Chevron U.S.A. Inc.
2410 Camino Ramon, San Ramon, California • Phone (415) 842-9500
Mail Address: P.O. Box 5004, San Ramon, CA 94583-0804

Marketing Operations

January 30, 1990

D. Moller
Manager, Operations
S. L. Patterson
Area Manager, Operations
C. G. Trimbach
Manager, Engineering

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

shid
1110

Re: Chevron Service Station #9-0019
Grand Ave/Montecito
Oakland, CA 94610

210 Grand Av.

Dear Mr. Shahid:

Enclosed we are forwarding the Quarterly Groundwater Sampling report dated January 24, 1990, conducted by our consultant, Western Geologic Resources, Inc., for the above referenced.

Chevron is in the process of securing encroachment permits to install additional offsite monitoring wells to complete definition of hydrocarbon contamination below the site. This has been a lengthy process due to the City of Oakland's permit requirements. We do expect approval soon. When recieved, Chevron will proceed with the installation of the wells. A formal report of findings will be forwarded to your office.

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.

If you have any questions or comments please do not hesitate to call me at (415) 842 - 9625.

Very truly yours,

C. G. Trimbach

JMR/jmr
Enclosure

By John Randall

cc: Mr. Lester Feldman
RWQCB-Bay Area
1800 Harrison Street
Suite # 700
Oakland, CA 94612

WESTERN GEOLOGIC RESOURCES, INC.

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

24 January 1990

John Randall
Chevron USA
2410 Camino Ramon
San Ramon, CA 94583

Re: Quarterly Groundwater Sampling Report
Chevron Service Station #90019
Oakland, California
WGR Job #1-101.03

Dear Mr. Randall:

This letter report presents the results of the quarterly groundwater sampling performed by Western Geologic Resources, Inc. (WGR) at the subject site, located at 210 Grand Avenue in Oakland, California (Figure 1).

As requested, the following work was performed:

1) Take depth-to-water and well-casing volume measurements in all monitor wells on-site, and produce a potentiometric surface contour map (Figure 2) based on the water-level measurements;

2) Collect groundwater samples from the wells for analyses of total purgeable petroleum hydrocarbons (TPPH), aromatic hydrocarbons including benzene, toluene, ethylbenzene and total xylenes (BTEX) and halocarbons by EPA Method 8260;

3) Produce concentration maps of TPPH and benzene in shallow groundwater based on the analytic results (Figures 3 and 4);

4) Update the database for water-level measurements and groundwater analytic data (Tables 1 and 2); and,

5) Review the field and laboratory results and prepare a report of this investigation.

BACKGROUND

In February and March 1989, WGR conducted a soil vapor survey (SVS) at the site. The highest concentrations of total volatile hydrocarbons (TVH) were detected in points installed at 5 ft and

between 13 to 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. Based on the results of the SVS, WGR drilled soil borings B-1 through B-5 and completed them as 4-inch diameter monitor wells MW-1 through MW-5. Wells were screened in the shallow groundwater zone from 6 ft to 16.5 ft below grade.

Soil samples collected during the drilling of borings B-1 through B-5 contained TPPH at concentrations ranging from 6 parts-per-million (ppm) to 390 ppm, with the highest concentration detected in the sample from boring B-5. 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 ft to 16.5 ft 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 limits of detection for BTEX compounds.

TPPH concentrations, reported as gasoline, in groundwater samples collected from wells MW-1 through MW-5 ranged from non-detectable in the groundwater samples collected from wells MW-2 and MW-3, to a high of 20,000 parts-per-billion (ppb) in the groundwater sample collected from well MW-5. Groundwater collected from well MW-1 at the north end of the site contained 600 ppm TPPH. The highest concentrations for the BTEX compounds in groundwater were also detected in the sample collected from well MW-5. Petroleum-based oil and grease compounds were below the detection limit of 3 ppb in groundwater for the five wells.

Measurements of static groundwater levels made on 14 March 1989 indicated that the estimated direction of groundwater flow was to the south, with wells MW-1 and MW-2 located the most upgradient and well MW-5 in the most downgradient position.

GROUNDWATER SAMPLING

On 14 September 1989, groundwater samples were collected from wells MW-1 through MW-5 by a WGR environmental technician, according to WGR's standard operating procedure included as Attachment A. Approximately 77 gallons were evacuated from the wells prior to sampling and temporarily stored on-site in holding tanks. Groundwater samples and a laboratory-supplied travel

blank consisting of deionized water were sent under chain-of-custody to Central Coast Analytic Services (CCAS) of San Luis Obispo, California for analysis.

ANALYTIC RESULTS

Concentrations of TPPH in groundwater are presented in Figure 3. TPPH, characterized as gasoline, were detected in groundwater samples collected from wells MW-4 and MW-5 at concentrations of 540 ppb and 16,000 ppb, respectively.

BTEX compounds were also detected in groundwater from wells MW-4 and MW-5, with the highest concentrations detected in samples from well MW-5. Concentrations of benzene in groundwater are presented in Figure 4. Benzene concentrations in samples collected from wells MW-4 and MW-5 were 220 ppb and 3,100 ppb, respectively; ethylbenzene was detected at 6.1 ppb and 400 ppb; toluene at 2.0 ppb and 550 ppb; and total xylenes at 9.3 ppb and 690 ppb. 1,2-dichloroethane (EDC) was detected in groundwater samples collected from wells MW-3 and MW-4 at concentrations of 2.2 ppb and 2.3 ppb, respectively. A trace concentration of 1,1,1-trichloroethane (TCA) was detected in the groundwater sample collected from well MW-1.

GROUNDWATER FLOW

Based on depth-to-water measurements taken prior to groundwater sampling on 14 September 1989, groundwater flow is estimated to be to the northwest at a gradient of approximately 1.4%. Sample calculation A shows how the gradient was derived.[1]

TRENDS

The analytic results of groundwater samples collected on 14 September 1989 show distribution of hydrocarbon concentrations across the site similar to those previously reported for samples collected on 9 June 1989.

The highest concentration of TPPH was again detected in the groundwater sample collected from well MW-5, located just southwest of the southernmost pump island. TPPH concentrations detected in the groundwater sample collected from well MW-5 rose somewhat, from 12,000 ppb in June 1989 to 16,000 ppb in September 1989. BTEX compounds detected in groundwater samples collected from well MW-5 were similar to those previously reported, with benzene declining from 5,100 ppb to 3,100 ppb, and toluene increasing from 300 ppb to 550 ppb. TPPH concentrations detected in the groundwater samples collected from well MW-4 declined from 900 ppb in June 1989 to 540 ppb in September 1989. BTEX compounds detected in groundwater samples collected from well MW-4 also

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1 SAMPLE CALCULATION A: GROUNDWATER GRADIENT CALCULATION

From Figure 2; reference line C-C'

$$\text{Gradient} = \frac{h}{l} = \frac{1.0 \text{ ft}}{72.5 \text{ ft}} = 0.014$$

or 1.4%

h = 3.0 ft - 2.0 ft = 1.0 ft
l = 72.5 ft (distance along C-C')

declined somewhat from those previously reported, with benzene declining from 440 ppb to 220 ppb, and toluene declining from 13 ppb to 2 ppb.

Trace concentrations of TCA were detected for the first time at the site in the groundwater sample collected from well MW-1, located at the northernmost portion of the site. Trichlorotrifluoroethane (F-113) was not detected in the groundwater sample collected from well MW-4, although concentrations of 60 ppb had been detected in June 1989. EDC concentrations for the September sampling event are similar to those previously reported for the groundwater sample collected from well MW-3 at 2.2 ppb, although EDC was not detected in the groundwater sample collected from well MW-5, where it was previously reported at 28 ppb. EDC was detected for the first time in the groundwater sample collected from well MW-4 at 2.3 ppb, although the detection limits for previous analyses was higher, at 5.0 ppb.

The surface of shallow groundwater has dropped approximately 0.5 ft when compared to the last measurement in June 1989, though the contour of the potentiometric surface is generally the same. The estimated direction of groundwater flow remains to the northwest.

SUMMARY

Groundwater samples collected from monitor wells MW-1 through MW-5 on 14 September 1989 were sent to CCAS for analysis of TPPH, BTEX and halocarbons. TPPH were detected in the samples collected from wells MW-4 and MW-5, located in the southwest portion of the site, at concentrations of 540 ppb and 16,000 ppb, respectively. TPPH were not detected in the samples collected from wells MW-1 through MW-3. BTEX compounds were also detected in the samples collected from wells MW-4 and MW-5, with the highest concentrations detected in the sample from MW-5. Benzene concentrations in samples collected from wells MW-4 and MW-5 were 220 ppb and 3,100 ppb, respectively. EDC was detected in the groundwater samples collected from wells MW-3 and MW-4 at concentrations of 2.2 ppb and 2.3 ppb, respectively. Trace concentrations of TCA were detected in the sample collected from well MW-1.

The general trend in the analytic results for groundwater samples collected on 14 September 1989 from monitor wells MW-1 through MW-5 is similar to those previously reported, with the highest concentrations of TPPH and BTEX detected in the sample collected from well MW-5 in the southwest portion of the site.

Western Geologic Resources is pleased to provide geologic and environmental consulting services to Chevron and we trust that this report will meet your needs. Please call us at (415) 457-7595 if you have any questions.

Sincerely,
Western Geologic Resources, Inc.

Kyle Cockerham
Kyle S. Cockerham
Staff Geologist

Kathleen A. Isaacson
Senior Geologist

KSC/KAI:rem

101L1JA0.WP

FIGURES

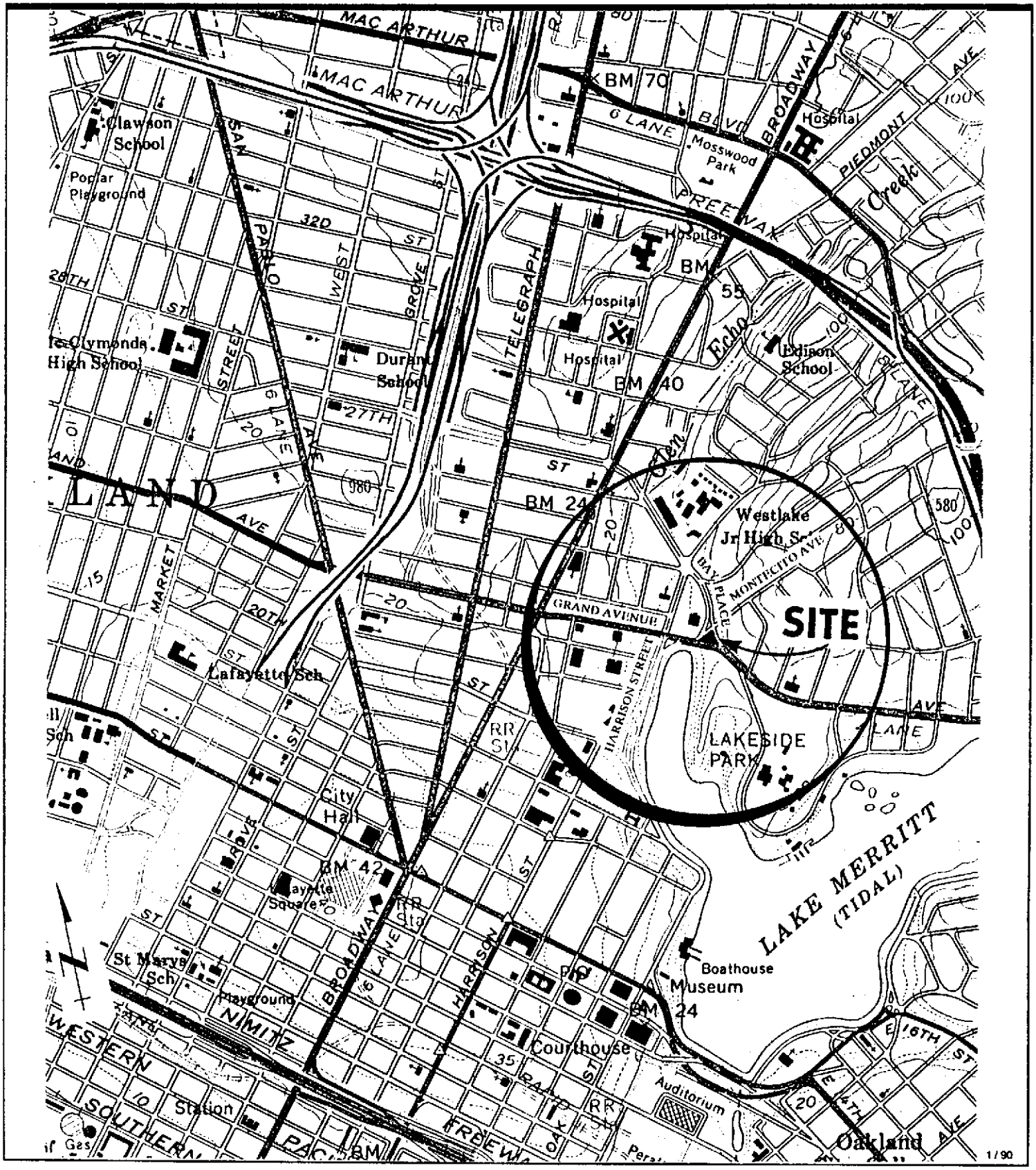
1. Site Location Map
2. Potentiometric Map of Shallow Groundwater, 14 September 1989
3. Concentration Map of Total Purgeable Petroleum Hydrocarbons in Shallow Groundwater, 14 September 1989
4. Concentration Map of Benzene in Shallow Groundwater, 14 September 1989

TABLES

1. Groundwater Elevations
2. Analytic Results: Groundwater

ATTACHMENTS

A. SOP-4: Groundwater Sampling
B. Laboratory Report
C. Chain-of-Custody Form
D. Quality Assurance Reports



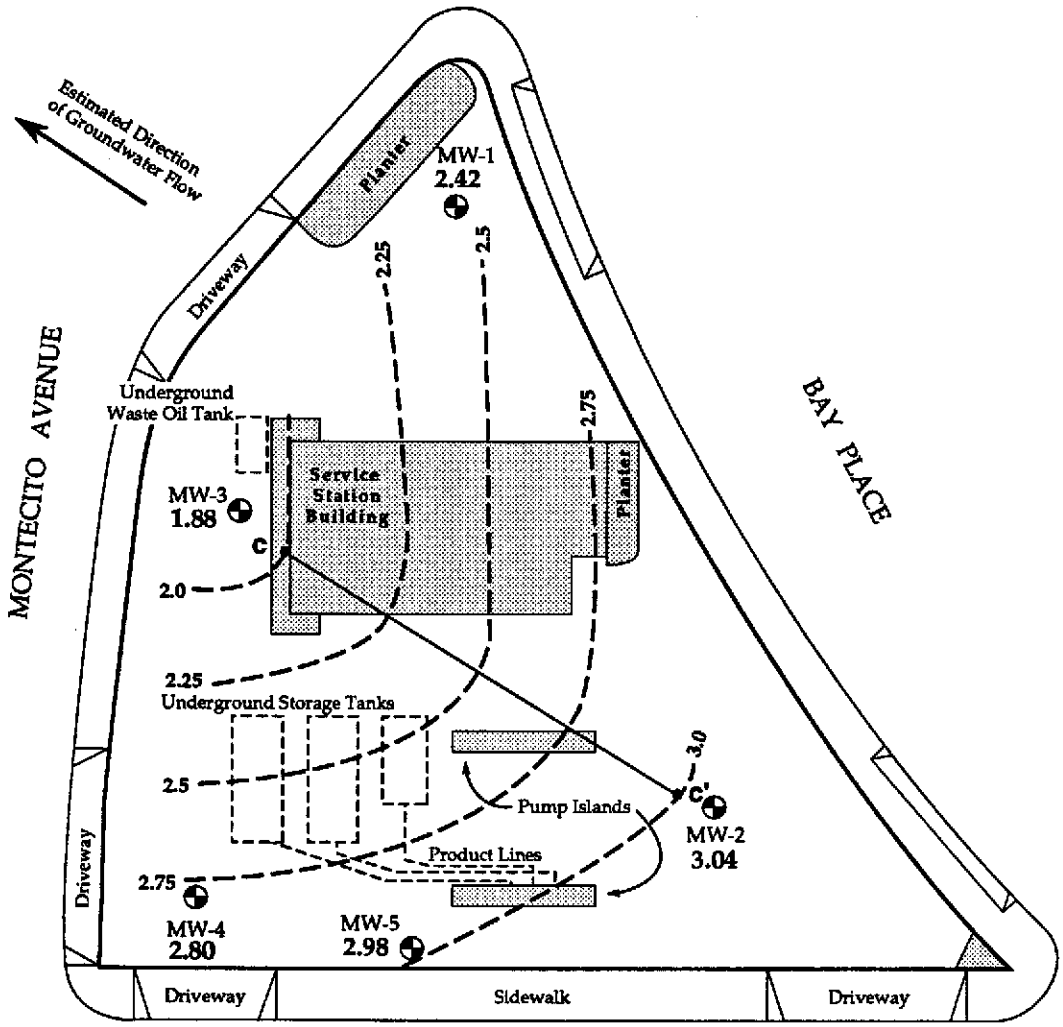
NOT TO SCALE

Site Location Map
Chevron Service Station #90019,
Oakland, California

FIGURE
1

WESTERN GEOLOGIC RESOURCES, INC.

1-101.03



1/90

LEGEND

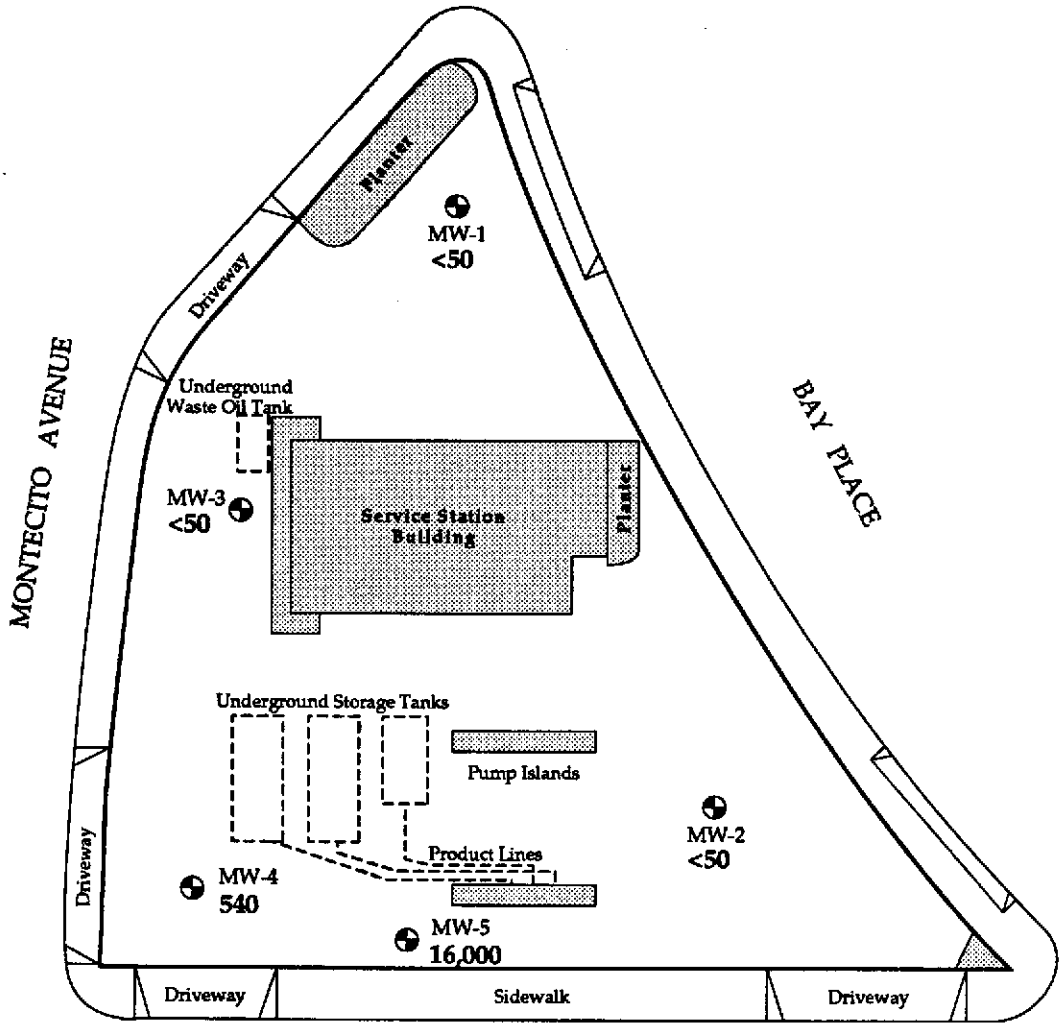
MW-1 2.42	Monitor Well Location and groundwater elevation, feet above mean sea level
2.0	Groundwater elevation contour, feet above mean sea level, dashed where inferred
C C'	Reference line for gradient calculation

Potentiometric Surface of Shallow Groundwater,
14 September 1989,
Chevron Service Station #90019,
Oakland, California

FIGURE
2

WESTERN GEOLOGIC RESOURCES, INC.

1-101.03



0 30' 60' 90'

1/90

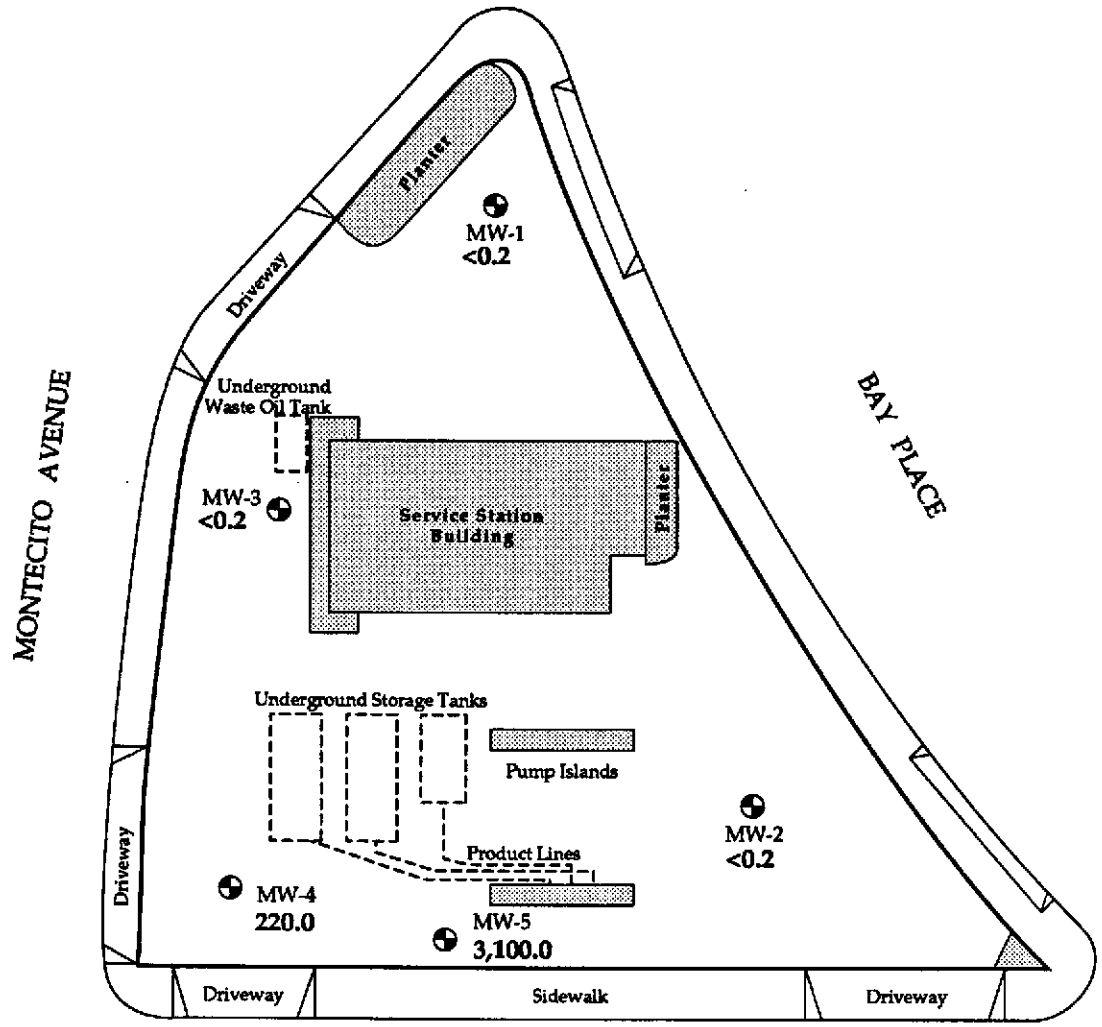
LEGEND

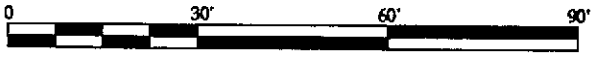
MW-1 <50 — Monitor Well Location and TPPH in ppb (parts per billion)

Concentration of Total Purgeable Petroleum Hydrocarbons (TPPH) in Shallow Groundwater, 14 September 1989
Chevron Service Station #90019
Oakland, California

FIGURE 3

WESTERN GEOLOGIC RESOURCES, INC. 1-101.03





1/90

LEGEND

MW-1 <0.2 — Monitor Well Location and Benzene in ppb (parts per billion)

Concentration of Benzene
in Shallow Groundwater, 14 September 1989
Chevron Service Station #90019,
Oakland, California

FIGURE 4

WESTERN GEOLOGIC RESOURCES, INC.

1-101.03

TABLE 1 - GROUNDWATER ELEVATIONS
Chevron SS #90019, Oakland, CA
WGR Project # 1-101.03

MONITORING WELLS

Well ID #	Date	Elev.	DTW	Elev.-W
MW-1	14 Mar 89	9.63	6.74	2.89
MW-1	8 Jun 89	9.63	7.14	2.49
MW-1	14 Sep 89	9.63	7.21	2.42
MW-2	14 Mar 89	8.99	6.08	2.91
MW-2	8 Jun 89	8.99	5.22	3.77
MW-2	14 Sep 89	8.99	5.95	3.04
MW-3	14 Mar 89	8.18	6.02	2.16
MW-3	8 Jun 89	8.18	5.88	2.30
MW-3	14 Sep 89	8.18	6.30	1.88
MW-4	14 Mar 89	7.60	5.52	2.08
MW-4	8 Jun 89	7.60	4.19	3.41
MW-4	14 Sep 89	7.60	4.80	2.80
MW-5	14 Mar 89	8.35	6.98	1.37
MW-5	8 Jun 89	8.35	4.73	3.62
MW-5	14 Sep 89	8.35	5.37	2.98

Notes:

DTW = Depth To Water
Elev. = Top-Of-Casing Elevation
Elev.-W = Elevation Of Water

TABLE 2 - ANALYTIC RESULTS: GROUNDWATER
Chevron SS #90019, Oakland, CA
WGR Project # 1-101.03

WELL ID#	DATE	EPA/CS METHOD	BENZENE	TOLUENE	ETHYLBENZ	XYLENES	CHLORO.	EDC	f113	TCA	TPPH(G)	O & G
			<--------			ppb					-------->	<--ppm-->
MW-1	14 Mar 89	8260/503E	<0.2	<0.2	3.2	1.7	1.0	<0.2	<20.0	<0.2	600.0	<3.0
MW-1	09 Jun 89	8260	<0.1	<0.5	<0.1	<0.2	<0.5	<0.1	<20.0	<0.1	<50.0	---
MW-1	14 Sep 89	8260	<0.2	<1.0	<0.2	<0.4	<1.0	<0.2	<1.0	0.7	<50.0	---
MW-2	14 Mar 89	8260/503E	6.7	7.1	0.5	4.6	<1.0	0.7	<20.0	<0.2	<100.0	<3.0
MW-2	09 Jun 89	8260	<0.2	<1.0	<0.2	<0.4	<1.0	<0.2	<20.0	<0.2	<100.0	---
MW-2	14 Sep 89	8260	<0.2	<1.0	<0.2	<0.4	<1.0	<0.2	<1.0	<0.2	<50.0	---
MW-3	14 Mar 89	8260/503E	2.1	0.8	<0.2	2.0	<1.0	3.0	<20.0	<0.2	<100.0	<3.0
MW-3	09 Jun 89	8260	<0.5	<1.0	<0.2	<0.4	<1.0	3.3	<20.0	<0.2	<100.0	---
MW-3	14 Sep 89	8260	<0.2	<1.0	<0.2	<0.4	<1.0	2.2	<1.0	<0.2	<50.0	---
MW-4	14 Mar 89	8260/503E	810.0	200.0	30.0	130.0	<20.0	<5.0	<20.0	<5.0	3000.0	<3.0
MW-4	09 Jun 89	8260	440.0	13.0	22.0	40.0	<20.0	<5.0	60.0	<5.0	900.0	---
MW-4	14 Sep 89	8260	220.0	2.0	6.1	9.3	<1.0	2.3	<1.0	<0.2	540.0	---
MW-5	14 Mar 89	8260/503E	6600.0	1600.0	270.0	1100.0	<100.0	<20.0	<20.0	<20.0	20000.0	<3.0
MW-5	09 Jun 89	8260	>2800.0*	270.0	240.0	640.0	<20.0	28.0	<20.0	<5.0	15000.0	---
MW-5D	09 Jun 89	8260	5100.0	300.0	240.0	700.0	<200.0	<50.0	<20.0	<50.0	12000.0	---
MW-5	14 Sep 89	8260	>730.0*	>320.0*	>290.0	440.0	<10.0	<2.0	<20.0	<2.0	15000.0	---
MW-5D	14 Sep 89	8260	3300	450	490	730	<100	<20	<100	<20	15000.0	---
MW-5T	14 Sep 89	8260	3100	550	400	690	<50	<10	<50	<10	16000.0	---
TB	3 Mar 89	8260	<0.1	<0.2	<0.1	<0.2	<0.5	<0.1	<20.0	<0.1	<100.0	---
TB	09 Jun 89	8260	<0.5	<0.5	<0.1	<0.2	<0.5	<0.1	<20.0	<0.1	<50.0	---
TB	14 Sep 89	8260	<0.1	<0.5	<0.1	<0.2	<0.5	<0.1	<0.5	<0.1	<50.0	

TABLE 2 (continued)

Notes:

ETHYLBENZ = Ethylbenzene
CHLORO. = Chloroform
EDC = 1,2-Dichloroethane
TPPH(G) = Total Purgeable Petroleum Hydrocarbons characterized as gasoline
O & G = Oil and Grease reported in parts-per-million
TB = Travel Blank
f113 = Trichlorotrifluoroethane
* = Saturated Column
MW-#D = Duplicate Analysis
MW-#T = Triplicate Analysis
TCA = 1,1,1-Trichloroethane

STANDARD OPERATING PROCEDURES
RE: GROUNDWATER 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 from each well. This sample is put on hold at the laboratory. 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.

AIR, WATER & HAZARDOUS WASTE LABORATORY (No.90&131) CERTIFIED by CALIFORNIA DEPT of HEALTH SERVICES

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

Central Coast Analytical Services

Lab Number : F-12085
Collected : 09/14/89
Received : 09/15/89
Tested : 09/21/89
Collected by: Smith/Baldwin

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

EXTRACTED BY EPA METHOD 5030 (purge-and-trap)
EPA METHOD 8240/8260 (GC/MS)
Sample Description:
Project #1-101.03, 10101 A,
Oakland, Grand Ave., Water

Compound Analyzed	Detection Limit (ug/L) (Practical Quantitation Limit)	Concentration (ug/L)
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.	not found
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	not found
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	1.	not found
1,1,1-Trichloroethane (TCA)	0.2	0.7
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	not found
Total Purgeable Petroleum Hydrocarbons (Gasoline)	50.	not found

Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 97/109.

MSD#6/10-04-89
F12085v.wr1/119
MH/jg/ck/rh

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 93401
(805) 543-2553

Lab Number : F-12086
Collected : 09/14/89
Received : 09/15/89
Tested : 09/21/89
Collected by: Smith/Baldwin

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

EXTRACTED BY EPA METHOD 5030 (purge-and-trap)
EPA METHOD 8240/8260 (GC/MS)
Sample Description:
Project #1-101.03, 10102 A,
Oakland, Grand Ave., Water

Compound Analyzed	Detection Limit (ug/L) (Practical Quantitation Limit)	Concentration (ug/L)
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.	not found
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	not found
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	1.	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	not found
Total Purgeable Petroleum Hydrocarbons (Gasoline)	50.	not found

Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 119/111.

MSD#6/10-04-89
F12086v.wr1/119
MH/tz/ck/rh

Respectfully submitted,

Mary Havlicek, Ph.D., President

Central Coast
Analytical Services, Inc.
141 Suburban Road, Suite C-4
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(805) 543-2553

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Collected : 09/14/89
Received : 09/15/89
Tested : 09/21/89
Collected by: Smith/Baldwin

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

EXTRACTED BY EPA METHOD 5030 (purge-and-trap)
EPA METHOD 8240/8260 (GC/MS)
Sample Description:
Project #1-101.03, 10103 A,
Oakland, Grand Ave., Water

Compound Analyzed	Detection Limit (ug/L) (Practical Quantitation Limit)	Concentration (ug/L)
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.	not found
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	2.2
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	not found
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	1.	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	not found
Total Purgeable Petroleum Hydrocarbons (Gasoline)	50.	not found

Percent Recovery of Sample-Specific Quality Assurance Spike is: 103.

MSD#6/10-04-89
F12087v.wr1/119
MH/tz/ck/rh

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

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

Central Coast Analytical Services

Lab Number : F-12088
Collected : 09/14/89
Received : 09/15/89
Tested : 09/21/89
Collected by: Smith/Baldwin

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

EXTRACTED BY EPA METHOD 5030 (purge-and-trap)
EPA METHOD 8240/8260 (GC/MS)
Sample Description:
Project #1-101.03, 10104 A,
Oakland, Grand Ave., Water

Compound Analyzed	Detection Limit (ug/L) (Practical Quantitation Limit)	Concentration (ug/L)
Benzene	0.2	220.
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.	not found
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	2.3
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	6.1
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	1.	2.
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	9.3
Total Purgeable Petroleum Hydrocarbons (Gasoline)	50.	540.

Percent Recovery of Sample-Specific Quality Assurance Spike is: 102.

MSD#6/10-04-89
F12088v.wr1/119
MH/tz/ck/rh

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

AIR, WATER & HAZARDOUS WASTE LABORATORY (No.9Ø&131) 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, California 934Ø1
(8Ø5) 543-2553

Lab Number : F-12Ø89
Collected : Ø9/14/89
Received : Ø9/15/89
Tested : Ø9/22/89
Collected by: Smith/Baldwin

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

EXTRACTED BY EPA METHOD 5Ø3Ø (purge-and-trap)
EPA METHOD 824Ø/826Ø (GC/MS)
Sample Description:
Project #1-1Ø1.Ø3, 10105A
Oakland-Grand Ave., Water

Compound Analyzed	Detection Limit (ug/L) (Practical Quantitation Limit)	Concentration (ug/L)
Benzene	2.	>73Ø.*
Bromodichloromethane	5.	not found
Bromoform	4.	not found
Carbon Tetrachloride	2.	not found
Chlorobenzene	2.	not found
2-Chloroethyl Vinyl Ether	2Ø.	not found
Chloroform	1Ø.	not found
Dibromochloromethane	2.	not found
1,2-Dichlorobenzene	2.	not found
1,3-Dichlorobenzene	2.	not found
1,4-Dichlorobenzene	2.	not found
1,1-Dichloroethane	2.	not found
1,2-Dichloroethane (EDC)	2.	not found
1,1-Dichloroethene	2.	not found
c-1,2-Dichloroethene	2.	not found
t-1,2-Dichloroethene	2.	not found
1,2-Dichloropropane	2.	not found
c-1,3-Dichloropropene	2.	not found
t-1,3-Dichloropropene	2.	not found
Ethylbenzene	2.	>29Ø.*
Ethyl Chloride	2.	not found
Ethylene Dibromide	2.	not found
Methyl Bromide	2.	not found
Methyl Chloride	2.	not found
Methylene Chloride	2Ø.	not found
1,1,2,2-Tetrachloroethane	1Ø.	not found
Tetrachloroethylene (PCE)	2.	not found
Toluene	1Ø.	>32Ø.*
1,1,1-Trichloroethane (TCA)	2.	not found
1,1,2-Trichloroethane	2.	not found
Trichloroethene (TCE)	2.	not found
Trichlorotrifluoroethane (f113)	2Ø.	not found
Trichlorofluoromethane(F-11)	1Ø.	not found
Vinyl Chloride	2.	not found
Xylenes	4.	44Ø.
TPPH (Gasoline)	1ØØØ.	15ØØØ.

Percent Recovery of Sample-Specific Quality Assurance Spike is: 92.
* Saturated; use result from duplicate analysis.
MSD#6/1Ø-Ø4-89
F12Ø89v.wr1/119
MH/ec/jc/rh

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 93401
(805) 543-2553

Lab Number : F-12089dup
Collected : 09/14/89
Received : 09/15/89
Tested : 09/22/89
Collected by: Smith/Baldwin

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

EXTRACTED BY EPA METHOD 5030 (purge-and-trap)
EPA METHOD 8240/8260 (GC/MS)
Sample Description:
Project #1-101.03, 10105A , Water
Oakland-Grand Ave., Duplicate Analysis

Compound Analyzed	Detection Limit (ug/L) (Practical Quantitation Limit)	Concentration (ug/L)
Benzene	20.	3300.
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.	490.
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	100.	450.
1,1,1-Trichloroethane (TCA)	20.	not found
1,1,2-Trichloroethane	20.	not found
Trichloroethene (TCE)	20.	not found
Trichlorotrifluoroethane (f113)	100.	not found
Trichlorofluoromethane(F-11)	100.	not found
Vinyl Chloride	20.	not found
Xylenes	40.	730.
TPPH (Gasoline)	5000.	15000.

Percent Recovery of Sample-Specific Quality Assurance Spike is: 98.

MSD#6/10-04-89
F12089vd.wr1/119
MH/jc/jc/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
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(805) 543-2553

Lab Number : F-12089trip
Collected : 09/14/89
Received : 09/15/89
Tested : 09/22/89
Collected by: Smith/Baldwin

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

EXTRACTED BY EPA METHOD 5030 (purge-and-trap)
EPA METHOD 8240/8260 (GC/MS)
Sample Description:
Project #1-101.03, 10105A , Water
Oakland-Grand Ave., Triplicate Analysis

Compound Analyzed	Detection Limit (ug/L) (Practical Quantitation Limit)	Concentration (ug/L)
Benzene	10.	3100.
Bromodichloromethane	10.	not found
Bromoform	20.	not found
Carbon Tetrachloride	10.	not found
Chlorobenzene	10.	not found
2-Chloroethyl Vinyl Ether	100.	not found
Chloroform	50.	not found
Dibromochloromethane	10.	not found
1,2-Dichlorobenzene	10.	not found
1,3-Dichlorobenzene	10.	not found
1,4-Dichlorobenzene	10.	not found
1,1-Dichloroethane	10.	not found
1,2-Dichloroethane (EDC)	10.	not found
1,1-Dichloroethene	10.	not found
c-1,2-Dichloroethene	10.	not found
t-1,2-Dichloroethene	10.	not found
1,2-Dichloropropane	10.	not found
c-1,3-Dichloropropene	10.	not found
t-1,3-Dichloropropene	10.	not found
Ethylbenzene	10.	400.
Ethyl Chloride	10.	not found
Ethylene Dibromide	10.	not found
Methyl Bromide	10.	not found
Methyl Chloride	10.	not found
Methylene Chloride	100.	not found
1,1,2,2-Tetrachloroethane	50.	not found
Tetrachloroethylene (PCE)	10.	not found
Toluene	50.	550.
1,1,1-Trichloroethane (TCA)	10.	not found
1,1,2-Trichloroethane	10.	not found
Trichloroethene (TCE)	10.	not found
Trichlorotrifluoroethane (f113)	50.	not found
Trichlorofluoromethane(F-11)	50.	not found
Vinyl Chloride	10.	not found
Xylenes	20.	690.
TPPH (Gasoline)	5000.	16000.

Percent Recovery of Sample-Specific Quality Assurance Spike is: 96.

MSD#6/10-04-89
F12089vt.wr1/119
MH/jl/jc/rh

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

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

Central Coast Analytical Services

Lab Number : F-12090
Collected : 09/12/89
Received : 09/15/89
Tested : 09/22/89
Collected by: DM of CCAS

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

EXTRACTED BY EPA METHOD 5030 (purge-and-trap)
EPA METHOD 8240/8260 (GC/MS)
Sample Description:
Project #1-101.03, 101 TB , Wate
Oakland-Grand Ave., TB091289DM18

Compound Analyzed	Detection Limit (ug/L) (Practical Quantitation Limit)	Concentration (ug/L)
Benzene	0.1	not found
Bromodichloromethane	0.2	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	0.5	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
TPPH (Gasoline)	50.	not found

Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 72/102.

MSD#6/10-04-89
F12090v.wr1/119
MH/ec/jc/rh

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

CHAIN OF CUSTODY

WESTERN GEOLOGIC RESOURCES, INC.
2169 E. Francisco Boulevard, Suite B
San Rafael, California 94901
415/457-7595 Fax: 415/457-8521

General Remarks

Laboratory CC MS | Log #

Address 141 Suburban Rd SAN LUIS OBISPO

Project # 1-101-03 | Project Name OAKLAND GRAND AVE | Project Mgr/Contact KATHLEEN JOHNSON

Sampler(s) R. SMITH, B. BALDWIN

Analyses Requested

Lab Sample Number	Date Sampled	Sample Type See expl 1	Container Type See expl 2	Preservative	Sample Description	Number of Containers	8260 Full Scan TPPH	Turn Around Required See expl 3	Remarks
	9 MAR 69	GW	V	NaHSO4	101 01 A,B	F-12085 2	X		
					101 02 A,B	12086			
					101 03 A,B	12087			
					101 04 A,B	12088			
					101 05 A,B	12089			
					101 DB A,B	12090			

Sample Relinquished By	Date/Time	Received By	Date/Time
B. Baldwin	9/14/69 16:30	greyhound	
greyhound	9-15-69 1400	Nellie Hoyt	9-15-69 1400
		Rec'd sealed, intact & cold	

Explanation

1 SO--Soil NA--Nonaqueous GW--Groundwater SL--Sludge PE--Petroleum VP--Vapor AQ--Aqueous OT--Other

2 T--Brass Tube P--Plastic Bottle V--VOA Bottle B--Bag G--Glass Bottle OT--Other

3 N--Normal (2wks) W--1 Wk R--24 hr Rush H--Hold

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 : QS-Ø9229
Collected :
Received :
Tested : Ø9/22/89
Collected by:

EXTRACTED BY EPA METHOD 5Ø3Ø (purge-and-trap)
EPA METHOD 824Ø/826Ø (GC/MS)
Sample Description:
BOILED WATER SPIKE,
Spiked with 1ØØ ug/L VOA Stock

CCAS

Compound Analyzed	Detection Limit (ug/L)(PQL)*	Concentration w/spike (ug/L)	Percent Recovery
Benzene	1.	98.	98.
Bromodichloromethane	1.	123.	123.
Bromoform	2.	not spiked	----
Carbon Tetrachloride	1.	1Ø6.	1Ø6.
Chlorobenzene	1.	126.	126.
2-Chloroethyl Vinyl Ether	1Ø.	not spiked	----
Chloroform	5.	12Ø.	12Ø.
Dibromochloromethane	1.	13Ø.	13Ø.
1,2-Dichlorobenzene	1.	1Ø7.	1Ø7.
1,3-Dichlorobenzene	1.	1Ø5.	1Ø5.
1,4-Dichlorobenzene	1.	124.	124.
1,1-Dichloroethane	1.	119.	119.
1,2-Dichloroethane (EDC)	1.	99.	99.
1,1-Dichloroethene	1.	116.	116.
c-1,2-Dichloroethene	1.	114.	114.
t-1,2-Dichloroethene	1.	94.	94.
1,2-Dichloropropane	1.	125.	125.
c-1,3-Dichloropropene	1.	123.	123.
t-1,3-Dichloropropene	1.	1Ø6.	1Ø6.
Ethylbenzene	1.	126.	126.
Ethyl Chloride	1.	1Ø7.	1Ø7.
Ethylene Dibromide	1.	not spiked	----
Methyl Bromide	1.	not spiked	----
Methyl Chloride	1.	62.	62.
Methylene Chloride	1Ø.	131.	131.
1,1,2,2-Tetrachloroethane	5.	not spiked	----
Tetrachloroethylene (PCE)	1.	127.	127.
Toluene	5.	128.	128.
1,1,1-Trichloroethane (TCA)	1.	122.	122.
1,1,2-Trichloroethane	1.	not spiked	----
Trichloroethene (TCE)	1.	128.	128.
Trichlorotrifluoroethane	5.	14Ø.	14Ø.
Trichlorofluoromethane	5.	133.	133.
Vinyl Chloride	1.	85.	85.
Xylenes	2.	39Ø.	13Ø.

Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 9Ø/1ØØ.

MSD#6/1Ø-Ø4-89
QSØ9229v.wr1/119
MH/jl/jc/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 93401
(805) 543-2553

Lab Number : B-09229
Collected :
Received :
Tested : 09/22/89
Collected by:

EXTRACTED BY EPA METHOD 5030 (purge-and-trap)
EPA METHOD 8240/8260 (GC/MS)
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	0.2	not found
1,3-Dichlorobenzene	0.2	not found
1,4-Dichlorobenzene	0.2	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	0.5	not found
1,1,1-Trichloroethane (TCA)	0.2	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 Recovery of Sample-Specific Quality Assurance Spike is: 98.

MSD#6/10-04-89
B09229v.wr1/119
MH/ec/jc/rh

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 : B-Ø9219
Collected :
Received :
Tested : Ø9/21/89
Collected by:

EXTRACTED BY EPA METHOD 5Ø3Ø (purge-and-trap)
EPA METHOD 824Ø/826Ø (GC/MS)
Sample Description:
INSTRUMENT BLANK

CCAS

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
Ethylene Dibromide	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.5	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)	1.	not found
Vinyl Chloride	Ø.1	not found
Xylenes	Ø.2	not found

Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 11Ø/99.

MSD#6/1Ø-Ø4-89
BØ9219v.wr1/118
MH/ec/ck/rh

Respectfully submitted,
Mary Havlicek
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 : QS-Ø9219
Collected :
Received :
Tested : Ø9/21/89
Collected by:

EXTRACTED BY EPA METHOD 5Ø3Ø (purge-and-trap)
EPA METHOD 824Ø/826Ø (GC/MS)
Sample Description:
BOILED WATER SPIKE,
Spiked with 1ØØ ug/L VOA Stock

CCAS

Compound Analyzed	Detection Limit (ug/L)(PQL)*	Concentration w/spike (ug/L)	Percent Recovery
Benzene	1.	94.	94.
Bromodichloromethane	1.	115.	115.
Bromoform	2.	12Ø.	12Ø.
Carbon Tetrachloride	1.	98.	98.
Chlorobenzene	1.	1Ø8.	1Ø8.
2-Chloroethyl Vinyl Ether	1Ø.	not spiked	----
Chloroform	5.	1Ø9.	1Ø9.
Dibromochloromethane	1.	135.	135.
1,2-Dichlorobenzene	1.	1Ø2.	1Ø2.
1,3-Dichlorobenzene	1.	1Ø6.	1Ø6.
1,4-Dichlorobenzene	1.	111.	111.
1,1-Dichloroethane	1.	1ØØ.	1ØØ.
1,2-Dichloroethane (EDC)	1.	1Ø9.	1Ø9.
1,1-Dichloroethene	1.	11Ø.	11Ø.
c-1,2-Dichloroethene	1.	97.	97.
t-1,2-Dichloroethene	1.	99.	99.
1,2-Dichloropropane	1.	124.	124.
c-1,3-Dichloropropene	1.	134.	134.
t-1,3-Dichloropropene	1.	119.	119.
Ethylbenzene	1.	88.	88.
Ethyl Chloride	1.	1Ø6.	1Ø6.
Ethylene Dibromide	1.	135.	135.
Methyl Bromide	1.	14Ø.	14Ø.
Methyl Chloride	1.	not spiked	----
Methylene Chloride	1Ø.	114.	114.
1,1,2,2-Tetrachloroethane	5.	14Ø.	14Ø.
Tetrachloroethylene (PCE)	1.	1Ø8.	1Ø8.
Toluene	5.	1Ø8.	1Ø8.
1,1,1-Trichloroethane (TCA)	1.	86.	86.
1,1,2-Trichloroethane	1.	139.	139.
Trichloroethene (TCE)	1.	11Ø.	11Ø.
Trichlorotrifluoroethane	5.	1Ø3.	1Ø3.
Trichlorofluoromethane	5.	115.	115.
Vinyl Chloride	1.	not spiked	----
Xylenes	2.	27Ø.	9Ø.

Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 124/96.

MSD#6/1Ø-Ø4-89
QSØ9219v.wr1/119
MH/tz/ck/rh

Respectfully submitted,

Mary Havlicek, Ph.D., President