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HAZMAT
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Chevron

Chevron U.S.A. Products Company
2410 Camino Ramon
San Ramon, CA 94583
P.O. Box 5004
San Ramon, CA 94583-0804

Marketing Department
Phone 510 842 9500

May 26, 1994

Ms. Juliet Shin
Alameda County Health Care Services
Department of Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621

Re: Former Chevron Service Station #9-0100
2428 Central Avenue, Alameda, CA

Dear Ms. Shin:

Enclosed is the Subsurface Investigation report dated April 13, 1994, prepared by our consultant Weiss Associates for the above referenced site. Three soil borings were advanced and completed as ground water monitor wells. This work was performed to further characterize soil and ground water conditions beneath the site.

Soil samples collected from the drill cuttings were submitted to Superior Precision Analytical (SPA) for analysis. Laboratory results indicate concentrations of TPH-G, BTEX, and TPH-D were below method detection limits in samples collected from the vadose zone soils. Concentrations of these constituents were detected in samples collected below the ground water table and will therefore be addressed as a ground water issue per Tri-Regional Guidelines.

Ground water samples collected were also sent to SPA for analysis of TPH-G, BTEX, TPH-D, Organic Lead, and EDB. Benzene was detected in monitor well MW-1 at a concentration of 120 ppb. Concentrations of hydrocarbons were below regulatory action levels in MW-2, and below method detection limits in MW-3.

Depth to ground water was measured at approximately 6.8 to 7.3 feet below grade and the direction of flow is to the northeast.

The laboratory analytical reports indicate that an abnormal chromatogram pattern was observed for all TPH-D analyses. After further review of the chromatograms, SPA has concluded that the chromatogram pattern observed is indicative of weathered gasoline, not diesel. Additionally, the corrected laboratory report from Geochem Environmental Laboratories indicated that concentrations of TPH-D detected during the first subsurface investigation conducted by Gen-Tech were actually TPH-G. Based on all available records, it appears Chevron never sold diesel at this site.

This information conclusively indicates that the detection of TPH-D is actually a weathered gasoline product. This is consistent with the fact that the gasoline underground storage tanks were removed from the site over 20 years ago.

All available sampling data indicates that vadose zone soils have not been impacted by petroleum hydrocarbons. Therefore, we feel that additional soil investigation and/or remediation is not warranted.

Chevron will instruct its consultant to begin a quarterly monitoring and sampling program for the site. All monitor wells will be sampled for TPH-G and BTEX for a period of one year to develop a baseline trend of hydrocarbon concentrations in ground water. At the conclusion of one year of monitoring, we will evaluate appropriate next actions.

If you have any questions or comments, please do not hesitate to contact me at (510) 842-8134.

Sincerely,
CHEVRON U.S.A. PRODUCTS COMPANY

Mark A. Miller
Site Assessment and Remediation Engineer

Enclosure

cc: Mr. Eddy So, RWQCB - Bay Area
Ms. B.C. Owen

Mr. Robert Stahl
Stahl-Wooldridge Investment Properties
2428 Central Avenue
Alameda, CA 94501

Mr. Carl Pendleton
Bank of America
Northern California Special Assets Group #1415
P.O. Box 37000
San Francisco, CA 94137

File: 9-0100 SA1

Weiss Associates
Environmental and Geologic Services
5500 Shellmound Street, Emeryville, CA 94608-2411 Fax: 510-547-5043 Phone: 510-450-6000

APR 14 '94 J.M.M.

ALCO HAZMAT
94 MAY 31 PM 2:36

April 13, 1994

Mark Miller
Chevron USA Products Company
P.O. Box 5004
San Ramon, CA 94583-0804

Re: Subsurface Investigation
Former Chevron SS #9-0100
2428 Central Avenue
Alameda, California
WA Job #4-782-01

Dear Mr. Miller:

This letter presents the results of Weiss Associates' (WA) subsurface investigation at the former Chevron service station referenced above (Figure 1). The investigation objectives were to collect soil and ground water samples to 1) confirm analytic results reported in an earlier investigation; 2) assess the vertical and horizontal extent of hydrocarbons, in soil and ground water beneath the site; and, 3) assess the ground water flow direction. Presented below are our scope of work and investigation results.

SCOPE OF WORK

WA's scope of work for this investigation was to:

- Drill three soil borings and install three ground water monitoring wells in the vicinity of the former pump island, underground storage tank (UST) and west of the former pump island, respectively (Figure 2),
- Analyze selected soil samples for petroleum hydrocarbons;
- Develop the wells and analyze ground water samples for hydrocarbons;

- Survey the well top-of-casing elevations referenced to mean sea level, measure ground water depths and calculate the ground water elevations, gradient and flow direction;

- Arrange for the disposal of soil cuttings produced during drilling, and steam cleaner rinsate and well development purge water; and,

- Report the investigation results.

INVESTIGATION RESULTS

Site Setting

Topography: The former Chevron station is located on Alameda Island bordered on the north and west by San Francisco Bay, on the south by San Leandro Bay and on the east by the Oakland Inner Harbor (Figure 1). The local topography is generally flat and the site is about 13 ft above mean sea level.

Surrounding Areas: The site is located in a primarily residential area and is located one block southeast of Park Street, a major commercialized downtown street.

Adjacent Hydrocarbon Sources: Northeast of the site across Central Avenue is the Automotive Auto Repair shop where a UST was removed in October 1987. [1] South of the site at 2521 Central Avenue, a 1,500 gallon heating oil storage tank was removed in April 1993. Ground water samples from the tank pit contained 1,300 ppb of TPH-D.[2]

Wells in the Site Vicinity: A survey was conducted through the Alameda County Public Works Agency to identify wells within one-half mile radius of the site. The well survey report consists of a map and table with all the well locations. This report is presented in Attachment A.

Site Geology: Sediments in the site vicinity are largely sand and silty sand associated with the Merritt Sand, an unconsolidated unit of Pleistocene beach and near-shore deposits, which underlie much of Alameda Island.

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1 Pavalak & Associates, January 29, 1988, consultant's letter to Mrs. Erma DeLucchi regarding groundwater monitoring well installation at 2425 Central Avenue, Alameda, California, 2 pp and 3 attachments.

2 Cottle Industries, May 1993, consultants report regarding underground tank removal at 2521 Central Avenue, Alameda, California.

Previous Investigations

1993 Reconnaissance Soil and Ground Water Assessment: Gen-Tech Environmental of San Jose, California conducted a subsurface investigation consisting of drilling two borings to 15 feet below ground surface and collecting soil and ground water samples from each boring. Borings EB-1 and EB-2 were located in the vicinity of the former pump island and UST, respectively. No total petroleum hydrocarbons as gasoline (TPH-G) were detected in any of the soil samples. However, 211 parts per million (ppm) TPH as diesel (TPH-D) and benzene, toluene, ethyl benzene and xylenes (BTEX) were each detected at about 8 ppm in the 10 ft soil sample near the former pump island (Boring EB-1). Grab water samples collected from each boring were also analyzed for TPH-G, TPH-D and BTEX. The analytic reports indicate about 28,000 parts per billion (ppb) TPH-D were detected in the sample from boring EB-1. Additionally, up to 1,700 ppb benzene, 1,100 toluene, 180 ppb ethyl benzene and 800 ppb xylenes were detected in this same sample.[3]

However, Geochem Environmental Laboratories, the analytic lab used for the Gen-Tech investigation, issued a revised analytical report for the 10 ft depth soil sample and the grab ground water sample from boring EB-1. The revised report indicated that no TPH-D was detected in any of the samples and but that TPH-G was detected in the 10 ft depth soil sample at 211 ppm and that TPH-G was detected in the grab water sample at 28,000 ppb.

Current Soil Boring Investigation

Drilling Dates:	February 24 and 25, 1994
Drilling Geologist:	Joyce Adams
Drilling Method:	CME-55 drill rig using hollow stem augers
Number or Borings:	3 (BH-A, BH-B and BH-C, Figure 2)
Boring Depths:	25 below ground surface (bgs)
Sediments Encountered:	Silty sand to the maximum depth explored of 21.5 ft. The boring logs and well construction details are presented in Attachment B.

[3] Gen-Tech Environmental, June 22, 1993, consultant's letter to Mr. Steve Stahl of Stahl Woodridge Construction Co. regarding Reconnaissance soil and ground water assessment at 2428 Central Avenue, Alameda, California, 5 pp, 1 fig.

Soil Analyses:	TPH-G and TPH-D by modified EPA Method 8015 and BTEX by EPA Method 8020
Waste Disposal:	Soil cuttings were disposed at BFI Landfill in Livermore, California as non-hazardous Class III waste.

Current Well Construction

Number of Wells:	3 (MW-1, MW-2 and MW-3, completed in borings BH-A, BH-B, and BH-C, respectively. Figure 2)
Well Materials:	2-inch diameter Schedule 40 PVC well casing with 0.010-inch wide factory slotted screen, Monterey #1/20 sand for the filter pack and neat cement for the sanitary seal.
Screened Interval:	About 5 to 25 ft bgs for each well.
Well Development Method:	Surge block agitation and airlift evacuation.
Flow Rate:	The average flow during well development ranged between 0.6 and 1.25 gallon per minute in the wells.
Wellhead Elevation Survey:	Top of casing elevations for each well were surveyed on March 24, 1994 by Tucker and Associates of Calistoga, California. The wellhead elevation survey data is presented in Attachment C.
Ground Water Depth:	During drilling, ground water was encountered between 7.3 and 9.8 ft bgs. On March 10, 1994 ground water was between 6.79 and 7.30 ft depth (Table 1).
Ground Water Flow Direction:	North to northeastward with a gradient of 0.016 ft/ft (Figure 2).
Water Samples Analyzed :	TPH-G and TPH-D by modified EPA Method 8015, BTEX by EPA Method 8020, Organic Lead by LUFT Method, and ethylene dibromide by EPA Method 504.

HYDROCARBON DISTRIBUTION IN SOIL

Soil samples from 5 and 10 ft bgs in each boring were analyzed for hydrocarbons. Up to 3,000 ppm TPH-G, 340 ppm TPH-D and between 8 and 70 ppm BTEX were detected in the 10 ft sample from boring BH-B. Hydrocarbons were also detected in the 10 ft sample from boring BH-A. No hydrocarbons were detected in the four remaining samples. The analytic laboratory reported that the TPH-D chromatogram was not a typical diesel pattern. Generally, when this is reported, gasoline has lost it's lighter-end fractions, and the chromatogram is more similar to diesel, therefore it is reported as diesel. The analytic results are tabulated in Table 2 and the analytic reports and the chain of custody form are presented in Attachment D.

HYDROCARBON DISTRIBUTION IN GROUND WATER

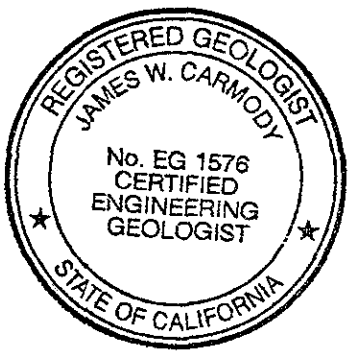
Up to 7,400 ppb TPH-G and 920 ppb TPH-D were detected in ground water from wells MW-1 and MW-2. Although 120 ppb benzene and toluene were detected in ground water from well MW-1, no other BTEX compounds were detected above regulatory levels for drinking water in wells MW-1 and MW-2, and no hydrocarbons were detected in ground water from well MW-3. Additionally, no organic lead or ethylene dibromide were detected in any of the ground water samples (Table 3 and Figure 3). Again, the laboratory analytic report noted that the chromatogram for the diesel analyses did not match a typical diesel pattern, which is indicative of weathered gasoline. The analytic reports and the chain of custody form are presented in Attachment E.

CONCLUSIONS

Soil borings and ground water wells were installed near the former pump island and fuel storage tanks at the former Chevron site, where two borings from an earlier investigation were drilled. Up to 3,000 ppm TPH-G was detected in soil samples from borings BH-A and BH-B. Hydrocarbons above the state drinking water standards were only detected in ground water from monitoring well MW-1. Based on water levels recorded on March 10, 1994, ground water flows towards the northeast with a gradient of about 0.016 ft/ft.

Weiss Associates recommends quarterly ground water sampling to monitor the ground water quality and to establish a consistent ground water flow direction beneath the site. Based on the results of this monitoring, Chevron will negotiate the most appropriate course of action for this site.

We appreciate this opportunity to provide hydrogeologic consulting services to Chevron USA and trust this submittal meets your needs. Please call if you have any questions or comments.



Sincerely,
Weiss Associates

Joyce E. Adams
Senior Staff Geologist

James W. Carmody, C.E.G.
Senior Project Hydrogeologist

JA/JWC/:jea

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Attachments:
Figures
Tables
A - Well Survey Report
B - Boring Logs and Well Construction Details
C - Wellhead Elevation Survey Data
D - Analytic Results for Soil
E - Analytic Results for Ground Water

FIGURES

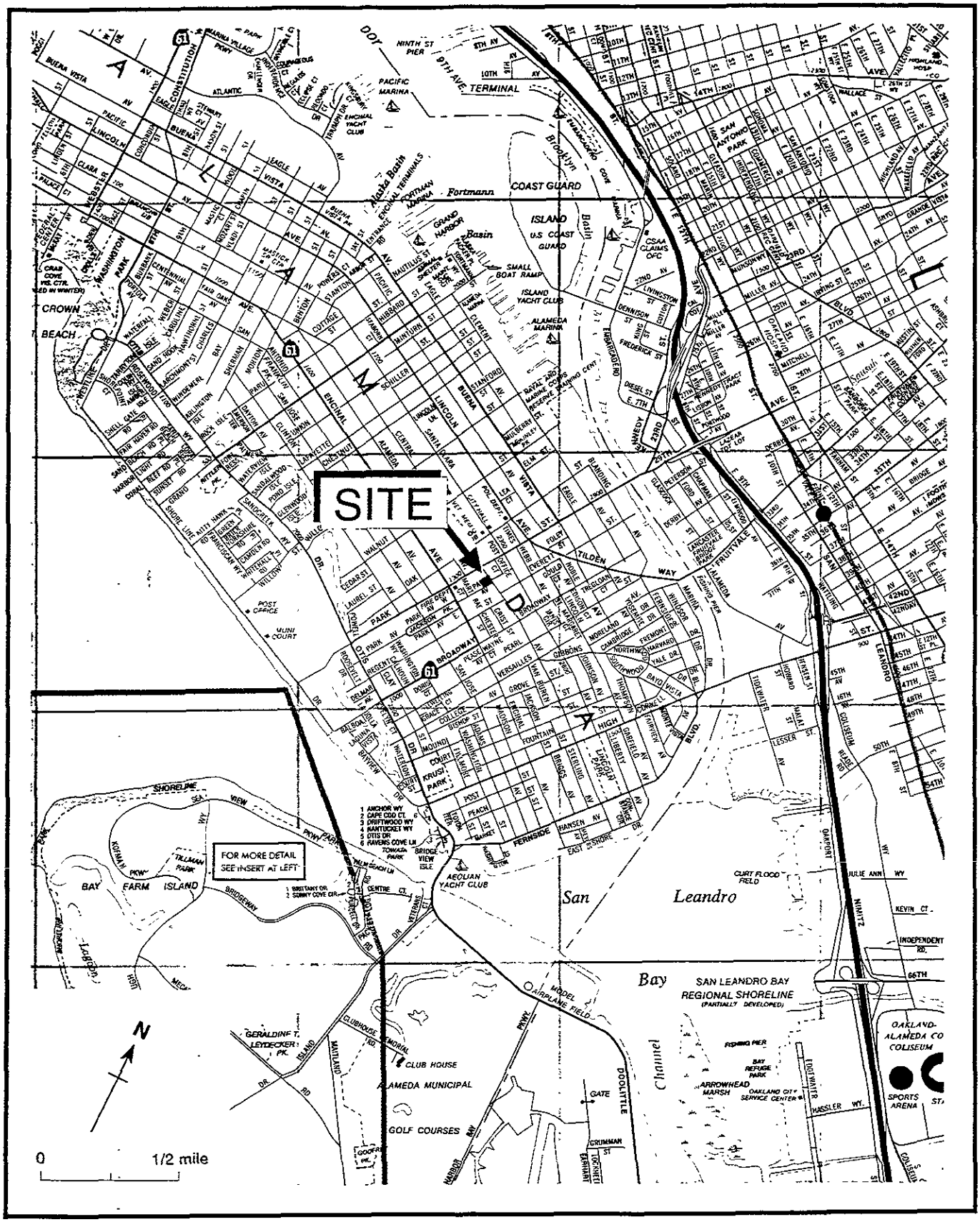


Figure 1. Site Location Map - Former Chevron Service Station #9-0100, 2428 Central Avenue, Alameda, California

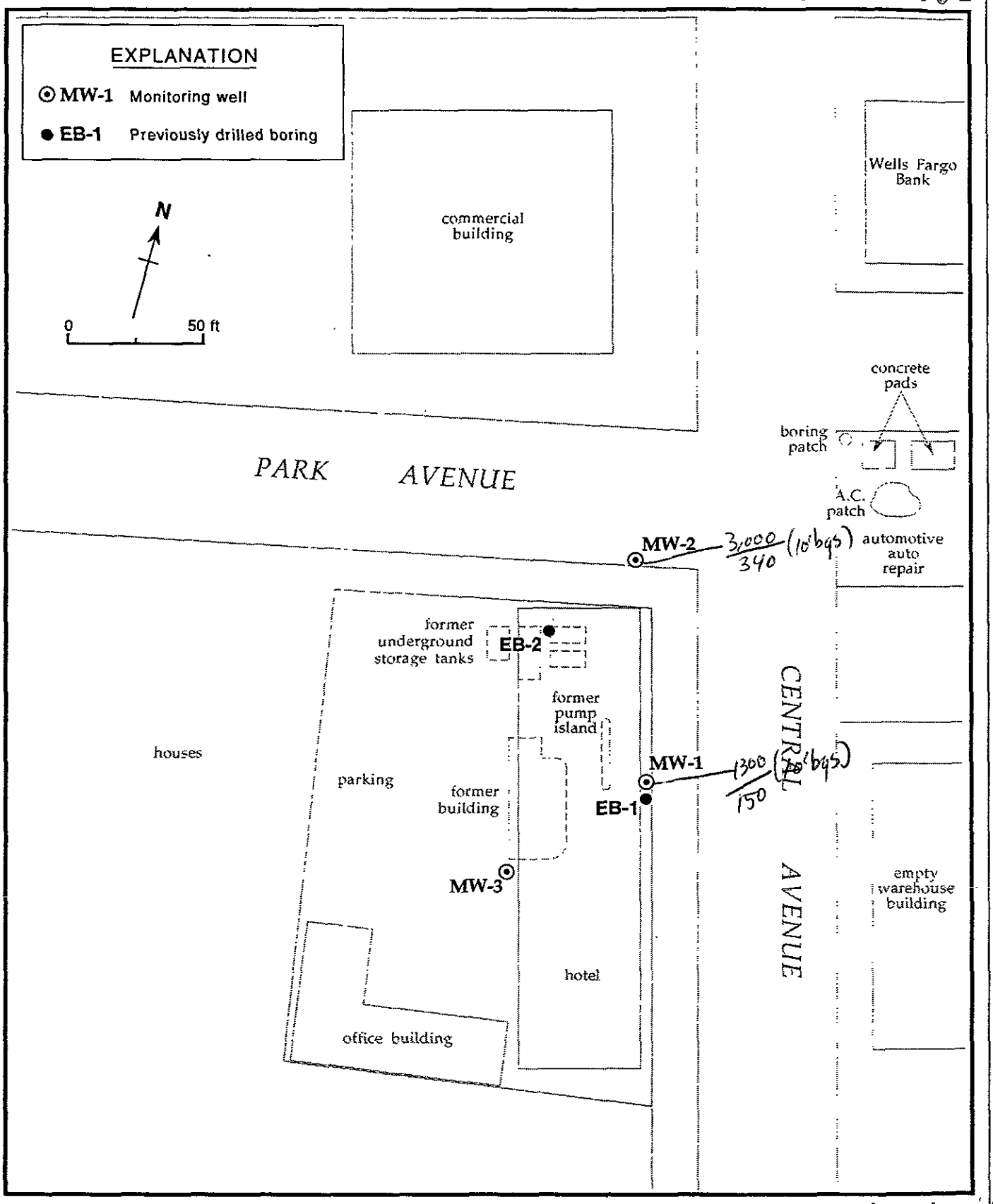


Figure 2. Monitoring Well Locations - Former Chevron Service Station # 9-0100, 2428 Central Avenue, Alameda, California

TPHg / TPHd (ppm in soil)

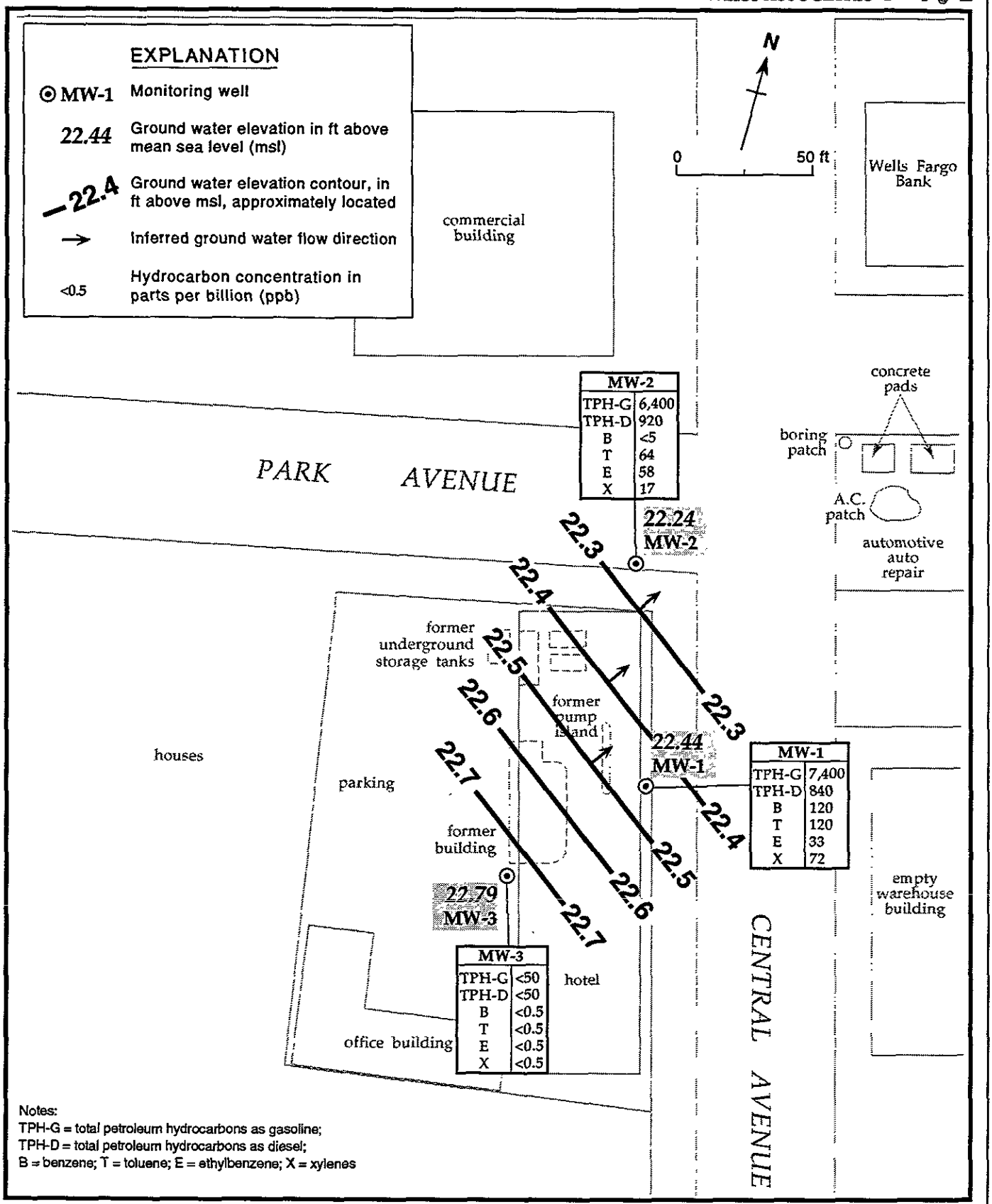


Figure 3. Potentiometric Surface Map and Hydrocarbon Concentrations - March 2, 1994 - Former Chevron Service Station # 9-0100, 2428 Central Avenue, Alameda, California

TABLES

TABLE 1. Ground Water Elevation Data, Former Chevron Service Station #9-0100, 2428 Central Avenue, Alameda, California

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Ground Water Elevation (ft above msl)
MW-1	03-10-94	29.23	6.79	22.44
MW-2	03-10-94	29.18	6.94	22.24
MW-3	03-10-94	30.09	7.30	22.79

TABLE 2. Analytic Results for Soil - Former Chevron Service Station #9-0100, 2428 Central Avenue, Alameda, California

Soil Boring (Well ID)	Sample Depth (ft)	Date Sampled	Static Ground Water Depth (ft)	TPH-G	TPH-D	B	T	E	X
				<----------parts per million (mg/kg)---------->					
BH-A	5.0	02-24-94	9.8	<1	<1	<0.005	<0.005	<0.005	<0.005
(MW-1)	10.0			1300	150[a]	<2.5	9.1	13	19
BH-B	5.0	02-25-94	7.3	<1	<1	<0.005	<0.005	<0.005	<0.005
(MW-2)	10.0			3000	340[a]	8	<5	56	70
BH-C	5.0	02-25-94	7.8	<1	<1	<0.005	<0.005	<0.005	<0.005
(MW-3)	10.0			<1	<1	<0.005	<0.005	<0.005	<0.005

Abbreviations:

TPH-G = Total Petroleum Hydrocarbons as Gasoline by Modified EPA Method 8015
TPH-D = Total Petroleum Hydrocarbons as Diesel by Modified EPA Method 8015
B = Benzene by EPA Method 8020
E = Ethyl benzene by EPA Method 8020
T = Toluene by EPA Method 8020
X = Xylenes by EPA Method 8020
<n = Not detected at detection limits of n ppm

Analytical Laboratory:

Superior Precision Analytic, Inc of San Francisco, California

Notes:

a = Does not match typical Diesel pattern

TABLE 3. Analytic Results for Ground Water - Former Chevron Service Station #9-0100, 2428 Central Avenue, Alameda, California

(Well ID)	Date Sampled	Ground Water Depth (ft)	TPH-G	TPH-D	B	T	E	X	Organic Lead	EDB
			<----------parts per billion ($\mu g/\ell$)---------->							
MW-1	03-10-94	6.79	7400	840[a]	120	120	33	72	<4	<0.02
MW-2	03-10-94	6.94	6400	920[a]	<5	64	58	17	<4	<0.02
MW-3	03-10-94	7.30	<50	<50	<0.5	<0.5	<0.5	<0.5	<4	<0.02
Travel Blank	03-10-94		<50	NA	<0.5	0.7	<0.5	<0.5	NA	NA
DTSC MCLs			NE	NE	1.0	100[e]	680	1750	NE	0.02

Abbreviations:

TPH-G = Total Petroleum Hydrocarbons as Gasoline by Modified EPA Method 8015
TPH-D = Total Petroleum Hydrocarbons as Diesel by Modified EPA Method 8015
B = Benzene by EPA Method 8020
E = Ethyl benzene by EPA Method 8020
T = Toluene by EPA Method 8020
X = Xylenes by EPA Method 8020
Organic Lead = Organic Lead by LUFT Method
EDB = Ethylene dibromide by EPA Method 504
<n = Not detected at detection limits of n ppm
DTSC MCL = Department of Toxic Substances Control maximum contaminant level for drinking water
NA = Not analyzed
NE = Not established

Analytical Laboratory:

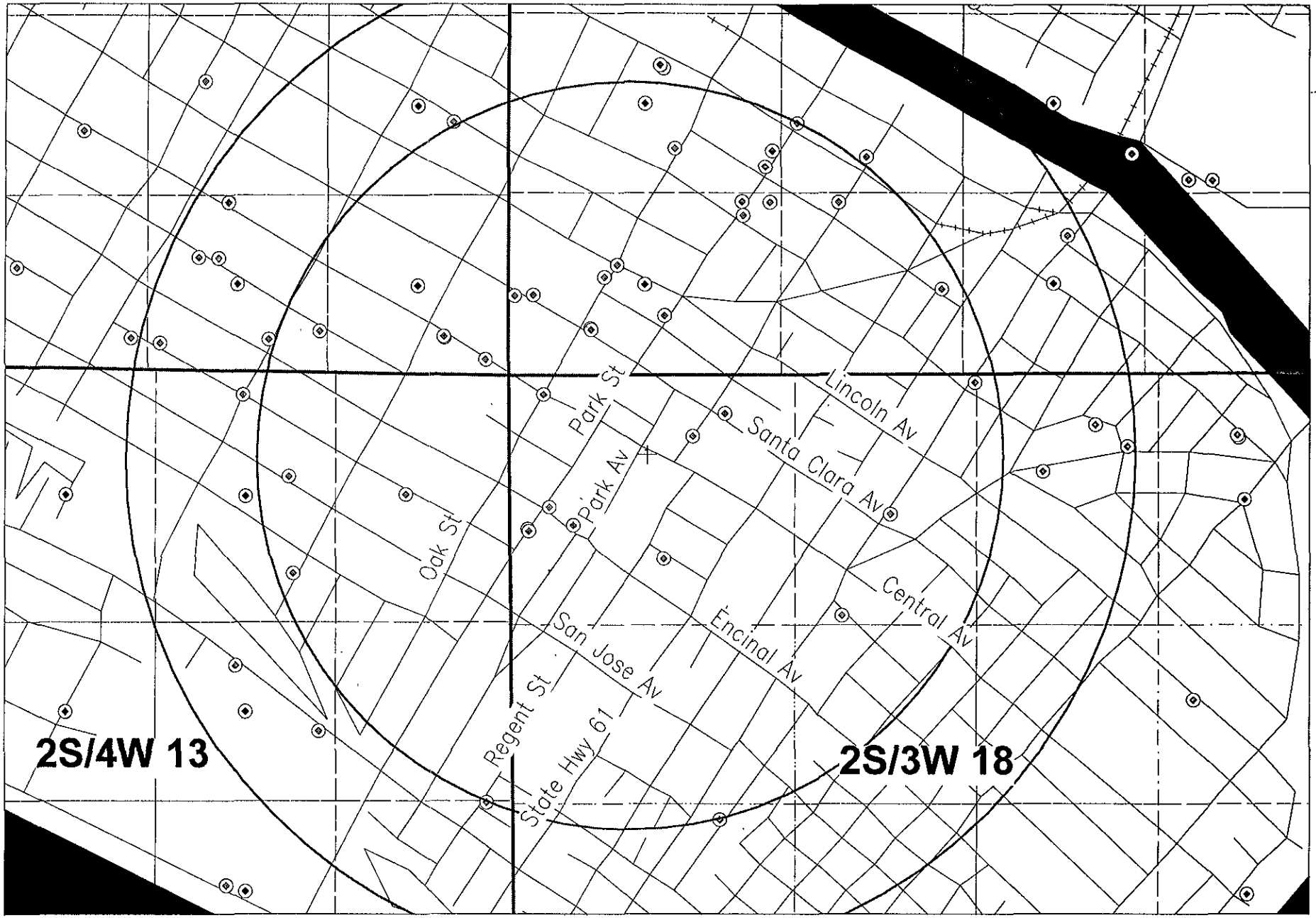
Superior Precision Analytic, Inc of San Francisco, California

Notes:

a = Does not match typical Diesel pattern
b = DTSC recommended action level for drinking water; MCL not established

ATTACHMENT A

WELL SURVEY REPORT



.5 mile radius from 2428 Central Ave.
04/05/1994

WELL #	CITY	ADDRESS	OWNER	PHONE	USE	DR.DATE	DIAM	TOT.DEPTH	DTW	ST.ELEV	WA.ELEV	YIELD	LOG	WQ	WL	DATAORGN	MARGIN
2S/3W 7L 2	ALA	1819 EVERETT ST	A.T. GHILLIER	0	IRR	/06	4	0	5	0	0	0	?	0	2	L	
2S/3W 7L 3	ALA	1801 PARK ST & EAGLE	CHEVRON SERVICE STATION	0	MON	2/85	8	20	7	0	0	0	G	0	0	L	
2S/3W 7L 4	ALA	1801 PARK ST & EAGLE	CHEVRON SERVICE STATION	0	MON	2/85	8	16	7	0	0	0	G	0	0	L	
2S/3W 7L 5	ALA	1801 PARK ST & EAGLE	CHEVRON SERVICE STATION	0	MON	2/85	8	17	7	0	0	0	G	0	0	L	
2S/3W 7L 6	ALA	1801 PARK ST & EAGLE	CHEVRON SERVICE STATION	0	MON	2/85	8	17	7	0	0	0	G	0	0	L	
2S/3W 7L 7	ALA	1801 PARK ST & EAGLE	CHEVRON SERVICE STATION	0	MON	2/85	8	17	7	0	0	0	G	0	0	L	
2S/3W 7L 8	ALA	1725 PARK ST	EXXON RS 7-0104	0	MON	06/88	4	16	7	0	0	0	D	0	0	L	
2S/3W 7L 9	ALA	1725 PARK ST	EXXON RS 7-0104	0	MON	06/88	4	15	7	0	0	0	D	0	0	L	
2S/3W 7L10	ALA	1725 PARK ST	EXXON RS 7-0104	0	MON	06/88	4	22	7	0	0	0	D	0	0	L	
2S/3W 7L11	ALA	1725 PARK ST.	EXXON	0	MON	02/89	4	20	0	0	0	0	G	0	0	L	
2S/3W 7L12	ALA	1725 PARK ST.	EXXON	0	MON	02/89	4	20	0	0	0	0	G	0	0	L	
2S/3W 7L13	ALA	1725 PARK ST.	EXXON	0	MON	02/89	4	20	0	0	0	0	G	0	0	L	
2S/3W 7L14	ALA	1725 Park Street	Exxon Corporation	0	MON	1/90	4	20	9	0	0	0	D	0	0	D	
2S/3W 7L15	ALA	1725 Park Street	Exxon USA EW-1	0	EXT	12/91	4	40	7	0	0	0	D	0	0	D	
2S/3W 7L16	ALA	1725 Park Street	Exxon USA EW-2	0	EXT	12/91	4	40	7	0	0	0	D	0	0	D	
2S/3W 7L17	ALA	1725 Park Street	Exxon USA EW-3	0	EXT	12/91	4	41	7	0	0	0	D	0	0	D	
2S/3W 7L18	ALA	1725 Park Street	Exxon USA EW-4	0	EXT	12/91	4	41	7	0	0	0	D	0	0	D	
2S/3W 7L19	ALA	1725 Park Street	Exxon USA EW-5	0	EXT	12/91	4	40	7	0	0	0	D	0	0	D	
2S/3W 7L20	ALA	1911 Park St.	Alameda Collision Rep.MW1	0	MON	12/92	4	20	10	0	0	0	D	1	1	D	
2S/3W 7M 1	OAK	2307 CLEMENT AVE	BOB TENNANT	5237532	IND	4/77	6	72	0	0	0	7	D	0	0	L	
2S/3W 7M 2	OAK	2307 CLEMENT AVE	BOB TENNANT	0	IND	4/77	6	82	6	0	0	0	D	0	0	L	
2S/3W 7M 3	ALA	1849 OAK STREET	LINCOLN PROPERTY CO	0	MON	06/89	2	16	10	13	0	0	G	0	0	L	
2S/3W 7M 4	ALA	1849 OAK STREET	LINCOLN PROPERTY COMPANY	0	MON	06/89	2	15	10	12	0	0	G	0	0	L	
2S/3W 7M 5	ALA	1849 OAK STREET	LINCOLN PROPERTY COMPANY	0	MON	06/89	2	19	10	8	0	0	G	0	0	L	
2S/3W 7M 6	ALA	1825 Park St.	Goode Toyota MW-4	0	MON	4/93	2	15	6	0	0	0	G	1	1	D	
2S/3W 7N	ALA	Oak at Lincoln Street	Alameda Free Library	0	BOR	04/90	0	0	0	0	0	0	G	0	0	D	
2S/3W 7N 1	OAK	2235 LINCOLN AVE	ALAMEDA STEAM LAUNDRY	0	IRR	/16	0	206	0	0	0	0	?	0	3	L	
2S/3W 7N 2	ALA	1555 OAK STREET	CITY OF ALAMEDA (POLICE)	5224100	MON	6/86	2	23	7	0	0	0	G	0	0	L	
2S/3W 7N 3	ALA	2263 SANTA CLARA AVE	CITY OF ALAMEDA (C. HALL)	5224100	MON	06/86	2	23	7	0	0	0	G	0	0	L	
2S/3W 7N 4	ALA	2263 SANTA CLARA AVE	CITY OF ALAMEDA (C. HALL)	5224100	MON	6/86	2	23	7	0	0	0	G	0	0	L	
2S/3W 7N 5	ALA	1541 PARK ST	MOBIL SERVICE STATION	0	MON	02/88	2	25	10	0	0	0	G	1	0	L	
2S/3W 7N 6	ALA	1541 PARK ST	MOBIL SERVICE STATION	0	MON	02/88	2	25	11	0	0	0	G	1	0	L	
2S/3W 7N 7	ALA	1541 PARK ST	MOBIL SERVICE STATION	0	MON	02/88	2	25	13	0	0	0	G	1	0	L	
2S/3W 7N 8	ALA	1541 PARK STREET	MOBIL OIL CORPORATION	0	MON	03/89	2	25	11	0	0	0	D	0	0	L	
2S/3W 7N 9	ALA	1541 PARK STREET	SHELL OIL CORPORATION	0	MON	03/89	2	25	11	0	0	0	G	0	0	L	
2S/3W 7N10	ALA	1541 PARK STREET	SHELL OIL CORPORATION	0	MON	03/89	2	25	12	0	0	0	G	0	0	L	
2S/3W 7N11	ALA	1541 PARK ST	MOBIL OIL CORP.	0	MON	03/89	2	25	12	0	0	0	G	0	0	L	
2S/3W 7N12	ALA	1541 PARK ST	MOBIL OIL CORP.	0	MON	03/89	2	25	11	0	0	0	G	0	0	L	
2S/3W 7N13	ALA	1541 PARK ST	MOBIL OIL CORP.	0	MON	03/89	2	25	12	0	0	0	G	0	0	L	
2S/3W 7N14	ALA	1700 Park Street	Mr.Dave Cavanaugh	0	MON	05/90	4	15	0	0	0	0	G	0	0	D	
2S/3W 7N15	ALA	1700 Park Street	Mr.Dave Cavanaugh	0	MON	05/90	4	15	0	0	0	0	G	0	0	D	
2S/3W 7N16	ALA	1700 Park Street	Mr.Dave Cavanaugh	0	MON	05/90	4	15	0	0	0	0	G	0	0	D	
2S/3W 7N17	ALA	1700 Park Street	Mr.Dave Cavanaugh	0	MON	05/90	4	15	0	0	0	0	G	0	0	D	
2S/3W 7N18	ALA	Oak St. and Lincoln St.	Alameda Free Library	0	DES	7/90	6	70	0	0	0	0	D	0	0	D	
2S/3W 7N19	ALA	2244 Santa Clara	Fowler-Anderson Mortuary	0	DES	4/91	0	43	0	0	0	0	?			D	
2S/3W 7N20	ALA	2244 Santa Clara	Fowler-Anderson Mortuary	0	DES	4/91	0	0	0	0	0	0	?			D	
2S/3W 7N21	ALA	2244 Santa Clara	Fowler-Anderson Mortuary	0	MON	2/91	2	20	9	14	5	0	G	1	1	D	
2S/3W 7N23	ALA	1726 Park St	John B. Henry Estate	0	MON	5/92	2	20	7	0	0	0	D	0	0	D	
2S/3W 7N24	ALA	1700 Park St	Cavanaugh Motors MW5	0	MON	6/91	2	21	8	0	0	0	D	0	0	D	
2S/3W 7N25	ALA	1700 Park St	Cavanaugh Motors MW6	0	MON	6/91	2	21	8	0	0	0	D	0	0	D	
2S/3W 7N27	ALA	2301 Santa Clara Ave.	Chun's Service Center MW1	0	MON	1/93	2	25	16	31	15	0	G	0	0	D	
2S/3W 7N28	ALA	2301 Santa Clara Ave.	Chun's Service Center MW2	0	MON	1/93	2	25	15	31	16	0	G	0	0	D	
2S/3W 7N29	ALA	2301 Santa Clara Ave.	Chun's Service Center MW3	0	MON	1/93	2	25	16	31	15	0	G	0	0	D	
2S/3W 7N30	ALA	1541 PARK STREET	BP Oil Company	0	REC	4/92	6	30	10	0	0	0	D	0	0	D	
2S/3W 7N31	ALA	2301 Santa Clara Ave.	Chun's Service Center MW4	0	MON	9/93	2	25	10	0	0	0	G	0	0	D	
2S/3W 7N32	ALA	2301 Santa Clara Ave.	Chun's Service Center MW5	0	MON	9/93	2	25	10	0	0	0	G	0	0	D	
2S/3W 7N33	ALA	2301 Santa Clara Ave.	Chun's Service Center MW6	0	MON	9/93	2	25	11	0	0	0	G	0	0	D	
2S/3W 7N34	ALA	2301 Santa Clara Ave.	Chun's Service Center MW7	0	MON	9/93	2	25	11	0	0	0	G	0	0	D	
2S/3W 7P 1	ALA	2623 EAGLE AVE.	PG&E	0	CAT	6/76	0	120	0	0	0	0	D	0	0	L	
2S/3W 7Q 1	OAK	1819 VERSAILLES AV	LESTER CABRAL	0	IRR	9/77	4	24	5	0	0	12	D	0	0	L	Yes
2S/3W 7Q 7	ALA	2100A VERSAILLES AVE	KING PETROLEUM	0	MON	04/85	8	35	5	0	0	0	G	0	N	L	Yes
2S/3W 7Q 8	ALA	1708 VERSAILLES AVE	MARK RATTO	0	IRR	07/88	5	60	10	0	0	0	?	0	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 18D	ALA	2425 Encinal	Steve Chrissanthos	0	BOR	12/92	0	14	13	0	0	0	G	0	0	D	
2S/3W 18D 1	ALA	2518 CHESTER ST	A.E. SLIGH	0	IRR	5/77	6	20	10	0	0	0	D	0	0	L	
2S/3W 18D 2	ALA	EVERETT & ALAMEDA	PG&E	0	CAT	7/76	0	120	0	0	0	0	D	0	0	L	
2S/3W 18D 3	ALA	1300 PARK ST	CITY OF ALAMEDA (F/H #1)	5224100	MON	6/86	2	23	9	0	0	0	G	0	0	L	
2S/3W 18D 4	ALA	1260 Park St	ARCO PRODUCTS	0	MON	10/91	4	13	13	0	0	0	D	0	0	D	
2S/3W 18D 5	ALA	1260 Park St	ARCO PRODUCTS	0	MON	10/91	4	12	11	0	0	0	D	0	0	D	
2S/3W 18D 6	ALA	1260 Park St	ARCO PRODUCTS	0	MON	10/91	4	13	13	0	0	0	D	0	0	D	
2S/3W 18D 7	ALA	1260 Park St	ARCO PRODUCTS	0	MON	10/91	4	30	12	0	0	0	D	0	0	D	
2S/3W 18D 8	ALA	1260 Park St	ARCO PRODUCTS	0	MON	10/91	3	30	13	0	0	0	D	0	0	D	
2S/3W 18D 9	ALA	1260 Park St	ARCO PRODUCTS	0	MON	10/91	3	30	12	0	0	0	D	0	0	D	
2S/3W 18D10	ALA	1260 Park St	ARCO PRODUCTS	0	MON	10/91	3	30	12	0	0	0	D	0	0	D	
2S/3W 18D11	ALA	1260 Park St	ARCO PRODUCTS	0	MON	10/91	6	30	13	0	0	0	D	0	0	D	
2S/3W 18D12	ALA	1260 Park St	ARCO Prod Co AV-7	0	MON	1/92	4	13	12	0	0	0	DD	0	0	D	
2S/3W 18D13	ALA	1260 Park St	ARCO Prod Co AV-4	0	MON	1/92	4	13	12	0	0	0	D	0	0	D	
2S/3W 18D14	ALA	1260 Park St	ARCO Prod Co AV-5	0	MON	1/92	4	13	12	0	0	0	D	0	0	D	
2S/3W 18D15	ALA	1260 Park St	ARCO Prod Co AV-6	0	MON	1/92	4	13	12	0	0	0	D	0	0	D	
2S/3W 18D16	ALA	1260 Park St.	Arco Products Co.	0	MON	6/92	3	30	11	0	0	0	D	0	0	D	
2S/3W 18D17	ALA	1260 Park St.	Arco Products Co.	0	MON	6/92	6	30	12	0	0	0	D	0	0	D	
2S/3W 18D18	ALA	2501 Santa Clara Ave.	Goodman Property MW2	0	MON	4/93	2	25	5	0	0	0	G	0	0	D	
2S/3W 18D19	ALA	2425 Encinal	Steve Chrissanthos MW-1	0	MON	12/92	2	18	7	0	0	0	G	0	0	D	
2S/3W 18D20	ALA	2425 Encinal	Steve Chrissanthos MW-2	0	MON	12/92	2	18	13	0	0	0	G	0	0	D	
2S/3W 18D21	ALA	2425 Encinal	Steve Chrissanthos MW-3	0	MON	12/92	2	15	7	0	0	0	G	0	0	D	
2S/3W 18D22	ALA	2425 Encinal	Steve Chrissanthos MW-2a	0	MON	12/92	2	15	7	0	0	0	G	0	0	D	
2S/3W 18D23	ALA	2501 Santa Clara Ave.	Goodman Property MW1	0	MON	10/92	2	25	8	0	0	0	G	0	0	D	
2S/3W 18D24	ALA	2501 Santa Clara Ave.	Goodman Property MW2	0	MON	10/92	2	25	9	0	0	0	G	0	0	D	
2S/3W 18D25	ALA	2501 Santa Clara Ave.	Goodman Property MW3	0	MON	10/92	2	25	10	0	0	0	G	0	0	D	
2S/3W 18F 1	ALA	2806 VAN BUREN ST	CARTER STROUD	0	IRR	5/77	4	20	8	0	0	0	D	0	0	L	
2S/3W 30D 2	ALA	1506 VERSAILLES AVE	SOARES	0	IRR	?	0	180	0	0	0	0	?	+	0	L	
2S/4W 12J 2	OAK	PACIFIC AND WILLOW	PG&E	0	CAT	6/76	0	120	0	0	0	0	D	0	0	L	Yes
2S/4W 12Q 4	ALA	2059 SAN ANTLNIO	DELDINE	0	IRR	/40	0	21	3	0	0	0	?	0	2	L	Yes
2S/4W 12R	ALA	2200 Central Ave.	Alameda School Dist.	0	BOR	6/92	2	15	9	0	0	0	G	0	0	D	
2S/4W 12R 1	ALA	CENTRAL AV & OAK ST	ALA. HIGH SCHOOL	0	DOM+	?	16	325	0	30	0	0	D	+	+	L	
2S/4W 12R 2	ALA	2121 ALMEDA AVE	PAR PAYNE	0	IRR	2/77	4	19	9	0	0	0	D	0	0	L	
2S/4W 12R 3	ALA	2120 ALAMEDA AVE	BERT JOHNSON	0	IRR	2/77	4	19	9	0	0	0	D	0	0	L	
2S/4W 12R 6	ALA	2200 CENTRAL	ALAMEDA SCHOOL DISTRICT	0	TES	6/92	2	15	9	0	0	0	D			D	
2S/4W 12R 6	ALA	2200 Central Ave.	Alameda School Dist. MW1	0	MON	7/92	2	15	10	0	0	0	G	0	0	D	
2S/4W 12R 7	ALA	2200 CENTRAL	ALAMEDA SCHOOL DISTRICT	0	TES	6/92	2	15	10	0	0	0	D			D	
2S/4W 12R 7	ALA	2200 Central Ave.	Alameda School Dist. MW2	0	MON	7/92	2	15	11	0	0	0	G	0	0	D	
2S/4W 12R 8	ALA	2200 CENTRAL	ALAMEDA SCHOOL DISTRICT	0	TES	6/92	2	15	9	0	0	0	D			D	
2S/4W 12R 8	ALA	2200 Central Ave.	Alameda School Dist. MW3	0	MON	7/92	2	15	10	0	0	0	G	0	0	D	
2S/4W 12R 9	ALA	2200 Central Ave	Alameda School Dist MW1	0	MON	8/93	2	15	0	0	0	0	D	0	0	D	
2S/4W 12R10	ALA	2200 Central Ave	Alameda School Dist MW2	0	MON	8/93	2	15	0	0	0	0	D	0	0	D	
2S/4W 12R11	ALA	2200 Central Ave	Alameda School Dist MW3	0	MON	8/93	2	15	0	0	0	0	D	0	0	D	
2S/4W 13A 1	ALA	2242 SAN ANTONIO	JAMES SMALLMAN	0	IRR	2/77	4	20	9	0	0	0	D	0	0	L	
2S/4W 13B 1	ALA	2163 SAN JOSE AVE	MRS.H. KEIM	0	ABN	/21	5	127	63	0	0	0	?	0	2	L	
2S/4W 13B 2	ALA	871 WALNUT ST	DENNIS HEITMAN	0	IRR	4/77	4	25	11	0	0	0	D	0	0	L	
2S/4W 13B 4	ALA	?	ALAMEDA GENERAL HOSP.	0	IRR	/25	0	300	0	10	0	60	?	0	0	L	Yes
2S/4W 13G 1	ALA	2160 OTIS & PRIVATE	SHELL SERVICE STATION	0	MON	9/87	3	19	4	0	0	0	G	0	0	L	Yes

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.

[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".

[**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 water well used to supply industry on an individual basis.

[**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.

[**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.

[**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.

[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.

[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.

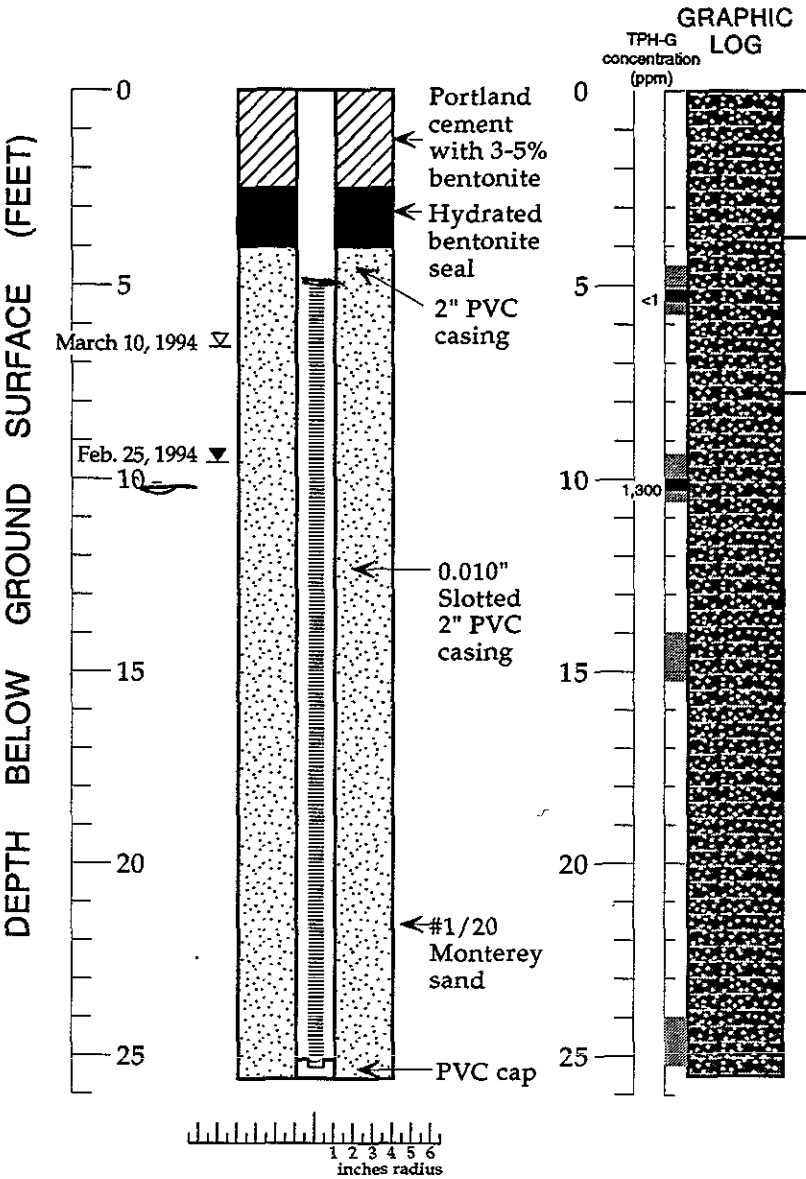
[YLD] Yield - The maximum pumping rate in gallons per minute that can be supplied by a well without lowering the water level in the well below the pump intake. This data is taken from pump test data recorded in the driller's records. Some of the yield data reflects current production rates and does not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

ATTACHMENT B

BORING LOGS AND WELL CONSTRUCTION DETAILS

WELL MW-1



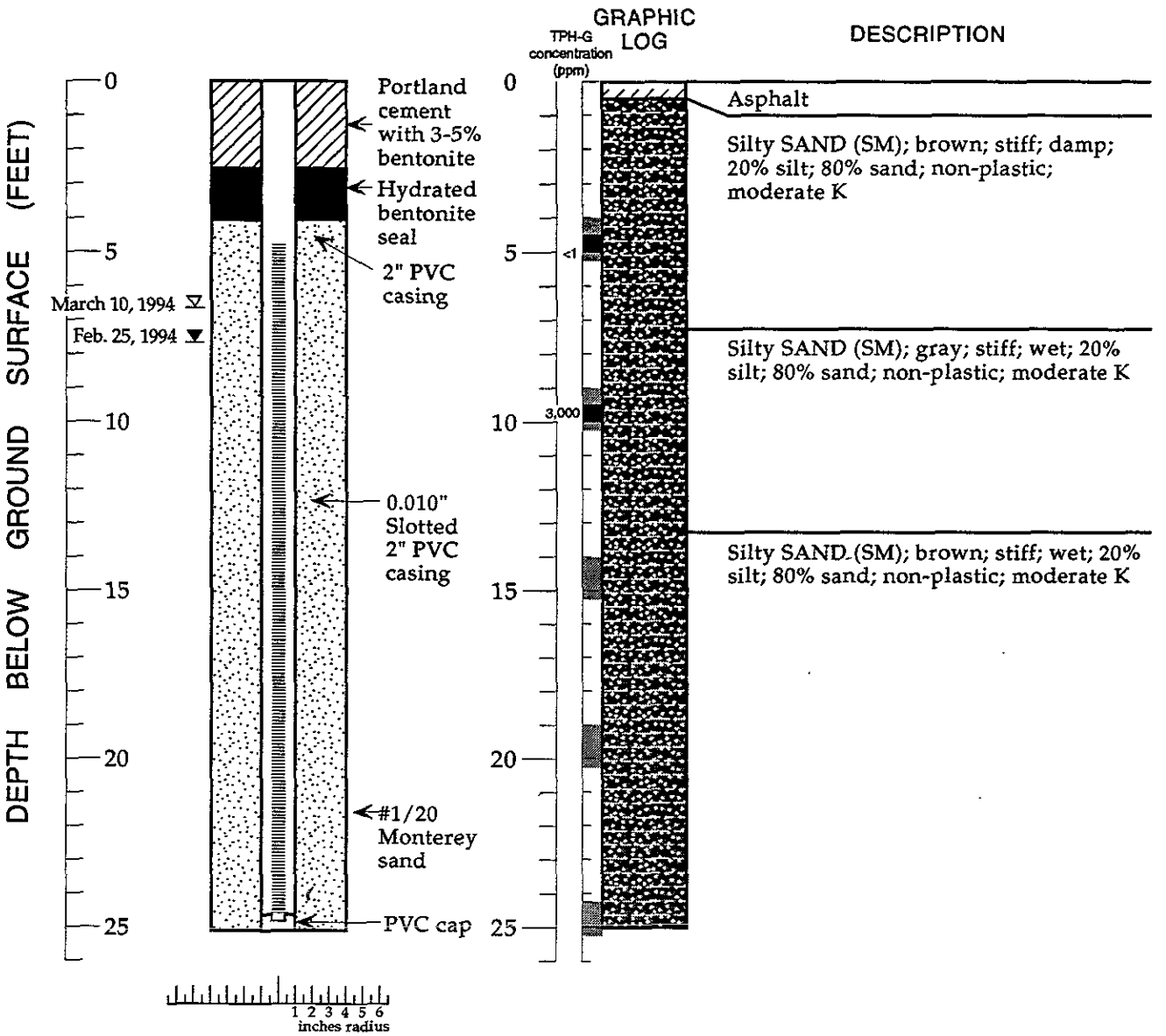
EXPLANATION

- ▼ Water level during drilling (date)
- ▽ Water level (date)
- ——— Contact (dotted where approximate)
- —?—?— Uncertain contact
- ////////// Gradational contact
- Location of recovered drive sample
- Location of drive sample sealed for chemical analysis
- Cutting sample
- K = Estimated hydraulic conductivity

Logged By: Joyce Adams
Supervisor: James W. Carmody; CEG 1576
Drilling Company: Soils Exploration Services, Vacaville, CA
License Number: #C57-582696
Driller: Tim Dunne
Drilling Method: Hollow-stem auger
Date Drilled: February 24, 1994
Well Head Completion: 2" locking well-plug, traffic-rated vault
Type of Sampler: Split barrel (2" ID)
Ground Surface Elevation: 29.54 feet above mean sea level
TPH-G: Total petroleum hydrocarbon as gasoline in soil by modified EPA Method 8015

Boring Log and Well Construction Details - Well MW-1 - Former Chevron Service Station #9-0100, 2428 Central Street, Alameda, California

WELL MW-2



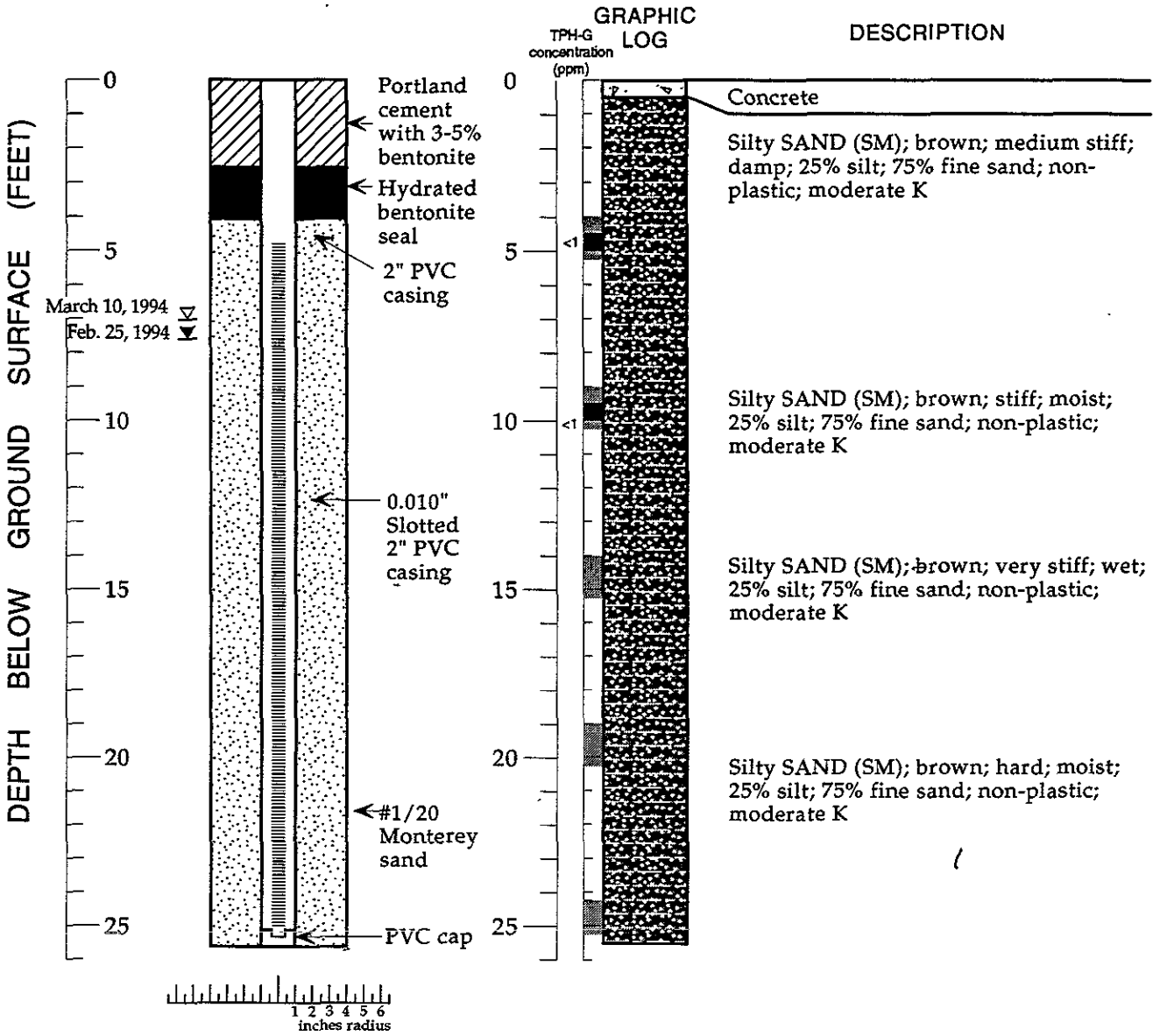
EXPLANATION

- Water level during drilling (date)
- Water level (date)
- Contact (dotted where approximate)
- Uncertain contact
- Gradational contact
- Location of recovered drive sample
- Location of drive sample sealed for chemical analysis
- Cutting sample
- K = Estimated hydraulic conductivity

Logged By: Joyce Adams
Supervisor: James W. Carmody; CEG 1576
Drilling Company: Soils Exploration Services, Vacaville, CA
License Number: C57-582696
Driller: Tim Dunne
Drilling Method: Hollow-stem auger
Date Drilled: February 25, 1994
Well Head Completion: 2" locking well-plug, traffic-rated vault
Type of Sampler: Split barrel (2" ID)
Ground Surface Elevation: 29.44 feet above mean sea level
TPH-G: Total petroleum hydrocarbon as gasoline in soil by modified EPA Method 8015

Boring Log and Well Construction Details - Well MW-2 - Former Chevron Service Station #9-0100, 2428 Central Street, Alameda, California

WELL MW-3



EXPLANATION

- ▼ Water level during drilling (date)
- ▽ Water level (date)
- ——— Contact (dotted where approximate)
- —?—?— Uncertain contact
- ////////// Gradational contact
- Location of recovered drive sample
- Location of drive sample sealed for chemical analysis
- Cutting sample
- K = Estimated hydraulic conductivity

Logged By: Joyce Adams
Supervisor: James W. Carmody; CEG 1576
Drilling Company: Soils Exploration Services, Vacaville, CA
License Number: #C57-582696
Driller: Tim Dunne
Drilling Method: Hollow-stem auger
Date Drilled: February 25, 1994
Well Head Completion: 2" locking well-plug, traffic-rated vault
Type of Sampler: Split barrel (2" ID)
Ground Surface Elevation: 30.36 feet above mean sea level
TPH-G: Total petroleum hydrocarbon as gasoline in soil by modified EPA Method 8015

Boring Log and Well Construction Details - Well MW-3 - Former Chevron Service Station #9-0100, 2428 Central Street, Alameda, California

ATTACHMENT C

WELLHEAD ELEVATION SURVEY DATA

Tucker & Associates
SURVEYING & MAPPING

Weiss Associates
5500 Shellmound Street
Emeryville CA 94608

March 24, 1994

Re: Monitoring wells at former Chrevron Service Station-9-0100, 2428 Central Ave.- Alameda CA. Weiss project #4-782-01.

Well Name	T.O.C. Elev.	Rim Elev.	PVC Casing	Orientation
MW-1	29.23	29.54	2"	North
MW-2	29.18	29.44	2"	North
MW-3	30.09	30.36	2"	North

Notes:

T.O.C. Elevations taken at set notch on N'ly side of casings.

Elevations are in feet and are on Mean Sea Level Datum(NGVD29), and were established from City of Alameda benchmarks. To convert to City of Alameda vertical Datum, subtract 3.41 feet from the MSL elevations.

1220 WASHINGTON STREET SUITE 6, CALISTOGA, CALIFORNIA 94515
(707) 942-6001 • FAX (707) 942-0642

ATTACHMENT D

ANALYTIC RESULTS FOR SOIL

Superior Precision Analytical, Inc.
1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

Weiss Associates
Attn: JOYCE ADAMS

Project 4-782-01
Reported 03/03/94

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed	Matrix
15250- 1	MW-1-5ft	02/25/94	03/02/94	Soil
15250- 2	MW-1-10ft	02/25/94	03/03/94	Soil
15250- 3	MW-2-5ft	02/25/94	03/03/94	Soil
15250- 4	MW-2-10ft	02/25/94	03/03/94	Soil
15250- 5	MW-3-5ft	02/25/94	03/03/94	Soil
15250- 6	MW-3-10ft	02/25/94	03/02/94	Soil

RESULTS OF ANALYSIS

Laboratory Number:	15250- 1	15250- 2	15250- 3	15250- 4	15250- 5
Gasoline:	ND<1	1300	ND<1	3000	ND<1
Benzene:	ND<.005	ND<2.5	ND<.005	8.0	ND<.005
Toluene:	ND<.005	9.1	ND<.005	ND<5	ND<.005
Ethyl Benzene:	ND<.005	13	ND<.005	56	ND<.005
Total Xylenes:	ND<.005	19	ND<.005	70	ND<.005
Diesel:	ND<1	*150	ND<1	*340	ND<1
Concentration:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg

Laboratory Number:	15250- 6
Gasoline:	ND<1
Benzene:	ND<.005
Toluene:	ND<.005
Ethyl Benzene:	ND<.005
Total Xylenes:	ND<.005
Diesel:	ND<1
Concentration:	mg/kg

* - Does not match typical Diesel pattern.

Superior Precision Analytical, Inc.
1555 Burke, Unit I ▪ San Francisco, California 94124 ▪ (415) 647-2081 / fax (415) 821-7123

C E R T I F I C A T E O F A N A L Y S I S

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

QA/QC INFORMATION
SET: 15250

NA = ANALYSIS NOT REQUESTED
ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT
mg/kg = parts per million (ppm)

OIL AND GREASE ANALYSIS By Standard Methods Method 5520F:
Minimum Detection Limit in Soil: 50mg/kg

Modified EPA SW-846 Method 8015 for Extractable Hydrocarbons:
Minimum Quantitation Limit for Diesel in Soil: 1mg/kg

EPA SW-846 Method 8015/5030 Total Purgable Petroleum Hydrocarbons:
Minimum Quantitation Limit for Gasoline in Soil: 1mg/kg

EPA SW-846 Method 8020/BTXE
Minimum Quantitation Limit in Soil: 0.005mg/kg

ANALYTE	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Gasoline:	83/84	1%	75-125
Benzene:	100/105	5%	72-125
Toluene:	95/102	7%	75-125
Ethyl Benzene:	100/105	5%	75-125
Total Xylenes:	96/101	5%	75-125
Diesel:	113/120	6%	52-152

3/4/94

Senior Chemist
Account Manager

Fax copy of Lab Report and COC to Chevron Contact: ☐ Yes ☐ No 15256

Chain-of-Custody-Record

Chevron U.S.A. Inc.
P.O. BOX 5004
San Ramon, CA 94583
FAX (415)842-9591

Chevron Facility Number: 9-0100
Facility Address: 2428 Central Ave, Alameda
Consultant Project Number: 4-782-01
Consultant Name: Weiss Associates
Address: 5500 Shellmound St
Project Contact (Name): Joyce Adams
(Phone) 510 450-6162 (Fax Number) 510 547-5043

Chevron Contact (Name): Mark Miller
(Phone): 510 - 842 - 8134
Laboratory Name: ~~709440~~ Sec- Superior
Laboratory Release Number: 709440
Samples Collected by (Name): Joyce Adams
Collection Date: 2-24-94 2-25-94
Signature: Joyce Adams

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	BTEX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd,Cr,Pb,Zn,Ni (ICAP or AA)	Remarks
MW-1-5ft		1	S	D	9:25	NONE	Y	X	X							
MW 1-10ft					9:25											
MW-2-5ft					8:15											
MW-2-10ft					8:30											
MW 3-5ft					10:50											
MW-3-10ft		↓	↓	↓	10:58	↓	↓	↓	↓							

Please initial:
Samples Stored in ice.
Appropriate containers.
Samples preserved.
VOA's without headspace.
Comments:

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Joyce Adams	Weiss Assoc	2/25/94 4:33	Steve Ruiz 719	Aero	
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Steve Ruiz 719	Aero	2-25-94 525			
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time
			[illegible]		2/25/94 5:25P

Turn Around Time (Circle Choice)
24 Hrs.
48 Hrs.
5 Days
10 Days
As Contracted

ATTACHMENT E

ANALYTIC RESULTS FOR GROUND WATER

Superior Precision Analytical, Inc.
1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

Weiss Associates
Attn: JOYCE ADAMS

Project 4-782-01
Reported 03/18/94

TOTAL PETROLEUM HYDROCARBONS

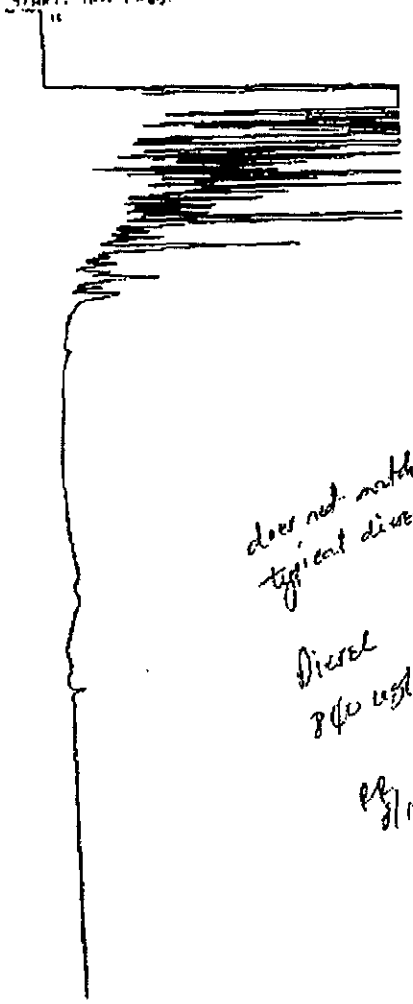
Lab #	Sample Identification	Sampled	Analyzed	Matrix
15304- 1	MW1	03/10/94	03/14/94	Water
15304- 2	MW2	03/10/94	03/16/94	Water
15304- 3	MW3	03/10/94	03/14/94	Water
15304- 4	TB-LB	03/10/94	03/15/94	Water

RESULTS OF ANALYSIS

Laboratory Number:	15304- 1	15304- 2	15304- 3	15304- 4
Gasoline:	7400	6400	ND<50	ND<50
Benzene:	120	ND<5	ND<0.5	ND<0.5
Toluene:	120	64	ND<0.5	0.7
Ethyl Benzene:	33	58	ND<0.5	ND<0.5
Total Xylenes:	72	17	ND<0.5	ND<0.5
Diesel:	*840	*920	ND<50	NA
Concentration:	ug/L	ug/L	ug/L	ug/L

* - Does not match typical Diesel pattern.

START PENDING
RUN 1 631 MAR 14, 1994 21:02:08
START: not ready



does not match the typical diesel pattern

Diesel 840 ug/L

RF 3/15/94

TIMETABLE STOP

SUPERIOR PRECISION ANALYTICAL
GC-6 SFCA DUAL COL FID
RUNNING: 631 BOTTLE NO: 62

SAMPLE: 15304-1
DILUTION = 40

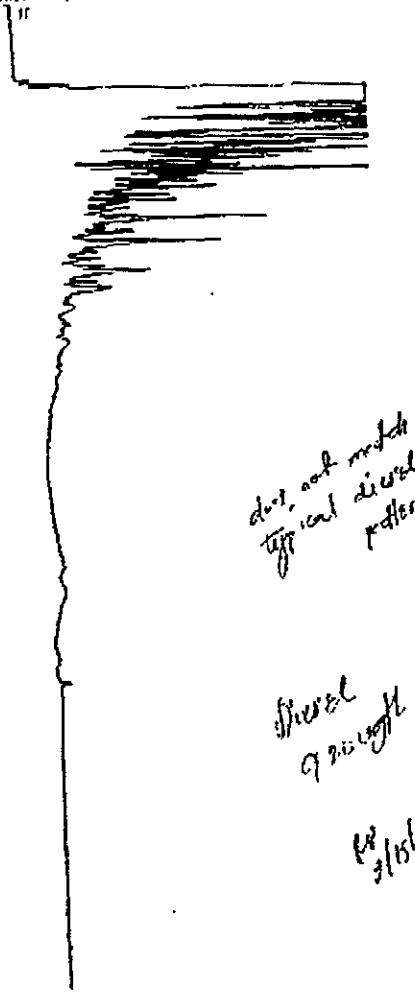
SURROGATE COMPOUND RECOVERY= 1.8%
SURROGATE PEAK AREA 12326.

****
DIESEL ANALYSIS
RT 9.5 TO 28 MIN
C10 TO C24
AREA = 1498888.
AREA-SURR = 1486551.
CONC INJ= 33.4704 LIMIT 2000
CONC = 0.836761 ug/L or ug/kg

****
MINERAL SPIRITS ANALYSIS
RT 6 TO 13 MIN
AREA = 3672822.
CONC INJ= 84.3058 LIMIT 2000
CONC = 2.10764 ug/L or ug/kg

****
MOTOR OIL ANALYSIS
RT 28 TO 36 MIN
AREA = 25536.
AREA-SURR = 13218.
CONC INJ = 0.490148 LIMIT 2000
CONC = 0.0122537 ug/L or ug/kg

START PENDING
RUN 1 632 MAR 14, 1994 22:06:41
START: not ready



does not match the typical diesel pattern

Diesel 920 ug/L

RF 3/15/94

TIMETABLE STOP

SUPERIOR PRECISION ANALYTICAL
GC-6 SFCA DUAL COL FID
RUNNING: 632 BOTTLE NO: 63

SAMPLE: 15304-2
DILUTION = 40

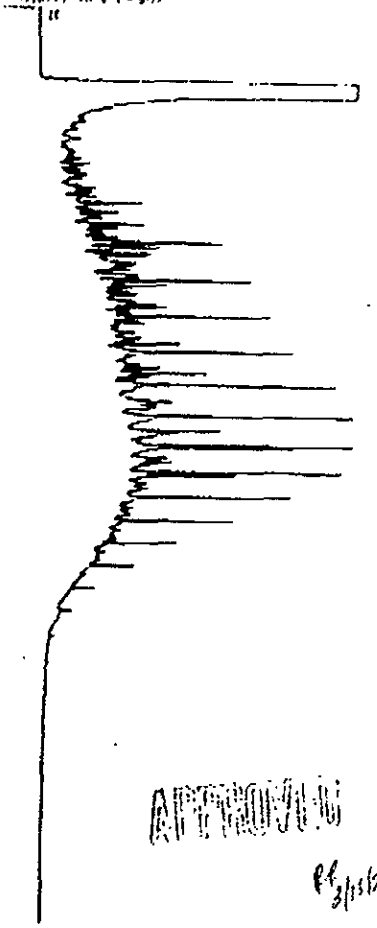
SURROGATE COMPOUND RECOVERY= 1.3%
SURROGATE PEAK AREA 8417.

****
DIESEL ANALYSIS
RT 9.5 TO 28 MIN
C10 TO C24
AREA = 1634478.
AREA-SURR = 1626831.
CONC INJ= 36.6132 LIMIT 2000
CONC = 0.91533 ug/L or ug/kg

****
MINERAL SPIRITS ANALYSIS
RT 6 TO 13 MIN
AREA = 3381277.
CONC INJ= 77.5724 LIMIT 2000
CONC = 1.93931 ug/L or ug/kg

****
MOTOR OIL ANALYSIS
RT 28 TO 36 MIN
AREA = 15222.
AREA-SURR = 6775.
CONC INJ = 0.251348 LIMIT 2000
CONC = 0.00628419 ug/L or ug/kg

START PENDING
RUN # 622 MAR 14, 1994 10:12:19
START: not ready



APPROVED
RL 3/15/94

TIMETABLE STOP

SUPERIOR PRECISION ANALYTICAL
GC-6 SFCA DUAL COL FID
RUNNUM: 622 BOTTLE NO: 33

SAMPLE: DIE 200 Diesel Standard
DILUTION : 1

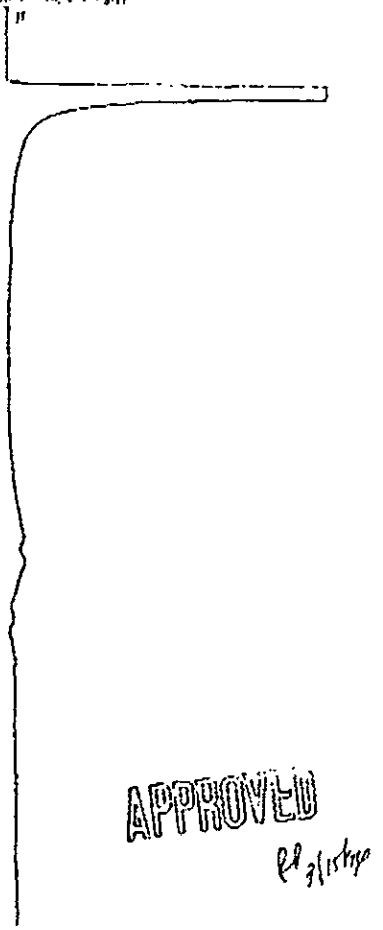
SURROGATE COMPOUND RECOVERY= 3.8%
SURROGATE PEAK AREA 25474.

****
DIESEL ANALYSIS
RT 8.5 TO 28 MIN
C10 TO C24
AREA = 7838589.
AREA-SURR = 788517.
CONC INJ= 176.249 LIMIT 2000
CONC = 176.249 mg/L or mg/kg

****
MINERAL SPIRITS ANALYSIS
RT 6 TO 13 MIN
AREA = 2419373.
CONC INJ= 55.4117 LIMIT 2000
CONC = 55.4117 mg/L or mg/kg

****
MOTOR OIL ANALYSIS
RT 28 TO 36 MIN
AREA = 2217077.
AREA-SURR = 219169.
CONC INJ = 82.8935 LIMIT 2000
CONC = 82.8935 mg/L or mg/kg

START PENDING
RUN # 621 MAR 14, 1994 09:15:03
START: not ready



APPROVED
RL 3/15/94

TIMETABLE STOP

SUPERIOR PRECISION ANALYTICAL
GC-6 SFCA DUAL COL FID
RUNNUM: 621 BOTTLE NO: 32

SAMPLE: METL2 Blank
DILUTION : 1

SURROGATE COMPOUND RECOVERY= .2%
SURROGATE PEAK AREA 1341.

****
DIESEL ANALYSIS
RT 8.5 TO 28 MIN
C10 TO C24
AREA = 12985.
AREA-SURR = 11464.
CONC INJ: 0.257941 LIMIT 2000
CONC = 0.257941 mg/L or mg/kg

****
MINERAL SPIRITS ANALYSIS
RT 6 TO 13 MIN
AREA = 0
CONC INJ= 0. LIMIT 2000
CONC = 0. mg/L or mg/kg

****
MOTOR OIL ANALYSIS
RT 28 TO 36 MIN
AREA = 18784.
AREA-SURR = 17363.
CONC INJ = 0.644266 LIMIT 2000
CONC = 0.644266 mg/L or mg/kg

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

Weiss Associates
Attn: JOYCE ADAMS

Project 4-782-01
Reported 18-March-1994

ANALYSIS FOR TOTAL ORGANIC LEAD
by Modified DHS Method (Luft Manual)

Chronology

Laboratory Number 15304

Identification	Sampled	Received	Extracted	Analyzed	Run #	Lab #
mw-1	03/10/94	03/11/94	03/18/94	03/18/94		1
mw-2	03/10/94	03/11/94	03/18/94	03/18/94		2
mw-3	03/10/94	03/11/94	03/18/94	03/18/94		3

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Weiss Associates
Attn: JOYCE ADAMS

Project 4-782-01
Reported 18-March-1994

ANALYSIS FOR TOTAL ORGANIC LEAD

Laboratory Number	Sample Identification	Matrix
15304- 1	mw-1	Water
15304- 2	mw-2	Water
15304- 3	mw-3	Water

RESULTS OF ANALYSIS

Laboratory Number:	15304- 1	15304- 2	15304- 3
ORGANIC LEAD:	ND<4	ND<4	ND<4
Concentration:	mg/L	mg/L	mg/L

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

ANALYSIS FOR TOTAL ORGANIC LEAD
Quality Assurance and Control Data - Water

Laboratory Number 15304

Compound	Method Blank (mg/L)	RL (mg/L)	Spike Recovery (%)	Limits (%)	RPD (%)
ORGANIC LEAD:	ND<4	4	100/100	75-125	0%

Definitions:
ND = Not Detected
RPD = Relative Percent Difference
RL = Reporting Limit
mg/L = Parts per million (ppm)
QC File No. 15304

Senior Chemist
Account Manager

15304

Chain of Custody and Analysis Request

LAB JOB# 15304 Page ___ of ___

Superior Precision Analytical
1555 Burke Street, Unit I
San Francisco, CA 94124
Phone: (415) 647-2081 Fax: (415) 821-7123
Contact: Victor

Project No.: P.O. No.

TURN AROUND TIME

Same Day	72 Hrs.
24 Hrs.	48 Hrs.
5 Day	10 Day

Bill To:

Superior Precision Analytical Inc.
P.O. Box 1545
Martinez, California 94553

Work Subcontracted to: MTZ

Analysis Request

Laboratory Sample ID	Client Sample ID	Matrix (S=Soil A=Air W=Water)	Reactivity	CAM 17	Metals (Organic Pb)	COD	Ammonia	TOC	8010					Date Sampled	# of Containers	Preservatives
15304-1	MW-1	W			X									3/10/14	1	HCl
-2	MW-2				X											
-3	MW-3				X											

COMMENTS

- ☐ Please fax invoice or quote ASAP
- ☐ Please fax results to Superior, San Francisco
- ☐ Please fax results to our client (see attached COC)

Relinquished By: KE	Date 3/11/1911	Time 14:00 am/pm	Received By: Sumeen	Date 3/14/14	Time 10:00 am/pm
Organization: SPA	Date / /	Time : am/pm	Organization: Superior	Date / /	Time : am/pm
Reliquished By:	Date / /	Time : am/pm	Received By:	Date / /	Time : am/pm
Organization:			Organization:		
Relinquished By:			Received By:		
Organization:			Laboratory:		

Lab - Please initial the following: SH

- Samples Stored in Ice: ✓ 5°C
- Appropriate Containers: ✓
- Samples Preserved: NJ
- VOAs without headspace: NA
- Comments: OK

Fax copy of Lab Report and COC to Chevron Contact: ☐ Yes ☐ No 15304

Chain-of-Custody-Record

Chevron U.S.A. Inc.
P.O. BOX 5004
San Ramon, CA 94583
FAX (415)842-9591

Chevron Facility Number 9-0100
Facility Address 2428 Central Avenue, Alameda
Consultant Project Number 4-782-01
Consultant Name Weiss Associates
Address 5500 Shellmound St, Emeryville
Project Contact (Name) Joyce Adams
(Phone) 510 450-6162 (Fax Number) 510 547-5043

Chevron Contact (Name) Mark Miller
(Phone) 510-842-8134
Laboratory Name Superior
Laboratory Release Number 709440
Samples Collected by (Name) RUDY R. MARQUEZ
Collection Date 3/10/94
Signature Rudy R. Ma[illegible]

Chevron Facility # 9-0100
EPA 504 = EDB
Luft Manual Method = Organic Lead
per Joyce Adams 3/11/94 CS

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil A = Air W = Water C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	BTEX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd,Cr,Pb,Zn,Ni (ICAP or AA)	EPA 504	LUFT MANUAL METHOD
MW1		3	W	G	13:35	HCL	Y	X									
		3				NONE										X	
		2				HCL			X								
		1				NONE											X
MW2		3			12:45	HCL		X									
		3				NONE										X	
		2				HCL			X								
		1				NONE											X
MW3		3			11:30	HCL		X									
		3				NONE										X	
		2				HCL			X								
		1				NONE											X
TB-LB		3			11:45	HCL		X									

Please initial: UE
Samples Stored in ice. yes 4°C
Appropriate containers ✓
Samples preserved. ✓
VOA's without headspace. ✓
Comments:

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Rudy R. Marquez	WA	3/10/94 * 19:00	Herb Fan	Weiss	3/11/94 0900
Herb Fan	Weiss	3/11/94 11:15	[illegible]	ARRC	3/11/94 11:15
			Received For Laboratory By (Signature) UE		3/11/94 1200

Turn Around Time (Circle Choice)
24 Hrs.
48 Hrs.
5 Days
10 Days
As Contracted (circled)

* LOCKED IN SECURE AREA

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
1900 Bates Avenue, Suite L, Concord, CA 94520, (510) 686-9600, FAX (510) 686-9689
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Superior Precision Analytical	Client Project ID:	15304, Chevron 9-0100	Sampled: Mar 10, 1994
1555 Burke St., Unit 1	Sample Descript:	Drinking Water, 15304-1 MW-1	Received: Mar 14, 1994
San Francisco, CA 94124	Analysis Method:	EPA 504	Analyzed: Mar 15, 1994
Attention: Victor Ezbenho	Lab Number:	4C80901	Reported: Mar 21, 1994

EDB AND DBCP IN WATER (EPA 504)

Analyte	Detection Limit µg/L	Sample Results µg/L
1,2-Dibromoethane (EDB)	0.020	N.D.
1,2-Dibromo-3-Chloropropane (DBCP)	0.010	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Suzanne Chin
Project Manager

4C80901.SSS <1>

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
1900 Bates Avenue, Suite L, Concord, CA 94520, (510) 686-9600, FAX (510) 686-9689
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Superior Precision Analytical	Client Project ID:	15304, Chevron 9-0100	Sampled: Mar 10, 1994
1555 Burke St., Unit 1	Sample Descript:	Drinking Water, 15304-2 MW-2	Received: Mar 14, 1994
San Francisco, CA 94124	Analysis Method:	EPA 504	Analyzed: Mar 15, 1994
Attention: Victor Ezbenho	Lab Number:	4C80902	Reported: Mar 21, 1994

EDB AND DBCP IN WATER (EPA 504)

Analyte	Detection Limit µg/L	Sample Results µg/L
1,2-Dibromoethane (EDB)	0.020	N.D.
1,2-Dibromo-3-Chloropropane (DBCP)	0.010	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Suzanne Chin
Project Manager

4C80901.SBS <2>

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
1900 Bates Avenue, Suite L, Concord, CA 94520, (510) 686-9600, FAX (510) 686-9689
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Superior Precision Analytical	Client Project ID:	15304, Chevron 9-0100	Sampled: Mar 10, 1994
1555 Burke St., Unit 1	Sample Descript:	Drinking Water, 15304-3 MW-3	Received: Mar 14, 1994
San Francisco, CA 94124	Analysis Method:	EPA 504	Analyzed: Mar 15, 1994
Attention: Victor Ezbenho	Lab Number:	4C80903	Reported: Mar 21, 1994

EDB AND DBCP IN WATER (EPA 504)

Analyte	Detection Limit µg/L	Sample Results µg/L
1,2-Dibromoethane (EDB)	0.020	N.D.
1,2-Dibromo-3-Chloropropane (DBCP)	0.010	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Suzanne Chin
Project Manager

4C80901.SSS <3>