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26 Jun 1989

Rafat Shahid
Alameda County
Environmental Health Department
80 Swan Way Room 200
Oakland, California 94621

Re: Chevron Service Station #90019
210 Grand Avenue
Oakland, California

Dear Mr. Shahid:

Enclosed is a report of subsurface investigation dated June 1989, conducted by our consultant, Western Geologic Resources, Inc. (WGR) for the above referenced site. The purpose of the investigation was to environmentally "clear" the property for upcoming transfer.

As indicated in the report, 5 soil borings B-1 through B-5 were completed as monitoring wells, MW-1 through MW-5 by WGR in March 1989. Soil and groundwater were analyzed for total purgeable petroleum hydrocarbons (TPPH) and aromatic hydrocarbons. Additionally, soil samples collected from the boring adjacent to the waste oil tank and all water samples collected from the wells were analyzed for halocarbons, oil and grease and lead, zinc, chromium and cadmium.

The highest concentration of TPPH was detected in a soil sample collected from boring B-5 in the vicinity of the underground storage tanks and pump islands, at the south end of the site. TPPH was also detected in soil samples collected from borings B-2 east of the pump islands, B-3 near the underground waste oil tank, and B-4 west of the underground storage tanks. Benzene, toluene, total xylenes and ethylbenzene (BTXE) were also detected in soil samples collected from all borings except boring B-1 at the north end of the site. Very low concentrations of 1,2-dichloroethane (1,2-DCA) were detected in soil samples collected from boring B-2 and acetone was detected in a soil sample collected at 5 ft below grade from boring B-3. Oil and grease were not detected and only very low concentrations of metals were detected in samples collected from boring B-3.

TPPH were detected in groundwater samples collected from wells MW-1, MW-4 and MW-5. The highest concentrations of BTXE were detected in the samples collected from well MW-5. BTXE were also detected in groundwater samples collected from wells MW-2, MW-3 and MW-4. Low concentrations of toluene, xylenes and ethylbenzene were detected in the sample collected from well MW-1. Very low concentrations of 1,2-DCA were detected in samples collected from wells MW-2 and MW-3. Acetone and oil and grease were not detected in any groundwater samples.

Based on depth-to-water measurements on 14 March 1989, the estimated direction of groundwater flow is to the south.

Based on these results, Chevron will monitor the wells quarterly and continue to investigate the site. Additional offsite, downgradient wells will be installed as soon as permitting allows. If you have any questions or require additional information, please call John Randall at (415) 842-9625.

I declare under penalty of perjury that the information contained in the attached report is true and correct and that any recommended actions are appropriate under the circumstances to the best of my knowledge.

Very truly yours,
C.G. Trimbach

by John Randall
John Randall, Engineer

JMR/kai:101

Enclosure

cc: California Regional Water Quality
Control Board - SF Bay Region
1111 Jackson Street, Room 6040
Oakland, California 94607

WESTERN GEOLOGIC RESOURCES, INC.

2169 E. FRANCISCO BOULEVARD, SUITE B
SAN RAFAEL, CALIFORNIA 94901
415/457-7595 FAX: 415/457-8521

SUBSURFACE INVESTIGATION

Chevron Service Station #90019
210 Grand Avenue
Oakland, CA

Prepared For

Chevron USA
2410 Camino Ramon
San Ramon, CA

June 1989

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Oakland, CA

Prepared For

Chevron USA
2410 Camino Ramon
San Ramon, CA

Prepared By

Western Geologic Resources, Inc.
2169 E. Francisco Blvd.
San Rafael, CA

Kathleen A. Isaacson
Project Hydrogeologist

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Senior Geologist
C.R.G. 2635

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Sherwood Lovejoy Jr.
President/ Senior Hydrogeologist

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EXECUTIVE SUMMARY

Western Geologic Resources, Inc. (WGR) conducted a subsurface investigation between 8 and 14 March 1989 at Chevron Service Station #90019, located at 210 Grand Avenue, Oakland, California. The investigation was conducted to determine the vertical and horizontal extent of fuel hydrocarbons in soil and groundwater beneath the site. Soil borings B-1 through B-5 were drilled and completed as monitoring wells MW-1 through MW-5. Soil samples collected during the drilling of borings B-1 through B-5 contained total purgeable petroleum hydrocarbons (TPPH) at concentrations up to 390 ppm in the sample from boring B-5. The benzene, toluene, ethylbenzene, and total xylenes (BTEX) compounds were detected in soil samples collected from four of the five borings. The depths of the samples that contained BTEX compounds ranged from 5 feet to 16.5 feet below grade and the highest concentrations were found in the soil sample collected from 5 ft below grade in boring B-2. The soil samples collected from boring B-1 were below the limit of detection for BTEX compounds.

TPPH concentrations, reported as gasoline, in groundwater samples collected from the wells MW-1 through MW-5 ranged from less than the detection limit of 100 ppb to a high of 20,000 ppb in well MW-5. Groundwater collected from well MW-4 at the north end of the site contained 600 ppm TPPH. The highest concentrations for the BTEX compounds in groundwater were also detected in well MW-5. Petroleum-based oil and grease compounds were below the detection limit of 3 ppm in groundwater for the five wells.

The sample collected from well MW-1 also contained a trace amount of chloroform, at 1.0 ppb. Chloroform was not detected in any of the other groundwater samples. Because tap water was used to prime wells MW-1 through MW-3 to aid in their development, it is likely that the tap water is the source of the chloroform even though it was not found in the samples from the other wells.

Measurements of static groundwater levels indicate that the estimated direction of groundwater flow is to the south. Wells MW-1 and MW-2, located along the eastern side of the site, are the most up-gradient. Well MW-5 is the most downgradient, and is located to the south and downgradient of the underground fuel storage tanks and pump islands. The concentrations of TPPH and BTEX compounds detected in the groundwater sample from well MW-5, as compared to the samples from the other wells, is consistent with its downgradient position.

Twelve wells were identified within a 1/2 mile radius of the site. Seven are monitoring wells at other fuel service stations and one well is used for irrigation. Lake Merritt is located within 200 ft to the southwest of the site.

1 INTRODUCTION

This report presents the results of soil boring and sampling, and monitoring well installation conducted on 8 and 9 March, and well development and initial groundwater sampling conducted on 13 and 14 March 1989, by Western Geologic Resources, Inc. (WGR) at Chevron Service Station #90019, located at 210 Grand Avenue in a residential-commercial area of Oakland, California (Figures 1 and 2).

As requested, the following scope of work was performed:

1) Drill and sample five soil borings at selected locations over the site;

2) Analyze selected soil samples from the borings for total purgeable petroleum hydrocarbons (TPPH), benzene, toluene, ethylbenzene, and xylenes (BTEX), and leaded-gasoline additives 1,2-dichloroethane (1,2-DCA or EDC) and ethylene dibromide (EDB) by modified EPA Method 8260 and in addition analyze selected soil samples from the boring near the waste-oil tank for TPPH, BTEX, and purgeable priority pollutants by EPA Method 8260, for petroleum-based oil and grease by California Standard Method 503E, and for metals by EPA Methods 6010 (cadmium, chromium, and zinc) and 7420 (lead);

3) Complete each boring as a 4-inch diameter monitoring well;

4) Develop and sample groundwater from the five new monitoring wells;

5) Analyze groundwater samples collected from all wells for TPPH and purgeable priority pollutants by EPA Method 8260, for petroleum-based oil and grease by Method 503E, and soluble metals by EPA Methods 7130 (cadmium), 7191 (chromium), 7420 (lead), and 7950 (zinc);

6) Survey the top-of-casing elevations and determine groundwater elevations in each of the new monitoring wells, and produce a potentiometric surface contour map of the shallow water-bearing zone to determine the groundwater flow direction and gradient; and,

7) Review the field and laboratory data and prepare a report of the investigation.

2 BACKGROUND

The only prior investigation known to have been performed at the site is a soil vapor survey (SVS) conducted and reported to Chevron by WGR in February and March 1989, respectively. The highest concentrations of total volatile hydrocarbons (TVH) were detected in points installed at 5 ft and between 13 ft and 15 ft below grade, located in the vicinity of the underground fuel-storage tanks and pump islands on the south half of the site. Lower concentrations of TVH were detected on the north part of the site behind the service station building.

3 SOIL BORINGS AND HYDROGEOLOGY

Soil borings B-1 through B-5 were drilled (Figure 3) in both estimated upgradient and downgradient locations, based on the results of the SVS and local topography. The location for boring B-1 was chosen as the most upgradient. The borings were drilled with 12-inch hollow-stem augers by Exploration Geoservices, Inc. of San Jose, California. Each borehole was sampled and logged (Attachment A), by WGR geologist Mike Edmonson, according to the WGR standard operating procedure included as Attachment B. Nineteen split-barrel samples were collected from the five borings, at about 3-ft to 5-ft intervals, according to the WGR standard operating procedure (Attachment C), and sent under chain-of-custody to Central Coast Analytical Services (CCAS) of San Luis Obispo, California, for analysis.

The five borings penetrated similar soil and alluvial materials, to a maximum depth of 20 feet, including probable imported fill to about 5 feet below ground surface, and interlayered clays, clayey silts, silty sands, sandy silts, and silty to sandy gravels. Moderate-estimated permeability silty sands, gravelly silts, and silty gravels appear to be continuous beneath the site between about 5 feet and 12 feet below grade. In general, low-estimated permeability materials were found above and below these depths. Groundwater was encountered during drilling between about 9 feet and 13 feet below grade. Slight to strong hydrocarbon odors were noted during the drilling of all five borings. Moderate to strong odors were noticed in all the borings to a maximum depth of about 15 feet.

4 MONITORING WELL INSTALLATION, DEVELOPMENT, AND SAMPLING

Borings B-1 through B-5 were completed as 4-inch diameter monitoring wells MW-1 through MW-5, according to the WGR standard operating procedure, included as Attachment C. Well-construction details are included on the boring logs for each of the wells (Attachment A). The wells screen the shallow water-bearing zone from about 6 ft to 16.5 ft below grade.

The monitoring wells were developed on 13 March 1989, and were purged and sampled on 14 March 1989 by WGR environmental technicians Dan Bockus and Liz Adams according to the WGR standard operating procedure, included as Attachment D. The well development was performed using a combination of airlift, air-surge, and surge-block techniques. Groundwater sampling was performed using PVC bailers. Approximately 73 gallons were evacuated from the five wells during development and stored temporarily on site in 55-gallon drums pending analysis for disposal. Prior to sampling, approximately 198 gallons were purged from the five wells, and also temporarily stored on site in 55-gallon drums. Water samples were collected and delivered, along with a travel blank made up of deionized water from the laboratory, under chain-of-custody to CCAS for analysis.

5 ANALYTIC RESULTS

Analytic results for the soil samples are presented in Tables 1 and 2. The results for groundwater are presented in Table 3. The laboratory reports for soil and groundwater are included as Attachments E and F, respectively. The laboratory chain-of-custody forms are included as Attachment G.

5.1 SOIL

The highest concentration of TPPH was detected at 390 ppm in the sample collected at 5.5 feet below grade from boring B-5, located south of the underground fuel tanks. Soil samples collected from borings B-2, B-3, and B-4 also contained TPPH ranging from 6 ppm to 340 ppm. The highest hydrocarbon concentrations were detected in soil samples from those borings, collected within 8.5 ft of the ground surface. BTEX compounds, in samples, ranged from non-detectable (ND) to 4.5 ppm for benzene, ND to 16 ppm for toluene, ND to 8.4 ppm for ethylbenzene, and ND to 32 ppm for xylenes. The highest concentrations of BTEX were detected in the sample collected at 5 feet below grade from boring B-2, located to the east of the pump islands. Low concentrations of the fuel additive EDC, up to 0.2 ppm, were also detected in the samples collected at 5 ft below grade from boring B-2, B-3 and B-5. A trace amount of acetone at 0.77 ppm was also detected in the sample from boring B-3.

Samples from boring B-3, adjacent to the waste oil tank, were analyzed for petroleum-based oil and grease compounds. Oil and grease ranged from ND (detection limit of 50.0 ppm) at 5 ft and 10 ft below grade, to 360 ppm at 18 ft below grade. **In addition, metals were detected only in trace amounts varying from 5 ppm to 7 ppm for lead, from 38 ppm to 60 ppm for chromium, and from 20 ppm to 51 ppm for zinc.** Cadmium was less than the detection limit of 10 ppm in all four samples.

5.2 GROUNDWATER

TPPH were detected in groundwater samples collected from wells MW-1, MW-4 and MW-5 at 600 ppb, 3,000 ppb and 20,000 ppb, respectively. The highest concentrations of BTEX were detected in groundwater from well MW-5. Benzene was detected at 6,600 ppb, toluene at 1,600 ppb, ethylbenzene at 270 ppb and xylenes at 1,100 ppb. BTEX were also detected in groundwater samples collected from wells MW-2, MW-3, and MW-4 with benzene at 6.7 ppb, 2.1 ppb and 810 ppb, respectively. Very low concentrations of toluene, ethyl benzene and total xylenes were detected in well MW-1. EDC was detected in groundwater at concentrations ranging from 0.7 ppb in well MW-2 to 3.0 ppb in well MW-3.

Acetone was not detected in any of the groundwater samples collected. However, chloroform was detected at the detection limit of 1.0 ppb in well MW-1.

Groundwater samples collected from the five wells were below the detection limit of 3 ppm for petroleum-based oil and grease. Chromium, lead and zinc were detected at trace concentrations in all wells. Cadmium was below the level of detection of 0.005 ppm in all samples.

6 GROUNDWATER FLOW

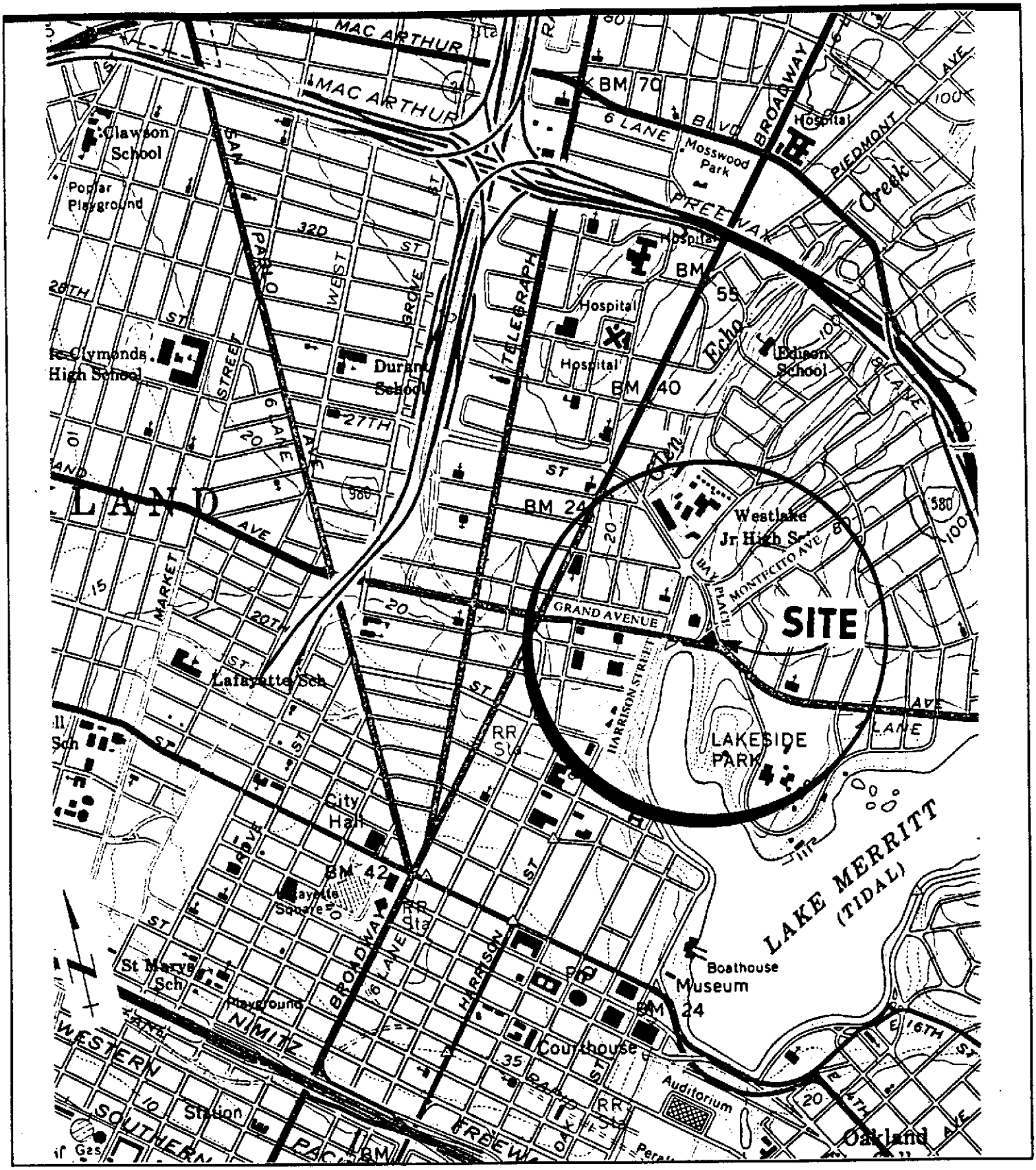
Based on the measurements of static water levels just prior to groundwater sampling on 14 March 1989, groundwater is estimated to flow to the south at a gentle gradient of about 1.1% (Figure 3). The elevations of static groundwater in wells MW-1 through MW-5 varied on 14 March 1988, from 1.37 feet to 2.91 feet above sea level (Table 4). These static water-level elevations indicate that wells MW-1 and MW-2 are the most upgradient, and well MW-5 is the most downgradient. The contour pattern of the potentiometric surface shown on Figure 3 suggests that the site may overlie a former topographic low in the form of a drainage way or stream course.

According to Department of Water Resources records 12 wells are located within a 1/2 mile radius of the site (Table 5 and Figure 4). Three wells are located to the northwest of the site at the Shell service station at Telegraph Ave and 28th Street. Four wells are located to the west of the site at the service station formerly owned by Texaco USA at Grand and Telegraph Avenues. A well used for irrigation is located at Jackson and Lakeside. The other four wells are used for cathodic protection or of unknown use.

The north finger of Lake Merritt is located about 200 ft to the south of the site, across from Grand Avenue. Lake Merritt is used primarily for public recreation.

7 CHEMICAL DISTRIBUTION IN GROUNDWATER

Figure 5 is an isoconcentration contour map of benzene in groundwater, collected and analyzed during this investigation. Figure 6 is an isoconcentration contour map of TPPH in groundwater, collected and analyzed during this investigation, and tends to mirror the distribution pattern for benzene. Together, Figures 5 and 6 illustrate that the hydrocarbon compounds detected in the groundwater beneath the site appear to have originated from the underground fuel storage tanks, and are migrating to the south under the influence of the groundwater flow in that direction (Figure 3). Figure 5 also indicates that a relatively small secondary area of groundwater containing TPPH is located in the vicinity of well MW-1.



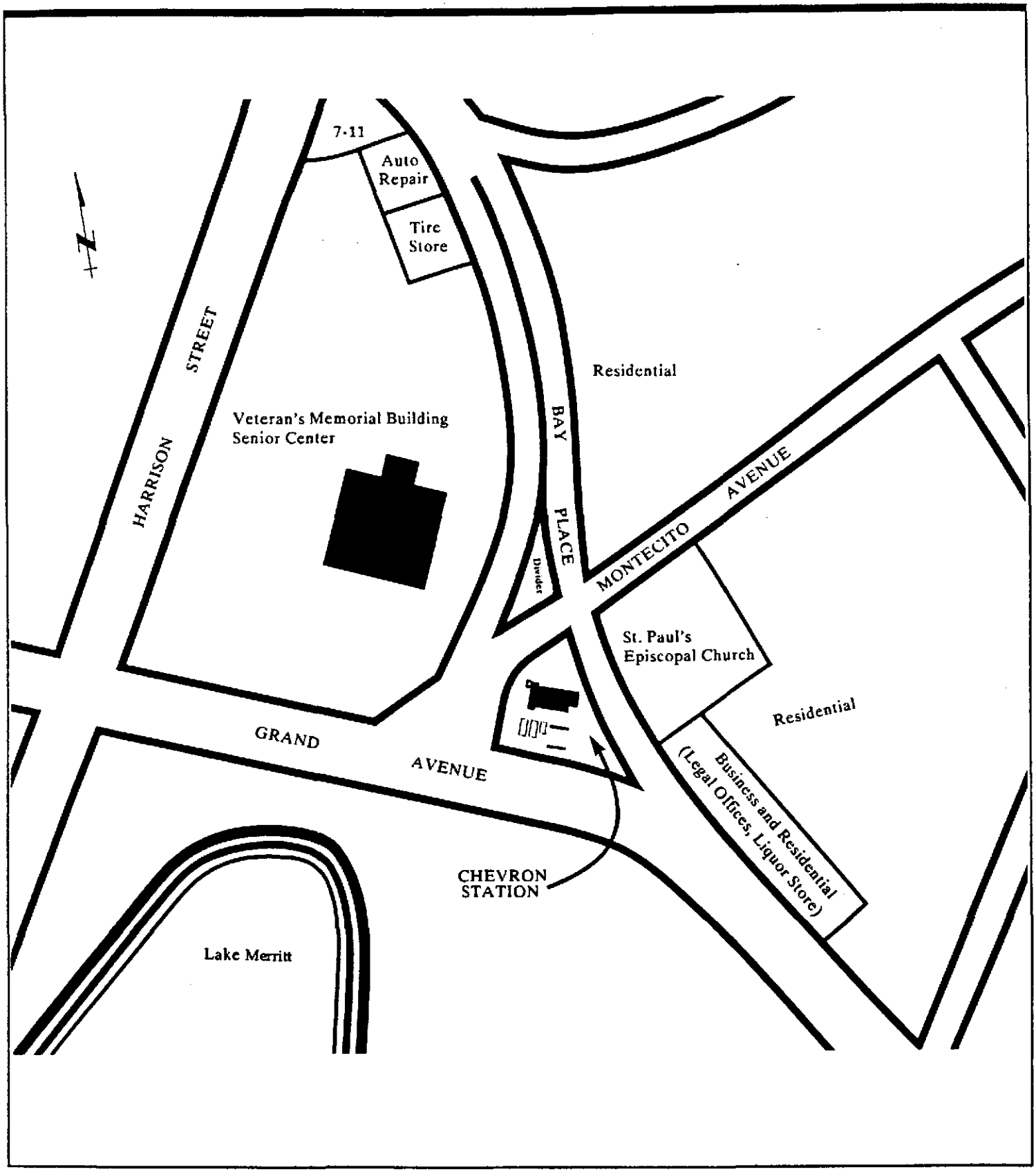
Site Location Map
Chevron SS #90019, Oakland, California

June 1989

FIGURE
1

WESTERN GEOLOGIC RESOURCES, INC.

1-101.02



Approximate Scale : 1" = 135'

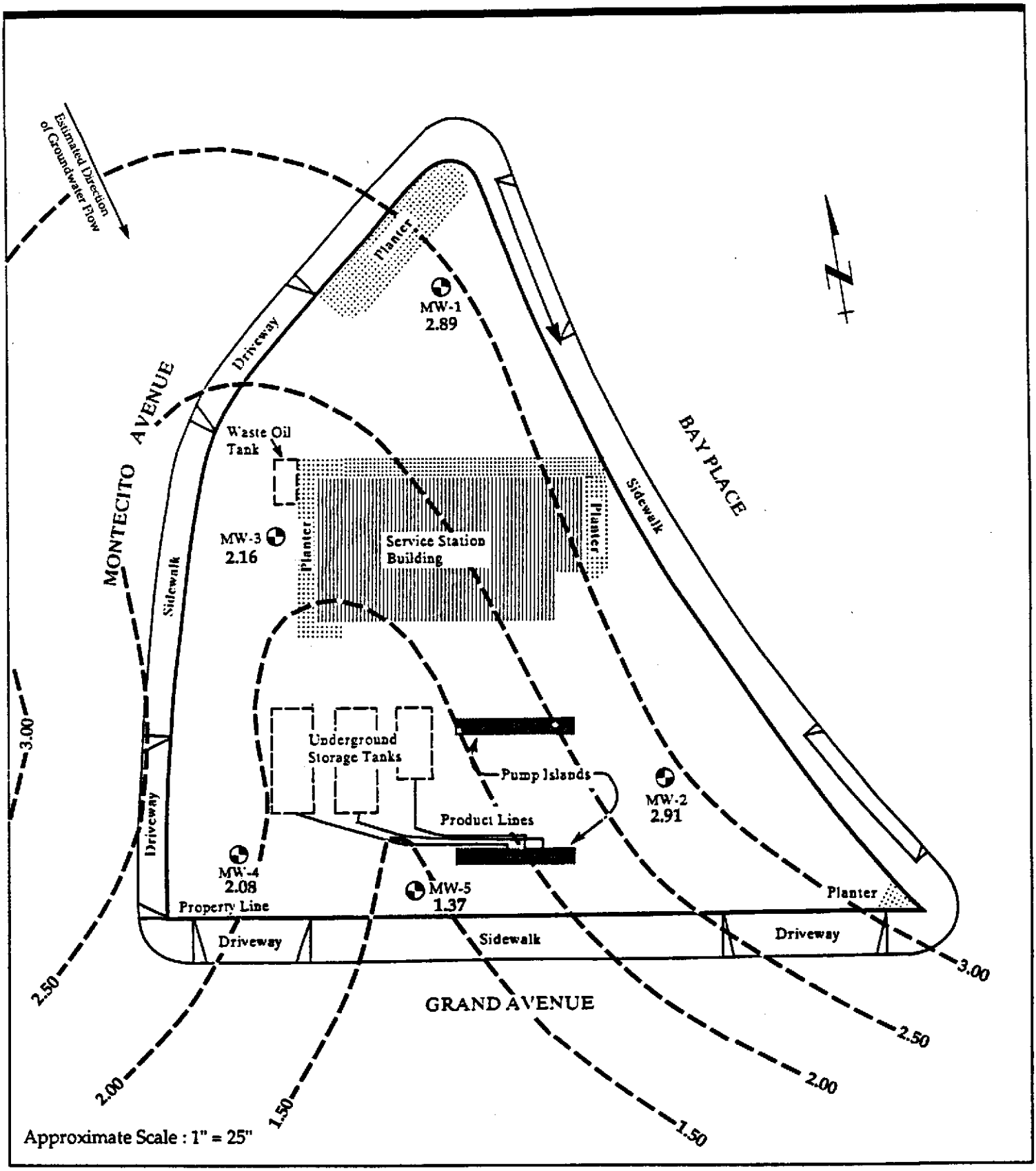
Vicinity Map
Chevron SS #90019, Oakland, California

June 1989

FIGURE
2

WESTERN GEOLOGIC RESOURCES, INC.

1-101.02



LEGEND

MW-1 2.89 — Monitoring well location and groundwater elevation, feet above mean sea level

3.00 — Groundwater elevation contour, feet above mean sea level, dashed where inferred

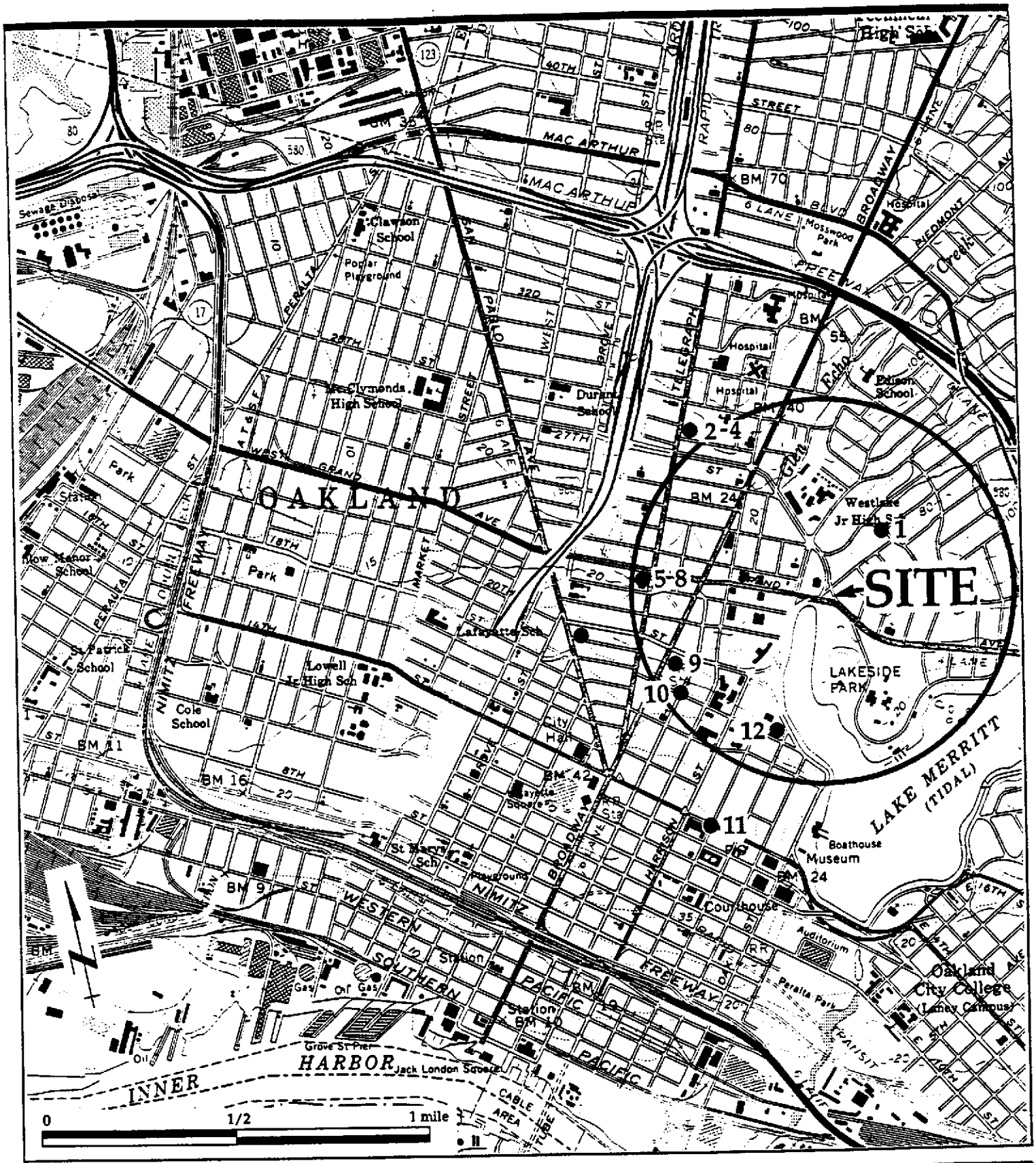
Potentiometric Surface of the Shallow Water-Bearing Zone for 14 March 1989, Chevron SS #90019, Oakland, California

June 1989

FIGURE 3

WESTERN GEOLOGIC RESOURCES, INC.

1-101.02



LEGEND

●1 Wells

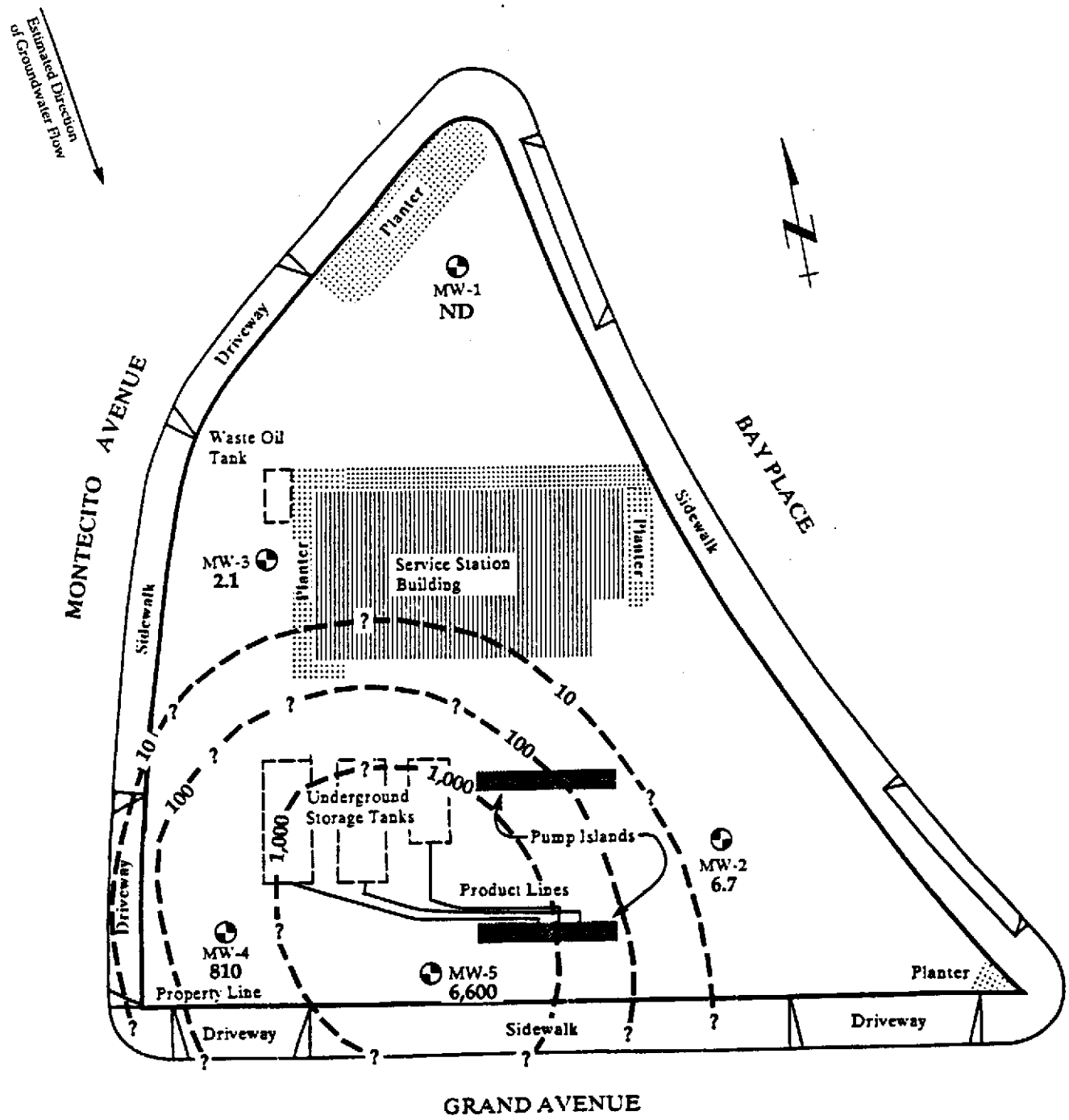
Site Location Wells within 1/2 Mile Radius
Chevron SS #90019, Oakland, California

June 1989

FIGURE 4

WESTERN GEOLOGIC RESOURCES, INC.

1-101.02



Approximate Scale : 1" = 25"

LEGEND

MW-4 / 810 — Monitoring Well Location and Total Benzene Concentration in ppb (parts per billion)

10 ? — Isoconcentration Contour for Benzene in ppb, dashed where inferred, querried where uncertain

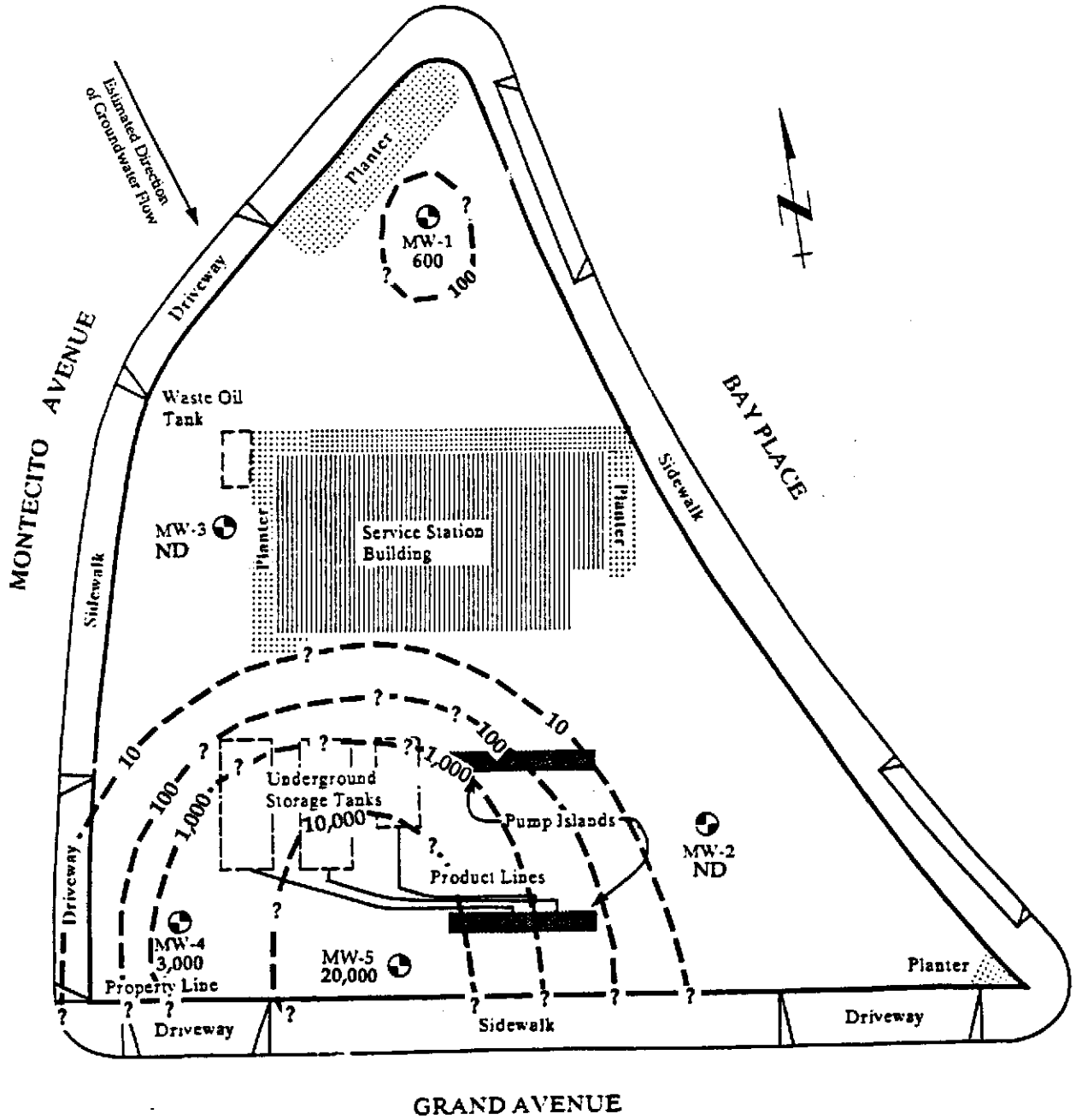
Distribution of Total Benzene in the Shallow Water-Bearing Zone
14 March 1989, Chevron SS #90019, Oakland, California

June 1989

FIGURE 5

WESTERN GEOLOGIC RESOURCES, INC.

1-101.02



Approximate Scale : 1" = 25"

LEGEND

MW-1 600	Monitoring Well Location and Total Purgeable Petroleum Hydrocarbons in ppb (parts per billion)
100 ?	Isoconcentration Contour for TPPH in ppb, dashed where inferred, queried where uncertain
ND	Non-detectable (<10.0 ppb)

Distribution of Total Purgeable Petroleum Hydrocarbons (TPPH) in the Shallow Water-Bearing Zone
14 March 1989, Chevron SS #90019, Oakland, California

June 1989

FIGURE 6

WESTERN GEOLOGIC RESOURCES, INC.

1-101.02

TABLE 1 - ANALYTIC RESULTS: SOIL
Chevron SS #90019, Oakland, CA

SOIL RESULTS BY: EPA METHOD 8260 - "FUEL FINGERPRINT ANALYSIS"

SAMPLE ID#	DATE	DEPTH (FT)	BENZENE	TOLUENE	ETHYLBENZ	XYLENES	EDC	EDB	TPPH (G)
			<--------	ppm	--------				>
B-1-5.0	8 Mar 89:	5.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.5
B-1-10.0	8 Mar 89:	10.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.5
B-1-13.0	8 Mar 89:	13.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.5
B-2-5.0	8 Mar 89:	5.0	4.5	16.0	8.4	32.0	0.2	<0.1	340.0
B-2-10.0	8 Mar 89:	10.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.5
B-2-13.5	8 Mar 89:	13.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.5
B-2-16.5	8 Mar 89:	16.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.5
B-4-5.0	9 Mar 89:	5.0	0.2	1.1	1.0	4.0	<0.1	<0.1	30.0
B-4-5.0 (dup.)	9 Mar 89:	5.0	0.4	1.3	0.83	4.4	<0.1	<0.1	30.0
B-4-8.5	9 Mar 89:	8.5	<0.05	0.05	0.05	0.13	<0.05	<0.05	240.0
B-4-13.5	9 Mar 89:	13.5	<0.005	0.006	<0.005	<0.005	<0.005	<0.005	<0.5
B-4-16.5	9 Mar 89:	16.5	0.031	0.037	0.014	0.057	<0.005	<0.005	6.0
B-5-5.5	9 Mar 89:	5.5	3.4	13.0	8.3	29.0	0.06	<0.05	390.0
B-5-10.0	9 Mar 89:	10.0	2.0	0.12	0.27	0.43	<0.05	<0.05	30.0
B-5-13.0	9 Mar 89:	13.0	0.43	0.07	0.20	0.46	<0.05	<0.05	52.0
B-5-15.0	9 Mar 89:	15.0	0.12	0.03	0.04	0.15	<0.05	<0.05	28.0

Notes:

Analyses by Central Coast Analytical Services, Inc.
< = Less than indicated detection limit
ETHYLBENZ = Ethylbenzene
EDC = 1,2-Dichloroethane
EDB = Ethylene Dibromide
TPPH (G) = Total Purgeable Petroleum Hydrocarbons characterized as gasoline
(dup.) = Duplicate sample

101T1MY9

TABLE 2 - ANALYTIC RESULTS: SOIL
Chevron SS #90019, Oakland, CA

SOIL RESULTS BY: EPA METHOD 8260 - "FULL-SCAN ANALYSIS"
CS METHOD 503E - OIL AND GREASE (O & G)

SAMPLE ID#	DATE	DEPTH (FT)	BENZENE	TOLUENE	E-BEN	XYLENES	EDC	ACETONE	TPPH(G)	O & G
			ppb	ppb	ppb	ppb	ppb	ppb	ppm	ppm
B-3-5.0	9 Mar 89	5.0	860.0	2500.0	2300.0	10000.0	61.0	770.0	130000.	---
B-3-5.0	9 Mar 89	5.0	---	---	---	---	---	---	---	<50.0
B-3-10.0	9 Mar 89	10.0	5.0	7.0	<5.0	<5.0	<5.0	<100.0	<100.0	---
B-3-10.0	9 Mar 89	10.0	---	---	---	---	---	---	---	<50.0
B-3-15.0	9 Mar 89	15.0	<3.0	<5.0	<5.0	<5.0	<5.0	<100.0	<100.0	---
B-3-15.0	9 Mar 89	15.0	---	---	---	---	---	---	---	160.0
B-3-18.0	9 Mar 89	18.0	<3.0	<5.0	<5.0	<5.0	<5.0	<100.0	<100.0	---
B-3-18.0	9 Mar 89	18.0	---	---	---	---	---	---	---	360.0

Notes:

Analyses by Central Coast Analytical Services, Inc.
CS METHOD = California Standard Method
< = Less than indicated detection limit
E-BEN = Ethylbenzene
EDC = 1,2-Dichloroethane
TPPH (G) = Total Purgeable Petroleum Hydrocarbons characterized as gasoline
O & G = Oil and Grease reported in parts-per-million (ppm)

TABLE 3 - ANALYTIC RESULTS: GROUNDWATER
Chevron SS #90019, Oakland, CA

GROUNDWATER RESULTS

WELL ID#	DATE	EPA/CS METHOD	BENZENE	TOLUENE	ETHYLBENZ	XYLENES	CHLORO.	EDC	TPPH(G)	O & G
			ppb							ppm
MW-1	14 Mar 89	8260	<0.2	<0.2	3.2	1.7	1.0	<0.2	600.0	---
MW-1	14 Mar 89	503E	---	---	---	---	---	---	---	<3.0
MW-2	14 Mar 89	8260	6.7	7.1	0.5	4.6	<1.0	0.7	<100.0	---
MW-2	14 Mar 89	503E	---	---	---	---	---	---	---	<3.0
MW-3	14 Mar 89	8260	2.1	0.8	<0.2	2.0	<1.0	3.0	<100.0	---
MW-3	14 Mar 89	503E	---	---	---	---	---	---	---	<3.0
MW-4	14 Mar 89	8260	810.0	200.0	30.0	130.0	<20.0	<5.0	3000.0	---
MW-4	14 Mar 89	503E	---	---	---	---	---	---	---	<3.0
MW-5	14 Mar 89	8260	6600.0	1600.0	270.0	1100.0	<100.0	<20.0	20000.0	---
MW-5	14 Mar 89	503E	---	---	---	---	---	---	---	<3.0
T.B.	3 Mar 89	8260	<0.1	<0.2	<0.1	<0.2	<0.5	<0.1	<100.0	---

Notes:

All Anlyses by Central Coast Analytical Services, Inc.
CS = California Standard Method 503E
< = Less than indicated detection limit
--- = Not Analyzed
ETHYLBENZ = Ethylbenzene
CHLORO. = Chlorform
EDC = 1,2-Dichloroethane
TPPH(G) = Total Purgeable Petroleum Hydrocarbons characterized as gasoline
O & G = Oil and Grease reported in parts-per-million
T.B. = Travel Blank

101T3MY9

TABLE 4 - GROUNDWATER AND PRODUCT ELEVATIONS
Chevron SS #90019, Oakland, CA

MONITORING WELLS

Well ID #	Date	DTP	DTW	PT	Elev.	Elev.-P	Elev.-W
		<-----ft----->					
MW-1	14 Mar 89	---	6.74	0.00	9.63	---	2.89
MW-2	14 Mar 89	---	6.08	0.00	8.99	---	2.91
MW-3	14 Mar 89	---	6.02	0.00	8.18	---	2.16
MW-4	14 Mar 89	---	5.52	0.00	7.60	---	2.08
MW-5	14 Mar 89	---	6.98	0.00	8.35	---	1.37

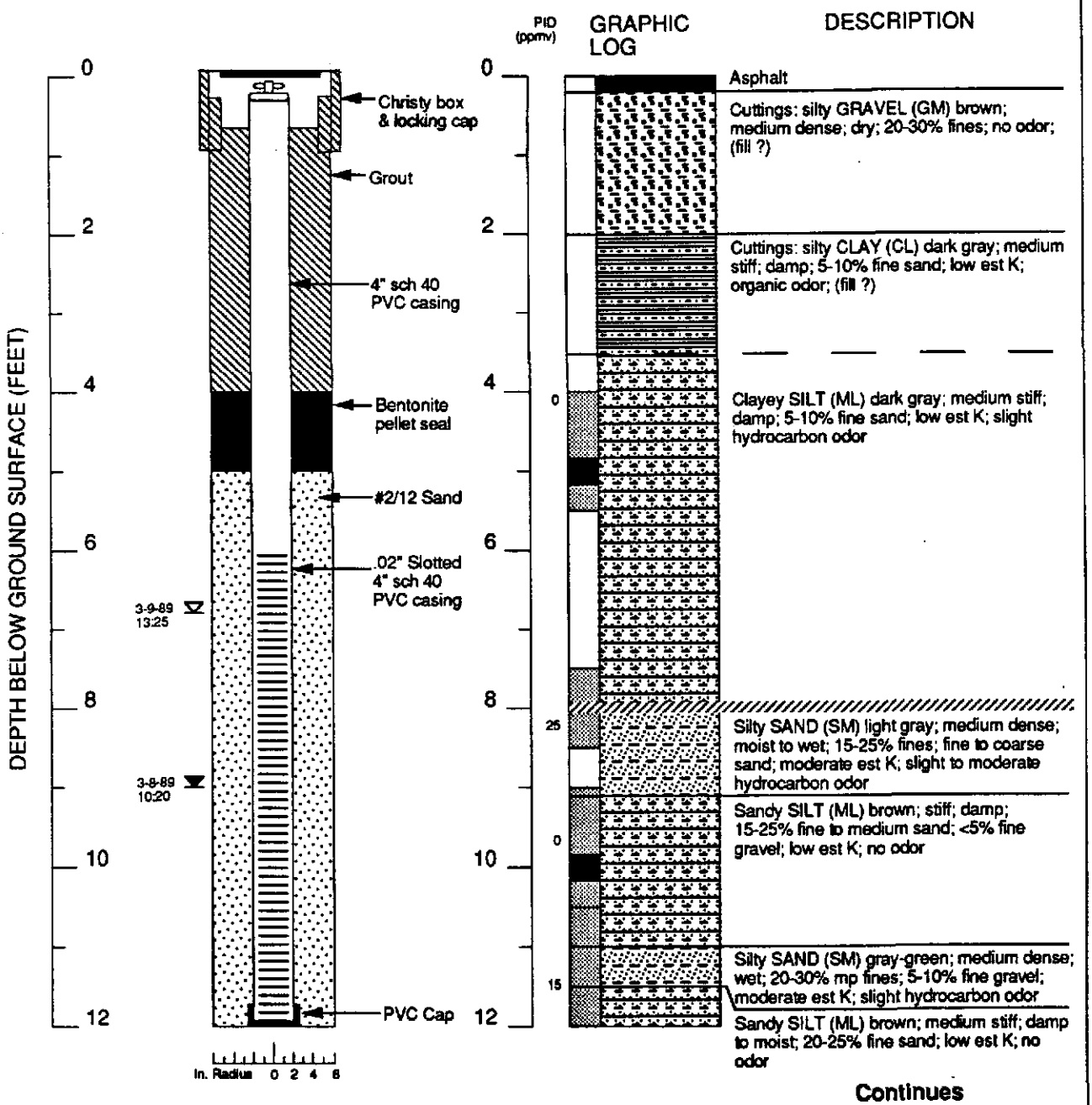
Notes:

DTP = Depth To Product
DTW = Depth To Water
PT = Product Thickness
Elev. = Top-Of-Casing Elevation
Elev.-P = Elevation Of Product
Elev.-W = Elevation Of Water
--- = Not Measured
14 Mar 89 = Western Geologic Resources, Inc.

Table 5. Water Wells Within a One-Half Mile Radius of Chevron SS# 90019
Oakland, CA

No.	Owner	Owner's Address	Well Location	Year Drilled	Use
1.	PG&E	4801 Oakport Street Oakland, CA	Adams & Lee Streets Oakland, CA	1974	Cathodic Protection
2-4.	Shell Oil Company	2800 Telegraph Ave. Oakland, CA	NE corner of Telegraph and 28th Street Oakland, CA	1988	Monitoring
5-8.	Texaco USA	10 Universal City Plaza Los Angeles, CA	W Corner of Intersection of Grand & Telegraph	1988	Monitoring
9.	B.P.O.E.	SE corner of 20th and Broadway	same	?	?
10.	Leamington Hotel	19th & Franklin	same	?	?
11.	Raymond Hotel	1461 Alice Street	same	?	?
12.	Lakeside Corp (Bechtel)	244 Lakeside	100'NW of Jackson 200'SW of Lakeside	1977	Irrigation

MONITOR WELL MW-1



Continues

EXPLANATION

- Water level during drilling (date)
- Water level (date)
- Contact (dotted where approx.)
- Gradational (hachured), uncertain (dashed) contact
- Location of recovered drive sample
- NR — No recovery
- Location of drive sample sealed for chemical analysis
- Grab sample

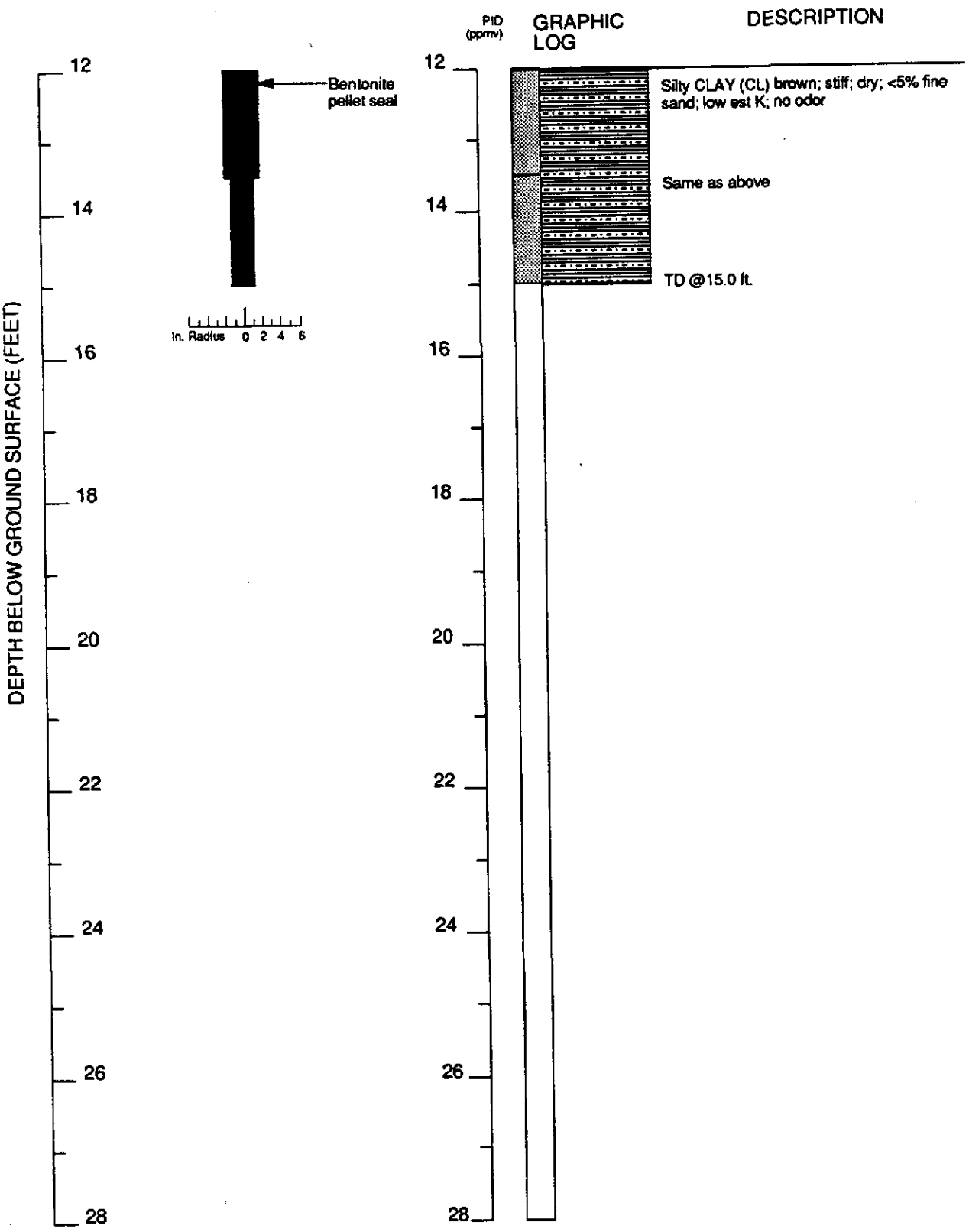
est K = Estimated permeability (hydraulic conductivity)

Logged by: Mike Edmonson
Supervisor: Doug Sheeks
Drilling Company: Exploration Geoservices
Driller: Dave Yeager
Drilling Method: 12" Hollow stem auger
Dates Drilled: 3/8/89
Well Head Completion: Christy box & locking cap
Type of Sampler: 2" split barrel
TD: Total depth= 15.0 ft.

Boring Log and Well Completion Details MW-1
WGR Project No.: 1-101.01

Chevron Facility # 90019
Oakland, CA

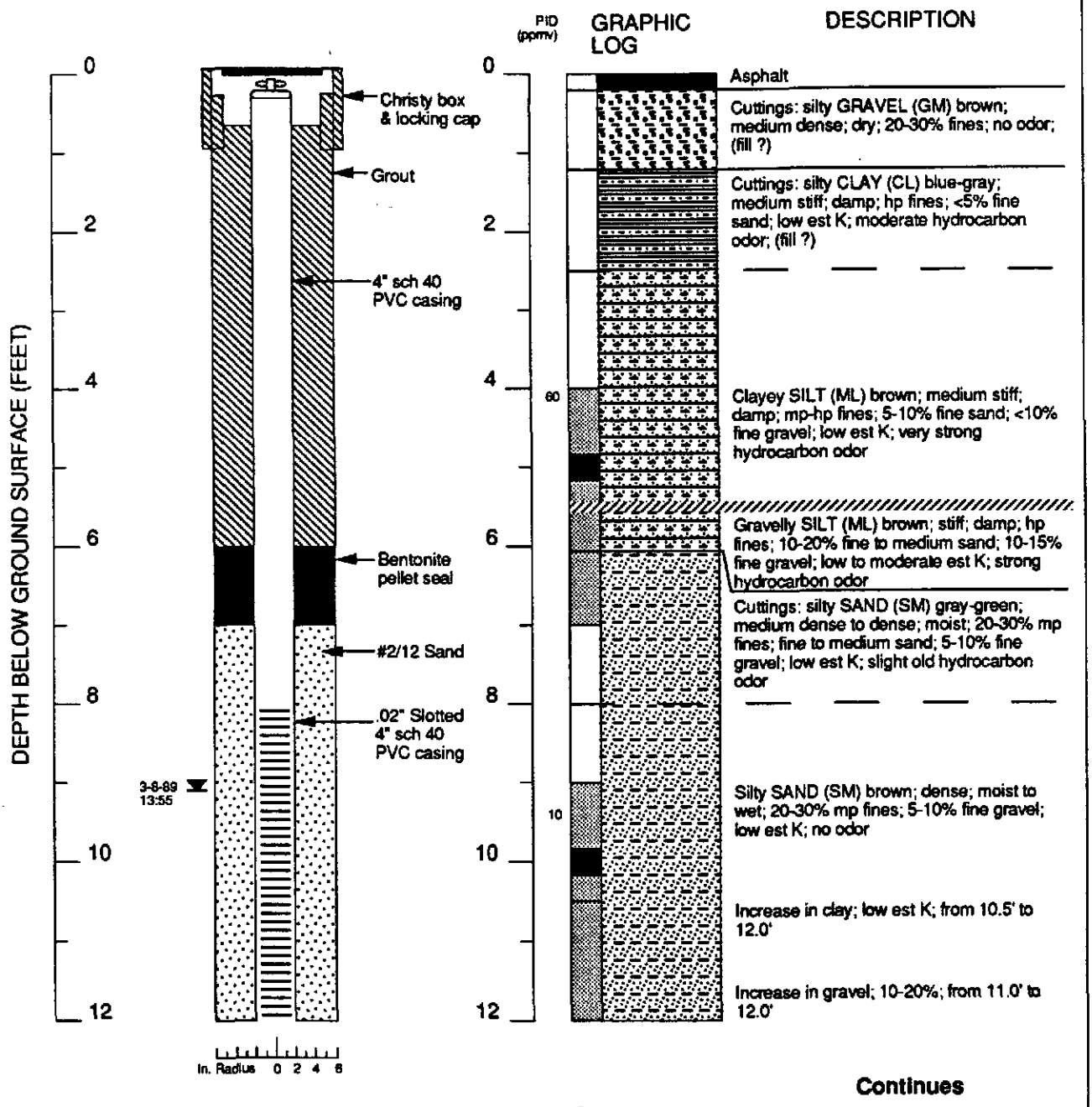
MONITOR WELL MW-1 (cont.)



Boring Log and Well Completion Details MW-1 (cont.)
WGR Project No.: 1-101.01

Chevron Facility # 90019
Oakland, CA

MONITOR WELL MW-2



Continues

EXPLANATION

- Water level during drilling (date)
- Water level (date)
- Contact (dotted where approx.)
- Gradational (hachured), uncertain (dashed) contact
- Location of recovered drive sample
- NR — No recovery
- Location of drive sample sealed for chemical analysis
- Grab sample

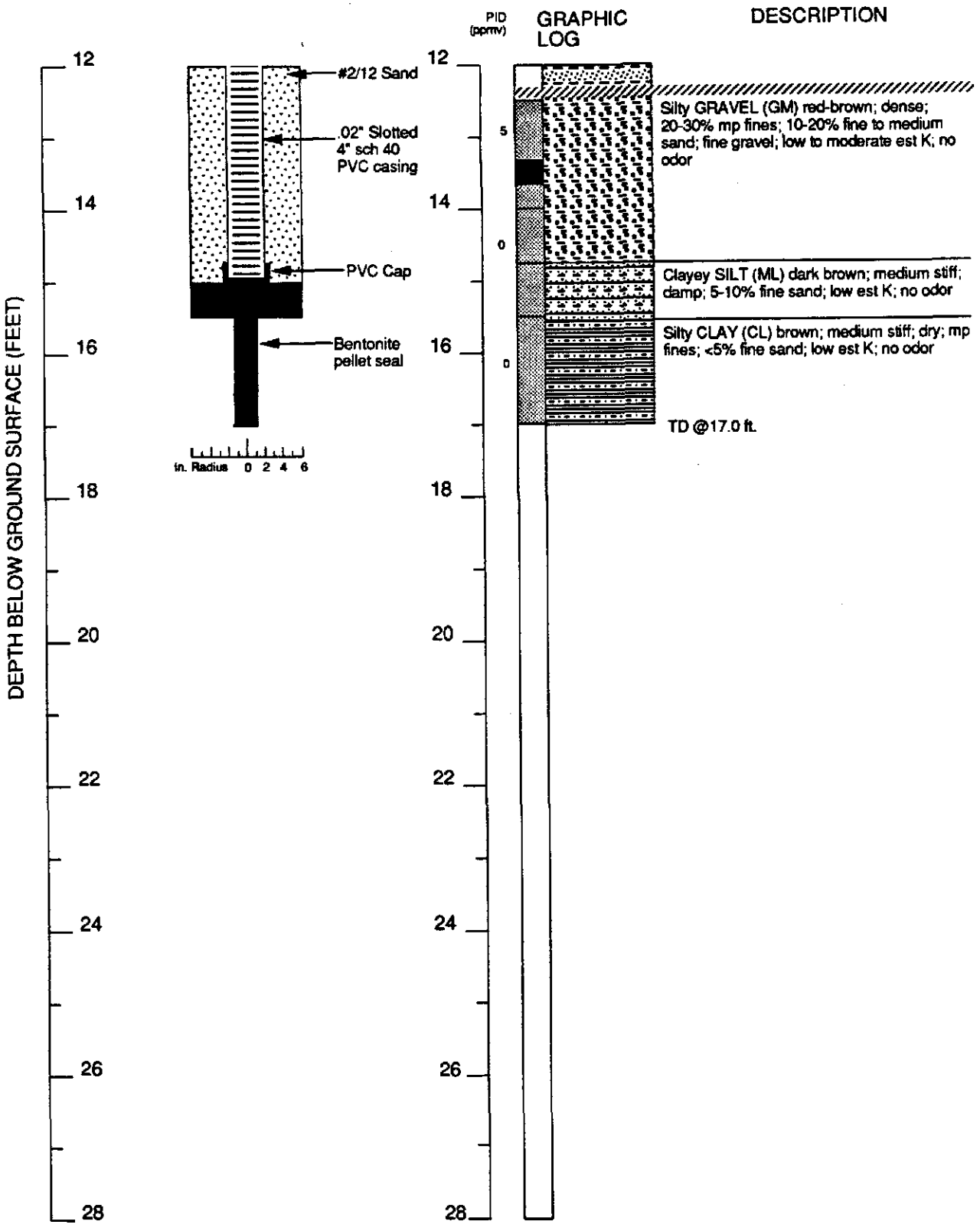
est K = Estimated permeability (hydraulic conductivity)

Logged by: Mike Edmonson
Supervisor: Doug Sheeks
Drilling Company: Exploration Geoservices
Driller: Dave Yeager
Drilling Method: 12" Hollow stem auger
Dates Drilled: 3/8/89
Well Head Completion: Christy box & locking cap
Type of Sampler: 2" split barrel
TD: Total depth= 17.0 ft.

Boring Log and Well Completion Details MW-2
WGR Project No.: 1-101.01

Chevron Facility # 90019
Oakland, CA

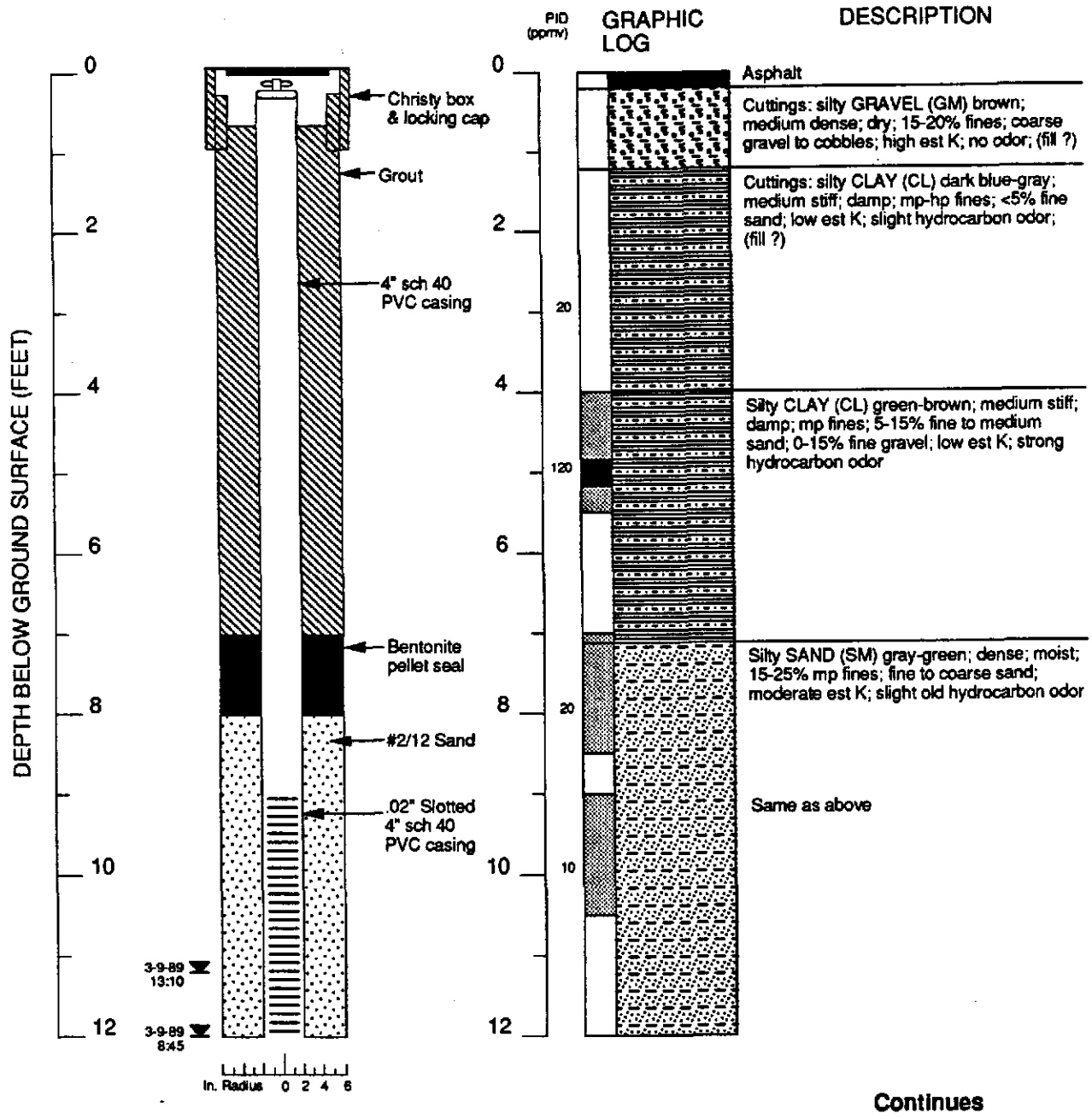
MONITOR WELL MW-2 (cont.)



Boring Log and Well Completion Details MW-2 (cont.)
WGR Project No.: 1-101.01

Chevron Facility # 90019
Oakland, CA

MONITOR WELL MW-3



Continues

EXPLANATION

- Water level during drilling (date)
- Water level (date)
- Contact (dotted where approx.)
- Gradational (hachured), uncertain (dashed) contact
- Location of recovered drive sample
- NR — No recovery
- Location of drive sample sealed for chemical analysis
- Grab sample

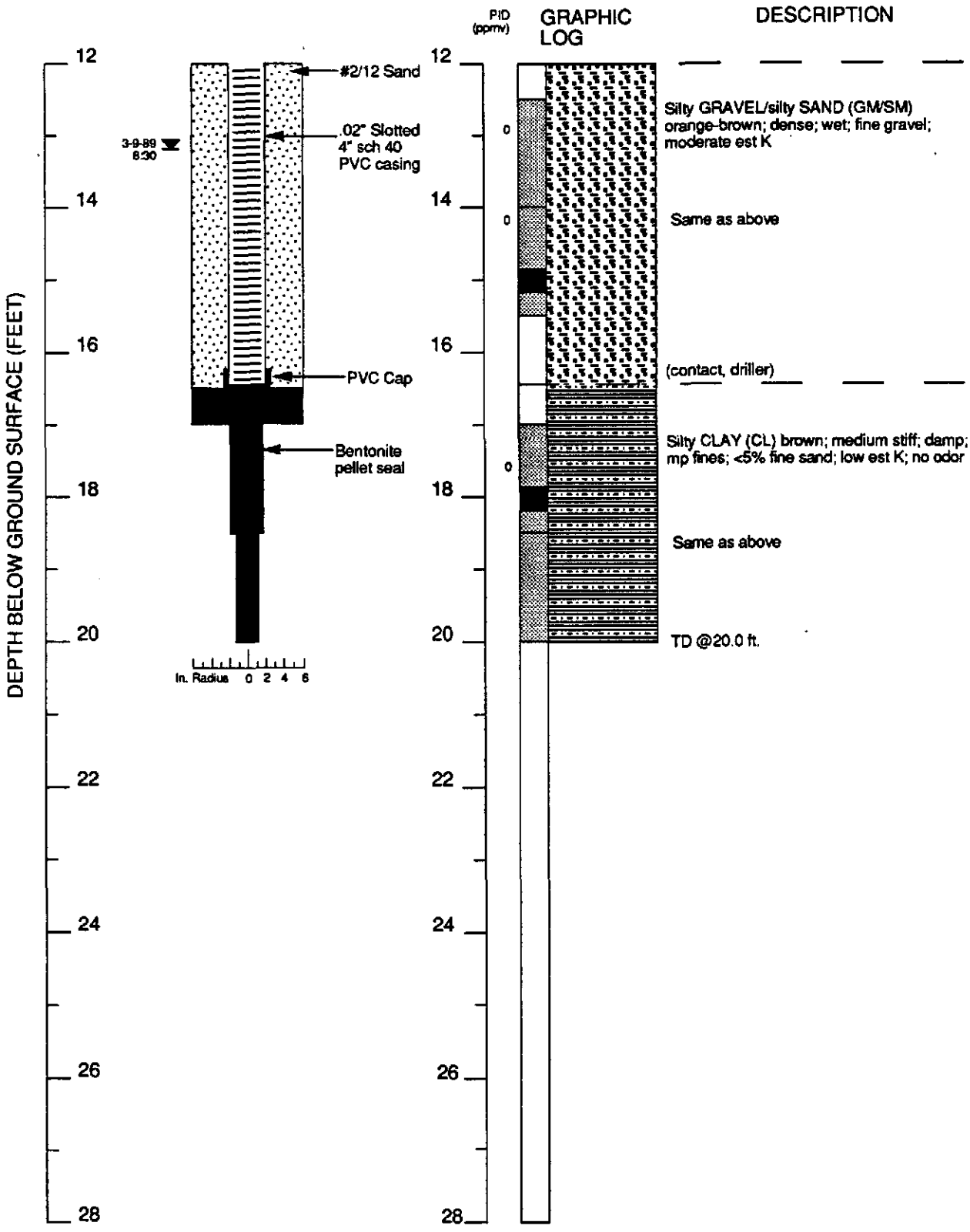
est K = Estimated permeability (hydraulic conductivity)

Logged by: Mike Edmonson
Supervisor: Doug Sheeks
Drilling Company: Exploration Geoservices
Driller: Dave Yeager
Drilling Method: 12" Hollow stem auger
Dates Drilled: 3/9/89
Well Head Completion: Christy box & locking cap
Type of Sampler: 2" split barrel
TD: Total depth= 20.0 ft.

Boring Log and Well Completion Details MW-3
WGR Project No.: 1-101.01

Chevron Facility # 90019
Oakland, CA

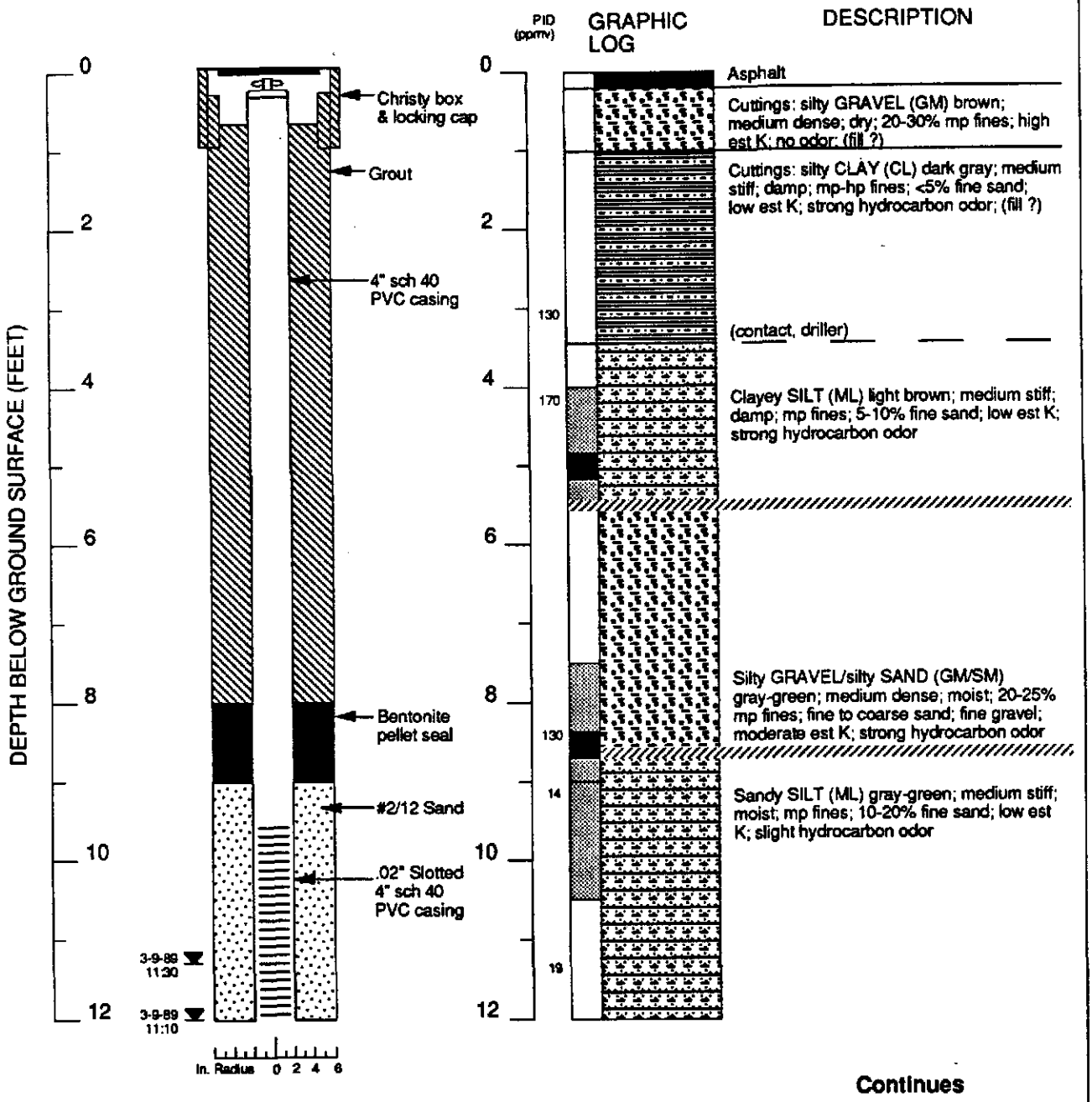
MONITOR WELL MW-3 (cont.)



Boring Log and Well Completion Details MW-3 (cont.)
WGR Project No.: 1-101.01

Chevron Facility # 90019
Oakland, CA

MONITOR WELL MW-4



Continues

EXPLANATION

- Water level during drilling (date)
- Water level (date)
- Contact (dotted where approx.)
- Gradational (hachured), uncertain (dashed) contact
- Location of recovered drive sample
- NR — No recovery
- Location of drive sample sealed for chemical analysis
- Grab sample

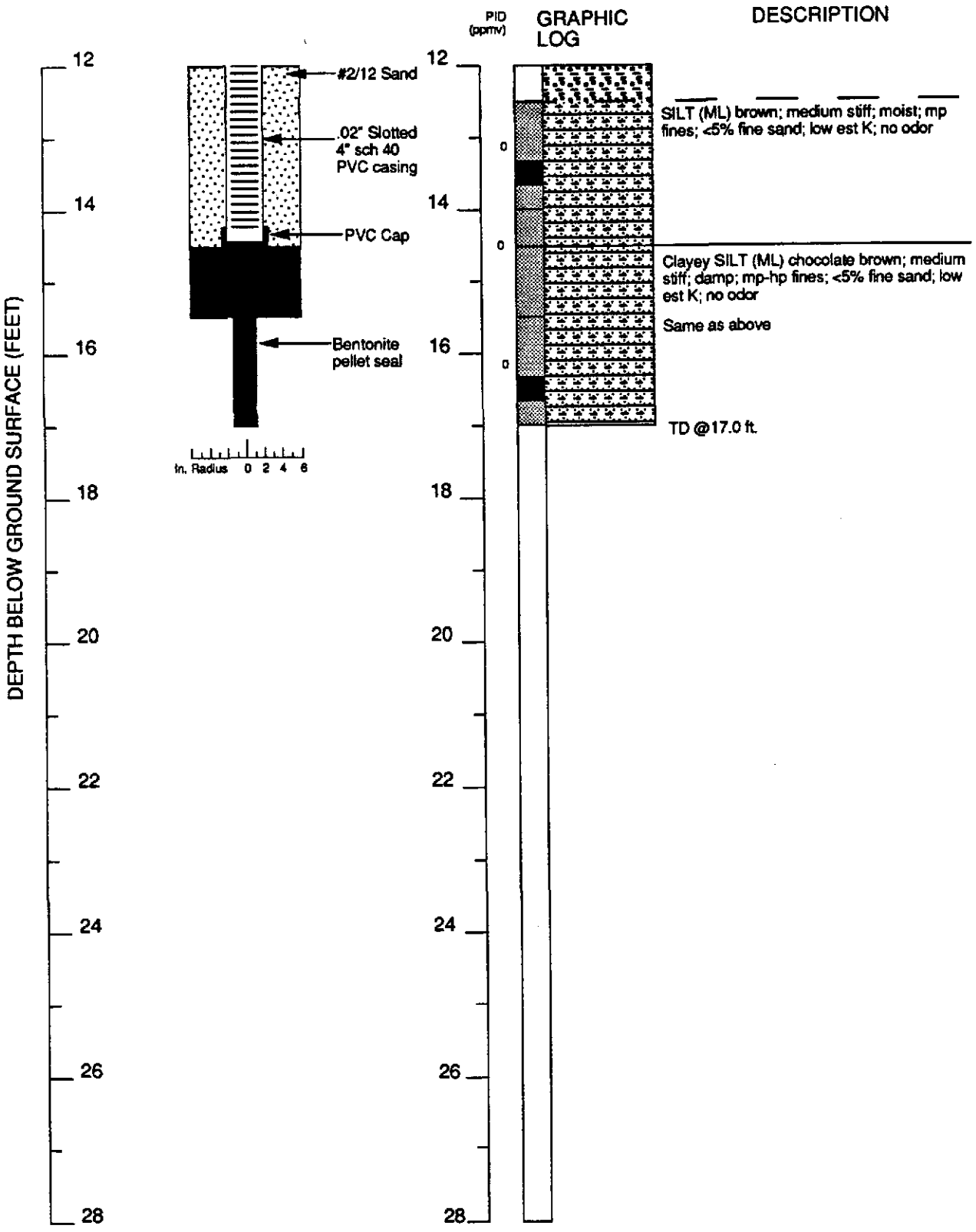
est K = Estimated permeability (hydraulic conductivity)

Logged by: Mike Edmonson
Supervisor: Doug Sheeks
Drilling Company: Exploration Geoservices
Driller: Dave Yeager
Drilling Method: 12" Hollow stem auger
Dates Drilled: 3/9/89
Well Head Completion: Christy box & locking cap
Type of Sampler: 2" split barrel
TD: Total depth= 17.0 ft.

Boring Log and Well Completion Details MW-4
WGR Project No.: 1-101.01

Chevron Facility # 90019
Oakland, CA

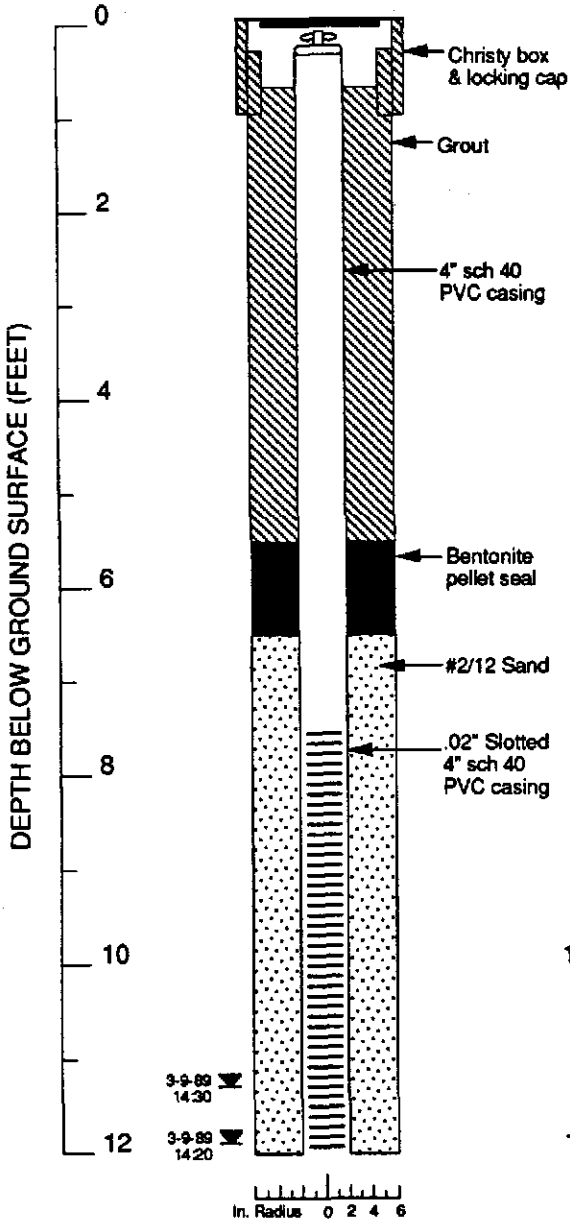
MONITOR WELL MW-4 (cont.)

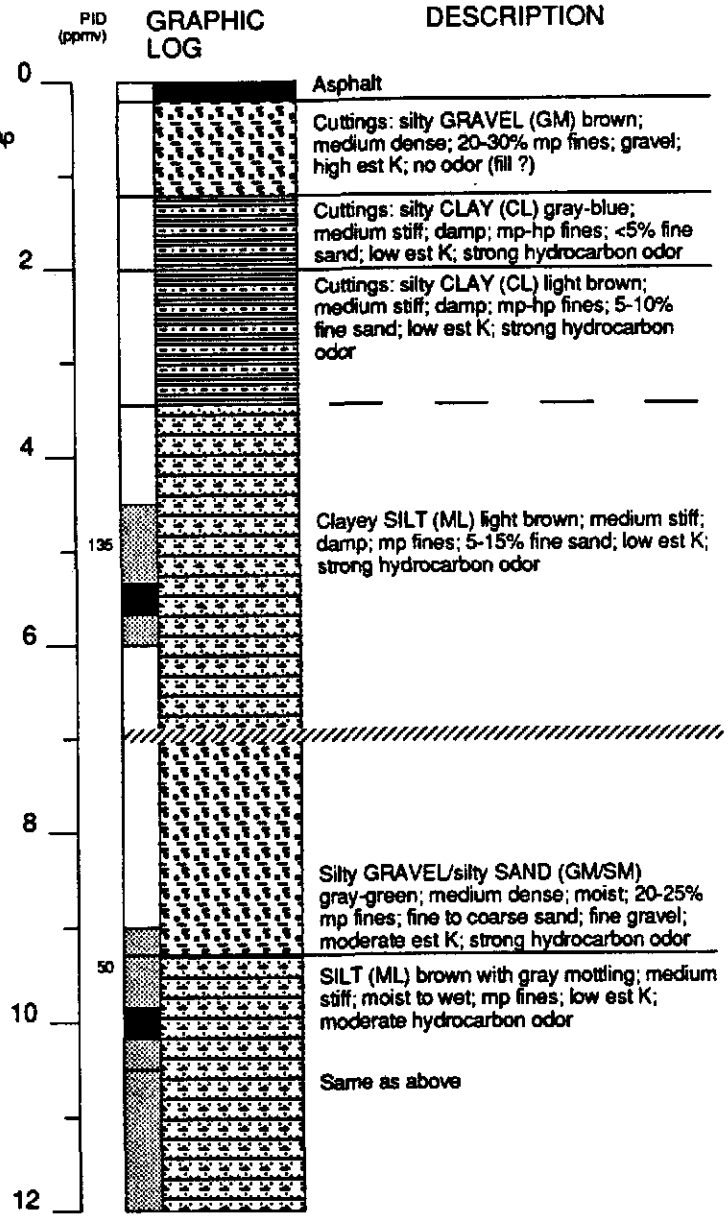


Boring Log and Well Completion Details MW-4 (cont.)
WGR Project No.: 1-101.01

Chevron Facility # 90019
Oakland, CA

MONITOR WELL MW-5





Continues

EXPLANATION

- Water level during drilling (date)
- Water level (date)
- Contact (dotted where approx.)
- Gradational (hachured), uncertain (dashed) contact
- Location of recovered drive sample
- NR — No recovery
- Location of drive sample sealed for chemical analysis
- Grab sample

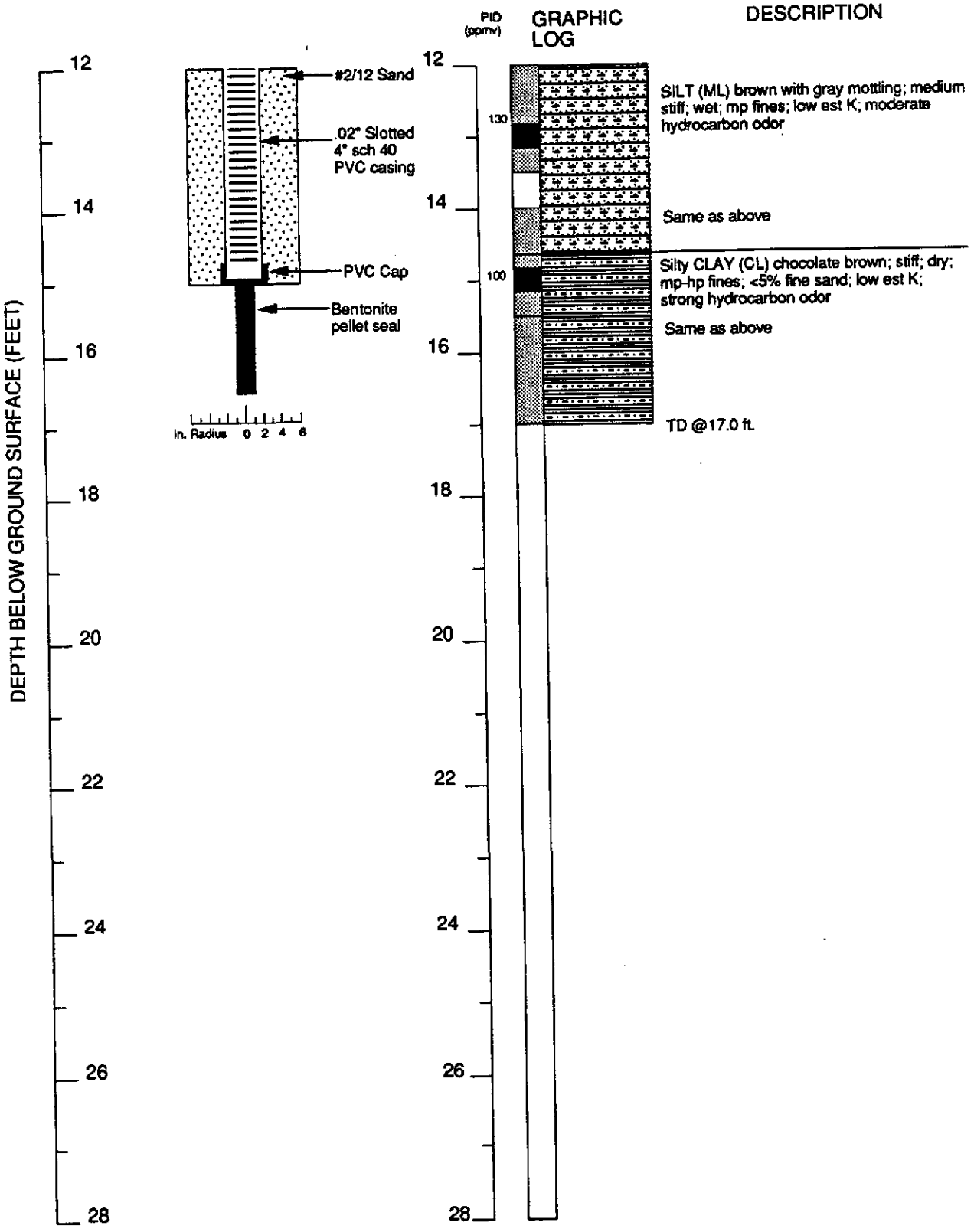
est K = Estimated permeability (hydraulic conductivity)

Logged by: Mike Edmonson
Supervisor: Doug Sheeks
Drilling Company: Exploration Geoservices
Driller: Dave Yeager
Drilling Method: 12" Hollow stem auger
Dates Drilled: 3/9/89
Well Head Completion: Christy box & locking cap
Type of Sampler: 2" split barrel
TD: Total depth= 17.0 ft.

Boring Log and Well Completion Details MW-5
WGR Project No.: 1-101.01

Chevron Facility # 90019
Oakland, CA

MONITOR WELL MW-5 (cont.)



Boring Log and Well Completion Details MW-5 (cont.)
WGR Project No.: 1-101.01

Chevron Facility # 90019
Oakland, CA

WESTERN GEOLOGIC RESOURCES, INC.
STANDARD OPERATING PROCEDURES
RE: SOIL SAMPLING
SOP-2

Soil samples for chemical analysis are collected in thin-walled brass tubes, 4-inches long by 2-inches outside diameter. Four of these tubes and a spacer tube are set in a 2-inch inside diameter 18-inch split-barrel sampler.

The split-barrel sampler is driven its entire length either hydraulically or using a 140-pound drop hammer. The sampler is extracted from the borehole and the brass tubes, containing the soil samples, are removed. Upon removal from the sampler, the selected brass tubes are immediately trimmed and capped with aluminum foil and plastic caps. They are then hermetically sealed with duct tape, labeled and refrigerated for delivery, under chain-of-custody, to the analytic laboratory. These procedures minimize the potential for cross-contamination and volatilization of volatile organic compounds (VOC) prior to chemical analysis.

One soil sample collected at each sampling interval is analyzed in the field using either a photoionization detector (PID), a flame ionizing detector (FID), or an explosimeter. The purpose of this field analysis is to qualitatively determine the presence or absence of hydrocarbons and to establish which soil samples will be analyzed at the laboratory. The soil sample is sealed in a zip-lock plastic bag and placed in the sun to enhance volatilization of the hydrocarbons from the sample. The data is recorded on the drill logs at the depth corresponding to the sampling point.

Other soil samples are collected to document the stratigraphy and estimate relative permeability of the subsurface materials. All drilling and sampling equipment are steam-cleaned prior to use at each site and between boreholes to minimize the potential for cross-contamination.

WESTERN GEOLOGIC RESOURCES, INC.
STANDARD OPERATING PROCEDURES
RE: HOLLOW-STEM AUGER MONITORING WELL INSTALLATION AND DEVELOPMENT
SOP-3

The boreholes for monitoring wells are drilled using a truck-mounted hollow-stem auger drill rig. The outside diameter (OD) of the borehole will be a minimum of two inches larger than the casing OD when installing 4-inch well screen. The hollow-stem auger provides minimal interruption of drilling while permitting soil sampling at desired intervals. Soil samples are collected by hammering a conventional split-barrel sampler containing pre-cleaned 2-inch brass sample tubes. A geologist from Western Geologic Resources continuously logs each borehole during drilling and constantly checks drill cuttings for odors. The sampler is rinsed between samples and steam-cleaned with all other drilling equipment between borings to prevent cross-contamination.

Monitoring wells are cased with threaded, factory-perforated and blank Schedule 40 PVC. The perforated interval consists of slotted casing, generally 0.020-inch wide by 1.5-inch long slot size, with 42 slots per foot. A PVC cap is fastened to the bottom of the casing with stainless steel screws; no solvents or cements are used. Centering devices may be fastened to the casing to assure even distribution of filter material and grout within the borehole annulus. The well casing is thoroughly washed and steam-cleaned prior to installation.

After setting the casing inside the hollow stem, sand or gravel filter material is poured into the annular space to fill from the bottom of the boring to 1 foot above the perforated interval. A 1- to 2-foot thick bentonite plug is placed above this filter material to prevent grout from infiltrating down into the filter material. Neat cement, containing about 5% bentonite, is then tremied into the annular space from the top of the bentonite plug to the surface. A lockable PVC cap is placed on each wellhead. Traffic-rated Christy boxes are installed around the wellhead for wells in parking lots and driveways while steel stove pipes are usually set over wellheads in landscaped areas.

After installation, the wells are thoroughly developed to remove residual drilling materials from the wellbore, and to improve well performance by removing any fine material in the filter pack that can pass from the formation into the well. Well development techniques used include pumping, bailing, surging, swabbing, jetting, flushing, and airlifting. All development water is collected in 55-gallon drums for temporary storage, and is then disposed of properly depending on analytic results. To assure that cross-contamination does not occur between wells during drilling and development, all development equipment is steam-cleaned.

WESTERN GEOLOGIC RESOURCES, INC.
STANDARD OPERATING PROCEDURES
RE: GROUNDWATER PURGING AND SAMPLING
SOP-4

Prior to water sampling, each well is purged by evacuating a minimum of three well-casing volumes of groundwater or until the discharge water temperature, conductivity, and pH stabilize. The groundwater sample should be taken when the water level in the well recovers to 80% of its static level.

The sampling equipment used consists of either a teflon bailer or a stainless steel bladder pump with a teflon bladder. If the sampling system is dedicated to the well, then the bailer is made of teflon, but the bladder pump is PVC with a polypropylene bladder. Forty milliliter (ml) glass volatile-organic-analysis (VOA) vials, with teflon septa, are used as sample containers.

The groundwater sample is decanted into each VOA vial in such a manner that there is a meniscus at the top of the vial. The cap is quickly placed over the top of the vial and securely tightened. The VOA vial is then inverted and tapped to see if air bubbles are present. If none are present, the sample is labeled and refrigerated for delivery under chain-of-custody to the laboratory. Label information should include a sample identification number, job identification number, date, time, type of analysis requested, and the sampler's name.

For quality control purposes, a duplicate water sample is collected for each well. This sample is held at the laboratory unless needed. A trip blank is prepared at the laboratory and placed in the transport cooler. It remains with the cooler and is analyzed by the laboratory along with the groundwater samples. A field blank is prepared in the field when sampling equipment is not dedicated. The field blank is prepared after a pump or bailer has been steam-cleaned, prior to use in a second well, and is analyzed along with the other samples. The field blank demonstrates the quality of in-field cleaning procedures to prevent cross-contamination.

To minimize the potential for cross-contamination between wells, all the well-development and water-sampling equipment that is not dedicated to a well is steam-cleaned between each well. As a second precautionary measure, wells will be sampled in order of least to highest concentrations as established by previous analyses.

Central Coast Analytical Services

Central Coast
Analytical Services, Inc.
141 Suburban Road, Suite C-4
San Luis Obispo, CA 93401
(805) 543-2553

Lab Number: F-2931
Collected: 03/08/89
Received: 03/10/89
Tested: 03/17/89
Collected by: M. Edmonson

Fuel Fingerprint Analysis - EPA Method 8260
EXTRACTED BY EPA METHOD 5030 - Purge & Trap

Western Geologic Resources
2169 E. Francisco Blvd.
Suite B
San Rafael, CA 94901

SAMPLE DESCRIPTION:
Project # 1-101.02
B - 1 - 5.0' soil

Compound Analyzed	Detection Limit (*PQL) in ppm	Concentration in ppm
Benzene	0.005	not found
Toluene	0.005	not found
Ethylbenzene	0.005	not found
Xylenes	0.005	not found
1,2-Dichloroethane (EDC)	0.005	not found
Ethylene Dibromide (EDB)	0.005	not found
TOTAL PURGEABLE PETROLEUM HYDROCARBONS (Gasoline)	0.5	<0.5
BTX as a Percent of Fuel		not applicable
Percent Surrogate Recovery		107.

*PQL - Practical Quantitation Limit

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES

Mary Haylicek, Ph.D.
President

f2931f.wr1
MH/vg/mc
msdg1/03/20/89

Central Coast Analytical Services

Central Coast
Analytical Services, Inc.
141 Suburban Road, Suite C-4
San Luis Obispo, CA 93401
(805) 543-2553

Lab Number: F-2932
Collected: 03/08/89
Received: 03/10/89
Tested: 03/17/89
Collected by: M. Edmonson

Fuel Fingerprint Analysis - EPA Method 8260
EXTRACTED BY EPA METHOD 5030 - Purge & Trap

Western Geologic Resources
2169 E. Francisco Blvd.
Suite B
San Rafael, CA 94901

SAMPLE DESCRIPTION:
Project # 1-151.02
B - 1 - 10.0' soil

Compound Analyzed	Detection Limit (*PQL) in ppm	Concentration in ppm
Benzene	0.005	not found
Toluene	0.005	not found
Ethylbenzene	0.005	not found
Xylenes	0.005	not found
1,2-Dichloroethane (EDC)	0.005	not found
Ethylene Dibromide (EDB)	0.005	not found
TOTAL PURGEABLE PETROLEUM HYDROCARBONS (Gasoline)	0.5	<0.5
BTX as a Percent of Fuel		not applicable
Percent Surrogate Recovery		106.

*PQL - Practical Quantitation Limit

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES

Mary Haylicek, Ph.D.
President

f2932f.wr1
MH/vg/mc
msdg1/03/20/89

AIR, WATER & HAZARDOUS WASTE LABORATORY CERTIFIED by CALIFORNIA DEPT of HEALTH SERVICES

Central Coast Analytical Services

Central Coast
Analytical Services, Inc.
141 Suburban Road, Suite C-4
San Luis Obispo, CA 93401
(805) 543-2553

Lab Number: F-2933
Collected: 03/08/89
Received: 03/10/89
Tested: 03/17/89
Collected by: M. Edmonson

Fuel Fingerprint Analysis - EPA Method 8260
EXTRACTED BY EPA METHOD 5030 - Purge & Trap

Western Geologic Resources
2169 E. Francisco Blvd.
Suite B
San Rafael, CA 94901

SAMPLE DESCRIPTION:
Project # 1-101.02
B - 1 - 13.0' soil

Compound Analyzed	Detection Limit (*PQL) in ppm	Concentration in ppm
Benzene	0.005	not found
Toluene	0.005	not found
Ethylbenzene	0.005	not found
Xylenes	0.005	not found
1,2-Dichloroethane (EDC)	0.005	not found
Ethylene Dibromide (EDB)	0.005	not found
TOTAL PURGEABLE PETROLEUM HYDROCARBONS (Gasoline)	0.5	<0.5
BTX as a Percent of Fuel		not applicable
Percent Surrogate Recovery		103.

*PQL - Practical Quantitation Limit

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES

Mary Havlicek, Ph.D.
President

f2933f.wr1
MH/vg/mc
msdg1/03/20/89

AIR, WATER & HAZARDOUS WASTE LABORATORY CERTIFIED by CALIFORNIA DEPT of HEALTH SERVICES

Central Coast Analytical Services

Central Coast
Analytical Services, Inc.
141 Suburban Road, Suite C-4
San Luis Obispo, CA 93401
(805) 543-2553

Lab Number: F-2933spike
Collected: 03/08/89
Received: 03/10/89
Tested: 03/17/89
Collected by: M. Edmonson

Fuel Fingerprint Analysis - EPA Method 8260
EXTRACTED BY EPA METHOD 5030 - Purge & Trap

Western Geologic Resources
2169 E. Francisco Blvd.
Suite B
San Rafael, CA 94901

SAMPLE DESCRIPTION:
Project # 1-101.02
B - 1 - 13.0' soil
(spiked w/ 0.096 ppm BTEX/EDC/EDB)

Compound Analyzed	Detection Limit (*PQL) in ppm	Concentration in ppm	% Spike Rec.
Benzene	0.005	0.094	98.
Toluene	0.005	0.087	91.
Ethylbenzene	0.005	0.090	94.
Xylenes	0.005	0.088	92.
1,2-Dichloroethane (EDC)	0.005	0.090	94.
Ethylene Dibromide (EDB)	0.005	0.100	104.
TOTAL PURGEABLE PETROLEUM HYDROCARBONS (Gasoline)	0.5	<0.5	not spiked
BTX as a Percent of Fuel			not applicable
Percent Surrogate Recovery			94.

*PQL - Practical Quantitation Limit

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES

Mary Haylicek, Ph.D.
President

f2933fs.wr1
MH/vg/mc
msdg1/03/20/89

Central Coast Analytical Services

Central Coast
Analytical Services, Inc.
141 Suburban Road, Suite C-4
San Luis Obispo, CA 93401
(805) 543-2553

Lab Number: F-2934
Collected: 03/08/89
Received: 03/10/89
Tested: 03/17/89
Collected by: M. Edmonson

Fuel Fingerprint Analysis - EPA Method 8260
EXTRACTED BY EPA METHOD 5030 - Purge & Trap

Western Geologic Resources
2169 E. Francisco Blvd.
Suite B
San Rafael, CA 94901

SAMPLE DESCRIPTION:
Project # 1-101.02
B - 2 - 5.0' soil

Compound Analyzed	Detection Limit (*PQL) in ppm	Concentration in ppm
Benzene	0.1	4.5
Toluene	0.1	16.
Ethylbenzene	0.1	8.4
Xylenes	0.1	32.
1,2-Dichloroethane (EDC)	0.1	0.2
Ethylene Dibromide (EDB)	0.1	not found
TOTAL PURGEABLE PETROLEUM HYDROCARBONS (Gasoline)	100.	340.
BTX as a Percent of Fuel		15.
Percent Surrogate Recovery		101.

*PQL - Practical Quantitation Limit

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES

Mary Havlicek, Ph.D.
President

f2934fd.wr1
MH/vg/mc
msdg1/03/20/89

Central Coast Analytical Services

Central Coast
Analytical Services, Inc.
141 Suburban Road, Suite C-4
San Luis Obispo, CA 93401
(805) 543-2553

Lab Number: F-2935
Collected: 03/08/89
Received: 03/10/89
Tested: 03/20/89
Collected by: M. Edmonson

Fuel Fingerprint Analysis - EPA Method 8260
EXTRACTED BY EPA METHOD 5030 - Purge & Trap

Western Geologic Resources
2169 E. Francisco Blvd.
Suite B
San Rafael, CA 94901

SAMPLE DESCRIPTION:
Project # 1-101.02
B - 2 - 10.0' soil

Compound Analyzed	Detection Limit (*PQL) in ppm	Concentration in ppm
Benzene	0.005	not found
Toluene	0.005	not found
Ethylbenzene	0.005	not found
Xylenes	0.005	not found
1,2-Dichloroethane (EDC)	0.005	not found
Ethylene Dibromide (EDB)	0.005	not found
TOTAL PURGEABLE PETROLEUM HYDROCARBONS (Gasoline)	0.5	<0.5
BTX as a Percent of Fuel		not applicable
Percent Surrogate Recovery		105.

*PQL - Practical Quantitation Limit

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES

Mary Haylicek, Ph.D.
President

f2935f.wr1
MH/vg/mc
msdg1/03/21/89

Central Coast Analytical Services

Central Coast
Analytical Services, Inc.
141 Suburban Road, Suite C-4
San Luis Obispo, CA 93401
(805) 543-2553

Lab Number: F-2936
Collected: 03/08/89
Received: 03/10/89
Tested: 03/20/89
Collected by: M. Edmonson

Fuel Fingerprint Analysis - EPA Method 8260
EXTRACTED BY EPA METHOD 5030 - Purge & Trap

Western Geologic Resources
2169 E. Francisco Blvd.
Suite B
San Rafael, CA 94901

SAMPLE DESCRIPTION:
Project # 1-101.02
B - 2 - 13.5' soil

Compound Analyzed	Detection Limit (*PQL) in ppm	Concentration in ppm
Benzene	0.005	not found
Toluene	0.005	not found
Ethylbenzene	0.005	not found
Xylenes	0.005	not found
1,2-Dichloroethane (EDC)	0.005	not found
Ethylene Dibromide (EDB)	0.005	not found
TOTAL PURGEABLE PETROLEUM HYDROCARBONS (Gasoline)	0.5	<0.5
BTX as a Percent of Fuel		not applicable
Percent Surrogate Recovery		99.

*PQL - Practical Quantitation Limit

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES

Mary Havlicek, Ph.D.
President

f2936f.wr1
MH/vg/mc
msdg1/03/21/89

Central Coast Analytical Services

Central Coast
Analytical Services, Inc.
141 Suburban Road, Suite C-4
San Luis Obispo, CA 93401
(805) 543-2553

Lab Number: F-2937
Collected: 03/08/89
Received: 03/10/89
Tested: 03/20/89
Collected by: M. Edmonson

Fuel Fingerprint Analysis - EPA Method 8260
EXTRACTED BY EPA METHOD 5030 - Purge & Trap

Western Geologic Resources
2169 E. Francisco Blvd.
Suite B
San Rafael, CA 94901

SAMPLE DESCRIPTION:
Project # 1-101.02
B - 2 - 16.5' soil

Compound Analyzed	Detection Limit (*PQL) in ppm	Concentration in ppm
Benzene	0.005	not found
Toluene	0.005	not found
Ethylbenzene	0.005	not found
Xylenes	0.005	not found
1,2-Dichloroethane (EDC)	0.005	not found
Ethylene Dibromide (EDB)	0.005	not found
TOTAL PURGEABLE PETROLEUM HYDROCARBONS (Gasoline)	0.5	<0.5
BTX as a Percent of Fuel		not applicable
Percent Surrogate Recovery		104.

*PQL - Practical Quantitation Limit

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES

Mary Haylicek, Ph.D.
President

f2937f.wr1
MH/vg/mc
msdg1/03/21/89

Central Coast Analytical Services

Central Coast
Analytical Services, Inc.
141 Suburban Road, Suite C-4
San Luis Obispo, CA 93401
(805) 543-2553

Lab Number: F-2942
Collected: 03/09/89
Received: 03/10/89
Tested: 03/20/89
Collected by: M. Edmonson

Fuel Fingerprint Analysis - EPA Method 8260
EXTRACTED BY EPA METHOD 5030 - Purge & Trap

Western Geologic Resources
2169 E. Francisco Blvd.
Suite B
San Rafael, CA 94901

SAMPLE DESCRIPTION:
Project # 1-101.02
B - 4 - 5.0' soil

Compound Analyzed	Detection Limit (*PQL) in ppm	Concentration in ppm
Benzene	0.1	0.2
Toluene	0.1	1.1
Ethylbenzene	0.1	1.0
Xylenes	0.1	4.0
1,2-Dichloroethane (EDC)	0.1	not found
Ethylene Dibromide (EDB)	0.1	not found
TOTAL PURGEABLE PETROLEUM HYDROCARBONS (Gasoline)	10.	30.
BTX as a Percent of Fuel		18.
Percent Surrogate Recovery		112.

*PQL - Practical Quantitation Limit

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES

Mary Havlicek, Ph.D.
President

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MH/vg/mc
msdg1/03/21/89

Central Coast Analytical Services

Central Coast
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(805) 543-2553

Lab Number: F-2942dup
Collected: 03/09/89
Received: 03/10/89
Tested: 03/20/89
Collected by: M. Edmonson

Fuel Fingerprint Analysis - EPA Method 8260
EXTRACTED BY EPA METHOD 5030 - Purge & Trap

Western Geologic Resources
2169 E. Francisco Blvd.
Suite B
San Rafael, CA 94901

SAMPLE DESCRIPTION:
Project # 1-101.02
B - 4 - 5.0' soil (duplicate)

Compound Analyzed	Detection Limit (*PQL) in ppm	Concentration in ppm
Benzene	0.01	0.4
Toluene	0.01	1.3
Ethylbenzene	0.01	0.83
Xylenes	0.01	3.4
1,2-Dichloroethane (EDC)	0.01	not found
Ethylene Dibromide (EDB)	0.01	not found
TOTAL PURGEABLE PETROLEUM HYDROCARBONS (Gasoline)	1.	30.
BTX as a Percent of Fuel		17.
Percent Surrogate Recovery		109.

*PQL - Practical Quantitation Limit

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES

Mary Havlicek, Ph.D.
President

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MH/vg/mc
msdg1/03/21/89

Central Coast Analytical Services

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San Luis Obispo, CA 93401
(805) 543-2553

Lab Number: F-2943
Collected: 03/09/89
Received: 03/10/89
Tested: 03/22/89
Collected by: M. Edmonson

Fuel Fingerprint Analysis - EPA Method 8260
EXTRACTED BY EPA METHOD 5030 - Purge & Trap

Western Geologic Resources
2169 E. Francisco Blvd.
Suite B
San Rafael, CA 94901

SAMPLE DESCRIPTION:
Project # 1-102.02
B - 4 - 8.5' soil

Compound Analyzed	Detection Limit (*PQL) in ppm	Concentration in ppm
Benzene	0.05	not found
Toluene	0.05	0.05
Ethylbenzene	0.05	0.05
Xylenes	0.05	0.13
1,2-Dichloroethane (EDC)	0.05	not found
Ethylene Dibromide (EDB)	0.05	not found
TOTAL PURGEABLE PETROLEUM HYDROCARBONS (Weathered Gasoline)	5.	240.
BTX as a Percent of Fuel		<0.1
Percent Surrogate Recovery		105.

*PQL - Practical Quantitation Limit

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES

Mary Haylicek, Ph.D.
President

f2943f.wr1
MH/ch/mc
msdg1/03/23/89

Central Coast Analytical Services

Central Coast
Analytical Services, Inc.
141 Suburban Road, Suite C-4
San Luis Obispo, CA 93401
(805) 543-2553

Lab Number: F-2944
Collected: 03/09/89
Received: 03/10/89
Tested: 03/22/89
Collected by: M. Edmonson

Fuel Fingerprint Analysis - EPA Method 8260
EXTRACTED BY EPA METHOD 5030 - Purge & Trap

Western Geologic Resources
2169 E. Francisco Blvd.
Suite B
San Rafael, CA 94901

SAMPLE DESCRIPTION:
Project # 1-102.02
B - 4 - 13.5' soil

Compound Analyzed	Detection Limit (*PQL) in ppm	Concentration in ppm
Benzene	0.005	not found
Toluene	0.005	0.006
Ethylbenzene	0.005	not found
Xylenes	0.005	not found
1,2-Dichloroethane (EDC)	0.005	not found
Ethylene Dibromide (EDB)	0.005	not found
TOTAL PURGEABLE PETROLEUM HYDROCARBONS (Gasoline)	0.5	<0.5
BTX as a Percent of Fuel		not applicable
Percent Surrogate Recovery		108.

*PQL - Practical Quantitation Limit

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES

Mary Haylicek, Ph.D.
President

f2944f.wr1
MH/ch/mc
msdg1/03/23/89

Central
Coast
Analytical
Services

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San Luis Obispo, CA 93401
(805) 543-2553

Lab Number: F-2945
Collected: 03/09/89
Received: 03/10/89
Tested: 03/22/89
Collected by: M. Edmonson

Fuel Fingerprint Analysis - EPA Method 8260
EXTRACTED BY EPA METHOD 5030 - Purge & Trap

Western Geologic Resources
2169 E. Francisco Blvd.
Suite B
San Rafael, CA 94901

SAMPLE DESCRIPTION:
Project # 1-102.02
B - 4 - 16.5' soil

Compound Analyzed	Detection Limit (*PQL) in ppm	Concentration in ppm
Benzene	0.005	0.031
Toluene	0.005	0.037
Ethylbenzene	0.005	0.014
Xylenes	0.005	0.057
1,2-Dichloroethane (EDC)	0.005	not found
Ethylene Dibromide (EDB)	0.005	not found
TOTAL PURGEABLE PETROLEUM HYDROCARBONS (Weathered Gasoline)	0.5	6.0
BTX as a Percent of Fuel		2.1
Percent Surrogate Recovery		103.

*PQL - Practical Quantitation Limit

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES

Mary Haylicek, Ph.D.
President

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MH/vg/mc
msdg1/03/23/89

Central Coast Analytical Services

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141 Suburban Road, Suite C-4
San Luis Obispo, CA 93401
(805) 543-2553

Lab Number: F-2946
Collected: 03/09/89
Received: 03/10/89
Tested: 03/22/89
Collected by: M. Edmonson

Fuel Fingerprint Analysis - EPA Method 8260
EXTRACTED BY EPA METHOD 5030 - Purge & Trap

Western Geologic Resources
2169 E. Francisco Blvd.
Suite B
San Rafael, CA 94901

SAMPLE DESCRIPTION:
Project # 1-102.02
B - 5 - 5.5' soil

Compound Analyzed	Detection Limit (*PQL) in ppm	Concentration in ppm
Benzene	0.05	3.4
Toluene	0.05	13.
Ethylbenzene	0.05	8.3
Xylenes	0.05	29.
1,2-Dichloroethane (EDC)	0.05	0.06
Ethylene Dibromide (EDB)	0.05	not found
TOTAL PURGEABLE PETROLEUM HYDROCARBONS (Gasoline)	5.	390.
BTX as a Percent of Fuel		12.
Percent Surrogate Recovery		122.

*PQL - Practical Quantitation Limit

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES

Mary Havlicek, Ph.D.
President

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MH/ch/mc
msdg1/03/23/89

Central Coast Analytical Services

Central Coast
Analytical Services, Inc.
141 Suburban Road, Suite C-4
San Luis Obispo, CA 93401
(805) 543-2553

Lab Number: F-2947
Collected: 03/09/89
Received: 03/10/89
Tested: 03/22/89
Collected by: M. Edmonson

Fuel Fingerprint Analysis - EPA Method 8260
EXTRACTED BY EPA METHOD 5030 - Purge & Trap

Western Geologic Resources
2169 E. Francisco Blvd.
Suite B
San Rafael, CA 94901

SAMPLE DESCRIPTION:
Project # 1-102.02
B - 5 - 10.0' soil

Compound Analyzed	Detection Limit (*PQL) in ppm	Concentration in ppm
Benzene	0.05	2.0
Toluene	0.05	0.12
Ethylbenzene	0.05	0.27
Xylenes	0.05	0.43
1,2-Dichloroethane (EDC)	0.05	not found
Ethylene Dibromide (EDB)	0.05	not found
TOTAL PURGEABLE PETROLEUM HYDROCARBONS (Gasoline)	5.	30.
BTX as a Percent of Fuel		8.5
Percent Surrogate Recovery		102.

*PQL - Practical Quantitation Limit

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES

Mary Haylicek, Ph.D.
President

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msdg1/03/23/89

AIR, WATER & HAZARDOUS WASTE LABORATORY CERTIFIED by CALIFORNIA DEPT of HEALTH SERVICES

Central Coast Analytical Services

Central Coast
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141 Suburban Road, Suite C-4
San Luis Obispo, CA 93401
(805) 543-2553

Lab Number: F-2948
Collected: 03/09/89
Received: 03/10/89
Tested: 03/22/89
Collected by: M. Edmonson

Fuel Fingerprint Analysis - EPA Method 8260
EXTRACTED BY EPA METHOD 5030 - Purge & Trap

Western Geologic Resources
2169 E. Francisco Blvd.
Suite B
San Rafael, CA 94901

SAMPLE DESCRIPTION:
Project # 1-102.02
B - 5 - 13.0' soil

Compound Analyzed	Detection Limit (*PQL) in ppm	Concentration in ppm
Benzene	0.05	0.43
Toluene	0.05	0.07
Ethylbenzene	0.05	0.20
Xylenes	0.05	0.46
1,2-Dichloroethane (EDC)	0.05	not found
Ethylene Dibromide (EDB)	0.05	not found
TOTAL PURGEABLE PETROLEUM HYDROCARBONS (Gasoline)	5.	52.
BTX as a Percent of Fuel		1.9
Percent Surrogate Recovery		108.

*PQL - Practical Quantitation Limit

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES

Mary Haylicek, Ph.D.
President

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MH/ch/mc
msdg1/03/23/89

Central Coast Analytical Services

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San Luis Obispo, CA 93401
(805) 543-2553

Lab Number: F-2949
Collected: 03/09/89
Received: 03/10/89
Tested: 03/22/89
Collected by: M. Edmonson

Fuel Fingerprint Analysis - EPA Method 8260
EXTRACTED BY EPA METHOD 5030 - Purge & Trap

Western Geologic Resources
2169 E. Francisco Blvd.
Suite B
San Rafael, CA 94901

SAMPLE DESCRIPTION:
Project # 1-102.02
B - 5 - 15.0' soil

Compound Analyzed	Detection Limit (*PQL) in ppm	Concentration in ppm
Benzene	0.01	0.12
Toluene	0.01	0.03
Ethylbenzene	0.01	0.04
Xylenes	0.01	0.15
1,2-Dichloroethane (EDC)	0.01	not found
Ethylene Dibromide (EDB)	0.01	not found
TOTAL PURGEABLE PETROLEUM HYDROCARBONS (Gasoline)	1.	28.
BTX as a Percent of Fuel		1.1
Percent Surrogate Recovery		99.

*PQL - Practical Quantitation Limit

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES

Mary Havlicek, Ph.D.
President

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msdg1/03/23/89

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Coast
Analytical
Services

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San Luis Obispo, CA 93401
(805) 543-2553

Lab Number: B031789
Collected:
Received:
Tested: 03/17/89
Collected by:

Fuel Fingerprint Analysis - EPA Method 8260
EXTRACTED BY EPA METHOD 5030 - Purge & Trap
SAMPLE DESCRIPTION:
Instrument Blank

Compound Analyzed	Detection Limit (*PQL) in ppm	Concentration in ppm
Benzene	0.001	not found
Toluene	0.001	not found
Ethylbenzene	0.001	not found
Xylenes	0.001	not found
1,2-Dichloroethane (EDC)	0.001	not found
Ethylene Dibromide (EDB)	0.001	not found
TOTAL PURGEABLE PETROLEUM HYDROCARBONS (Gasoline)	0.1	<0.1
BTX as a Percent of Fuel		not applicable
Percent Surrogate Recovery		103.

*PQL - Practical Quantitation Limit

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES

Mary Havlicek, Ph.D.
President

b031789f.wr1
MH/vg/mc
msdg1/03/20/89

Central Coast Analytical Services

Central Coast
Analytical Services, Inc.
141 Suburban Road, Suite C-4
San Luis Obispo, CA 93401
(805) 543-2553

Lab Number: B032089
Collected:
Received:
Tested: 03/20/89
Collected by:

Fuel Fingerprint Analysis - EPA Method 8260
EXTRACTED BY EPA METHOD 5030 - Purge & Trap
SAMPLE DESCRIPTION:
Instrument Blank

Compound Analyzed	Detection Limit (*PQL) in ppm	Concentration in ppm
Benzene	0.001	not found
Toluene	0.001	not found
Ethylbenzene	0.001	not found
Xylenes	0.001	not found
1,2-Dichloroethane (EDC)	0.001	not found
Ethylene Dibromide (EDB)	0.001	not found
TOTAL PURGEABLE PETROLEUM HYDROCARBONS (Gasoline)	0.1	<0.1
BTX as a Percent of Fuel		not applicable
Percent Surrogate Recovery		93.

*PQL - Practical Quantitation Limit

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES

Mary Haylicek, Ph.D.
President

b032089f.wr1
MH/vg/mc
msdg1/03/21/89

Central Coast Analytical Services

Central Coast
Analytical Services, Inc.
141 Suburban Road, Suite C-4
San Luis Obispo, CA 93401
(805) 543-2553

Lab Number: B032289
Collected:
Received:
Tested: 03/22/89
Collected by:

Fuel Fingerprint Analysis - EPA Method 8260
EXTRACTED BY EPA METHOD 5030 - Purge & Trap
SAMPLE DESCRIPTION:
Instrument Blank

Compound Analyzed	Detection Limit (*PQL) in ppm	Concentration in ppm
Benzene	0.001	not found
Toluene	0.001	not found
Ethylbenzene	0.001	not found
Xylenes	0.001	not found
1,2-Dichloroethane (EDC)	0.001	not found
Ethylene Dibromide (EDB)	0.001	not found
TOTAL PURGEABLE PETROLEUM HYDROCARBONS (Gasoline)	0.1	<0.1
BTX as a Percent of Fuel		not applicable
Percent Surrogate Recovery		107.

*PQL - Practical Quantitation Limit

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES

Mary Haylicek, Ph.D.
President

b032289f.wr1
MH/ch/mc
msdg1/03/23/89

Central Coast Analytical Services

Central Coast
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141 Suburban Road, Suite C
San Luis Obispo, CA 93401
(805) 543-2553

Lab Number : F-2938
Collected : 03/09/89
Received : 03/10/89
Tested : 03/17/89
Collected by: M. Edmonson

EPA METHOD 8260
Sample Description:
Project # 1-102.02
B - 3 - 5.0' soil

Western Geologic Resources
2169 E. Francisco Blvd.
Suite B
San Rafael, CA 94901

Compound Analyzed	Detection Limit *PQL (ug/kg)	Concentration (ug/kg)	Compound Analyzed	Detection Limit *PQL (ug/kg)	Concentration (ug/kg)
Acetone	100.	770.	1,2-Dichloroethene	5.	ND
Benzene	3.	860.	1,2-Dichloropropane	5.	ND
Bromodichloromethane	5.	ND	c-1,3-Dichloropropene	5.	ND
Bromoform	5.	ND	t-1,3-Dichloropropene	5.	ND
Bromomethane	5.	ND	Ethylbenzene	5.	2300.
2-Butanone	50.	ND	2-Hexanone	50.	ND
Carbon Disulfide	5.	ND	Methyl Isobutyl Ketone	50.	ND
Carbon Tetrachloride	5.	ND	Methylene Chloride	50.	ND
Chlorobenzene	5.	ND	Styrene	5.	ND
Chloroethane	5.	ND	1,1,2,2-Tetrachloroethane	20.	ND
2-Chloroethylvinylether	10.	ND	Tetrachloroethene	5.	ND
Chloroform	5.	ND	Toluene	5.	2500.
Chloromethane	5.	ND	1,1,1-Trichloroethane	5.	ND
Dibromochloromethane	5.	ND	1,1,2-Trichloroethane	5.	ND
1,2-Dichlorobenzene	5.	ND	Trichloroethene	5.	ND
1,3-Dichlorobenzene	5.	ND	Trichlorofluoromethane	5.	ND
1,4-Dichlorobenzene	5.	ND	Trichlorotrifluoroethane	5.	ND
1,1-Dichloroethane	5.	ND	Vinyl Acetate	30.	ND
1,2-Dichloroethane	5.	61.	Vinyl Chloride	5.	ND
1,1-Dichloroethene	5.	ND	Xylenes	5.	10000.
Total Purgeable Petroleum Hydrocarbons (Gasoline)				100.	130000.

*PQL - Practical Quantitation Limit
Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 150/123/106
Constituents reported as ND would have been reported if present at or above the detection limit.

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES

Mary D. Havlicek, Ph.D., President

finn/03/20/89
f2938v.wr1
MH/vg/mc

Central Coast Analytical Services

Central Coast
Analytical Services, Inc.
141 Suburban Road, Suite C
San Luis Obispo, CA 93401
(805) 543-2553

Lab Number : F-2939
Collected : 03/09/89
Received : 03/10/89
Tested : 03/17/89
Collected by: M. Edmonson

EPA METHOD 8260

Western Geologic Resources
2169 E. Francisco Blvd.
Suite B
San Rafael, CA 94901

Sample Description:
Project # 1-102.02
B - 3 - 10.0' soil

Compound Analyzed	Detection Limit *PQL (ug/kg)	Concentration (ug/kg)	Compound Analyzed	Detection Limit *PQL (ug/kg)	Concentration (ug/kg)
Acetone	100.	ND	1,2-Dichloroethene	5.	ND
Benzene	3.	5.	1,2-Dichloropropane	5.	ND
Bromodichloromethane	5.	ND	c-1,3-Dichloropropene	5.	ND
Bromoform	5.	ND	t-1,3-Dichloropropene	5.	ND
Bromomethane	5.	ND	Ethylbenzene	5.	ND
2-Butanone	50.	ND	2-Hexanone	50.	ND
Carbon Disulfide	5.	ND	Methyl Isobutyl Ketone	50.	ND
Carbon Tetrachloride	5.	ND	Methylene Chloride	50.	ND
Chlorobenzene	5.	ND	Styrene	5.	ND
Chloroethane	5.	ND	1,1,2,2-Tetrachloroethane	20.	ND
2-Chloroethylvinylether	10.	ND	Tetrachloroethene	5.	ND
Chloroform	5.	ND	Toluene	5.	7.
Chloromethane	5.	ND	1,1,1-Trichloroethane	5.	ND
Dibromochloromethane	5.	ND	1,1,2-Trichloroethane	5.	ND
1,2-Dichlorobenzene	5.	ND	Trichloroethene	5.	ND
1,3-Dichlorobenzene	5.	ND	Trichlorofluoromethane	5.	ND
1,4-Dichlorobenzene	5.	ND	Trichlorotrifluoroethane	5.	ND
1,1-Dichloroethane	5.	ND	Vinyl Acetate	30.	ND
1,2-Dichloroethane	5.	ND	Vinyl Chloride	5.	ND
1,1-Dichloroethene	5.	ND	Xylenes	5.	ND

Total Purgeable Petroleum Hydrocarbons (Gasoline) 100. ND

*PQL - Practical Quantitation Limit
Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 112/118/112
Constituents reported as ND would have been reported if present at or above the detection limit.

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES

Mary D. Havlicek, Ph.D., President

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MH/vg/mc

Central Coast Analytical Services

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Lab Number : F-2940
Collected : 03/09/89
Received : 03/10/89
Tested : 03/17/89
Collected by: M. Edmonson

EPA METHOD 8260
Sample Description:
Project # 1-102.02
B - 3 - 15.0' soil

Western Geologic Resources
2169 E. Francisco Blvd.
Suite B
San Rafael, CA 94901

Compound Analyzed	Detection Limit *PQL (ug/kg)	Concentration (ug/kg)	Compound Analyzed	Detection Limit *PQL (ug/kg)	Concentration (ug/kg)
Acetone	100.	ND	1,2-Dichloroethene	5.	ND
Benzene	3.	ND	1,2-Dichloropropane	5.	ND
Bromodichloromethane	5.	ND	c-1,3-Dichloropropene	5.	ND
Bromoform	5.	ND	t-1,3-Dichloropropene	5.	ND
Bromomethane	5.	ND	Ethylbenzene	5.	ND
2-Butanone	50.	ND	2-Hexanone	50.	ND
Carbon Disulfide	5.	ND	Methyl Isobutyl Ketone	50.	ND
Carbon Tetrachloride	5.	ND	Methylene Chloride	50.	ND
Chlorobenzene	5.	ND	Styrene	5.	ND
Chloroethane	5.	ND	1,1,2,2-Tetrachloroethane	20.	ND
2-Chloroethylvinylether	10.	ND	Tetrachloroethene	5.	ND
Chloroform	5.	ND	Toluene	5.	ND
Chloromethane	5.	ND	1,1,1-Trichloroethane	5.	ND
Dibromochloromethane	5.	ND	1,1,2-Trichloroethane	5.	ND
1,2-Dichlorobenzene	5.	ND	Trichloroethene	5.	ND
1,3-Dichlorobenzene	5.	ND	Trichlorofluoromethane	5.	ND
1,4-Dichlorobenzene	5.	ND	Trichlorotrifluoroethane	5.	ND
1,1-Dichloroethane	5.	ND	Vinyl Acetate	30.	ND
1,2-Dichloroethane	5.	ND	Vinyl Chloride	5.	ND
1,1-Dichloroethene	5.	ND	Xylenes	5.	ND
Total Purgeable Petroleum Hydrocarbons (Gasoline)				100.	ND

*PQL - Practical Quantitation Limit
Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 105/111/104
Constituents reported as ND would have been reported if present at or above the detection limit.

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES

Mary D. Havlicek, Ph.D., President

finn/03/20/89
f2940v.wr1
MH/vg/mc

AIR, WATER and HAZARDOUS WASTE LABORATORY CERTIFIED by CALIFORNIA DEPT of HEALTH SERVICES

Central Coast Analytical Services

Central Coast
Analytical Services, Inc.
141 Suburban Road, Suite C
San Luis Obispo, CA 93401
(805) 543-2553

Lab Number : F-2941
Collected : 03/09/89
Received : 03/10/89
Tested : 03/17/89
Collected by: M. Edmonson

EPA METHOD 8260
Sample Description:
Project # 1-102.02
B - 3 - 18.0' soil

Western Geologic Resources
2169 E. Francisco Blvd.
Suite B
San Rafael, CA 94901

Compound Analyzed	Detection Limit *PQL (ug/kg)	Concentration (ug/kg)	Compound Analyzed	Detection Limit *PQL (ug/kg)	Concentration (ug/kg)
Acetone	100.	ND	1,2-Dichloroethene	5.	ND
Benzene	3.	ND	1,2-Dichloropropane	5.	ND
Bromodichloromethane	5.	ND	c-1,3-Dichloropropene	5.	ND
Bromoform	5.	ND	t-1,3-Dichloropropene	5.	ND
Bromomethane	5.	ND	Ethylbenzene	5.	ND
2-Butanone	50.	ND	2-Hexanone	50.	ND
Carbon Disulfide	5.	ND	Methyl Isobutyl Ketone	50.	ND
Carbon Tetrachloride	5.	ND	Methylene Chloride	50.	ND
Chlorobenzene	5.	ND	Styrene	5.	ND
Chloroethane	5.	ND	1,1,2,2-Tetrachloroethane	20.	ND
2-Chloroethylvinylether	10.	ND	Tetrachloroethene	5.	ND
Chloroform	5.	ND	Toluene	5.	ND
Chloromethane	5.	ND	1,1,1-Trichloroethane	5.	ND
Dibromochloromethane	5.	ND	1,1,2-Trichloroethane	5.	ND
1,2-Dichlorobenzene	5.	ND	Trichloroethene	5.	ND
1,3-Dichlorobenzene	5.	ND	Trichlorofluoromethane	5.	ND
1,4-Dichlorobenzene	5.	ND	Trichlorotrifluoroethane	5.	ND
1,1-Dichloroethane	5.	ND	Vinyl Acetate	30.	ND
1,2-Dichloroethane	5.	ND	Vinyl Chloride	5.	ND
1,1-Dichloroethene	5.	ND	Xylenes	5.	ND

Total Purgeable Petroleum Hydrocarbons (Gasoline) 100. ND

*PQL - Practical Quantitation Limit
Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 104/108/105
Constituents reported as ND would have been reported if present at or above the detection limit.

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES

Mary D. Havlicek, Ph.D., President

finn/03/20/89
f2941v.wr1
MH/vg/mc

Central
Coast
Analytical
Services

Central Coast
Analytical Services, Inc.
141 Suburban Road, Suite C
San Luis Obispo, CA 93401
(805) 543-2553

Lab Number : F-2941spike
Collected : 03/09/89
Received : 03/10/89
Tested : 03/17/89
Collected by: M. Edmonson

EPA METHOD 8260

Western Geologic Resources
2169 E. Francisco Blvd.
Suite B
San Rafael, CA 94901

Sample Description:
Project # 1-102.02
B - 3 - 18.0' soil
(spiked w/ 250 ug/Kg VOA Spike Soln.)

Compound Analyzed	Detection Limit (ug/kg)	Conc. (ug/kg)	Percent Recovery
Acetone	100.	not spiked	
Benzene	3.	230.	92.
Bromodichloromethane	5.	not spiked	
Bromoform	5.	not spiked	
Bromomethane	5.	not spiked	
2-Butanone	50.	not spiked	
Carbon Disulfide	5.	not spiked	
Carbon Tetrachloride	5.	not spiked	
Chlorobenzene	5.	220.	88.
Chloroethane	5.	not spiked	
2-Chloroethylvinyl-ether	10.	not spiked	
Chloroform	5.	not spiked	
Chloromethane	5.	not spiked	
Dibromochloromethane	5.	not spiked	
1,2-Dichlorobenzene	5.	not spiked	
1,3-Dichlorobenzene	5.	not spiked	
1,4-Dichlorobenzene	5.	not spiked	
1,1-Dichloroethane	5.	not spiked	
1,2-Dichloroethane	5.	not spiked	
1,1-Dichloroethene	5.	230.	92.

Compound Analyzed	Detection Limit (ug/kg)	Conc. (ug/kg)	Percent Recovery
1,2-Dichloroethene	5.	not spiked	
1,2-Dichloropropane	5.	not spiked	
c-1,3-Dichloropropene	5.	not spiked	
t-1,3-Dichloropropene	5.	not spiked	
Ethylbenzene	5.	not spiked	
2-Hexanone	20.	not spiked	
Methyl Isobutyl Ketone	20.	not spiked	
Methylene Chloride	20.	not spiked	
Styrene	5.	not spiked	
1,1,2,2-Tetrachloroethane	10.	not spiked	
Tetrachloroethene	5.	not spiked	
Toluene	5.	240.	96.
1,1,1-Trichloroethane	5.	not spiked	
1,1,2-Trichloroethane	5.	not spiked	
Trichloroethene	5.	220.	88.
Trichlorotrifluoromethane	5.	not spiked	
Trichlorotrifluoroethane	5.	not spiked	
Vinyl Acetate	20.	not spiked	
Vinyl Chloride	5	not spiked	
Xylenes	5.	not spiked	

Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 103/102/97
Constituents reported as ND would have been reported if present at or above the detection limit.

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES

Mary Havlicek

Mary D. Havlicek, Ph.D.
President

finn/03/20/89
f2941vs.wr1
MH/vg/mc

AIR, WATER and HAZARDOUS WASTE LABORATORY CERTIFIED by CALIFORNIA DEPT of HEALTH SERVICES

Central Coast Analytical Services

Central Coast
Analytical Services, Inc.
141 Suburban Road, Suite C
San Luis Obispo, CA 93401
(805) 543-2553

Lab Number : F-2941dupspike
Collected : 03/09/89
Received : 03/10/89
Tested : 03/17/89
Collected by: M. Edmonson

EPA METHOD 8260

Western Geologic Resources
2169 E. Francisco Blvd.
Suite B
San Rafael, CA 94901

Sample Description:
Project # 1-102.02
B - 3 - 18.0' soil
(spiked w/ 250 ug/Kg VOA Spike Soln.)

Compound Analyzed	Detection Limit (ug/kg)	Conc. (ug/kg)	Percent Recovery
Acetone	100.	not spiked	
Benzene	3.	240.	96.
Bromodichloromethane	5.	not spiked	
Bromoform	5.	not spiked	
Bromomethane	5.	not spiked	
2-Butanone	50.	not spiked	
Carbon Disulfide	5.	not spiked	
Carbon Tetrachloride	5.	not spiked	
Chlorobenzene	5.	240.	96.
Chloroethane	5.	not spiked	
2-Chloroethylvinyl-ether	10.	not spiked	
Chloroform	5.	not spiked	
Chloromethane	5.	not spiked	
Dibromochloromethane	5.	not spiked	
1,2-Dichlorobenzene	5.	not spiked	
1,3-Dichlorobenzene	5.	not spiked	
1,4-Dichlorobenzene	5.	not spiked	
1,1-Dichloroethane	5.	not spiked	
1,2-Dichloroethane	5.	not spiked	
1,1-Dichloroethene	5.	260.	104.

Compound Analyzed	Detection Limit (ug/kg)	Conc. (ug/kg)	Percent Recovery
1,2-Dichloroethene	5.	not spiked	
1,2-Dichloropropane	5.	not spiked	
c-1,3-Dichloropropene	5.	not spiked	
t-1,3-Dichloropropene	5.	not spiked	
Ethylbenzene	5.	not spiked	
2-Hexanone	20.	not spiked	
Methyl Isobutyl Ketone	20.	not spiked	
Methylene Chloride	20.	not spiked	
Styrene	5.	not spiked	
1,1,2,2-Tetrachloroethane	10.	not spiked	
Tetrachloroethene	5.	not spiked	
Toluene	5.	250.	100.
1,1,1-Trichloroethane	5.	not spiked	
1,1,2-Trichloroethane	5.	not spiked	
Trichloroethene	5.	240.	96.
Trichlorotrifluoromethane	5.	not spiked	
Trichlorotrifluoroethane	5.	not spiked	
Vinyl Acetate	20.	not spiked	
Vinyl Chloride	5	not spiked	
Xylenes	5.	not spiked	

Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 101/103/100
Constituents reported as ND would have been reported if present at or above the detection limit.

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES

Mary D. Havlicek, Ph.D.
President

finn/03/20/89
f2941vt.wr1
MH/vg/mc

Central Coast Analytical Services

Central Coast
Analytical Services, Inc.
6483-D Calle Real
Goleta, California 93117
(805) 964-7838

Lab Number : B031689
Collected :
Received :
Tested : 03/16/89
Collected by:

EPA METHOD 8260

Sample Description:
Instrument Blank

CCAS

Compound Analyzed	Detection Limit (ug/kg)	Concentration (ug/kg)	Compound Analyzed	Detection Limit (ug/kg)	Concentration (ug/kg)
Acetone	100.	ND	1,2-Dichloroethene	5.	ND
Benzene	3.	ND	1,2-Dichloropropane	5.	ND
Bromodichloromethane	5.	ND	c-1,3-Dichloropropene	5.	ND
Bromoform	5.	ND	t-1,3-Dichloropropene	5.	ND
Bromomethane	5.	ND	Ethylbenzene	5.	ND
2-Butanone	50.	ND	2-Hexanone	50.	ND
Carbon Disulfide	5.	ND	Methyl Isobutyl Ketone	50.	ND
Carbon Tetrachloride	5.	ND	Methylene Chloride	50.	ND
Chlorobenzene	5.	ND	Styrene	5.	ND
Chloroethane	5.	ND	1,1,2,2-Tetrachloroethane	20.	ND
2-Chloroethylvinylether	10.	ND	Tetrachloroethene	5.	ND
Chloroform	5.	ND	Toluene	5.	ND
Chloromethane	5.	ND	1,1,1-Trichloroethane	5.	ND
Dibromochloromethane	5.	ND	1,1,2-Trichloroethane	5.	ND
1,2-Dichlorobenzene	5.	ND	Trichloroethene	5.	ND
1,3-Dichlorobenzene	5.	ND	Trichlorofluoromethane	5.	ND
1,4-Dichlorobenzene	5.	ND	Trichlorotrifluoroethane	5.	ND
1,1-Dichloroethane	5.	ND	Vinyl Acetate	30.	ND
1,2-Dichloroethane	5.	ND	Vinyl Chloride	5.	ND
1,1-Dichloroethene	5.	ND	Xylenes	5.	ND

Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 88/97/92
Constituents reported as ND would have been reported if present at or above the detection limit.

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES

Mary D. Havlicek, Ph.D., President

finn/03/20/89
b031689v.wr1
MH/vg/mc

Central Coast Analytical Services

Central Coast
Analytical Services
141 Suburban Road, Suite C-4
San Luis Obispo, California 93401
(805) 543-2553

Lab Number: As Listed
Collected: 03/09/89
Received: 03/10/89
Tested: As Listed
Collected by: MK Edmonson

ATTN: Doug Sheeks
Western Geologic
2169 E. Francisco Blvd.
Suite B
San Rafael, CA 94909

Sample Description:

Project #1-101.02
Soil Samples As Listed

REPORT

LAB NUMBER	SAMPLE DESCRIPTION	LEVEL FOUND
		OIL & GREASE mg/kg
EPA METHOD----------		503E
DETECTION LIMIT(PQL)**-----		50.
DATE/ANALYST----------		03/30/89/LP
F-2938	B-3, 5.0	<50.
F-2939	B-3, 10.0	<50.
F-2940	B-3, 15.0	160.
F-2941	B-3, 18.0	360.

**Practical Quantitation Limit

04/03/89
F2938WG.WR1/#27
MH/ke

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES
Mary Havlicek, Ph.D., President

Central Coast Analytical Services

Central Coast
Analytical Services
141 Suburban Road, Suite C-4
San Luis Obispo, California 93401
(805) 543-2553

Lab Number: F-2938
Collected: 03/09/89
Received: 03/10/89
Tested: As Listed
Collected by: M.K. Edmonson

ATTN: Doug Sheeks
Western Geologic Resources
2169 E. Francisco Blvd.
Suite B
San Rafael, CA 94906

Sample Description:

Project 1-101.02, B-3[illegible], Soil

DIGESTED BY EPA METHOD 3050
ON 03/14/89 BY JJ.

REPORT

CONSTITUENT	EPA METHOD/DATE/ANALYST	DETECTION LIMIT (mg/kg)(PQL)**	TOTAL LEVEL FOUND mg/kg	***TTLC mg/kg
CADMIUM	6010 03/21/89 MM	10.	<10.	100.
CHROMIUM	6010 03/21/89 MM	3.	38.	2500.
LEAD	7420 03/20/89 RJ	1.	7.	1000.
ZINC	6010 03/21/89 MM	3.	20.	500.

**Practical Quantitation Limit

***TOTAL THRESHOLD LIMIT CONCENTRATION as listed in Cal Adm Code Art 11 Sec. 66699 as persistent & bioaccumulative toxic substance.

03/24/89
F2938ME.WR1/#22
MH/ke

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES
Mary Havlicek
Mary Havlicek, Ph.D., President

Central Coast Analytical Services

Central Coast
Analytical Services
141 Suburban Road, Suite C-4
San Luis Obispo, California 93401
(805) 543-2553

Lab Number: F-2939
Collected: 03/09/89
Received: 03/10/89
Tested: As Listed
Collected by: M.K. Edmonson

ATTN: Doug Sheeks
Western Geologic Resources
2169 E. Francisco Blvd.
Suite B
San Rafael, CA 94906

Sample Description:

Project 1-101.02, B-3 10.0, Soil

DIGESTED BY EPA METHOD 3050
ON 03/14/89 BY JJ.

REPORT

CONSTITUENT	EPA METHOD/DATE/ANALYST	DETECTION LIMIT (mg/kg)(PQL)**	TOTAL LEVEL FOUND mg/kg	***TTLC mg/kg
CADMIUM	6010 03/21/89 MM	10.	<10.	100.
CHROMIUM	6010 03/21/89 MM	3.	39.	2500.
LEAD	7420 03/20/89 RJ	1.	5.	1000.
ZINC	6010 03/21/89 MM	3.	42.	500.

**Practical Quantitation Limit

***TOTAL THRESHOLD LIMIT CONCENTRATION as listed in Cal Adm Code Art 11 Sec. 66699 as persistent & bioaccumulative toxic substance.

03/24/89
F2939ME.WR1/#22
MH/ke

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES
Mary Havlicek
Mary Havlicek, Ph.D., President

Central Coast Analytical Services

Central Coast
Analytical Services
141 Suburban Road, Suite C-4
San Luis Obispo, California 93401
(805) 543-2553

Lab Number: F-2940
Collected: 03/09/89
Received: 03/10/89
Tested: As Listed
Collected by: M.K. Edmonson

ATTN: Doug Sheeks
Western Geologic Resources
2169 E. Francisco Blvd.
Suite B
San Rafael, CA 94906

Sample Description:

Project 1-101.02, B-3 15.0' Soil

DIGESTED BY EPA METHOD 3050
ON 03/14/89 BY JJ.

REPORT

CONSTITUENT	EPA METHOD/DATE/ANALYST	DETECTION LIMIT (mg/kg)(PQL)**	TOTAL LEVEL FOUND mg/kg	***TTLC mg/kg
CADMIUM	6010 03/21/89 MM	10.	<10.	100.
CHROMIUM	6010 03/21/89 MM	3.	60.	2500.
LEAD	7420 03/20/89 RJ	1.	6.	1000.
ZINC	6010 03/21/89 MM	3.	39.	500.

**Practical Quantitation Limit

***TOTAL THRESHOLD LIMIT CONCENTRATION as listed in Cal Adm Code Art 11 Sec. 66699 as persistent & bioaccumulative toxic substance.

03/24/89
F2940ME.WR1/#22
MH/ke

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES
Mary Havlicek
Mary Havlicek, Ph.D., President

Central Coast Analytical Services

Central Coast
Analytical Services
141 Suburban Road, Suite C-4
San Luis Obispo, California 93401
(805) 543-2553

Lab Number: F-2941
Collected: 03/09/89
Received: 03/10/89
Tested: As Listed
Collected by: M.K. Edmonson

ATTN: Doug Sheeks
Western Geologic Resources
2169 E. Francisco Blvd.
Suite B
San Rafael, CA 94906

Sample Description:

Project 1-101.02, B-3 18.0, Soil

DIGESTED BY EPA METHOD 3050
ON 03/14/89 BY JJ.

REPORT

CONSTITUENT	EPA METHOD/DATE/ANALYST	DETECTION LIMIT (mg/kg)(PQL)**	TOTAL LEVEL FOUND mg/kg	DUPLICATE mg/kg	SPIKE % Recovery	***TTLC mg/kg
CADMIUM	6010 03/21/89 MM	10.	<10.	<10.	90.	100.
CHROMIUM	6010 03/21/89 MM	3.	39.	41.	103.	2500.
LEAD	7420 03/20/89 RJ	1.	7.	10.	99.	1000.
ZINC	6010 03/21/89 MM	3.	51.	55.	-----	500.

**Practical Quantitation Limit

***TOTAL THRESHOLD LIMIT CONCENTRATION as listed in Cal Adm Code Art 11 Sec. 66699 as persistent & bioaccumulative toxic substance.

03/24/89
F2941ME.WR1/#22
MH/ke

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES
Mary Havlicek
Mary Havlicek, Ph.D., President

Central Coast Analytical Services

Central Coast
Analytical Services, Inc.
141 Suburban Road, Suite C-4
San Luis Obispo, California 93401
(805) 543-2553

Lab Number : F-03120
Collected : 03/14/89
Received : 03/15/89
Tested : 03/22/89
Collected by: E. Adams

ATTN: Doug Sheeks
Western Geologic Resources
2169 E. Francisco Blvd.
Suite B
San Rafael, CA 94901

EXTRACTED BY EPA METHOD 5030 (purge-and-trap)
EPA METHOD 524.2/8260
Sample Description:
Oakland Chevron, 1010 1 A & B
Project #1-101.02, Water

Compound Analyzed	Detection Limit (ug/Kg) (Practical Quantitation Limit)	Concentration (ug/Kg)
Benzene	0.2	not found
Bromodichloromethane	0.2	not found
Bromoform	0.4	not found
Carbon Tetrachloride	0.2	not found
Chlorobenzene	0.2	not found
2-Chloroethyl Vinyl Ether	2.	not found
Chloroform	1.	1.
Dibromochloromethane	0.2	not found
1,2-Dichlorobenzene	0.2	not found
1,3-Dichlorobenzene	0.2	not found
1,4-Dichlorobenzene	0.2	not found
1,1-Dichloroethane	0.2	not found
1,2-Dichloroethane (EDC)	0.2	not found
1,1-Dichloroethene	0.2	not found
c-1,2-Dichloroethene	0.2	not found
t-1,2-Dichloroethene	0.2	not found
1,2-Dichloropropane	0.2	not found
c-1,3-Dichloropropene	0.2	not found
t-1,3-Dichloropropene	0.2	not found
Ethylbenzene	0.2	3.2
Ethyl Chloride	0.2	not found
Ethylene Dibromide	0.2	not found
Methyl Bromide	0.2	not found
Methyl Chloride	0.2	not found
Methylene Chloride	2.	not found
1,1,2,2-Tetrachloroethane	1.	not found
Tetrachloroethylene (PCE)	0.2	not found
Toluene	0.2	not found
1,1,1-Trichloroethane (TCA)	0.2	not found
1,1,2-Trichloroethane	0.2	not found
Trichloroethene (TCE)	0.2	not found
Trichlorotrifluoroethane (f113)	1.	not found
Trichlorofluoromethane(F-11)	1.	not found
Vinyl Chloride	0.2	not found
Xylenes	0.4	1.7
Total Purgeable Petroleum Hydrocarbons (Gasoline)	100.	600.

Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 80/70/77.

MSD#7/04-11-89
F03120v.wr1/27
MH/jl/dc/rh

Respectfully submitted,
Mary Havlicek
Mary Havlicek, Ph.D., President

Central Coast Analytical Services

Central Coast Analytical Services, Inc.
141 Suburban Road, Suite C-4
San Luis Obispo, California 934Ø1
(8Ø5) 543-2553

Lab Number : F-Ø3121
Collected : Ø3/14/89
Received : Ø3/15/89
Tested : Ø3/22/89
Collected by: E. Adams

ATTN: Doug Sheeks
Western Geologic Resources
2169 E. Francisco Blvd.
Suite B
San Rafael, CA 949Ø1

EXTRACTED BY EPA METHOD 5Ø3Ø (purge-and-trap)
EPA METHOD 524.2/826Ø
Sample Description:
Oakland Chevron, 1Ø1Ø2 A & B,
Project #1-101.02, Water

Compound Analyzed	Detection Limit (ug/Kg) (Practical Quantitation Limit)	Concentration (ug/Kg)
Benzene	Ø.2	6.7
Bromodichloromethane	Ø.2	not found
Bromoform	Ø.4	not found
Carbon Tetrachloride	Ø.2	not found
Chlorobenzene	Ø.2	not found
2-Chloroethyl Vinyl Ether	2.	not found
Chloroform	1.	not found
Dibromochloromethane	Ø.2	not found
1,2-Dichlorobenzene	Ø.2	not found
1,3-Dichlorobenzene	Ø.2	not found
1,4-Dichlorobenzene	Ø.2	not found
1,1-Dichloroethane	Ø.2	not found
1,2-Dichloroethane (EDC)	Ø.2	Ø.7
1,1-Dichloroethene	Ø.2	not found
c-1,2-Dichloroethene	Ø.2	not found
t-1,2-Dichloroethene	Ø.2	not found
1,2-Dichloropropane	Ø.2	not found
c-1,3-Dichloropropene	Ø.2	not found
t-1,3-Dichloropropene	Ø.2	not found
Ethylbenzene	Ø.2	Ø.5
Ethyl Chloride	Ø.2	not found
Ethylene Dibromide	Ø.2	not found
Methyl Bromide	Ø.2	not found
Methyl Chloride	Ø.2	not found
Methylene Chloride	2.	not found
1,1,2,2-Tetrachloroethane	1.	not found
Tetrachloroethylene (PCE)	Ø.2	not found
Toluene	Ø.2	7.1
1,1,1-Trichloroethane (TCA)	Ø.2	not found
1,1,2-Trichloroethane	Ø.2	not found
Trichloroethene (TCE)	Ø.2	not found
Trichlorotrifluoroethane (f113)	1.	not found
Trichlorofluoromethane(F-11)	1.	not found
Vinyl Chloride	Ø.2	not found
Xylenes	Ø.4	4.6
Total Purgeable Petroleum Hydrocarbons (Gasoline)	1ØØ.	<1ØØ.

Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 1Ø1/73/93.

Ø4/Ø6/89/MSD#7
FØ3121v.wr1/27
MH/jl/dc/tl

Respectfully submitted,
Mary Havlicek
Mary Havlicek, Ph.D., President

Central Coast Analytical Services

Central Coast Analytical Services, Inc.
141 Suburban Road, Suite C-4
San Luis Obispo, California 934Ø1
(8Ø5) 543-2553

Lab Number : F-Ø3122
Collected : Ø3/14/89
Received : Ø3/15/89
Tested : Ø3/22/89
Collected by: E. Adams

ATTN: Doug Sheeks
Western Geologic Resources
2169 E. Francisco Blvd.
Suite B
San Rafael, CA 949Ø1

EXTRACTED BY EPA METHOD 5Ø3Ø (purge-and-trap)
EPA METHOD 524.2/826Ø
Sample Description:
Oakland Chevron, 1Ø1Ø3 A & B,
Project #1-101.02, Water

Compound Analyzed	Detection Limit (ug/Kg) (Practical Quantitation Limit)	Concentration (ug/Kg)
Benzene	Ø.2	2.1
Bromodichloromethane	Ø.2	not found
Bromoform	Ø.4	not found
Carbon Tetrachloride	Ø.2	not found
Chlorobenzene	Ø.2	not found
2-Chloroethyl Vinyl Ether	2.	not found
Chloroform	1.	not found
Dibromochloromethane	Ø.2	not found
1,2-Dichlorobenzene	Ø.2	not found
1,3-Dichlorobenzene	Ø.2	not found
1,4-Dichlorobenzene	Ø.2	not found
1,1-Dichloroethane	Ø.2	not found
1,2-Dichloroethane (EDC)	Ø.2	3.Ø
1,1-Dichloroethene	Ø.2	not found
c-1,2-Dichloroethene	Ø.2	not found
t-1,2-Dichloroethene	Ø.2	not found
1,2-Dichloropropane	Ø.2	not found
c-1,3-Dichloropropene	Ø.2	not found
t-1,3-Dichloropropene	Ø.2	not found
Ethylbenzene	Ø.2	not found
Ethyl Chloride	Ø.2	not found
Ethylene Dibromide	Ø.2	not found
Methyl Bromide	Ø.2	not found
Methyl Chloride	Ø.2	not found
Methylene Chloride	2.	not found
1,1,2,2-Tetrachloroethane	1.	not found
Tetrachloroethylene (PCE)	Ø.2	not found
Toluene	Ø.2	Ø.8
1,1,1-Trichloroethane (TCA)	Ø.2	not found
1,1,2-Trichloroethane	Ø.2	not found
Trichloroethene (TCE)	Ø.2	not found
Trichlorotrifluoroethane (f113)	1.	not found
Trichlorofluoromethane(F-11)	1.	not found
Vinyl Chloride	Ø.2	not found
Xylenes	Ø.4	2.Ø
Total Purgeable Petroleum Hydrocarbons (Gasoline)	1ØØ.	<1ØØ.

Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 1Ø2/72/92.

Ø4/Ø6/89/MSD#7
FØ3122v.wr1/27
MH/jl/dc/tl

Respectfully submitted,
Mary Havlicek, Ph.D., President

Central Coast Analytical Services

Central Coast
Analytical Services, Inc.
141 Suburban Road, Suite C-4
San Luis Obispo, California 934Ø1
(8Ø5) 543-2553

Lab Number : F-Ø3123
Collected : Ø3/14/89
Received : Ø3/15/89
Tested : Ø3/22/89
Collected by: E. Adams

ATTN: Doug Sheeks
Western Geologic Resources
2169 E. Francisco Blvd.
Suite B
San Rafael, CA 949Ø1

EXTRACTED BY EPA METHOD 5Ø3Ø (purge-and-trap)
EPA METHOD 524.2/826Ø
Sample Description:
Oakland Chevron, 1Ø1Ø4 A & B,
Project #1-101.02, Water

Compound Analyzed	Detection Limit (ug/Kg) (Practical Quantitation Limit)	Concentration (ug/Kg)
Benzene	5.	81Ø.
Bromodichloromethane	5.	not found
Bromoform	1Ø.	not found
Carbon Tetrachloride	5.	not found
Chlorobenzene	5.	not found
2-Chloroethyl Vinyl Ether	5Ø.	not found
Chloroform	2Ø.	not found
Dibromochloromethane	5.	not found
1,2-Dichlorobenzene	5.	not found
1,3-Dichlorobenzene	5.	not found
1,4-Dichlorobenzene	5.	not found
1,1-Dichloroethane	5.	not found
1,2-Dichloroethane (EDC)	5.	not found
1,1-Dichloroethene	5.	not found
c-1,2-Dichloroethene	5.	not found
t-1,2-Dichloroethene	5.	not found
1,2-Dichloropropane	5.	not found
c-1,3-Dichloropropene	5.	not found
t-1,3-Dichloropropene	5.	not found
Ethylbenzene	5.	3Ø.
Ethyl Chloride	5.	not found
Ethylene Dibromide	5.	not found
Methyl Bromide	5.	not found
Methyl Chloride	5.	not found
Methylene Chloride	5Ø.	not found
1,1,2,2-Tetrachloroethane	2Ø.	not found
Tetrachloroethylene (PCE)	5.	not found
Toluene	5.	2ØØ.
1,1,1-Trichloroethane (TCA)	5.	not found
1,1,2-Trichloroethane	5.	not found
Trichloroethene (TCE)	5.	not found
Trichlorotrifluoroethane (f113)	2Ø.	not found
Trichlorofluoromethane(F-11)	2Ø.	not found
Vinyl Chloride	5.	not found
Xylenes	1Ø.	13Ø.
Total Purgeable Petroleum Hydrocarbons (Gasoline)	2ØØØ.	3ØØØ.

Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 91/88/8Ø.

Ø4/Ø6/89/MSD#7
FØ3123v.wr1/27
MH/jl/dc/tl

Respectfully submitted,
Mary Havlicek
Mary Havlicek, Ph.D., President

Central Coast Analytical Services

Central Coast
Analytical Services, Inc.
141 Suburban Road, Suite C-4
San Luis Obispo, California 93401
(805) 543-2553

Lab Number : F-03124
Collected : 03/14/89
Received : 03/15/89
Tested : 03/23/89
Collected by: E. Adams

ATTN: Doug Sheeks
Western Geologic Resources
2169 E. Francisco Blvd.
Suite B
San Rafael, CA 94901

EXTRACTED BY EPA METHOD 5030 (purge-and-trap)
EPA METHOD 524.2/8260
Sample Description:
Project #1-101.02, Oakland Chevron
10105 A/B, Water

Compound Analyzed	Detection Limit (ug/L) (Practical Quantitation Limit)	Concentration (ug/L)
Benzene	20.	6600.
Bromodichloromethane	20.	not found
Bromoform	40.	not found
Carbon Tetrachloride	20.	not found
Chlorobenzene	20.	not found
2-Chloroethyl Vinyl Ether	200.	not found
Chloroform	100.	not found
Dibromochloromethane	20.	not found
1,2-Dichlorobenzene	20.	not found
1,3-Dichlorobenzene	20.	not found
1,4-Dichlorobenzene	20.	not found
1,1-Dichloroethane	20.	not found
1,2-Dichloroethane (EDC)	20.	not found
1,1-Dichloroethene	20.	not found
c-1,2-Dichloroethene	20.	not found
t-1,2-Dichloroethene	20.	not found
1,2-Dichloropropane	20.	not found
c-1,3-Dichloropropene	20.	not found
t-1,3-Dichloropropene	20.	not found
Ethylbenzene	20.	270.
Ethyl Chloride	20.	not found
Ethylene Dibromide	20.	not found
Methyl Bromide	20.	not found
Methyl Chloride	20.	not found
Methylene Chloride	200.	not found
1,1,2,2-Tetrachloroethane	100.	not found
Tetrachloroethylene (PCE)	20.	not found
Toluene	20.	1600.
1,1,1-Trichloroethane (TCA)	20.	not found
1,1,2-Trichloroethane	20.	not found
Trichloroethene (TCE)	20.	not found
Trichlorotrifluoroethane (f113)	200.	not found
Trichlorofluoromethane(F-11)	100.	not found
Vinyl Chloride	20.	not found
Xylenes	40.	1100.
Total Purgeable Petroleum Hydrocarbons (Gasoline)	10000.	20000.

Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 92/88/80.

MSD#7/04-07-89
F03124v.wr1/27
MH/ec/re/rh

Respectfully submitted,

Mary Havlicek, Ph.D., President

Central Coast
Analytical Services, Inc.
141 Suburban Road, Suite C-4
San Luis Obispo, California 934Ø1
(8Ø5) 543-2553

Central Coast Analytical Services

Lab Number : F-3125
Collected : Ø3/14/89
Received : Ø3/15/89
Tested : Ø3/2Ø/89
Collected by: E. Adams

ATTN: Doug Sheeks
Western Geologic Resources
2169 E. Francisco Blvd.
Suite B
San Rafael, CA 9490Ø1

EXTRACTED BY EPA METHOD 5Ø3Ø (purge-and-trap)
EPA METHOD 524.2/824Ø
Sample Description:
Proj.#1-101.02, Oakland Chevron,
TBØ3Ø189BPØ3, Water

Compound Analyzed	Detection Limit (ug/L) (Practical Quantitation Limit)	Concentration (ug/L)
Benzene	Ø.1	not found
Bromodichloromethane	Ø.1	not found
Bromoform	Ø.2	not found
Carbon Tetrachloride	Ø.1	not found
Chlorobenzene	Ø.1	not found
2-Chloroethyl Vinyl Ether	1.	not found
Chloroform	Ø.5	not found
Dibromochloromethane	Ø.1	not found
1,2-Dichlorobenzene	Ø.1	not found
1,3-Dichlorobenzene	Ø.1	not found
1,4-Dichlorobenzene	Ø.1	not found
1,1-Dichloroethane	Ø.1	not found
1,2-Dichloroethane (EDC)	Ø.1	not found
1,1-Dichloroethene	Ø.1	not found
c-1,2-Dichloroethene	Ø.1	not found
t-1,2-Dichloroethene	Ø.1	not found
1,2-Dichloropropane	Ø.1	not found
c-1,3-Dichloropropene	Ø.1	not found
t-1,3-Dichloropropene	Ø.1	not found
Ethylbenzene	Ø.1	not found
Ethyl Chloride	Ø.1	not found
Methyl Bromide	Ø.1	not found
Methyl Chloride	Ø.1	not found
Methylene Chloride	1.	not found
1,1,2,2-Tetrachloroethane	Ø.5	not found
Tetrachloroethylene (PCE)	Ø.1	not found
Toluene	Ø.2	not found
1,1,1-Trichloroethane (TCA)	Ø.1	not found
1,1,2-Trichloroethane	Ø.1	not found
Trichloroethene (TCE)	Ø.1	not found
Trichlorotrifluoroethane (f113)	Ø.5	not found
Trichlorofluoromethane(F-11)	Ø.5	not found
Vinyl Chloride	Ø.1	not found
Xylenes	Ø.2	not found
Total Purgeable Petroleum Hydrocarbons	1ØØ.	not found

Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 1Ø3/94/1Ø3

MSD#7
Ø3-29-89
FØ3125v.wr1/#23
MH/jc/gb/kc

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES
Mary Havlicek, Ph.D., President

Central Coast
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141 Suburban Road, Suite C-4
San Luis Obispo, California 93401
(805) 543-2553

Central Coast Analytical Services

Lab Number : B-03209
Collected :
Received :
Tested : 03/20/89
Collected by:

EXTRACTED BY EPA METHOD 5030 (purge-and-trap)
TESTED FOR 601/602 USING EPA METHOD 524.2/8240

CCAS

Sample Description:
INSTRUMENT BLANK

Compound Analyzed	Detection Limit (ug/L) (Practical Quantitation Limit)	Concentration (ug/L)
Benzene	0.1	not found
Bromodichloromethane	0.1	not found
Bromoform	0.2	not found
Carbon Tetrachloride	0.1	not found
Chlorobenzene	0.1	not found
2-Chloroethyl Vinyl Ether	1.	not found
Chloroform	0.5	not found
Dibromochloromethane	0.1	not found
1,2-Dichlorobenzene	0.1	not found
1,3-Dichlorobenzene	0.1	not found
1,4-Dichlorobenzene	0.1	not found
1,1-Dichloroethane	0.1	not found
1,2-Dichloroethane (EDC)	0.1	not found
1,1-Dichloroethene	0.1	not found
c-1,2-Dichloroethene	0.1	not found
t-1,2-Dichloroethene	0.1	not found
1,2-Dichloropropane	0.1	not found
c-1,3-Dichloropropene	0.1	not found
t-1,3-Dichloropropene	0.1	not found
Ethylbenzene	0.1	not found
Ethyl Chloride	0.1	not found
Methyl Bromide	0.1	not found
Methyl Chloride	0.1	not found
Methylene Chloride	1.	not found
1,1,2,2-Tetrachloroethane	0.5	not found
Tetrachloroethylene (PCE)	0.1	not found
Toluene	0.1	not found
1,1,1-Trichloroethane (TCA)	0.1	not found
1,1,2-Trichloroethane	0.1	not found
Trichloroethene (TCE)	0.1	not found
Trichlorotrifluoroethane (f113)	0.5	not found
Trichlorofluoromethane(F-11)	0.5	not found
Vinyl Chloride	0.1	not found
Xylenes	0.2	not found

Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 107/88/99

MSD#7
03-29-89
B03209v.wr1/#23
MH/jc/gb/kc

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES
Mary Havlicek
Mary Havlicek, Ph.D., President

Central Coast Analytical Services

Central Coast Analytical Services, Inc.
141 Suburban Road, Suite C-4
San Luis Obispo, California 93401
(805) 543-2553

Lab Number : QS-0320 9
Collected :
Received :
Tested : 03/20/89
Collected by:

EXTRACTED BY EPA METHOD 5030 (purge-and-trap)
EPA METHOD 524.2/8240
Sample Description:
BOILED WATER SPIKE
Spiked with 2 ug/L VOA Stock

CCAS

Compound Analyzed	Detection Limit (ug/L)(PQL)*	Concentration w/spike (ug/L)	Percent Recovery
Benzene	0.1	2.0	102.
Bromodichloromethane	0.1	2.1	104.
Bromoform	0.2	1.9	93.
Carbon Tetrachloride	0.1	2.0	98.
Chlorobenzene	0.1	2.0	101.
2-Chloroethyl Vinyl Ether	1.	not spiked	----
Chloroform	0.5	2.0	101.
Dibromochloromethane	0.1	2.0	101.
1,2-Dichlorobenzene	0.1	1.8	91.
1,3-Dichlorobenzene	0.1	1.9	96.
1,4-Dichlorobenzene	0.1	1.8	90.
1,1-Dichloroethane	0.1	1.8	89.
1,2-Dichloroethane (EDC)	0.1	2.0	98.
1,1-Dichloroethene	0.1	2.1	103.
c-1,2-Dichloroethene	0.1	1.8	92.
t-1,2-Dichloroethene	0.1	1.6	80.
1,2-Dichloropropane	0.1	1.8	91.
c-1,3-Dichloropropene	0.1	2.6	128.
t-1,3-Dichloropropene	0.1	2.1	106.
Ethylbenzene	0.1	1.8	90.
Ethyl Chloride	0.1	1.7	86.
Methyl Bromide	0.1	1.8	88.
Methyl Chloride	0.1	1.5	73.
Methylene Chloride	1.	1.8	89.
1,1,2,2-Tetrachloroethane	0.5	2.0	98.
Tetrachloroethylene (PCE)	0.1	1.7	87.
Toluene	0.1	2.9	146.
1,1,1-Trichloroethane (TCA)	0.1	1.8	92.
1,1,2-Trichloroethane	0.1	2.1	107.
Trichloroethene (TCE)	0.1	1.9	94.
Trichlorotrifluoroethane	0.5	1.9	94.
Trichlorofluoromethane	0.5	2.3	115.
Vinyl Chloride	0.1	1.8	91.
Xylenes	0.2	5.8	97.

Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 104/85/88

MSD#7
03-29-89
QS0320 9v.wr1/23
MH/jc/gb/kc

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES
Mary Havlicek
Mary Havlicek, Ph.D., President

Central Coast Analytical Services

Central Coast
Analytical Services, Inc.
141 Suburban Road, Suite C-4
San Luis Obispo, California 93401
(805) 543-2553

Lab Number : B-03239
Collected :
Received :
Tested : 03/23/89
Collected by:

EXTRACTED BY EPA METHOD 5030 (purge-and-trap)
EPA METHOD 524.2/8260
Sample Description:
INSTRUMENT BLANK

CCAS

Compound Analyzed	Detection Limit (ug/L) (Practical Quantitation Limit)	Concentration (ug/L)
Benzene	0.1	not found
Bromodichloromethane	0.1	not found
Bromoform	0.2	not found
Carbon Tetrachloride	0.1	not found
Chlorobenzene	0.1	not found
2-Chloroethyl Vinyl Ether	1.	not found
Chloroform	0.5	not found
Dibromochloromethane	0.1	not found
1,2-Dichlorobenzene	0.1	not found
1,3-Dichlorobenzene	0.1	not found
1,4-Dichlorobenzene	0.1	not found
1,1-Dichloroethane	0.1	not found
1,2-Dichloroethane (EDC)	0.1	not found
1,1-Dichloroethene	0.1	not found
c-1,2-Dichloroethene	0.1	not found
t-1,2-Dichloroethene	0.1	not found
1,2-Dichloropropane	0.1	not found
c-1,3-Dichloropropene	0.1	not found
t-1,3-Dichloropropene	0.1	not found
Ethylbenzene	0.1	not found
Ethyl Chloride	0.1	not found
Ethylene Dibromide	0.1	not found
Methyl Bromide	0.1	not found
Methyl Chloride	0.1	not found
Methylene Chloride	1.	not found
1,1,2,2-Tetrachloroethane	0.5	not found
Tetrachloroethylene (PCE)	0.1	not found
Toluene	0.1	not found
1,1,1-Trichloroethane (TCA)	0.1	not found
1,1,2-Trichloroethane	0.1	not found
Trichloroethene (TCE)	0.1	not found
Trichlorotrifluoroethane (f113)	0.5	not found
Trichlorofluoromethane(F-11)	0.5	not found
Vinyl Chloride	0.1	not found
Xylenes	0.2	not found

Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 96/81/92.

MSD#7
04-07-89
B03239v.wr1/27
MH/ec/re/rh

Respectfully submitted,

Mary Havlicek, Ph.D., President

Central Coast Analytical Services

Central Coast
Analytical Services
141 Suburban Road, Suite C-4
San Luis Obispo, California 93401
(805) 543-2553

Lab Number: F-3120
Collected: 03/14/89
Received: 03/15/89
Tested: As Listed
Collected by: Elizabeth Adams

ATTN: Doug Sheeks
Western Geologic
2169 E. Francisco Blvd., Suite B
San Rafael, CA 94903

Sample Description:

Project #1-101.02, Oakland
Chevron, Monitoring Water

REPORT

LAB NUMBER	SAMPLE DESCRIPTION	LEVEL FOUND
		OIL & GREASE mg/l
EPA METHOD----------		503E
DETECTION LIMIT(PQL)**-----		3.
DATE/ANALYST----------		04/02/89/MAP
F-3120	#10101 D	<3.
F-3121	#10102 D	<3.
F-3122	#10103 D	<3.
F-3123	#10104 D	<3.
F-3124	#10105 D	<3.

**Practical Quantitation Limit

04/04/89
F3120WG.WR1/#27
MH/ke

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES
Mary Havlicek, Ph.D., President

Central Coast Analytical Services

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141 Suburban Road, Suite C-4
San Luis Obispo, California 93401
(805) 543-2553

Lab Number: F-3120
Collected: 03/14/89
Received: 03/15/89
Tested: As Listed
Collected by: Elizabeth Adams

ATTN: Doug Sheeks
Western Geologic
2169 E. Francisco Blvd., Suite B
San Rafael, CA 94903

Sample Description:

Project #1-101.02, Oakland Chevron
1010 C, Filtered Water

DIGESTED BY EPA METHOD 3005
ON 03/17/89 BY JJ.

REPORT

CONSTITUENT	EPA METHOD/DATE/ANALYST	DETECTION LIMIT (mg/l)(PQL)**	DISSOLVED LEVEL FOUND mg/l	***STLC
CADMIUM	7130 03/22/89 RJ	0.005	<0.005	0.75
CHROMIUM	7191 03/27/89 KRW	0.005	0.011	560.
LEAD	7420 03/23/89 RJ	0.02	0.02	5.0
ZINC	7950 03/22/89 RJ	0.005	<0.005	250.

**Practical Quantitation Limit

***SOLUBLE THRESHOLD LIMIT CONCENTRATION as listed in Cal Adm Code Art 11 Sec. 66699 as persistent & bioaccumulative toxic substance.

03/29/89
F3120ME.WR1/#24
MH/ke

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES
Mary Havlicek, Ph.D., President

Central Coast Analytical Services

Central Coast
Analytical Services
141 Suburban Road, Suite C-4
San Luis Obispo, California 93401
(805) 543-2553

Lab Number: F-3121
Collected: 03/14/89
Received: 03/15/89
Tested: As Listed
Collected by: Elizabeth Adams

ATTN: Doug Sheeks
Western Geologic
2169 E. Francisco Blvd., Suite B
San Rafael, CA 94903

Sample Description:

Project #11-101.02, Oakland Chevron
1012 C, Filtered Water

DIGESTED BY EPA METHOD 3005
ON 03/17/89 BY JJ.

REPORT

CONSTITUENT	EPA METHOD/DATE/ANALYST	DETECTION LIMIT (mg/l)(PQL)**	DISSOLVED LEVEL FOUND mg/l	***STLC
CADMIUM	7130 03/22/89 RJ	0.005	<0.005	0.75
CHROMIUM	7191 03/27/89 KRW	0.005	0.010	560.
LEAD	7420 03/23/89 RJ	0.02	<0.02	5.0
ZINC	7950 03/22/89 RJ	0.005	<0.005	250.

**Practical Quantitation Limit

***SOLUBLE THRESHOLD LIMIT CONCENTRATION as listed in Cal Adm Code Art 11 Sec. 66699 as persistent & bioaccumulative toxic substance.

03/29/89
F3121ME.WR1/#24
MH/ke

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES
Mary Havlicek
Mary Havlicek, Ph.D., President

Central Coast Analytical Services

Central Coast
Analytical Services
141 Suburban Road, Suite C-4
San Luis Obispo, California 93401
(805) 543-2553

Lab Number: F-3122
Collected: 03/14/89
Received: 03/15/89
Tested: As Listed
Collected by: Elizabeth Adams

ATTN: Doug Sheeks
Western Geologic
2169 E. Francisco Blvd., Suite B
San Rafael, CA 94903

Sample Description:

Project #1-101.02, Oakland Chevron
1002 C, Filtered Water

DIGESTED BY EPA METHOD 3005
ON 03/17/89 BY JJ.

REPORT

CONSTITUENT	EPA METHOD/DATE/ANALYST	DETECTION LIMIT (mg/l)(PQL)**	DISSOLVED LEVEL FOUND mg/l	***STLC
CADMIUM	7130 03/22/89 RJ	0.005	<0.005	0.75
CHROMIUM	7191 03/27/89 KRW	0.005	0.014	560.
LEAD	7420 03/23/89 RJ	0.02	<0.02	5.0
ZINC	7950 03/22/89 RJ	0.005	<0.005	250.

**Practical Quantitation Limit

***SOLUBLE THRESHOLD LIMIT CONCENTRATION as listed in Cal Adm Code Art 11 Sec. 66699 as persistent & bioaccumulative toxic substance.

03/29/89
F3122ME.WR1/#24
MH/ke

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES
Mary Havlicek, Ph.D., President

Central Coast Analytical Services

Central Coast
Analytical Services
141 Suburban Road, Suite C-4
San Luis Obispo, California 93401
(805) 543-2553

Lab Number: F-3123
Collected: 03/14/89
Received: 03/15/89
Tested: As Listed
Collected by: Elizabeth Adams

ATTN: Doug Sheeks
Western Geologic
2169 E. Francisco Blvd., Suite B
San Rafael, CA 94901

Sample Description:

Project #1-101.02, Oakland Chevron
1010 C, Filtered Water

DIGESTED BY EPA METHOD 3005
ON 03/17/89 BY JJ.

REPORT

CONSTITUENT	EPA METHOD/DATE/ANALYST	DETECTION LIMIT (mg/l)(PQL)**	DISSOLVED LEVEL FOUND mg/l	***STLC
CADMIUM	7130 03/22/89 RJ	0.005	<0.005	0.75
CHROMIUM	7191 03/27/89 KRW	0.005	0.146	560.
LEAD	7420 03/23/89 RJ	0.02	0.07	5.0
ZINC	7950 03/22/89 RJ	0.005	0.030	250.

**Practical Quantitation Limit

***SOLUBLE THRESHOLD LIMIT CONCENTRATION as listed in Cal Adm Code Art 11 Sec. 66699 as persistent & bioaccumulative toxic substance.

03/31/89
F3123ME.WR1/#26
MH/ke

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES
Mary Havlicek, Ph.D., President

Central Coast Analytical Services

Central Coast
Analytical Services
141 Suburban Road, Suite C-4
San Luis Obispo, California 93401
(805) 543-2553

Lab Number: F-3124
Collected: 03/14/89
Received: 03/15/89
Tested: As Listed
Collected by: Elizabeth Adams

ATTN: Doug Sheeks
Western Geologic
2169 E. Francisco Blvd., Suite B
San Rafael, CA 94903

Sample Description:

Project #1-101.02, Oakland Chevron
10105 C, Filtered Water

DIGESTED BY EPA METHOD 3005
ON 03/17/89 BY JJ.

CONSTITUENT	EPA METHOD/DATE/ANALYST	REPORT DETECTION LIMIT (mg/l)(PQL)**	DISSOLVED LEVEL FOUND mg/l	DUPLICATE mg/l	SPIKE % Recovery	***STLC
CADMIUM	7130 03/22/89 RJ	0.005	<0.005	<0.005	82.	0.75
CHROMIUM	7191 03/27/89 KRW	0.005	0.036	-----	-----	560.
LEAD	7420 03/23/89 RJ	0.02	0.10	0.11	101.	5.0
ZINC	7950 03/22/89 RJ	0.005	0.076	0.076	-----	250.

**Practical Quantitation Limit

***SOLUBLE THRESHOLD LIMIT CONCENTRATION as listed in Cal Adm Code Art 11 Sec. 66699 as persistent & bioaccumulative toxic substance.

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES

Mary Havlicek, Ph.D., President

03/29/89
F3124ME.WR1/#27
MH/ke

CHAIN OF CUSTODY RECORD

BC Log Number _____

Client name: Western Geologic Resources	Project or PO#: 1-101.02
Address: 2169 E. Francisco Blvd Suite B	Phone #: (415)457-7595
City, State, Zip: San Rafael, CA	Report attention: Doug Sheeks

Analyses required: 524.2 Regular; 524.2 Full scan; 524.2 Extra fingerprint; Oil & Grease 503; ICAP Metals (Cad, Lead, Zinc, chrom)

Lab Sample number	Date sampled	Time sampled	Type* See key below	Sampled by: M.K. Edmonson Sample description	Number of containers	524.2 Regular	524.2 Full scan	524.2 Extra fingerprint	Oil & Grease 503	ICAP Metals (Cad, Lead, Zinc, chrom)	Hazardous sample Special handling required	Remarks
	3-8-89		SO	B-1 - 5.0'	1	A						F-2931
	↓		↓	B-1 - 10.0'	↓	A						2932
	↓		↓	B-1 - 13.0'	↓	A						2933
	3-8-89		SO	B-2 - 5.0'	1	A						2934
	↓		↓	B-2 - 10.0'	↓	A						2935
	↓		↓	B-2 - 13.5'	↓	A						2936
	↓		↓	B-2 - 16.5'	↓	A						2937
	3-9-89		SO	B-3 - 5.0'	1		A	A	A			2938
	↓		↓	B-3 - 10.0'	↓		A	A	A			2939
	↓		↓	B-3 - 15.0'	↓		A	A	A			2940
	↓		↓	B-3 - 18.0'	↓		A	A	A			2941

	Signature	Print Name	Company		Date	Time
Relinquished by	M.K. Edmonson	M.K. Edmonson	WGR		3-9-89	16:50
Received by	Greyhound					
Relinquished by	Greyhound					
Received by	Bertha Krebsbach	Bertha Krebsbach	CCAS	samples rec'd intact, sealed, cold	3-10-89	0830
Relinquished by	Bertha Krebsbach	Bertha Krebsbach	CCAS		3-15-89	
Received by Laboratory	Alison A. Abraham	Alison A. Abraham	CCASSB	VOA samples only	03/16/89	09:30

BROWN AND CALDWELL LABORATORIES

- ☐ 1255 Powell Street, Emeryville, CA 94608 (415) 428-2300
- ☐ 373 South Fair Oaks Avenue, Pasadena, CA 91105 (818) 795-7553
- ☐ 1200 Pacifico Avenue, Anaheim, CA 92805

Note:
Samples are discarded 30 days after results are reported unless other arrangements are made.
Hazardous samples will be returned to client or disposed of at client expense.

*KEY: AQ—Aqueous NA—Nonaqueous SL—Sludge GW—Groundwater SO—Soil OT—Other PE-

CHAIN OF CUSTODY RECORD

BC Log Number _____

Client name	Project or PO#
Western Geologic Resources	1-101.02
Address 2169 E. Francisco Blvd. Suite B	**Phone #** (415) 457-7545
City, State, Zip San Rafael, CA	**Report attention** Doug Sheeks

Lab Sample number	Date sampled	Time sampled	Type* See key below	Sampled by M.K. Emerson — Sample description	Number of containers	Analyses required: 4-oil fingerprint (524.2)	Hazardous sample / Special handling required	Remarks
	3-9-89		SO	B-4 - 5.0'	1	A		F-2942
	↓		↓	B-4 - 8.5'	↓	A		2943
				B-4 - 13.5'		A		2944
				B-4 - 16.5'		A		2945
	3-9-89		SO	B-5 - 5.5'	1	A		2946
	↓		↓	B-5 - 10.0'	↓	A		2947
				B-5 - 13.0'		A		2948
				B-5 - 15.0'		A		2949

	Signature	Print Name	Company		Date	Time
Relinquished by	M.K. Emerson	M.K. Emerson	WGR		3-9-89	16:50
Received by	Greyhound					
Relinquished by	Greyhound					
Received by	Bertha Kiebsbach	Bertha Kiebsbach	CCAS	samples received intact, sealed, cold	3-10-89	08.30
Relinquished by	Bertha Kiebsbach	Bertha Kiebsbach	CCAS		3-15-89	
Received by Laboratory	Alison A. Abraham	Alison A. Abraham	CCASSB	VOA samples only	03/16/89	09:30

BROWN AND CALDWELL LABORATORIES

- ~~1255 Powell Street, Emeryville, CA 94608 (415) 428-2300~~
- ~~273 South Fair Oaks Avenue, Pasadena, CA 91105 (818) 795-7553~~
- 1200 Pacifica Avenue, Anaheim, CA 92805

Note:
Samples are discarded 30 days after results are reported unless other arrangements are made.
Hazardous samples will be returned to client or disposed of at client expense.

*KEY: AQ—Aqueous NA—Nonaqueous SL—Sludge GW—Groundwater SO—Soil OT—Other PE—Petroleum

Coast Analytical Services

141 Suburban Road, Suite C-4
San Luis Obispo, Ca 93401
Fax (805) 543-2565
(805) 543-2553

6483-D Calle Real
Goleta, CA 93117
Fax (805) 978-4366
(805) 964-7833

SAMPLE CHAIN OF CUSTODY

EMITTED BY:
COMPANY: Western Geologic Resources | CONTACT NAME: Dave Sheeks / Ed Ruskirk
ADDRESS: 2169 E. Francisco Blvd * B San Rafael CA 94901 | PHONE: 415.457.7595
PROJECT #: 01.2 | PROJECT NAME: Oakland Chevron
SAMPLER (Print & Sign Name): Elizabeth Adams Elizabeth Adams

CCAS LAB #	SAMPLE IDENTIFICATION (ID #, location, matrix)	DATE/TIME COLLECTED	# of ITEMS	PRESERVE	ANALYSIS REQUESTED: 5240/624 + TPH/BTEX	Soluble metals Cd, Cr, Zn, Pb	Oil & Grease 503E
-3120	ID101 A,B,C,D	3.14.89 12:00	4	$Na_2S_2O_3$ / H_2SO_4	X	X	X
3121	ID102 A,B,C,D	13:20	4	*			
3122	ID103 A,B,C,D	12:05	4				
3123	ID104 A,B,C,D	13:15	4				
3124	ID105 A,B,C,D	11:10	4				
3125	TB030189BP03 ID1 TB Trip blanks	—	2	none			
3126	TB022389BP05 ~~TB030~~						

REMARKS:
* Soluble Metals Samples — please preserve upon Arrival.
samples received intact, sealed, & cold

SAMPLE RELINQUISHED BY:	DATE/TIME	RECEIVED BY:
Elizabeth Adams	3.14.89 15:00	Greyhound
Greyhound	3-15-89 0800	Bertha Kirkbach

COC1.WR1/8806