600366-035	88	115
V-4, 10.5'	S9600366-036	89	103
V-4, 15'	S9600366-037	88	115
V-4, 19.5'	S9600366-039	86	113
Method Blank	S9600311-SB	94	126
Method Blank	S9600312-SB	87	125
Method Blank	S9600313-SB	86	128
MW-5, 5' MS	S9600366-001MS	82	130
MW-5, 5' DMS	S9600366-001DMS	80	119
V-3, 5' MS	S9600366-031MS	86	127
V-3, 5' DMS	S9600366-031DMS	81	123
	CAS Acceptance Limits:	51-137	51-137

* Outside of acceptance criteria due matrix interference.

SUR2/060194

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	ARCO Products Company	**Service Request:**	S9600366
Project:	2111 San Leandro/20805-127.001	**Date Collected:**	2/28-3/1/96
Sample Matrix:	Soil	**Date Received:**	3/5/96
		Date Extracted:	NA
		Date Analyzed:	3/11/96

Matrix Spike/Duplicate Matrix Spike Summary
BTE
EPA Methods 5030/8020
Units: mg/Kg (ppm)
As Received Basis

Sample Name: V-3, 5'
Lab Code: S9600366-031

	Spike Level		Sample	Spike Result		Percent Recovery		CAS Acceptance	Relative Percent
Analyte	MS	DMS	**Result**	MS	DMS	MS	DMS	Limits	**Difference**
Benzene	0.05	0.05	ND	0.049	0.049	98	98	57-154	<1
Toluene	0.05	0.05	ND	0.045	0.046	90	92	60-142	2
Ethylbenzene	0.05	0.05	ND	0.045	0.043	90	86	46-150	5

DMS1S/060194

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	ARCO Products Company	**Service Request:**	S9600366
Project:	2111 San Leandro/20805-127.001	**Date Collected:**	2/28-3/1/96
Sample Matrix:	Soil	**Date Received:**	3/5/96
		Date Extracted:	NA
		Date Analyzed:	3/12/96

Matrix Spike/Duplicate Matrix Spike Summary
BTE
EPA Methods 5030/8020
Units: mg/Kg (ppm)
As Received Basis

Sample Name: MW-5, 5'
Lab Code: S9600366-001

	Spike Level		Sample	Spike Result		Percent Recovery		CAS Acceptance	Relative Percent
Analyte	MS	DMS	**Result**	MS	DMS	MS	DMS	Limits	**Difference**
Benzene	0.05	0.05	ND	0.049	0.052	98	104	57-154	6
Toluene	0.05	0.05	ND	0.046	0.050	92	100	60-142	8
Ethylbenzene	0.05	0.05	ND	0.047	0.050	94	100	46-150	6

DMS1S/060194

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: ARCO Products Company
Project: 2111 San Leandro/20805-127.001

Service Request: S9600366
Date Analyzed: 3/11/96

Initial Calibration Verification (ICV) Summary
BTEX and TPH as Gasoline
EPA Methods 5030/8020/California DHS LUFT Method
Units: ppm

Analyte	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits
Benzene	0.050	0.045	90	85-115
Toluene	0.050	0.044	88	85-115
Ethylbenzene	0.050	0.044	88	85-115
Xylenes, Total	0.15	0.128	85	85-115
Gasoline	1.0	0.96	96	90-110

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: ARCO Products Company
Project: 2111 San Leandro/20805-127.001

Service Request: S9600366
Date Analyzed: 3/12/96

Initial Calibration Verification (ICV) Summary
BTEX and TPH as Gasoline
EPA Methods 5030/8020/California DHS LUFT Method
Units: ppm

Analyte	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits
Benzene	0.050	0.045	90	85-115
Toluene	0.050	0.044	88	85-115
Ethylbenzene	0.050	0.046	92	85-115
Xylenes, Total	0.15	0.134	89	85-115
Gasoline	1.0	0.94	94	90-110

ICV25AL/060194

ARCO Products Company
Division of AtlanticRichfieldCompany

Task Order No. 2111-94-2B

Chain of Custody

ARCO Facility no. 2111	City (Facility) San Leandro	Project manager (Consultant) John Young	Laboratory name CAS - SJ
ARCO engineer Mike Whelan	Telephone no. (ARCO) (408) 453-1640	Telephone no. (Consultant) (408) 453-7300	Fax no. (Consultant) (408) 437-9526
Consultant name EMCON	Address (Consultant) 1921 Ringwood Ave. San Jose, CA		Contract number

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐	HOLD
MW-5, 5'	1		✓			✓		3/1/96			✓										
,10'	2										✓										
,15'	3										✓										
,20'	4																				✓
,25'	5																				✓
,30'	6										✓										
MW-6, 5'	7										✓										
,10'	8										✓										
,15'	9										✓										
,17.5'	10																				✓
,26'	11																				✓
,27'	12										✓										
MW-7, 5.5'	13							2/29/96			✓										
,10'	14										✓										
,15'	15										✓										
,18'	16																				✓

Special detection Limit/reporting

Special QA/QC

Remarks: EMCON Project # 0805-127.001

Method of shipment

Lab number: 59600360

Turnaround time

- Priority Rush 1 Business Day ☐
- Rush 2 Business Days ☐
- Expedited 5 Business Days ☐
- Standard 10 Business Days ☒

Condition of sample:

Temperature received:

Relinquished by sampler: Robert A. Davis	Date: 3/05/96	Time: 5:45 pm	Received by:
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by laboratory: Joanne Brown — Date: 3-5-96 — Time: 17:45

Distribution: White copy — Laboratory; Canary copy — ARCO Environmental Engineering; Pink copy — Consultant

ARCO Products Company
Division of AtlanticRichfieldCompany

Task Order No. 2111-94-2B

Chain of Custody

ARCO Facility no. 2111	City (Facility) San Leandro	Project manager (Consultant) John Young	Laboratory name CAS - SJ
ARCO engineer Mike Whelan	Telephone no. (ARCO) (408) 453-1640	Telephone no. (Consultant) (408) 453-7300	Fax no. (Consultant) (408) 437-9526
Consultant name EMCON	Address (Consultant) 1921 Ringwood Ave. San Jose, CA		Contract number

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ VOA ☐ Semi VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐	HOLD
MW-7, 21'	17		✓			✓		2/29/96			✓										
↓, 33'	18		↓			↓		↓			✓										
V-1, 5.5'	19							2/29/96			✓										
, 10.5'	20										✓										
, 13'	21										✓										
, 15.5'	22																				✓
, 18'	23																				✓
↓, 19.5'	24										✓										
V-2, 5.5'	25										✓										
, 10.5'	26										✓										
, 13'	27										✓										
, 15.5'	28										✓										
, 17.5'	29																				✓
↓, 19.5'	30		↓			↓		↓			✓										

Special detection Limit/reporting

Special QA/QC

Remarks: EMCON Project # 0805-127.001

Method of shipment

Lab number: 596003606

Turnaround time
- Priority Rush 1 Business Day ☐
- Rush 2 Business Days ☐
- Expedited 5 Business Days ☐
- Standard 10 Business Days ☒

Condition of sample:

Temperature received:

	Date	Time	
Relinquished by sampler: Robert K. Davis	3/05/96	5:45 PM	Received by
Relinquished by	Date	Time	Received by
Relinquished by	Date	Time	Received by laboratory: Joanne Brown — Date: 3-5-96 — Time: 17:45

Distribution: White copy — Laboratory; Canary copy — ARCO Environmental Engineering; Pink copy — Consultant

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ARCO Products Company
Division of AtlanticRichfieldCompany

Task Order No. 2111-94-2B

Chain of Custody

ARCO Facility no. 2111	City (Facility) San Leandro	Project manager (Consultant) John Young	Laboratory name CAS-SJ
ARCO engineer Mike Whelan	Telephone no. (ARCO) (408) 453-1640	Telephone no. (Consultant) (408) 453-7300	Fax no. (Consultant) (408) 437-9526
Consultant name EMCON	Address (Consultant) 1921 Ringwood Ave. San Jose, CA		Contract number

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐	HOLD
V-3, 5'	31		/			/		2/28/96			/										
, 10'	32		↓			↓		↓			/										
, 15'	33		↓			↓		↓			/										
, 19.5'	34		↓			↓		↓			/										
V-4, 5'	35		/			/		2/28/96			/										
, 10.5'	36		↓			↓		↓			/										
, 15'	37		↓			↓		↓			/										
, 17'	38		↓			↓		↓			/										/
, 19.5'	39		↓			↓		↓			/										

Special detection Limit/reporting

Special QA/QC

Method of shipment

Remarks: EMCON Project # 0805--127.001

Lab number: 9600364

Turnaround time
- Priority Rush 1 Business Day ☐
- Rush 2 Business Days ☐
- Expedited 5 Business Days ☐
- Standard 10 Business Days ☒

Condition of sample:

Temperature received:

Relinquished by sampler: Robert C. Davis	Date: 3/05/96	Time: 5:45
Relinquished by	Date	Time
Relinquished by	Date	Time

Received by		
Received by		
Received by laboratory: Joanne Brown	Date: 3-5 96	Time: 17.45

Distribution: White copy — Laboratory; Canary copy — ARCO Environmental Engineering; Pink copy — Consultant

Columbia Analytical Services INC.

April 5, 1996

Service Request No: S9600480

Mr. John Young
EMCON
1921 Ringwood Avenue
San Jose, CA 95131

Re: 2111 San Leandro/Project No. 20805-127.002/TO#19350.00

Dear Mr. Young:

The following pages contain analytical results for sample(s) received by the laboratory on March 22, 1996. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. Listed above -- to help expedite our service please refer to this number when contacting the laboratory.

Analytical results were produced by procedures consistent with Columbia Analytical Services' (CAS) Quality Assurance Manual (with any deviations noted). Signature of this CAS Analytical Report below confirms that pages 2 through 7, following, have been thoroughly reviewed and approved for release in accord with CAS Standard Operating Procedure ADM-DatRev3.

Please feel welcome to contact me should you have questions or further needs.

Sincerely,

Steven L. Green
Project Chemist

for Greg Anderson
Regional QA Coordinator

SLG/jk

COLUMBIA ANALYTICAL SERVICES, Inc.

Acronyms

A2LA	American Association for Laboratory Accreditation
ASTM	American Society for Testing and Materials
BOD	Biochemical Oxygen Demand
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
CAM	California Assessment Metals
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
COD	Chemical Oxygen Demand
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank sample
ICP	Inductively Coupled Plasma atomic emission spectrometry
ICV	Initial Calibration Verification sample
J	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified
MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U. S. EPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl tert-Butyl Ether
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the paper industry for Air and Stream Improvement
ND	Not Detected at or above the method reporting/detection limit (MRL/MDL)
NIOSH	National Institute for Occupational Safety and Health
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	Standard Methods for the Examination of Water and Wastewater, 18th Ed., 1992
STLC	Solubility Threshold Limit Concentration
SW	Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Ed., 1986 and as amended by Updates I, II, IIA, and IIB.
TCLP	Toxicity Characteristic Leaching Procedure
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
tr	Trace level. The concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)

ACRONLST.DOC 7/14/95

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	ARCO Products Company	**Service Request:**	S9600480
Project:	2111 San Leandro/Project No. 20805-127.002/TO#19350.00	**Date Collected:**	3/22/96
Sample Matrix:	Water	**Date Received:**	3/22/96
		Date Extracted:	NA

BTEX, MTBE and TPH as Gasoline
EPA Methods 5030/8020/California DHS LUFT Method
Units: ug/L (ppb)

		Sample Name:	**MW-5(25)**	**Method Blank**
		Lab Code:	S9600480-001	S960401-WB
		Date Analyzed:	4/1/96	4/1/96
Analyte	**MRL**			
TPH as Gasoline	50		ND	ND
Benzene	0.5		ND	ND
Toluene	0.5		ND	ND
Ethylbenzene	0.5		ND	ND
Total Xylenes	0.5		ND	ND
Methyl *tert*-Butyl Ether	3		82	ND

3S22/060194

APPENDIX A

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	ARCO Products Company	**Service Request:**	S9600480
Project:	2111 San Leandro/Project No. 20805-127.002/TO#19350.00	**Date Collected:**	3/22/96
Sample Matrix:	Water	**Date Received:**	3/22/96
		Date Extracted:	NA
		Date Analyzed:	4/1/96

Surrogate Recovery Summary
BTEX, MTBE and TPH as Gasoline
EPA Methods 5030/8020/California DHS LUFT Method

Sample Name	**Lab Code**	**PID Detector Percent Recovery** 4-Bromofluorobenzene	**FID Detector Percent Recovery** α,α,α–Trifluorotoluene
MW-5(25)	S9600480-001	94	101
Method Blank	S960401-WB	92	108
CAS Acceptance Limits:		69-116	69-116

SUR2/060194

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	ARCO Products Company	**Service Request:**	S9600480
Project:	2111 San Leandro/Project No. 20805-127.002/TO#19350	**Date Collected:**	3/22/96
Sample Matrix:	Water	**Date Received:**	3/22/96
		Date Extracted:	NA
		Date Analyzed:	4/1/96

Matrix Spike/Duplicate Matrix Spike Summary
TPH as Gasoline
EPA Methods 5030/California DHS LUFT Method
Units: ug/L (ppb)

Sample Name: MW-5(25)
Lab Code: S9600480-001DMS

	Spike Level		Sample	Spike Result		Percent Recovery		CAS Acceptance	Relative Percent
Analyte	MS	DMS	**Result**	MS	DMS	MS	DMS	Limits	**Difference**
Gasoline	250	250	ND	250	250	100	100	67-121	

DMS1S/060194

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	ARCO Products Company	**Service Request:**	S9600480
Project:	2111 San Leandro/Project No. 20805-127.002/TO#19350.00	**Date Analyzed:**	4/1/96

Initial Calibration Verification (ICV) Summary
BTEX, MTBE and TPH as Gasoline
EPA Methods 5030/8020/California DHS LUFT Method
Units: ppb

Analyte	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits
Benzene	25	24.5	98	85-115
Toluene	25	24.5	98	85-115
Ethylbenzene	25	24.0	96	85-115
Xylenes, Total	75	74.0	99	85-115
Gasoline	250	46	18	90-110
Methyl *tert*-Butyl Ether	50	247	494	85-115

ICV25AL/060194

ARCO Products Company
Division of AtlanticRichfieldCompany

Task Order No. 19350.00

Chain of Custody

ARCO Facility no. 2111	City (Facility) San Leandro	Project manager (Consultant) John Young	Laboratory name CAS
ARCO engineer Mike Whelan	Telephone no. (ARCO)	Telephone no. (Consultant) (408)453-7300	Fax no. (Consultant) (408)453-0452
Consultant name EMCON	Address (Consultant) 1921 Ringwood Ave, San Jose, CA 95131		Contract number

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH EPA 8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
MW-5(25')	1	2		X		X	HCL	3-22-96	1215		X											

Method of shipment: Sampler will deliver

Special detection Limit/reporting: Lowest Possible

Special QA/QC: As Normal

Remarks: 2 - 40ml HCL VOAs

#20805-127.00

Lab number: 59600480

Turnaround time

- Priority Rush 1 Business Day ☐
- Rush 2 Business Days ☐
- Expedited 5 Business Days ☐
- Standard 10 Business Days 4/5 ☒

Condition of sample:		Temperature received:	
Relinquished by sampler	Date 3-22-96 Time 1320	Received by	
Relinquished by	Date Time	Received by	
Relinquished by	Date Time	Received by laboratory Joanne Brown	Date 3-22-96 Time 1220

Distribution: White copy — Laboratory; Canary copy — ARCO Environmental Engineering; Pink copy — Consultant

APC-3292 (2-91)

R8/93

Columbia Analytical Services inc.

April 5, 1996 Service Request No: S9600479

Mr. John Young
EMCON
1921 Ringwood Avenue
San Jose, CA 95131

Re: 2111 San Leandro/Project No. 20805-127.002/TO#19350.00

Dear Mr. Young:

The following pages contain analytical results for sample(s) received by the laboratory on March 22, 1996. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. Listed above -- to help expedite our service please refer to this number when contacting the laboratory.

Analytical results were produced by procedures consistent with Columbia Analytical Services' (CAS) Quality Assurance Manual (with any deviations noted). Signature of this CAS Analytical Report below confirms that pages 2 through 12, following, have been thoroughly reviewed and approved for release in accord with CAS Standard Operating Procedure ADM-DatRev3.

Please feel welcome to contact me should you have questions or further needs.

Sincerely,

Steven L. Green
Project Chemist

Greg Anderson
Regional QA Coordinator

SLG/jk

COLUMBIA ANALYTICAL SERVICES, Inc.

Acronyms

A2LA	American Association for Laboratory Accreditation
ASTM	American Society for Testing and Materials
BOD	Biochemical Oxygen Demand
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
CAM	California Assessment Metals
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
COD	Chemical Oxygen Demand
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank sample
ICP	Inductively Coupled Plasma atomic emission spectrometry
ICV	Initial Calibration Verification sample
J	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified
MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U. S. EPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl tert-Butyl Ether
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the paper industry for Air and Stream Improvement
ND	Not Detected at or above the method reporting/detection limit (MRL/MDL)
NIOSH	National Institute for Occupational Safety and Health
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	Standard Methods for the Examination of Water and Wastewater, 18th Ed., 1992
STLC	Solubility Threshold Limit Concentration
SW	Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Ed., 1986 and as amended by Updates I, II, IIA, and IIB.
TCLP	Toxicity Characteristic Leaching Procedure
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
tr	Trace level. The concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	EMCON	**Service Request:**	L9601907
Project:	ARCO Products Company #2111/#20805-127.002/#19350.00	**Date Collected:**	3/21/96
Sample Matrix:	Water	**Date Received:**	3/22/96
		Date Extracted:	4/2/96
		Date Analyzed:	4/2/96

Total Recoverable Petroleum Hydrocarbons (TRPH)
EPA Method 418.1
Units: mg/L (ppm)

Sample Name	Lab Code	MRL	Result
MW-3 (26)	L9601907-001	0.5	ND
Method Blank	L9601907-MB	0.5	ND

1AMRL/120594

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: EMCON
Project: ARCO Products Company #2111/#20805-127.002/#19350.00
Sample Matrix: Water

Service Request: S9600479
Date Collected: 3/21,22/96
Date Received: 3/22/96
Date Extracted: NA

BTEX, MTBE and TPH as Gasoline
EPA Methods 5030/8020/California DHS LUFT Method
Units: ug/L (ppb)

	Sample Name:	MW-1(26)	MW-4(21)	MW-3(26)
	Lab Code:	S9600479-001	S9600479-002	S9600479-003
	Date Analyzed:	3/29-4/1/96	3/29-4/1/96	3/29-4/1/96
Analyte	**MRL**			
TPH as Gasoline	50	ND	ND	ND
Benzene	0.5	ND	ND	ND
Toluene	0.5	ND	ND	ND
Ethylbenzene	0.5	ND	ND	ND
Total Xylenes	0.5	ND	ND	ND
Methyl-tert-butyl ether	3	ND	ND	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	EMCON	**Service Request:**	S9600479
Project:	ARCO Products Company #2111/#20805-127.002/#19350.00	**Date Collected:**	3/21,22/96
Sample Matrix:	Water	**Date Received:**	3/22/96
		Date Extracted:	NA

BTEX, MTBE and TPH as Gasoline
EPA Methods 5030/8020/California DHS LUFT Method
Units: ug/L (ppb)

	Sample Name:	**MW-2(26)**	**MW-6(25)**	**MW-7(27)**
	Lab Code:	S9600479-004	S9600479-005	S9600479-006
	Date Analyzed:	3/29-4/1/96	3/29-4/1/96	3/29-4/1/96
Analyte	**MRL**			
TPH as Gasoline	50	9600	ND	32000
Benzene	0.5	850	ND	870
Toluene	0.5	30	1.9	450
Ethylbenzene	0.5	280	ND	970
Total Xylenes	0.5	1400	ND	4900
Methyl-tert-butyl ether	3	250	ND	280

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	EMCON	**Service Request:**	S9600479
Project:	ARCO Products Company #2111/#20805-127.002/#19350.00	**Date Collected:**	3/21,22/96
Sample Matrix:	Water	**Date Received:**	3/22/96
		Date Extracted:	NA

BTEX, MTBE and TPH as Gasoline
EPA Methods 5030/8020/California DHS LUFT Method
Units: ug/L (ppb)

		Sample Name:	**Method Blank**	**Method Blank**
		Lab Code:	S960329-WB	S960401-WB
		Date Analyzed:	3/29-4/1/96	3/29-4/1/96
Analyte	**MRL**			
TPH as Gasoline	50		ND	ND
Benzene	0.5		ND	ND
Toluene	0.5		ND	ND
Ethylbenzene	0.5		ND	ND
Total Xylenes	0.5		ND	ND
Methyl-tert-butyl ether	3		ND	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	EMCON	**Service Request:**	L9601907
Project:	ARCO Products Company #2111/#20805-127.002/#19350.00	**Date Collected:**	3/21/96
Sample Matrix:	Water	**Date Received:**	3/22/96
		Date Extracted:	3/29/96

Total Petroleum Hydrocarbons as Diesel
EPA Methods 3510/Modified 8015/California DHS LUFT Method
Units: ug/L (ppb)

Sample Name	Lab Code	Date Analyzed	MRL	Result
MW-3 (26)	L9601907-001	3/29/96	50	ND
Method Blank	L9601907-MB	3/29/96	50	ND

1AMRLB/120594

APPENDIX A

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	EMCON	**Service Request:**	S9600479
Project:	ARCO Products Company #2111/#20805-127.002/#19350.00	**Date Collected:**	3/21/96
Sample Matrix:	Water	**Date Received:**	3/22/96
		Date Extracted:	NA
		Date Analyzed:	3/29-4/1/96

Surrogate Recovery Summary
BTEX and TPH as Gasoline
EPA Methods 5030/8020/California DHS LUFT Method

Sample Name	Lab Code	PID Detector Percent Recovery 4-Bromofluorobenzene	FID Detector Percent Recovery α,α,α–Trifluorotoluene
MW-1(26)	S9600479-001	92	108
MW-4(21)	S9600479-002	91	103
MW-3(26)	S9600479-003	92	106
MW-2(26)	S9600479-004	95	106
MW-6(25)	S9600479-005	93	103
MW-7(27)	S9600479-006	89	111
Method Blank	S960329-WB	89	102
Method Blank	S960401-WB	92	108
CAS Acceptance Limits:		69-116	69-116

SUR2/060194

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	EMCON	**Service Request:**	S9600479
Project:	ARCO Products Company #2111/#20805-127.002/#19350	**Date Collected:**	3/21/96
Sample Matrix:	Water	**Date Received:**	3/22/96
		Date Extracted:	NA
		Date Analyzed:	3/29-4/1/96

Matrix Spike/Duplicate Matrix Spike Summary
TPH as Gasoline
EPA Methods 5030/California DHS LUFT Method
Units: ug/L (ppb)

Sample Name: Batch QC
Lab Code: S9600497-005DMS

	Spike Level		Sample	Spike Result		Percent Recovery		CAS Acceptance	Relative Percent
Analyte	MS	DMS	**Result**	MS	DMS	MS	DMS	Limits	**Difference**
Gasoline	250	250	ND	260	270	104	108	67-121	4

DMS1S/060194

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON
Project: ARCO Products Company #2111/#20805-127.002/#19350.00

Service Request: S9600479
Date Analyzed: 3/29-4/1/96

Initial Calibration Verification (ICV) Summary
BTEX and TPH as Gasoline
EPA Methods 5030/8020/California DHS LUFT Method
Units: ppb

Analyte	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits
Benzene	25	23.7	95	85-115
Toluene	25	23.6	94	85-115
Ethylbenzene	25	23.0	92	85-115
Xylenes, Total	75	70.9	95	85-115
Methyl tert-Butyl Ether	50	44	88	85-115
Gasoline	250	257	103	90-110

ICV25AL/060194

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	EMCON	**Service Request:**	L9601907
Project:	ARCO Products Company #2111/#20805-127.002/#19350.00	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	NA
		Date Analyzed:	NA

Surrogate Recovery Summary
Total Petroleum Hydrocarbons as Diesel
EPA Methods 3510/Modified 8015/California DHS LUFT Method

Sample Name	**Lab Code**	**Percent Recovery** *p*-Terphenyl
MW-3 (26)	L9601907-001	79
Method Blank	L9601907-MB	100
Laboratory Control Sample	L9601907-LCS	78
Duplicate Laboratory Control Sample	L9601907-DLCS	69

CAS Acceptance Limits: 50-140

SUR1/120594

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	EMCON	**Service Request:**	L9601907
Project:	ARCO Products Company #2111/#20805-127.002/#19350.00	**Date Collected:**	NA
LCS Matrix:	Water	**Date Received:**	NA
		Date Extracted:	4/2/96
		Date Analyzed:	4/2/96

Laboratory Control Sample/Duplicate Laboratory Control Sample Summary*
Total Recoverable Petroleum Hydrocarbons (TRPH)
EPA Method 418.1
Units: mg/L (ppm)

	True Value		Result		Percent Recovery			
Analyte	LCS	DLCS	LCS	DLCS	LCS	DLCS	CAS Acceptance Limits	**Relative Percent Difference**
TRPH	1.91	1.91	1.75	1.64	92	86	75-125	6

* Sample quantity was insufficient to perform matrix spike and matrix spike duplicate. Three separate, replicate one liter samples are required to analyze sample and spikes.

DLCS/032395

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	EMCON	**Service Request:**	L9601907
Project:	ARCO Products Company #2111/#20805-127.002/#19350.00	**Date Collected:**	NA
LCS Matrix:	Water	**Date Received:**	NA
		Date Extracted:	3/29/96
		Date Analyzed:	3/29/96

Laboratory Control Sample/Duplicate Laboratory Control Sample Summary*
Total Petroleum Hydrocarbons as Diesel
EPA Methods 3510/Modified 8015/California DHS LUFT Method
Units: ug/L (ppb)

	True Value		Result		Percent Recovery		CAS Acceptance	Relative Percent
Analyte	LCS	DLCS	LCS	DLCS	LCS	DLCS	Limits	**Difference**
Diesel	2000	2000	1870	1830	94	92	70-140	3

* Sample quantity was insufficient to perform matrix spike and matrix spike duplicate. Three separate, replicate one liter samples are required to analyze sample and spikes.

DLCS/032395

ARCO Products Company
Division of AtlanticRichfieldCompany

Task Order No. 9350.00

Chain of Custody

ARCO Facility no. 2111	City (Facility) San Leandro	Project manager (Consultant) John Young	Laboratory name CAS
ARCO engineer Mike Whelan	Telephone no. (ARCO)	Telephone no. (Consultant) (408)453-7300	Fax no. (Consultant) (408)453-0452
Consultant name EMCON	Address (Consultant) 1921 Ringwood Ave, San Jose, CA 95131		Contract number

Method of shipment: Sampler will deliver

Special detection Limit/reporting: Lowest Possible

Special QA/QC: As Normal

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX(TPH) analysis/Meth EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☒	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
MW-1(26)	1	2		X		X	HCL	3-21-96	1315		X											
MW-4(21)	2	2		X		X	HCL		1346		X											
MW-3(26)	3	6		X		X	HCL		1420		X	X		X								
MW-7(26)	4	2		X		X	HCL		1455		X											
MW-5( )		2		X		X	HCL				X											
MW-6(25)	5	2		X		X	HCL	3-22-96	1027		X											
MW-7(27)	6	2		X		X	HCL		1049		X											

Remarks #20805-127.00:
2-40ml HCL VOAs (All Wells)
2-1 liter HCL Glass
2-1 liter NP Glass (MW-3)

Lab number: 59600479

Turnaround time
- Priority Rush 1 Business Day ☐
- Rush 2 Business Days ☐
- Expedited 5 Business Days ☐
- Standard 10 Business Days 4/5 ☒

Condition of sample:		Temperature received:	
Relinquished by sampler	Date 3-22-96 Time 1320	Received by	
Relinquished by	Date Time	Received by	
Relinquished by	Date Time	Received by laboratory	Date 3-22-96 Time 1320

Distribution: White copy — Laboratory; Canary copy — ARCO Environmental Engineering; Pink copy — Consultant
APC-3292 (2-91)

R8/S3

Subcontract Lab: LUHR

ARCO Products Company
Division of AtlanticRichfieldCompany

Task Order No. 19350.00

Chain of Custody

ARCO Facility no. 2111	City (Facility) San Leandro	Project manager (Consultant) John Young	Laboratory name CAS
ARCO engineer Mike Whelan	Telephone no. (ARCO)	Telephone no. (Consultant)	Fax no. (Consultant)
Consultant name EMCON	Address (Consultant) San Jose		Contract number

Method of shipment

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 8020/EPA 8020	BTEX/TPH EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☒ (NP)	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E (HCL)	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ VOA ☐ Semi ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org/DHS ☐ Lead EPA 7420/7421 ☐		
(26) MW-3		4		X		X	X	3/21/96	1420			X		X								

Special detection Limit/reporting
TPH-D: 50 ppb
Lowest possible

Special QA/QC
ARCO

Remarks
#20805-127.002

L9601907

Lab number
9600479

Turnaround time
- Priority Rush 1 Business Day ☐
- Rush 2 Business Days ☐
- Expedited 5 Business Days ☐
- Standard 10 Business Days 4/5 ☒

Condition of sample: intact

Temperature received: cold

	Date	Time		Date	Time
Relinquished by sampler			Received by		
Relinquished by			Received by		
Relinquished by Joanne Brown SLAB	3-25-96	1700	Received by laboratory Catherine Haarpaa	3/26/96	930am

Distribution: White copy — Laboratory; Canary copy — ARCO Environmental Engineering; Pink copy — Consultant

/ILSR/Draft Invoice to follow

LLAB: TPH-D, 418.1

04/04/96 17:42 FAX GOLDEN STATE/CAS →→→ CAS SAN JOSE 001/001

Columbia Analytical Services inc.

August 15, 1995 Service Request No: S950955

John Young
EMCON
1921 Ringwood Avenue
San Jose, CA 95131

Re: **0805-127.01 / TO# 17075.00 / 2111 San Leandro**

Dear Mr. Young:

The following pages contain analytical results for sample(s) received by the laboratory on August 1, 1995. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned Service Request No. S950955 - to help expedite our service please refer to this number when contacting the laboratory.

Analytical results were produced by procedures consistent with Columbia Analytical Services' (CAS) Quality Assurance Manual (with any deviations noted). Signature of this CAS Analytical Report below confirms that pages 2 through 13, following, have been thoroughly reviewed and approved for release in accord with CAS Standard Operating Procedure ADM-DatRev3.

Please feel welcome to contact me should you have questions or further needs.

Sincerely:

Steven L. Green
Project Chemist

Annelise J. Bazar
Regional QA Coordinator

SLG/ajb

COLUMBIA ANALYTICAL SERVICES, Inc.

Acronyms

A2LA	American Association for Laboratory Accreditation
ASTM	American Society for Testing and Materials
BOD	Biochemical Oxygen Demand
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
CAM	California Assessment Metals
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
COD	Chemical Oxygen Demand
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank sample
ICP	Inductively Coupled Plasma atomic emission spectrometry
ICV	Initial Calibration Verification sample
J	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified
MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U. S. EPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl tert-Butyl Ether
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the paper industry for Air and Stream Improvement
ND	Not Detected at or above the method reporting/detection limit (MRL/MDL)
NIOSH	National Institute for Occupational Safety and Health
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	Standard Methods for the Examination of Water and Wastewater, 18th Ed., 1992
STLC	Solubility Threshold Limit Concentration
SW	Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Ed., 1986 and as amended by Updates I, II, IIA, and IIB.
TCLP	Toxicity Characteristic Leaching Procedure
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
tr	Trace level The concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)

ACRONLST.DOC 7/14/95

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	ARCO Products Company	**Service Request:**	S950955
Project:	0805-127.01 / TO# 17075.00 / 2111 San Leandro	**Date Collected:**	8/1/95
Sample Matrix:	Water	**Date Received:**	8/1/95
		Date Extracted:	NA
		Date Analyzed:	8/8-11/95

BTEX and TPH as Gasoline
EPA Methods 5030/8020/California DHS LUFT Method

Analyte:	**TPH as Gasoline**	**Benzene**	**Toluene**	**Ethyl-benzene**	**Xylenes, Total**
Units:	ug/L (ppb)	ug/L (ppb)	ug/L (ppb)	ug/L (ppb)	ug/L (ppb)
Method Reporting Limit:	50	0.5	0.5	0.5	0.5
Sample Name	**Lab Code**				
MW-1 (26)	S950955-001	ND	ND	ND	ND	1.0
MW-2 (26)	S950955-002	23,000	1,300	310	500	3,500
MW-3 (26)	S950955-003	ND	ND	ND	ND	ND
MW-4 (21)	S950955-004	ND	ND	ND	ND	ND
Method Blank	S950808-WB	ND	ND	ND	ND	ND
Method Blank	S950811-WB	ND	ND	ND	ND	ND

5ABTXGAS/061694

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	ARCO Products Company	**Service Request:**	S950955
Project:	0805-127.01 / TO# 17075.00 / 2111 San Leandro	**Date Collected:**	8/1/95
Sample Matrix:	Water	**Date Received:**	8/1/95
		Date Extracted:	8/7/95
		Date Analyzed:	8/8,15/95

TPH as Diesel
EPA Method 3510/California DHS LUFT Method
Units: ug/L (ppb)

Sample Name	Lab Code	MRL	Result
MW-3 (26)	S950955-003	50	76 *
Method Blank	S950801-WB	50	ND

* This sample contains a higher boiling point hydrocarbon mixture quantified as diesel. The chromatogram does not match the typical diesel fingerprint.

1AMRL/060194

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	EMCON	**Service Request:**	L953070
Project:	ARCO Products Company #2111/#0805-127.01	**Date Collected:**	8/1/95
Sample Matrix:	Water	**Date Received:**	8/1/95
		Date Extracted:	8/4/95
		Date Analyzed:	8/4/95

Total Recoverable Petroleum Hydrocarbons (TRPH)
EPA Method 418.1
Units: mg/L (ppm)

Sample Name	Lab Code	MRL	Result
MW-3(26')	L953070-001	0.5	0.6
Method Blank	L953070-MB	0.5	ND

1AMRL/120594

APPENDIX A

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	ARCO Products Company	**Service Request:**	S950955
Project:	0805-127.01 / TO# 17075.00 / 2111 San Leandro	**Date Collected:**	8/1/95
Sample Matrix:	Water	**Date Received:**	8/1/95
		Date Extracted:	NA
		Date Analyzed:	8/8-11/95

Surrogate Recovery Summary
BTEX and TPH as Gasoline
EPA Methods 5030/8020/California DHS LUFT Method

Sample Name	Lab Code	Percent Recovery α,α,α-Trifluorotoluene
MW-1 (26)	S950955-001	89
MW-2 (26)	S950955-002	93
MW-3 (26)	S950955-003	89
MW-4 (21)	S950955-004	89
MW-1 (26) MS	S950955-001MS	100
MW-1 (26) DMS	S950955-001DMS	103
Method Blank	S950808-WB	92
Method Blank	S950811-WB	91

CAS Acceptance Limits: 69-116

SUR1/062994

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	ARCO Products Company	**Service Request:**	S950955
Project:	0805-127.01 / TO# 17075.00 / 2111 San Leandro	**Date Collected:**	8/1/95
Sample Matrix:	Water	**Date Received:**	8/1/95
		Date Extracted:	NA
		Date Analyzed:	8/8-11/95

Matrix Spike/Duplicate Matrix Spike Summary
TPH as Gasoline
EPA Methods 5030/California DHS LUFT Method
Units: ug/L (ppb)

Sample Name: MW-1 (26)
Lab Code: S950955-001

	Spike Level		Sample	Spike Result		Percent Recovery		CAS Acceptance	Relative Percent
Analyte	MS	DMS	**Result**	MS	DMS	MS	DMS	Limits	**Difference**
Gasoline	250	250	ND	237	238	95	95	67-121	<1

DMS1S/060194

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: ARCO Products Company
Project: 0805-127.01 / TO# 17075.00 / 2111 San Leandro

Service Request: S950955
Date Analyzed: 8/8/95

Initial Calibration Verification (ICV) Summary
BTEX and TPH as Gasoline
EPA Methods 5030/8020/California DHS LUFT Method
Units: ppb

Analyte	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits
Benzene	25	25.5	102	85-115
Toluene	25	24.5	98	85-115
Ethylbenzene	25	24.7	99	85-115
Xylenes, Total	75	71.2	95	85-115
Gasoline	250	238	95	90-110

ICV25AL/060194

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: ARCO Products Company
Project: 0805-127.01 / TO# 17075.00 / 2111 San Leandro
Sample Matrix: Water

Service Request: S950955
Date Collected: 8/1/95
Date Received: 8/1/95
Date Extracted: 8/7/95
Date Analyzed: 8/8,15/95

Surrogate Recovery Summary
TPH as Diesel
EPA Method 3510/California DHS LUFT Method

Sample Name	Lab Code	Percent Recovery p-Terphenyl
MW-3 (26)	S950955-003	109
MS	S950938-005MS	109
DMS	S950938-005DMS	107
Method Blank	S950801-WB	111

CAS Acceptance Limits: 66-123

SUR1/062994

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	ARCO Products Company	**Service Request:**	S950955
Project:	0805-127.01 / TO# 17075.00 / 2111 San Leandro	**Date Collected:**	8/1/95
Sample Matrix:	Water	**Date Received:**	8/1/95
		Date Extracted:	8/7/95
		Date Analyzed:	8/8,15/95

Matrix Spike/Duplicate Matrix Spike Summary
TPH as Diesel
EPA Method 3510/California DHS LUFT Method
Units: ug/L (ppb)

Sample Name: Batch QC
Lab Code: S950938-005

	Spike Level		Sample	Spike Result		Percent Recovery		CAS Acceptance	Relative Percent
Analyte	MS	DMS	**Result**	MS	DMS	MS	DMS	Limits	**Difference**
TPH as Diesel	4,000	4,000	76	4,330	4,805	106	118	61-141	11

DMS1S/060194

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: ARCO Products Company
Project: 0805-127.01 / TO# 17075.00 / 2111 San Leandro

Service Request: S950955
Date Analyzed: 8/8/95

Initial Calibration Verification (ICV) Summary
TPH as Diesel
California DHS LUFT Method
Units: ppm

Analyte	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits
TPH as Diesel	1,000	1,053	105	90-110

ICV25AL/060194

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	EMCON	**Service Request:**	L953070
Project:	ARCO Products Company #2111/#0805-127.01	**Date Collected:**	NA
LCS Matrix:	Water	**Date Received:**	NA
		Date Extracted:	8/4/95
		Date Analyzed:	8/4/95

Laboratory Control Sample/Duplicate Laboratory Control Sample Summary*
Total Recoverable Petroleum Hydrocarbons (TRPH)
EPA Method 418.1
Units: mg/L (ppm)

	True Value		Result		Percent Recovery			
Analyte	LCS	DLCS	LCS	DLCS	LCS	DLCS	CAS Acceptance Limits	**Relative Percent Difference**
TRPH	1.97	1.97	2.00	1.96	102	99	75-125	2

* Sample quantity was insufficient to perform matrix spike and matrix spike duplicate. Three separate, replicate one liter samples are required to analyze sample and spikes.

DLCS/032395

ARCO Products Company
Division of AtlanticRichfieldCompany

Task Order No. 17075.00

Chain of Custody

ARCO Facility no. 2111 | City (Facility) San Leandro | Project manager (Consultant) John Young | Laboratory name CAS

ARCO engineer Mike Whelan | Telephone no. (ARCO) | Telephone no. (Consultant) (408) 453-7300 | Fax no. (Consultant) (408) 453-0452 | Contract number

Consultant name EMCON | Address (Consultant) 1921 Ringwood Ave. San Jose, CA 95131

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☒	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ VOA ☐ Semi VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
MW-1(20)	1	2		X		X	X	8-1-95	1335		X											
MW-2(20)	2	2		X		X	X	↓	1310		X											
MW-3(20)	3	6		X		X	X	↓	1410		X	X		X								
MW-4(20)	4	2		X		X	X	↓	1230		X											

Method of shipment: Sampler will deliver

Special detection Limit/reporting: Lowest Possible

Special QA/QC: As Normal

Remarks: 2 40ml HCL VOA
MW-3 add.
2 Liter glass NP
2 Liter glass HCL

#0805-127.01

Lab number L953070
S95-00955

Turnaround time
Priority Rush 1 Business Day ☐
Rush 2 Business Days ☐
Expedited 5 Business Days ☐
Standard 10 Business Days ☒

Condition of sample: Cool - Settled fine sediment in VOAs | Temperature received: Cool

Relinquished by sampler	Date	Time	Received by
[signature]	8-1-95	3:35 PM	[signature]

Relinquished by	Date	Time	Received by
[signature]			

Relinquished by	Date	Time	Received by laboratory	Date	Time
Joanne Brown	8-1-95	1700			

Distribution: White copy — Laboratory; Canary copy — ARCO Environmental Engineering; Pink copy — Consultant
APPC-3292 (2-91)

CAS 5 GBTEX, TPH D CAS L 418.1 | Due 8/15

Columbia Analytical Services INC.

July 27, 1995 **FILE COPY** Service Request No. S950902

John Young
EMCON
1921 Ringwood Avenue
San Jose, CA 95131

Re: **0805-127.01 / TO#08261.00 / #2111 - San Leandro**

Dear Mr. Young:

Attached are the results of the soil sample(s) submitted to our lab on July 14, 1995. For your reference, these analyses have been assigned our service request number S950902.

All analyses were performed consistent with our laboratory's quality assurance program. All results are intended to be considered in their entirety, and CAS is not responsible for use of less than the complete report. Results apply only to the samples analyzed.

Please call if you have any questions.

Respectfully submitted:

COLUMBIA ANALYTICAL SERVICES, INC.

Steven L. Green
Project Chemist

Annelise J. Bazar
Regional QA Coordinator

SLG/ajb

COLUMBIA ANALYTICAL SERVICES, Inc.

Acronyms

A2LA	American Association for Laboratory Accreditation
ASTM	American Society for Testing and Materials
BOD	Biochemical Oxygen Demand
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
CAM	California Assessment Metals
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
COD	Chemical Oxygen Demand
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank sample
ICP	Inductively Coupled Plasma atomic emission spectrometry
ICV	Initial Calibration Verification sample
J	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified
MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U. S. EPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl tert-Butyl Ether
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the paper industry for Air and Stream Improvement
ND	Not Detected at or above the method reporting/detection limit (MRL/MDL)
NIOSH	National Institute for Occupational Safety and Health
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	Standard Methods for the Examination of Water and Wastewater, 18th Ed., 1992
STLC	Solubility Threshold Limit Concentration
SW	Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Ed., 1986 and as amended by Updates I, II, IIA, and IIB.
TCLP	Toxicity Characteristic Leaching Procedure
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
tr	Trace level. The concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)

ACRONLST.DOC 7/14/95

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: ARCO Products Company
Project: 0805-127.01/TO#08621.00/2111 San Leandro
Sample Matrix: Soil

Service Request: S950902
Date Collected: 7/12-13/95
Date Received: 7/14/95
Date Extracted: NA
Date Analyzed: 7/21-24/95

BTEX and TPH as Gasoline
EPA Methods 5030/8020/California DHS LUFT Method
As Received Basis

Analyte:	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes, Total
Units:	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Method Reporting Limit:	1	0.005	0.005	0.005	0.005
Sample Name	**Lab Code**				
MW-1, 6.5'	S950902-001	ND	ND	ND	ND	ND
MW-1, 11.5'	S950902-002	ND	ND	ND	ND	ND
MW-1, 16.5'	S950902-003	ND	ND	ND	ND	ND
MW-1, 21.5'	S950902-004	ND	ND	ND	ND	ND
MW-1, 26'	S950902-005	ND	ND	ND	ND	ND
MW-2, 6.5'	S950902-006	ND	ND	ND	ND	ND
MW-2, 11.5'	S950902-007	ND	ND	ND	ND	ND
MW-2, 16.5'	S950902-008	2	0.045	ND	0.027	0.045
MW-4, 6.5'	S950902-011	ND	ND	ND	ND	ND
MW-4, 11.5'	S950902-012	ND	ND	ND	ND	ND
MW-4, 16.5	S950902-013	ND	ND	ND	ND	ND
MW-4, 21.5'	S950902-014	ND	ND	ND	ND	ND
MW-3, 6.5'	S950902-015	ND	ND	ND	ND	ND
MW-3, 11'	S950902-018	ND	ND	ND	ND	ND
MW-3, 14'	S950902-019	ND	ND	ND	ND	ND
MW-3, 17'	S950902-020	ND	ND	ND	ND	ND
MW-3, 19.5'	S950902-021	ND	ND	ND	ND	ND
MW-3, 22.5'	S950902-022	ND	ND	ND	ND	ND
MW-3, 27.5'	S950902-023	ND	ND	ND	ND	ND
MW-3, 36'	S950902-024	ND	ND	ND	ND	ND
MW-3, 40'	S950902-026	ND	ND	ND	ND	ND

Approved By: _____ Date: 7/27/95

5ABTXGAS/061694

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	ARCO Products Company	**Service Request:**	S950902
Project:	0805-127.01/TO#08621.00/2111 San Leandro	**Date Collected:**	7/12-13/95
Sample Matrix:	Soil	**Date Received:**	7/14/95
		Date Extracted:	NA
		Date Analyzed:	7/21-24/95

BTEX and TPH as Gasoline
EPA Methods 5030/8020/California DHS LUFT Method
As Received Basis

Analyte:	**TPH as Gasoline**	**Benzene**	**Toluene**	**Ethyl-benzene**	**Xylenes, Total**
Units:	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Method Reporting Limit:	1	0.005	0.005	0.005	0.005
Sample Name	**Lab Code**				
Method Blank	S950721-SB1	ND	ND	ND	ND	ND
Method Blank	S950721-SB2	ND	ND	ND	ND	ND
Method Blank	S950724-SB1	ND	ND	ND	ND	ND

Approved By: _____ Date: 7/29/95

5A8TXGAS/061694

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	ARCO Products Company	**Service Request:**	S950902
Project:	0805-127.01/TO#08621.00/2111 San Leandro	**Date Collected:**	7/12-13/95
Sample Matrix:	Soil	**Date Received:**	7/14/95
		Date Extracted:	NA
		Date Analyzed:	7/25/95

BTEX and TPH as Gasoline
EPA Methods 5030/8020/California DHS LUFT Method
As Received Basis

Analyte:	**TPH as Gasoline**	**Benzene**	**Toluene**	**Ethyl-benzene**	**Xylenes, Total**
Units:	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Method Reporting Limit*:	5	0.05	0.1	0.1	0.1
Sample Name	**Lab Code**				
MW-2, 19'	S950902-009	29	0.26	ND	0.3	1.5
MW-2, 21'	S950902-010	320	<0.5**	<1**	3.4	14
Method Blank	S950725-SB2	ND	ND	ND	ND	ND

* Raised MRL due to high analyte concentration requiring methanol extraction.
** Raised MRL due to high analyte concentration requiring methanol extraction and sample dilution.

Approved By: _____ Date: 7/27/95

5ABTXGAS/061694

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: EMCON
Project: ARCO Products Company #2111/#0805-127.01
Sample Matrix: Soil

Service Request: L952926
Date Collected: 7/13/95
Date Received: 7/14/95
Date Extracted: 7/19/95

Total Petroleum Hydrocarbons as Diesel
EPA Method Modified 8015/California DHS LUFT Method
Units: mg/Kg (ppm)

Sample Name	Lab Code	Date Analyzed	MRL	Result
MW-3,6.5'	L952926-001	7/21/95	1	ND
MW-3,11'	L952926-002	7/21/95	1	ND
MW-3,14'	L952926-003	7/21/95	1	ND
MW-3,17'	L952926-004	7/21/95	1	ND
MW-3,19.5'	L952926-005	7/21/95	1	ND
MW-3,22.5'	L952926-006	7/21/95	1	ND
MW-3,27.5'	L952926-007	7/21/95	1	ND
MW-3,36'	L952926-008	7/21/95	1	ND
MW-3,40'	L952926-009	7/21/95	1	ND
Method Blank	L952926-MB	7/21/95	1	ND

Approved By: Steve Shen for Lydia Schwartz Date: 7/27/95

1AMRLB/120594

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: EMCON
Project: ARCO Products Company #2111/#0805-127.01
Sample Matrix: Soil

Service Request: L952926
Date Collected: 7/13/95
Date Received: 7/14/95
Date Extracted: 7/26/95
Date Analyzed: 7/26/95

Total Recoverable Petroleum Hydrocarbons (TRPH)
EPA Method 418.1
Units: mg/Kg (ppm)

Sample Name	Lab Code	MRL	Result
MW-3,6.5'	L952926-001	10	10
MW-3,11'	L952926-002	10	ND
MW-3,14'	L952926-003	10	ND
MW-3,17'	L952926-004	10	ND
MW-3,19.5'	L952926-005	10	ND
MW-3,22.5'	L952926-006	10	ND
MW-3,27.5'	L952926-007	10	ND
MW-3,36'	L952926-008	10	ND
MW-3,40'	L952926-009	10	ND
Method Blank	L952926-MB	10	ND

Approved By: Steve Green Date: 7/27/95

I:AMRL/120594

APPENDIX A

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: ARCO Products Company
Project: 0805-127.01/TO#08621.00/2111 San Leandro
Sample Matrix: Soil

Service Request: S950902
Date Collected: 7/12-13/95
Date Received: 7/14/95
Date Extracted: NA
Date Analyzed: 7/21-24/95

Surrogate Recovery Summary
BTEX and TPH as Gasoline
EPA Methods 5030/8020/California DHS LUFT Method

Sample Name	Lab Code	Percent Recovery α,α,α-Trifluorotoluene
MW-1, 6.5'	S950902-001	97
MW-1, 11.5'	S950902-002	69
MW-1, 16.5'	S950902-003	92
MW-1, 21.5'	S950902-004	90
MW-1, 26'	S950902-005	89
MW-2, 6.5'	S950902-006	86
MW-2, 11.5'	S950902-007	96
MW-2, 16.5'	S950902-008	110*
MW-4, 6.5'	S950902-011	70
MW-4, 11.5'	S950902-012	85
MW-4, 16.5	S950902-013	87
MW-4, 21.5'	S950902-014	64
MW-3, 6.5'	S950902-015	74
MW-3, 11'	S950902-018	84
MW-3, 14'	S950902-019	74
MW-3, 17'	S950902-020	60
MW-3, 19.5'	S950902-021	97
MW-3, 22.5'	S950902-022	74
MW-3, 27.5'	S950902-023	90
MW-3, 36'	S950902-024	80
MW-3, 40'	S950902-026	74

CAS Acceptance Limits: 51-137

* The surrogate used for this sample was 4-Bromofluorobenzene.

Approved By: _____ Date: 7/27/95

SUR1/062994

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: ARCO Products Company
Project: 0805-127.01/TO#08621.00/2111 San Leandro
Sample Matrix: Soil

Service Request: S950902
Date Collected: 7/12-13/95
Date Received: 7/14/95
Date Extracted: NA
Date Analyzed: 7/21-24/95

Surrogate Recovery Summary
BTEX and TPH as Gasoline
EPA Methods 5030/8020/California DHS LUFT Method

Sample Name	Lab Code	Percent Recovery α,α,α-Trifluorotoluene
MW-1, 6.5' (MS)	S950902-001MS	99
MW-1, 6.5' (DMS)	S950902-001DMS	96
MW-4, 6.5' (MS)	S950902-011MS	57
MW-4, 6.5' (DMS)	S950902-011DMS	84
Method Blank	S950721-SB1	103
Method Blank	S950721-SB2	110
Method Blank	S950724-SB1	103

CAS Acceptance Limits: 51-137

Approved By: _____ Date: 7/27/95

SUR1/062994

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: ARCO Products Company
Project: 0805-127.01/TO#08621.00/2111 San Leandro
Sample Matrix: Soil

Service Request: S950902
Date Collected: 7/12-13/95
Date Received: 7/14/95
Date Extracted: NA
Date Analyzed: 7/21/95

Matrix Spike/Duplicate Matrix Spike Summary
BTE
EPA Methods 5030/8020
Units: mg/Kg (ppm)
As Received Basis

Sample Name: MW-1, 6.5'
Lab Code: S950902-001

Analyte	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Percent Recovery MS	Percent Recovery DMS	CAS Acceptance Limits	Relative Percent Difference
Benzene	0.05	0.05	ND	0.0563	0.0581	113	116	57-154	3
Toluene	0.05	0.05	ND	0.0530	0.0550	106	110	60-142	4
Ethylbenzene	0.05	0.05	ND	0.0536	0.0547	107	109	46-150	2

Approved By: _____ Date: 7/27/95

DMS1S/060194

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	ARCO Products Company	**Service Request:**	S950902
Project:	0805-127.01/TO#08621.00/2111 San Leandro	**Date Collected:**	7/12-13/95
Sample Matrix:	Soil	**Date Received:**	7/14/95
		Date Extracted:	NA
		Date Analyzed:	7/21/95

Matrix Spike/Duplicate Matrix Spike Summary
BTE
EPA Methods 5030/8020
Units: mg/Kg (ppm)
As Received Basis

Sample Name: MW-4, 6.5'
Lab Code: S950902-011

Analyte	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Percent Recovery MS	Percent Recovery DMS	CAS Acceptance Limits	Relative Percent Difference
Benzene	0.05	0.05	ND	0.0611	0.0617	122	123	57-154	1
Toluene	0.05	0.05	ND	0.0584	0.0574	117	115	60-142	2
Ethylbenzene	0.05	0.05	ND	0.0562	0.0563	112	113	46-150	<1

Approved By: Steve Green Date: 7/27/95

DMS1S/060194

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: ARCO Products Company
Project: 0805-127.01/TO#08621.00/2111 San Leandro

Service Request: S950902
Date Analyzed: 7/21/95

Initial Calibration Verification (ICV) Summary
BTEX and TPH as Gasoline
EPA Methods 5030/8020/California DHS LUFT Method
Units: ppm

Analyte	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits
Benzene	0.050	0.0552	110	85-115
Toluene	0.050	0.0546	109	85-115
Ethylbenzene	0.050	0.0572	114	85-115
Xylenes, Total	0.15	0.160	107	85-115
Gasoline	1.0	0.979	98	90-110

Approved By: _____ Date: 7/27/95

ICV25AL/060194

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	ARCO Products Company	**Service Request:**	S950902
Project:	0805-127.01/TO#08621.00/2111 San Leandro	**Date Collected:**	7/12-13/95
Sample Matrix:	Soil	**Date Received:**	7/14/95
		Date Extracted:	NA
		Date Analyzed:	7/25/95

Surrogate Recovery Summary
BTEX and TPH as Gasoline
EPA Methods 5030/8020/California DHS LUFT Method

Sample Name	Lab Code	Percent Recovery α,α,α-Trifluorotoluene
MW-2, 19'	S950902-009	101
MW-2, 21'	S950902-010	101
Method Blank	S950725-SB2	88

CAS Acceptance Limits: 59-115

Approved By: _____ Date: 7/27/95

SUR1/062994

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: ARCO Products Company
Project: 0805-127.01/TO#08621.00/2111 San Leandro

Service Request: S950902
Date Analyzed: 7/25/95

Initial Calibration Verification (ICV) Summary
BTEX and TPH as Gasoline
EPA Methods 5030/8020/California DHS LUFT Method
Units: ppm

Analyte	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits
Benzene	2.5	2.64	106	85-115
Toluene	2.5	2.52	101	85-115
Ethylbenzene	2.5	2.54	102	85-115
Xylenes, Total	7.5	7.39	99	85-115
Gasoline	25	24.3	97	90-110

Approved By: _____ Date: 7/27/95

ICV25AL/060194

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON
Project: ARCO Products Company #2111/#0805-127.01
Sample Matrix: Soil

Service Request: L952926
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: NA

Surrogate Recovery Summary
Total Petroleum Hydrocarbons as Diesel
EPA Method Modified 8015/California DHS LUFT Method

Sample Name	Lab Code	Percent Recovery *p*-Terphenyl
MW-3,6.5'	L952926-001	*
MW-3,11'	L952926-002	124
MW-3,14'	L952926-003	95
MW-3,17'	L952926-004	84
MW-3,19.5'	L952926-005	72
MW-3,22.5'	L952926-006	108
MW-3,27.5'	L952926-007	94
MW-3,36'	L952926-008	95
MW-3,40'	L952926-009	92
Method Blank	L952926-MB	99
Matrix Spike	L952947-1MS	97
Duplicate Matrix Spike	L952947-1DMS	97

CAS Acceptance Limits: 50-140

* Outside of acceptance limits. Since no target analytes were detected in the sample, it is the opinion of CAS that the quality of the sample data has not been significantly affected by the elevated recovery.

Approved By: _____ Date: 7/27/95

SUR1/120594

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	EMCON	**Service Request:**	L952926
Project:	ARCO Products Company #2111/#0805-127.01	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
		Date Extracted:	7/20/95
		Date Analyzed:	7/20-21/95

Matrix Spike/Duplicate Matrix Spike Summary
Total Petroleum Hydrocarbons as Diesel
EPA Method Modified 8015/California DHS LUFT Method
Units: mg/Kg (ppm)

Sample Name: Batch QC
Lab Code: L952947-001

	Spike Level		Sample	Spike Result		Percent Recovery		CAS Acceptance	Relative Percent
Analyte	MS	DMS	**Result**	MS	DMS	MS	DMS	Limits	**Difference**
Diesel	200	200	ND	193	176	96	88	41-136	9

Approved By: Steve Green for Cydie Schwartz Date: 7/27/95

DMS1S/060194

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	EMCON	**Service Request:**	L952926
Project:	ARCO Products Company #2111/#0805-127.01	**Date Collected:**	NA
LCS Matrix:	Liquid	**Date Received:**	NA
		Date Extracted:	7/20/95
		Date Analyzed:	7/21/95

Laboratory Control Sample Summary
Hydrocarbon Scan/Fuel Characterization
EPA Method Modified 8015/California DHS LUFT Method
Units: mg/L (ppm)

Analyte	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits
TPH as Diesel	200	148	74	70-140

Approved By: Steve Vieira for Eydie Schwartz Date: 7/27/95

LCS/121594

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	EMCON	**Service Request:**	L952926
Project:	ARCO Products Company #2111/#0805-127.01	**Date Collected:**	NA
LCS Matrix:	Liquid	**Date Received:**	NA
		Date Extracted:	7/26/95
		Date Analyzed:	7/26/95

Laboratory Control Sample/Duplicate Laboratory Control Sample Summary
Total Recoverable Petroleum Hydrocarbons (TRPH)
EPA Method 418.1
Units: mg/L (ppm)

					Percent Recovery			
	True Value		**Result**				CAS Acceptance	**Relative Percent**
Analyte	LCS	DLCS	LCS	DLCS	LCS	DLCS	Limits	**Difference**
TRPH	14.74	14.74	12.32	13.03	84	88	75-125	6

Approved By: Steve ... for Eydie Schwartz Date: 7/27/95

DLCS/032395

QA/QC Report

Client: EMCON
Project: ARCO Products Company #2111/#0805-127.01
Sample Matrix: Soil

Service Request: L952926
Date Collected: NA
Date Received: NA
Date Extracted: 7/26/95
Date Analyzed: 7/26/95

Matrix Spike/Duplicate Matrix Spike Summary
Total Recoverable Petroleum Hydrocarbons (TRPH)
EPA Method 418.1
Units: mg/Kg (ppm)

Sample Name: Batch QC
Lab Code: L952984-003

Analyte	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Percent Recovery MS	Percent Recovery DMS	CAS Acceptance Limits	Relative Percent Difference
TRPH	24.57	24.57	34.72	58.35	53.62	96	77	50-170	8

Approved By: Steve Shen for Cynthia Schwartz Date: 7/27/95

DMS1S/120594

ARCO Products Company

Division of AtlanticRichfieldCompany

Task Order No. 08621.00

Chain of Custody

ARCO Facility no. 2111	City (Facility) San Leandro	Project manager (Consultant) John Young	Laboratory name CAS
ARCO engineer Mike Whelan	Telephone no. (ARCO) (408) 377-8697	Telephone no. (Consultant) (408) 453-7300	Fax no. (Consultant) (408) 437-9526
Consultant name EMCON	Address (Consultant) 1921 Ringwood Ave. San Jose, CA		Contract number

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	(BTEX/TPH EPA M602/8020/8015)	TPH Modified 8015 Gas ☐ Diesel ☒	Oil and Grease 413.1 ☒ 413.2 ☐	TPH EPA (418.1)/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ VOA ☐ Semi VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
MW-1, 6.5'	1		X			X		7/12/95			/											
, 11.5'	2										/											
, 16.5'	3										/											
, 21.5'	4										/											
↓ , 26'	5		↓								/											
MW-2, 6.5'	6		X								/											
, 11.5'	7										/											
, 16.5'	8										/											
, 19'	9										/											
↓ , 21'	10		↓					↓			/											
MW-4, 6.5'	11		X					7/13/95			/											
, 11.5'	12										/											
, 16.5'	13										/											
↓ , 21.5'	14		↓			↓		↓			/											

Method of shipment

Special detection Limit/reporting: ~~TPH-D MRL = 50,~~ QB

Special QA/QC

Remarks: EMCON Project # 0805-127.01

L952926

Lab number: S950902

Turnaround time:
- Priority Rush 1 Business Day ☐
- Rush 2 Business Days ☐
- Expedited 5 Business Days ☐
- Standard 10 Business Days ☒

Condition of sample:

Temperature received:

Relinquished by sampler: Robert K. Davis	Date 7/14/95	Time	Received by: Joanne Brown	
Relinquished by	Date	Time	Received by	
Relinquished by: Joanne Brown	Date 7-17-95	Time 1630	Received by laboratory: [signature]	Date 7-18-95 Time 0900

Distribution: White copy — Laboratory; Canary copy — ARCO Environmental Engineering; Pink copy — Consultant

APPC-3292 (2-91)

CAS-S: 6 BTEX CAS-L: 418.1/TPH-D (50ppb)

Due 7/28

ARCO Products Company
Division of AtlanticRichfieldCompany

Task Order No. 08621.00

Chain of Custody

ARCO Facility no.	2111
City (Facility)	San Leandro
Project manager (Consultant)	John Young
Laboratory name	CAS - SJ
ARCO engineer	Mike Whelan
Telephone no. (ARCO)	(408) 377-8697
Telephone no. (Consultant)	(408) 453-7300
Fax no. (Consultant)	(408) 437-9526
Contract number	
Consultant name	EMCON
Address (Consultant)	1921 Ringwood Ave
Method of shipment	

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ VOA ☐ Semi VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐	~~7-1-90~~	HOLD
MW-3, 6.5'	15		X			X		7/13/95			✓	✓		✓								
8'	16		↓			↓		↓														X
9.5'	17																					X
11'	18										✓	✓		✓								
14'	19										✓	✓		✓								
17'	20										✓	✓		✓								
19.5'	21										✓	✓		✓								
22.5'	22										✓	✓		✓								
27.5'	23										✓	✓		✓								
~~36'~~ 30'	24										✓	✓		✓								
~~36'~~																						X
37.5'	25																					X
40'	26		↓			↓		↓			✓	✓		✓								
~~Stockpile Composite~~			~~X~~			~~X~~		~~7/13/95~~			~~✓~~											

Special detection Limit/reporting

Special QA/QC

Remarks
EMCON Project #
0805-127.01

RMD

Lab number
RMD 5950902

Turnaround time
- Priority Rush 1 Business Day ☐
- Rush 2 Business Days ☐
- Expedited 5 Business Days ☐
- Standard 10 Business Days ☒

Condition of sample:

Temperature received:

Relinquished by sampler: Robert U. Dain	Date: 7/14/95	Time: 3:50	Received by: Joanne Brown
Relinquished by	Date	Time	Received by
Relinquished by: Joanne Brown	Date: 7-17-95	Time: 1630	Received by laboratory / Date / Time

Distribution: White copy — Laboratory; Canary copy — Arco Environmental Engineering; Pink copy — Consultant
APPC-3292 (2-91)

CAS-S: 6 BTEX CAS-L: 418.1 TPH D Due 7/28