Existing
C6-01

CALIFORNIA REGIONAL WATER
JUN 29 1989
QUALITY CONTROL BOARD

Chevron U.S.A. Inc.
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Area Manager, Operations
C. G. Trimbach
Manager, Engineering

June 14, 1989

Ms. Linda L. Spencer
Alameda County Water District
43885 South Grimmer Boulevard
Fremont, California 94537

Re: Former Chevron Facility #91026
3701 Broadway
Oakland, California

Dear Ms. Spencer:

Enclosed are the results of quarterly ground water sampling conducted by Weiss Associates at the above-referenced site. As indicated in the report, all water samples were analyzed for total purgeable petroleum hydrocarbons (TPPH) and aromatic hydrocarbons. Ground water samples from monitoring wells A, B-1, B-2, B-3, B-4, B-6, and B-7 contained benzene the California Department of Health Services (DHS) recommended action level for drinking water. Ground water samples from monitoring wells B-1, B-2, B-3, B-6 and B-7 contained toluene above the DHS recommended action level. Ground water samples from B-2, B-3 and B-7 contained ethylbenzene and xylenes above DHS recommended action levels. A remediation system is being designed for the site. If you have any questions or comments, please contact Lisa Marinaro at (415) 842-2527.

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.

Sincerely,
D. Moller

By L. Marinaro for CGT
C. G. Trimbach

CGT/wa
Enclosure

cc: Don Dalke
Regonal Water Quality Control Board
1111 Jackson Street
Oakland, California 94607

WEISS ASSOCIATES
Consulting in Geology & Geohydrology
2938 McClure Street, Oakland, CA 94609
415-465-1100

JUN 16 '89 H.C.H.

June 14, 1989

Lisa Marinaro
Chevron USA
P.O. Box 5004
San Ramon, CA 94583-0804

Re: Former Chevron Service Station #91026
Broadway and Mac Arthur
Oakland, California
WA Job #4-418-01

Dear Ms. Marinaro:

Weiss Associates (WA) collected ground water samples from ten monitoring wells on May 9 and 10, 1989 as part of the quarterly ground water monitoring program at former Chevron Service Station #91026 in Oakland, California (Figure 1). Ground water samples from monitoring wells A, B-1, B-2, B-3, B-4, B-6, and B-7 (Figure 2) contained benzene above the California Department of Health Services (DHS) recommended action level for drinking water. Ground water samples from monitoring wells B-1, B-2, B-3, B-6 and B-7 contained toluene above the DHS recommended action level. Ground water samples from wells B-2, B-3 and B-7 contained ethylbenzene and xylenes above DHS recommended action levels.

GROUND WATER SAMPLING

Robert Hoffman, Andy Rodgers, and Eric Anderson, WA environmental technicians, collected ground water samples from monitoring wells A, F, EA-1, EA-2, B-1, B-2, B-3, B-4, B-6, and B-7 on May 9 and 10, 1989. Monitoring wells C and B-5 were paved over so they could not be sampled this quarter. Prior to sampling, at least four well-casing volumes of ground water, approximately 42 gallons, were purged from monitoring well EA-1 using a steam-cleaned PVC bailer. Monitoring wells A, F, EA-2, B-1, B-2, B-3, B-4, B-6, and B-7 were purged dry with steam-cleaned PVC bailers after evacuating 0.75 to 35 gallons of water and sampled after water levels recovered to about 80 percent of their static water level. Each ground water sample was decanted from a steam-cleaned Teflon sampling bailer into a 40 ml glass volatile organic analysis vial (VOA) with a Teflon septum, preserved with sodium bisulfate

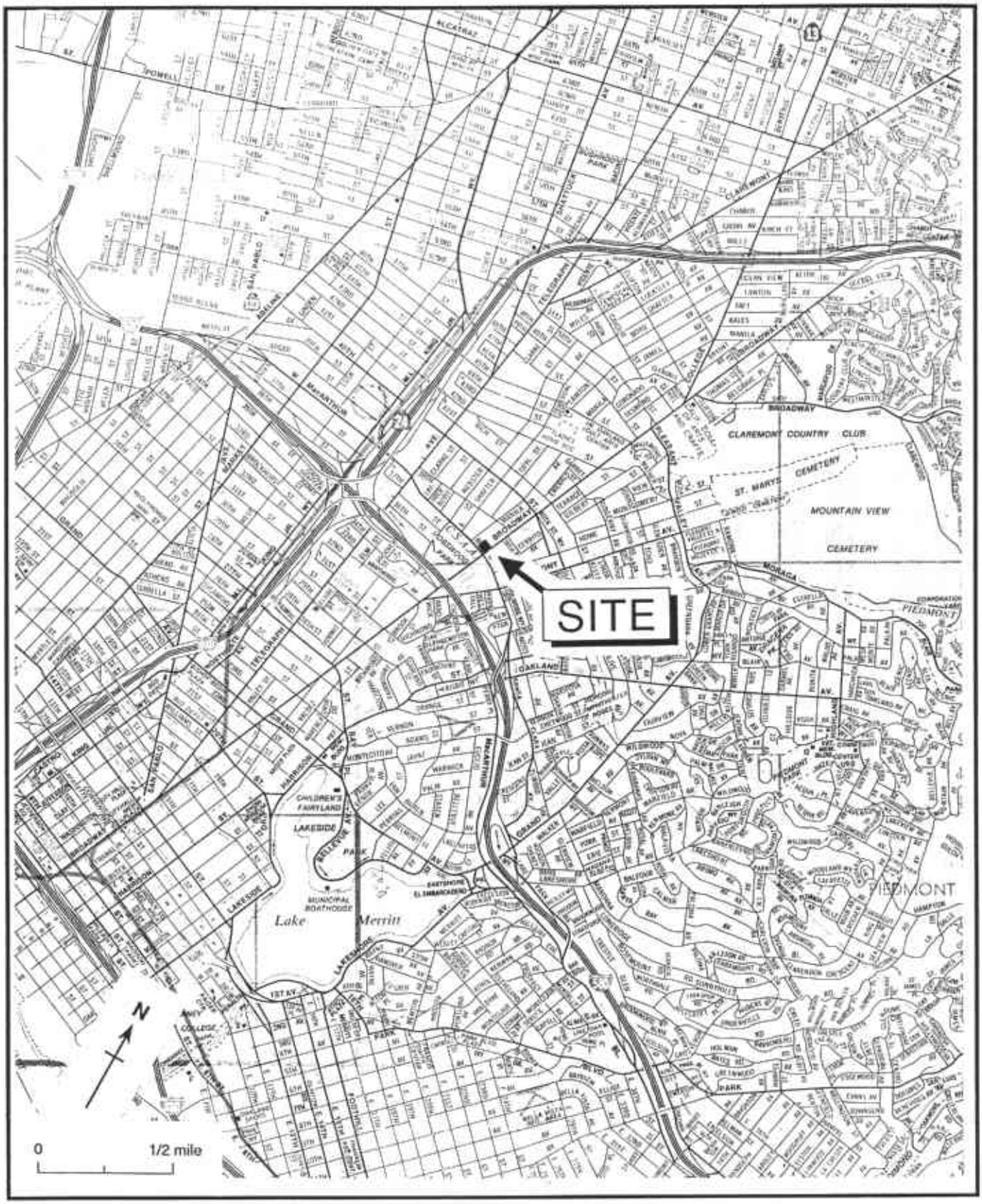

Figure 1. Site Location Map - Former Chevron Service Station #91026, Oakland, California

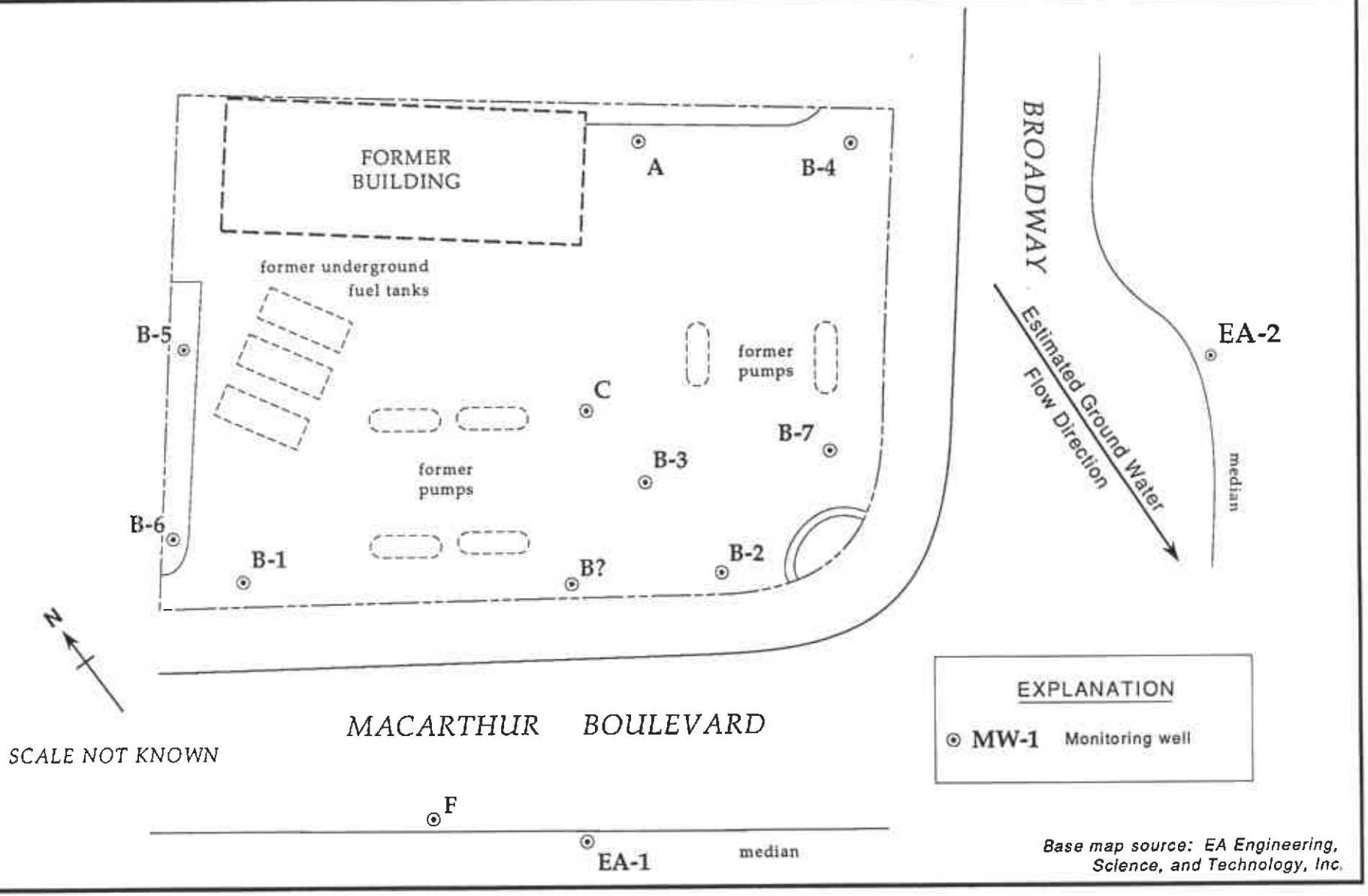

Figure 2. Monitoring Well Locations - Former Chevron Service Station #91026, Oakland, California

and refrigerated for transport to Superior Analytical Laboratory, Inc. of San Francisco, California. To reduce the possibility of sample contamination during shipment or storage, each sample was sealed within a plastic guard bottle containing granular activated carbon. The water sample collection records and chain of custody forms are included as Attachments A and B, respectively.

A bailer blank and a travel blank were shipped with the ground water samples. The bailer blank was prepared by pouring deionized water into a clean Teflon sampling bailer prior to sample collection. The water was then decanted from the bailer into a 40 ml VOA, preserved, refrigerated and transported to the laboratory with the ground water samples. A travel blank of certified organic-free distilled water, supplied by the laboratory, accompanied the samples to provide assurance that contamination was not introduced during sample bottle transport or sample storage.

CHEMICAL ANALYSES

The ground water samples were analyzed for total purgable petroleum hydrocarbons (TPPH) by modified EPA Method 8015 and for benzene, ethylbenzene, toluene, and xylenes (BETX) by EPA Method 602. The results of the water analysis are presented in Table 1 and the analytic reports are included as Attachment C. Ground water samples from all on-site wells contained TPPH above several thousand ppb, with ground water from wells B-2 and B-7 containing concentrations in the order of 200,000 ppb TPPH. Ground water from wells B-1, B-2, B-3 and B-7 contained aromatics at concentrations greater than several thousand ppb.

We appreciate the opportunity to provide hydrogeologic consulting services to Chevron and trust that this report meets your needs. If you have any questions, please call Sharon Halper.

Sincerely,
Weiss Associates

Robert E. Kitay
Staff Geologist

Richard B. Weiss
Principal Hydrogeologist

REK/RBW

C:\WP50\CHEVRON\QMLETTER\418L1JU9.WP

Attachments: A - Water Sample Collection Records
B - Chain of Custody
C - Analytic Reports

TABLE 1. Analytic Results for Ground Water - Former Chevron Service Station #91026, Oakland, California

Sample ID	Date Sampled	Analytic Lab	Analytic Method	TPPH	B	E	T	X
				<----------µg/ppb---------->				
A	5-09-89	SUP	8015/602	11,000	260	94	<2	230
C	5-09-89*	---	---	---	---	---	---	---
F	5-09-89	SUP	8015/602	<500	<0.5	<0.5	0.6	1.0
EA-1	5-09-89	SUP	8015/602	<500	<0.5	<0.5	<0.5	<0.5
EA-2	5-09-89	SUP	8015/602	760	<0.5	1.1	<0.5	<0.5
B-1	5-10-89	SUP	8015/602	16,000	2,300	81	260	740
B-2	5-09-89	SUP	8015/602	170,000	30,000	2,300	8,400	12,000
B-3	5-10-89	SUP	8015/602	70,000	12,000	1,400	9,500	8,900
B-4	5-10-89	SUP	8015/602	3,600	840	120	34	200
B-5	5-09-89*	---	---	---	---	---	---	---
B-6	5-09-89	SUP	8015/602	26,000	120	250	110	1,300
B-7	5-10-89	SUP	8015/602	210,000	13,000	2,000	19,000	20,000
Travel Blank	5-10-89	SUP	8015/602	<500	<0.5	<0.5	<0.5	<0.5
Bailer Blank	5-10-89	SUP	8015/602	<500	<0.5	<0.5	<0.5	<0.5
DHS Action Levels	---	---	---	NAL	1	680	100	1,750

TABLE 1. Analytic Results for Ground Water - Former Chevron Service Station #91026, Oakland, California

Abbreviations:

TPPH = Total Purgable Petroleum Hydrocarbons
B = Benzene
E = Ethylbenzene
T = Toluene
X = Xylenes
DHS Action Levels = Department of Health Services Recommended Drinking Water Action Levels
NAL = No action level established by DHS
* = Could not be sampled

Analytic Laboratory:

SUP = Superior Analytical Laboratory of San Francisco, California

Analytic Methods:

8015 = Modified EPA Method 8015, TPPH
602 = EPA Method 602, Purgeable Aromatics

ATTACHMENT A

WATER SAMPLE COLLECTION RECORDS

WEISS ASSOCIATES

WATER SAMPLING DATA Well Name A Date 5/10/89 Time 17:10
Job Name/Number CHEVRON Oakland Mac-Bway / 4-418-01 Initials EWA
Well √ Spring — Surface — Other —
Location Northern End
WELL DATA: Well type M (Describe; M = monitoring well)
Depth to Water 14.07 ft (pump/stat) Maximum Drawdown Limit (MDL) — ft
Well depth 20.08 ft (sounded) Well depth — ft (spec)
Well diameter 2 in. TOC height above ground — ft Water elev. — ft

Volume Evacuated:	Pumped	Pumped	Bailed
Time: Stop	/	/	13:09
Start	/	/	12:36
Total hrs/min	/	/	:33

Total Evacuated 2.0 gal.
Evacuation Rate .06 gpm

Pump # and type / Bailer # and type Teflon bailer #CC
Hose # and type /

Formulas/Conversions
r = well radius in ft
h = ht of water col in ft
vol. in cyl. = $\pi r^2 h$
7.48 gal/ft^3
V_2" casing = 0.163 gal/ft
V_3" casing = 0.367 gal/ft
V_4" casing = 0.653 gal/ft
$V_{4.5}$" casing = 0.826 gal/ft
V_6" casing = 1.47 gal/ft
V_8" casing = 2.61 gal/ft

Sampling Port: Rate — gpm Volume — gal.
Location/description —

Initial height of water in casing = 6.01 ft; volume = .98 gal. x 4 vol's
Evacuation at drawdown limit = 3 x initial volume = — gal.
Evacuation at sampling point = 1 x initial volume = — gal.
Total to be evacuated = 3.92 gal.
Water Color: NONE Odor: Respirator worn
Description of sediment and/or foreign matter in sample: medium suspended silt
Point of collection: End of bailer #CC
Depth to water during pumping — ft — time Sampling 16.92 ft 17:07 time 250 % recovered
Pumped dry? Yes After 3 gal. Recovery rate —
ADDITIONAL COMMENTS, LOCATION SKETCH, ENVIRONMENTAL CONDITIONS, e.g., weather, van running nearby, problems with equipment or sampling, etc., pump on/off times, etc. (over).

CHEMICAL DATA e.d.
Temperature — °C Thermometer # — Specific Conductance — umhos
pH — Calibration — 4.0, — 7.0, — 10.0 Calibration Temp. — °C

SAMPLES COLLECTED:

Sample ID No.		Bottle/ Cap (Specify)	Filtered (size, u) (N = No)	Preservative (specify)	(R = Refrigerated)	Analysis	Lab
(2) 059418-A	40 ml	C/N	N	NaHSO4	R	Gas + BETX	Sup.
	ml						
	ml						
	ml						
	ml						
	ml						
	ml						
	ml						
	ml						
	ml						

Bottles: P = Polyethylene; Pp = Polypropylene; C or B = Clear/Brown Glass; O = Other (describe)
Additional Cap Codes: Py = Polyseal; V = VOA/Teflon septa; M = Metal

Gasoline CnHm diffusion tube read 0 ppm after 200 ml. Contrastingly, there is a strong oil/grease smell present.

NOTE: A SAMPLE WAS TAKEN FROM INITAL WELL BORE VOLUME

WEISS ASSOCIATES

WATER SAMPLING DATA Well Name F Date 5/9/89 Time 13:40/15:30
Job Name/Number CHEV. OAK ~~FFF~~ Initials RH
Well V Spring ___ Surface ___ Other ___
Location LEFT LANE OF MACARTHUR BLVD.
WELL DATA: Well type M (Describe; M = monitoring well)
Depth to Water 18.70 (ft) (pump/stat) Maximum Drawdown Limit (MDL) N/A ft
Well depth 19.63 (ft) (sounded) Well depth N/A ft (spec)
Well diameter 2 (in.) TOC height above ground — ft Water elev. — ft

Volume Evacuated:	Pumped	Pumped	Bailed
Time: Stop			13:39
Start			13:36
Total hrs/min			

Total Evacuated <.25 (gal)
Evacuation Rate ___ gpm

Pump # and type N/A Bailer # and type 2' TEF B
Hose # and type N/A

Formulas/Conversions
r = well radius in ft
h = ht of water col in ft
vol. in cyl. = $\pi r^2 h$
7.48 gal/ft^3
V_2" casing = 0.163 gal/ft
V_3" casing = 0.367 gal/ft
V_4" casing = 0.653 gal/ft
$V_{4.5}$" casing = 0.826 gal/ft
V_6" casing = 1.47 gal/ft
V_8" casing = 2.61 gal/ft

Sampling Port: Rate N/A gpm Volume N/A gal.
Location/description N/A

Initial height of water in casing = ___ ft; volume = ___ gal.
Evacuation at drawdown limit = 3 x initial volume = ___ gal.
Evacuation at sampling point = 1 x initial volume = ___ gal.
Total to be evacuated = ___ gal.
Water Color: GREY/BLACK Odor: NONE NOTICED
Description of sediment and/or foreign matter in sample:
VERY LIGHT SEMI FLOATING BLACK MATTER
Point of collection: END OF 2' B TEF. BAILER
Depth to water during pumping ___ ft ___ time Sampling 19.25 ft 15:30 time
Pumped dry? Y After <.25 (gal) Recovery rate ___
ADDITIONAL COMMENTS, LOCATION SKETCH, ENVIRONMENTAL CONDITIONS, e.g., weather, van running nearby, problems with equipment or sampling, etc., pump on/off times, etc. (over).

CHEMICAL DATA
Temperature N/A °C Thermometer # N/A Specific Conductance N/A umhos
pH N/A Calibration —4.0, —7.0, —10.0 Calibration Temp. — °C

SAMPLES COLLECTED:

Sample ID No.		Bottle/ Cap (Specify)	Filtered (size, u) (N = No)	Preservative (specify) (R = Refrigerated)	Analysis	Lab
(2) 05941BF1	40 ml	C/V	N	R NAHSO4	GAS + BETX	SUR. HOLD
	ml					
(2) 05941BF2	40 ml	C/V	N	R	NaHSO4 GAS+BETX	SUR (A)
	ml					
	ml					
	ml					
	ml					
	ml					
	ml					
	ml					

Bottles: P = Polyethylene; Pp = Polypropylene; C or B = Clear/Brown Glass; O = Other (describe)
Additional Cap Codes: Py = Polyseal; V = VOA/Teflon septa; M = Metal

WEISS ASSOCIATES

WATER SAMPLING DATA Well Name EA-1 Date 5/9/89 Time 13:00
Job Name/Number Chev. Oak III 4-418-01 Initials RFF
Well X Spring ___ Surface ___ Other ___
Location Macarthur Blvd
WELL DATA: Well type M (Describe; M = monitoring well)
Depth to Water 14.56 ft (pump/stat) Maximum Drawdown Limit (MDL) — ft
Well depth 30.27 (ft) (sounded) Well depth — ft (spec)
Well diameter 4 in. TOC height above ground — ft Water elev. — ft

Volume Evacuated:	Pumped	Pumped	Bailed
Time: Stop	/	/	13:00
Start	/	/	12:15
Total hrs/min	/	/	:45

Total Evacuated 42 gal.
Evacuation Rate 0.93 gpm

Pump # and type / Bailer # and type Purge = 4" PVC #U Sampled Teflon #C
Hose # and type /

Formulas/Conversions
r = well radius in ft
h = ht of water col in ft
vol. in cyl. = $\pi r^2 h$
7.48 gal/ft^3
V_2" casing = 0.163 gal/ft
V_3" casing = 0.367 gal/ft
V_4" casing = 0.653 gal/ft
$V_{4.5}$" casing = 0.826 gal/ft
V_6" casing = 1.47 gal/ft
V_8" casing = 2.61 gal/ft

Sampling Port: Rate — gpm Volume — gal.
Location/description —

Initial height of water in casing = 15.71 ft; volume = 10.25 gal. x 4 =
Evacuation at drawdown limit = 3 x initial volume = — gal.
Evacuation at sampling point = 1 x initial volume = — gal.
Total to be evacuated = 41.03 gal.

Water Color: Cloudy Tan Odor: NONE
Description of sediment and/or foreign matter in sample: Very fine silt

Point of collection: End of teflon bailer #C
Depth to water during pumping — ft — time Sampling 14.59 ft 12:52 time
Pumped dry? N After — gal. Recovery rate —
ADDITIONAL COMMENTS, LOCATION SKETCH, ENVIRONMENTAL CONDITIONS, e.g., weather, van running nearby, problems with equipment or sampling, etc., pump on/off times, etc. (over).

CHEMICAL DATA
Temperature 20 °C Thermometer # — Specific Conductance — umhos
pH 6.4 Calibration 3.99 4.0, 7.03 7.0, ___ 10.0 Calibration Temp. 18 °C

SAMPLES COLLECTED:

Sample ID No.			Bottle/ Cap (Specify)	Filtered (size, u) (N = No)	Preservative (specify) (R = Refrigerated)		Analysis	Lab
059418-EA1	40	ml	C/V	N	$NaHSO_4$	R	Gas + BETX	SUB
		ml						
		ml						
		ml						
		ml						
		ml						
		ml						
		ml						
		ml						
		ml						

Bottles: P = Polyethylene; Pp = Polypropylene; C or B = Clear/Brown Glass; O = Other (describe)
Additional Cap Codes: Py = Polyseal; V = VOA/Teflon septa; M = Metal

WEISS ASSOCIATES

WATER SAMPLING DATA Well Name EA-2 Date 5/9/94 Time 16:12
Job Name/Number CHEV. OAK. III 4-418-01 Initials RH/AR
Well ✓ Spring ___ Surface ___ Other ___
Location DIVIDER OF BROADWAY
WELL DATA: Well type M (Describe; M = monitoring well)
Depth to Water 15.95 ft (pump/stat) Maximum Drawdown Limit (MDL) N/A ft
Well depth 30.11 ft (sounded) Well depth N/A ft (spec)
Well diameter 4 in. TOC height above ground ___ ft Water elev. N/A ft

Volume Evacuated:	Pumped	Pumped	Bailed
Time: Stop	/	/	14:20 - DRY
Start	/	/	14:05
Total hrs/min	/	/	—

Total Evacuated 30 gal.
Evacuation Rate — gpm
Purge - HLL 3' PVC
Pump # and type N/A Bailer # and type Sample - GG teflon 2
Hose # and type N/A

Formulas/Conversions
r = well radius in ft
h = ht of water col in ft
vol. in cyl. = $\pi r^2 h$
7.48 gal/ft^3
V_2" casing = 0.163 gal/ft
V_3" casing = 0.367 gal/ft
V_4" casing = 0.653 gal/ft
$V_{4.5}$" casing = 0.826 gal/ft
V_6" casing = 1.47 gal/ft
V_8" casing = 2.61 gal/ft

Sampling Port: Rate N/A gpm Volume N/A gal.
Location/description N/A

Initial height of water in casing = 14.16 ft; volume = 9.2 gal. x 4
Evacuation at drawdown limit = 3 x initial volume = — gal.
Evacuation at sampling point = 1 x initial volume = — gal.
Total to be evacuated = 37 gal.
Water Color: Cloudy tan/white Odor: NONE - Hard to tell on Broadway
Description of sediment and/or foreign matter in sample: Very fine silt

Point of collection: End of teflon bailer
Depth to water during pumping ___ ft ___ time Sampling 16.72 (ft) 16:10 time
Pumped dry? Y After 35 gal. Recovery rate ___
ADDITIONAL COMMENTS, LOCATION SKETCH, ENVIRONMENTAL CONDITIONS, e.g., weather, van running nearby, problems with equipment or sampling, etc., pump on/off times, etc. (over).

CHEMICAL DATA
Temperature N/A °C Thermometer # N/A Specific Conductance — umhos
pH N/A Calibration N/A 4.0, — 7.0, — 10.0 Calibration Temp. — °C

SAMPLES COLLECTED:

Sample ID No.		Bottle/ Cap (Specify)	Filtered (size, u) (N = No)	Preservative (specify) (R = Refrigerated)		Analysis	Lab
059418-EA2	40 (ml)	C/U	N	R	NAHSO4	GAS + BETX	SUP.
	ml						
	ml						
	ml						
	ml						
	ml						
	ml						
	ml						
	ml						
	ml						
	ml						

Bottles: P = Polyethylene; Pp = Polypropylene; C or B = Clear/Brown Glass; O = Other (describe)
Additional Cap Codes: Py = Polyseal; V = VOA/Teflon septa; M = Metal

WEISS ASSOCIATES

WATER SAMPLING DATA Well Name B-1 e.a. Date 5/9/89 5/10/89 Time ~~AM~~ ASR 9:37
Job Name/Number CHEV. OAK. ~~FF~~ Initials RH
Well ✓ Spring ___ Surface ___ Other ___
Location USED CAR LOT
WELL DATA: Well type M (Describe; M = monitoring well)
Depth to Water 12.58 (ft) (pump/stat) Maximum Drawdown Limit (MDL) N/A ft
Well depth 15.20 (ft) (sounded) Well depth N/A ft (spec)
Well diameter 2 (in) TOC height above ground N/A ft Water elev. N/A ft

Volume Evacuated:	Pumped	Pumped	Bailed
Time: Stop			14:55 DRY
Start			14:49
Total hrs/min			:06
Total Evacuated	1.2 gal.		
Evacuation Rate	.2 gpm		

Pump # and type N/A Bailer # and type 2 TEF. "FF"
Hose # and type N/A

Formulas/Conversions
r = well radius in ft
h = ht of water col in ft
vol. in cyl. = $\pi r^2 h$
7.48 gal/ft^3
V_2" casing = 0.163 gal/ft
V_3" casing = 0.367 gal/ft
V_4" casing = 0.653 gal/ft
$V_{4.5}$" casing = 0.826 gal/ft
V_6" casing = 1.47 gal/ft
V_8" casing = 2.61 gal/ft

Sampling Port: Rate N/A gpm Volume N/A gal.
Location/description N/A

Initial height of water in casing = 2.62 (ft) volume = .42 (gal.) x 4 =
Evacuation at drawdown limit = 3 x initial volume = — gal.
Evacuation at sampling point = 1 x initial volume = — gal.
Total to be evacuated = 1.7 gal.
Water Color: Green/Tan Odor: Very Very Very Strong/Fuel Like
Description of sediment and/or foreign matter in sample:
Medium to fine suspended silt (≈ 2 ml) Settles to bottom within 2 minutes
Point of collection: End of Teflon bailer FF
Depth to water during pumping N/A ft N/A time Sampling 12.84 ft 9:20 time
Pumped dry? Y After 1.2 (gal) Recovery rate —
ADDITIONAL COMMENTS, LOCATION SKETCH, ENVIRONMENTAL CONDITIONS, e.g., weather, van running nearby, problems with equipment or sampling, etc., pump on/off times, etc. (over). No lock

CHEMICAL DATA
Temperature N/A °C Thermometer # N/A Specific Conductance N/A umhos
pH N/A Calibration N/A 4.0, — 7.0, — 10.0 Calibration Temp. — °C

SAMPLES COLLECTED:

# of bottles	Sample ID No.		Bottle/ Cap (Specify)	Filtered (size, u) (N = No)	Preservative (specify) (R = Refrigerated)		Analysis	Lab
(2)	050418-B1	40 ml	c/v	N	NaHSO$_4$	R	Gas/BTEX	SUP
		ml						
		ml						
		ml						
		ml						
		ml						
		ml						
		ml						
		ml						
		ml						

Bottles: P = Polyethylene; Pp = Polypropylene; C or B = Clear/Brown Glass; O = Other (describe)
Additional Cap Codes: Py = Polyseal; V = VOA/Teflon septa; M = Metal

WEISS ASSOCIATES

WATER SAMPLING DATA Well Name B-2 Date 5/9/89 Time 12:55 - 5/10/89
Job Name/Number CHEV. OAK. FF Initials RH
Well ✓ Spring ___ Surface ___ Other ___
Location USED CAR LOT MACARTHER SIDE
WELL DATA: Well type M (Describe; M = monitoring well)
Depth to Water 14.58 (ft) (pump/stat) Maximum Drawdown Limit (MDL) N/A ft
Well depth 19.05 (ft) (sounded) Well depth N/A ft (spec)
Well diameter 2 (in) TOC height above ground N/A ft Water elev. N/A ft

Volume Evacuated:	Pumped	Pumped	Bailed
Time: Stop			
Start			10:51
Total hrs/min			
Total Evacuated	1.9 gal.		
Evacuation Rate	— gpm		

Pump # and type N/A Bailer # and type 2' TEF. "EE"
Hose # and type N/A

Formulas/Conversions
r = well radius in ft
h = ht of water col in ft
vol. in cyl. = $\pi r^2 h$
7.48 gal/ft^3
V_2" casing = 0.163 gal/ft
V_3" casing = 0.367 gal/ft
V_4" casing = 0.653 gal/ft
$V_{4.5}$" casing = 0.826 gal/ft
V_6" casing = 1.47 gal/ft
V_8" casing = 2.61 gal/ft

Sampling Port: Rate N/A gpm Volume N/A gal.
Location/description N/A

Initial height of water in casing = 4.47 (ft) volume = .72 (gal) x 4 =
Evacuation at drawdown limit = 3 x initial volume = ___ gal.
Evacuation at sampling point = 1 x initial volume = ___ gal.
Total to be evacuated = 2.91 gal.
Water Color: Lt. Tan Odor: Respirator odor
Description of sediment and/or foreign matter in sample: White suspended silt + beads of oil or gas sticking to side of VOA
Point of collection: END OF 2' TEF. "EE"
Depth to water during pumping — ft — time Sampling 14.95 ft 12:54 time
Pumped dry? Y After 1.9 (gal). Recovery rate —
ADDITIONAL COMMENTS: LOCATION SKETCH, ENVIRONMENTAL CONDITIONS, e.g., weather, van running nearby, problems with equipment or sampling, etc., pump on/off times, etc. (over). Well not locked

CHEMICAL DATA
Temperature ___ °C Thermometer # ___ Specific Conductance ___ umhos
pH ___ Calibration ___ 4.0, ___ 7.0, ___ 10.0 Calibration Temp. ___ °C
AIR = 200 ccs = 200 ppm GASOLINE

SAMPLES COLLECTED:

Sample ID No.			Bottle/ Cap (Specify)	Filtered (size, u) (N = No)	Preservative (specify) (R = Refrigerated)		Analysis	Lab
059418-B2	40	ml	C/V	N	H_2SO_4	R	Gas + BTEX	SUB
		ml						
		ml						
		ml						
		ml						
		ml						
		ml						
		ml						
		ml						
		ml						

Bottles: P = Polyethylene; Pp = Polypropylene; C or B = Clear/Brown Glass; O = Other (describe)
Additional Cap Codes: Py = Polyseal; V = VOA/Teflon septa; M = Metal

WEISS ASSOCIATES

WATER SAMPLING DATA Well Name B-3 Date 5/10/89 Time 14:24
Job Name/Number Chevron Oakland - Mac and B-way 4-418-01 Initials EWA
Well √ Spring ___ Surface ___ Other ___
Location N. of B-2, S. of C
WELL DATA: Well type M (Describe; M = monitoring well)
Depth to Water 14.2 ft (pump/stat) Maximum Drawdown Limit (MDL) — ft
Well depth 18.91 ft (sounded) Well depth — ft (spec)
Well diameter 2 in. TOC height above ground — ft Water elev. — ft

Volume Evacuated:	Pumped	Pumped	Bailed
Time: Stop	/	/	11:04
Start	/	/	10:44
Total hrs/min	/	/	:20

Total Evacuated 2 gal.
Evacuation Rate — gpm

Pump # and type — Bailer # and type Teflon bailer # DD
Hose # and type —

Formulas/Conversions
r = well radius in ft
h = ht of water col in ft
vol. in cyl. = $\pi r^2 h$
7.48 gal/ft^3
V_2" casing = 0.163 gal/ft
V_3" casing = 0.367 gal/ft
V_4" casing = 0.653 gal/ft
$V_{4.5}$" casing = 0.826 gal/ft
V_6" casing = 1.47 gal/ft
V_8" casing = 2.61 gal/ft

Sampling Port: Rate — gpm Volume — gal.
Location/description —

Initial height of water in casing = 4.71 ft; volume = .77 gal. x 4 vols
Evacuation at drawdown limit = 3 x initial volume = — gal.
Evacuation at sampling point = 1 x initial volume = — gal.
Total to be evacuated = 3.07 gal.
3.77' = 80%
Water Color: none Odor: respirator worn
Description of sediment and/or foreign matter in sample: slight suspended fines
Point of collection: End of teflon bailer "DD"
Depth to water during pumping — ft — time Sampling 15.20 ft 14:18 time
11:04 Pumped dry? Yes After 2 gal. Recovery rate .003 gal/min
ADDITIONAL COMMENTS, LOCATION SKETCH, ENVIRONMENTAL CONDITIONS, e.g., weather, van running nearby, problems with equipment or sampling, etc., pump on/off times, etc. (over). not locked

CHEMICAL DATA
Temperature / °C Thermometer # / Specific Conductance / umhos
pH / Calibration / 4.0, / 7.0, / 10.0 Calibration Temp. ___ °C

SAMPLES COLLECTED:

Sample ID No.		Bottle/ Cap (Specify)	Filtered (size, u) (N = No)	Preservative (specify)	(R = Refrigerated)	Analysis	Lab
059418-B3	40 ml	c/v	N	NaHSO4	R	Gas + BETX	Sep.
	ml						
	ml						
	ml						
	ml						
	ml						
	ml						
	ml						
	ml						
	ml						

Bottles: P = Polyethylene; Pp = Polypropylene; C or B = Clear/Brown Glass; O = Other (describe)
Additional Cap Codes: Py = Polyseal; V = VOA/Teflon septa; M = Metal

5/10/89 E.D.

WEISS ASSOCIATES

WATER SAMPLING DATA Well Name B-4 Date ~~5/9/89~~ Time 12:08
Job Name/Number CHEVRON Oakland - Mac-B-Way / 4-418-01 Initials ~~RH~~ RH/EWA
Well √ Spring — Surface — Other —
Location NE corner of site
WELL DATA: Well type M (Describe; M = monitoring well)
Depth to Water ~~15.54~~ 14.93 ft (pump/stat) Maximum Drawdown Limit (MDL) — ft
Well depth 19.37 ft (sounded) Well depth — ft (spec)
Well diameter 2 in. TOC height above ground — ft Water elev. — ft

Volume Evacuated:	Pumped	Pumped	Bailed
Time: Stop	/	/	7:28 BAILED DRY
Start	/	/	7:23
Total hrs/min	/	/	:05

Total Evacuated 1 gal.
Evacuation Rate .2 gpm

Pump # and type — Bailer # and type "F" 3" TEF.
Hose # and type —

Formulas/Conversions
r = well radius in ft
h = ht of water col in ft
vol. in cyl. = $\pi r^2 h$
7.48 gal/ft^3
V_2" casing = 0.163 gal/ft
V_3" casing = 0.367 gal/ft
V_4" casing = 0.653 gal/ft
$V_{4.5}$" casing = 0.826 gal/ft
V_6" casing = 1.47 gal/ft
V_8" casing = 2.61 gal/ft

Sampling Port: Rate — gpm Volume — gal.
Location/description —

Initial height of water in casing = 4.44 ft; volume = .72 gal. x 4 vol's
Evacuation at drawdown limit = 3 x initial volume = — gal.
Evacuation at sampling point = 1 x initial volume = — gal.
Total to be evacuated = 2.90 gal.
Water Color: none Odor: STRONG ODOR
Description of sediment and/or foreign matter in sample:
* Slight to medium fines suspended
Point of collection: End of Teflon under "F" 15 = 86% of initial height of water
Depth to water during pumping — ft — time Sampling 15.54 ft 11:32 time
Pumped dry? Yes After 3/4 gal. Recovery rate —
ADDITIONAL COMMENTS, LOCATION SKETCH, ENVIRONMENTAL CONDITIONS, e.g., weather, van running nearby, problems with equipment or sampling, etc., pump on/off times, etc. (over).

CHEMICAL DATA
Temperature — °C Thermometer # — Specific Conductance — umhos
pH ^ Calibration — 4.0, — 7.0, — 10.0 Calibration Temp. — °C
→ AIR 100 cc's = 0 ppm GASOLINE

SAMPLES COLLECTED:

# Bottles	Sample ID No.		Bottle/ Cap (Specify)	Filtered (size, u) (N = No)	Preservative (specify) (R = Refrigerated)		Analysis	Lab
2	059418-B4	40 ml	C/V	N	NaHSO4	R	Gas+BETX	Sup.
		ml						
		ml						
		ml						
		ml						
		ml						
		ml						
		ml						
		ml						
		ml						

Bottles: P = Polyethylene; Pp = Polypropylene; C or B = Clear/Brown Glass; O = Other (describe)
Additional Cap Codes: Py = Polyseal; V = VOA/Teflon septa; M = Metal

WEISS ASSOCIATES

WATER SAMPLING DATA Well Name B-6 Date 5-9-89 Time 10:12
Job Name/Number Chev. Oak III 4-418-01 Initials ASR
Well X Spring ___ Surface ___ Other ___
Location Northwestern most well
WELL DATA: Well type M (Describe; M = monitoring well)
Depth to Water 12.11 ft (pump/stat) Maximum Drawdown Limit (MDL) — ft
Well depth 19.38 ft (sounded) Well depth — ft (spec)
Well diameter 8 in. TOC height above ground — ft Water elev. — ft

Volume Evacuated:	Pumped	Pumped	Bailed
Time: Stop	/	/	15:36 - Dry
Start	/	/	15:00
Total hrs/min	/	/	:36

Total Evacuated 30 gal.
Evacuation Rate 0.83 gpm

Pump # and type — Bailer # and type Purge = 3' PVC #AB Sample 2' Teflon #BB
Hose # and type —

Formulas/Conversions
r = well radius in ft
h = ht of water col in ft
vol. in cyl. = $\pi r^2 h$
7.48 gal/ft^3
V_2" casing = 0.163 gal/ft
V_3" casing = 0.367 gal/ft
V_4" casing = 0.653 gal/ft
$V_{4.5}$" casing = 0.826 gal/ft
V_6" casing = 1.47 gal/ft
V_8" casing = 2.61 gal/ft

Sampling Port: Rate — gpm Volume — gal.
Location/description —

Initial height of water in casing = 7.27 ft; volume = 18.9 gal. X 4
Evacuation at drawdown limit = 3 x initial volume = — gal.
Evacuation at sampling point = 1 x initial volume = — gal.
Total to be evacuated = 76 gal.
Water Color: light tan Odor: respirator worn
Description of sediment and/or foreign matter in sample:
Slight suspended silt
Point of collection: End of Teflon ~~Bailer #BB~~ S.a Bailer # BB
Depth to water during pumping — ft — time Sampling 16.64 ft 9:54 time 3.5 = 80 %
Pumped dry? Y After 30 gal. Recovery rate — Sampled at only 38% of initial
ADDITIONAL COMMENTS, LOCATION SKETCH, ENVIRONMENTAL CONDITIONS, e.g., weather, water vol. van running nearby, problems with equipment or sampling, etc., pump on/off times, etc. (over). No cap, no lock

CHEMICAL DATA
Temperature — °C Thermometer # — Specific Conductance — umhos
pH — Calibration — 4.0, — 7.0, — 10.0 Calibration Temp. — °C

SAMPLES COLLECTED:

Sample ID No.			Bottle/ Cap (Specify)	Filtered (size, u) (N = No)	Preservative (specify) (R = Refrigerated)		Analysis	Lab
(2) 050418-B6	40	ml	C/V	N	NaHSO$_4$	R	Gas + BETX	SUP
		ml						
		ml						
		ml						
		ml						
		ml						
		ml						
		ml						
		ml						
		ml						
		ml						

Bottles: P = Polyethylene; Pp = Polypropylene; C or B = Clear/Brown Glass; O = Other (describe)
Additional Cap Codes: Py = Polyseal; V = VOA/Teflon septa; M = Metal

Gasoline C_nH_m diffusion tube read 30 ppm

WEISS ASSOCIATES

WATER SAMPLING DATA Well Name B-7 Date 5-10-89 Time 17:17
Job Name/Number Chevron Oakland III 4-418-01 Initials ASR
Well X Spring — Surface — Other —
Location Near corner of Bowling + McArthur
WELL DATA: Well type M (Describe; M = monitoring well)
Depth to Water 14.78 ft (pump/stat) Maximum Drawdown Limit (MDL) — ft
Well depth 19.33 ft (sounded) Well depth — ft (spec)
Well diameter 6 in. TOC height above ground — ft Water elev. — ft

Volume Evacuated:	Pumped	Pumped	Bailed
Time: Stop	/	/	11:57 - Dry
Start			11:40
Total hrs/min			:10

Total Evacuated 10 gal.
Evacuation Rate 0.58 gpm

Pump # and type / Bailer # and type Purge 3' PVC ⌀ SS Sample 2' Teflon #6
Hose # and type /

Formulas/Conversions
r = well radius in ft
h = ht of water col in ft
vol. in cyl. = $\pi r^2 h$
7.48 gal/ft^3
V_2" casing = 0.163 gal/ft
V_3" casing = 0.367 gal/ft
V_4" casing = 0.653 gal/ft
$V_{4.5}$" casing = 0.826 gal/ft
V_6" casing = 1.47 gal/ft
V_8" casing = 2.61 gal/ft

Sampling Port: Rate — gpm Volume — gal.
Location/description —

Initial height of water in casing = 4.55 ft; volume = 6.68 gal. x 4
Evacuation at drawdown limit = 3 x initial volume = — gal.
Evacuation at sampling point = 1 x initial volume = — gal.
Total to be evacuated = 27 gal.
Water Color: light tan Odor: Respirator worn - strong gasoline smell
Description of sediment and/or foreign matter in sample: slight suspended fiber. Some immiscibility between water and tan "oil" or product droplets
Point of collection: End of teflon bailer #6 f.d.
Depth to water during pumping — ft — time Sampling 16.80 ft 17:12 time
Pumped dry? Y After 10 gal. Recovery rate — ← 56% of initial water vol. in bore
ADDITIONAL COMMENTS, LOCATION SKETCH, ENVIRONMENTAL CONDITIONS, e.g., weather, van running nearby, problems with equipment or sampling, etc., pump on/off times, etc. (over) Just over 300 PPM Gilton after 1 bail on Gasoline CnHm diffusion tube

CHEMICAL DATA
Temperature / °C Thermometer # / Specific Conductance — umhos
pH / Calibration / 4.0, / 7.0, / 10.0 Calibration Temp. / °C

SAMPLES COLLECTED:

Sample ID No.		Bottle/ Cap (Specify)	Filtered (size, u) (N = No)	Preservative (specify) (R = Refrigerated)		Analysis	Lab
050918-B7	40 ml	c/v	N	NaHSO4	R	Gas + BETX	SUB
	ml						
	ml						
	ml						
	ml						
	ml						
	ml						
	ml						
	ml						
	ml						

Bottles: P = Polyethylene; Pp = Polypropylene; C or B = Clear/Brown Glass; O = Other (describe)
Additional Cap Codes: Py = Polyseal; V = VOA/Teflon septa; M = Metal

DTW 17.02 at 14:25

BAILER BLANK

WEISS ASSOCIATES

WATER SAMPLING DATA Well Name B-2 Date 5/9/89 Time 16:45
Job Name/Number CHEV. OAK III 4-418-01 Initials RH
Well ___ Spring ___ Surface ___ Other ___
Location ___
WELL DATA: Well type ___ (Describe; M = monitoring well)
Depth to Water ___ ft (pump/stat) Maximum Drawdown Limit (MDL) ___ ft
Well depth ___ ft (sounded) Well depth ___ ft (spec)
Well diameter ___ in. TOC height above ground ___ ft Water elev. ___ ft

Volume Evacuated:	Pumped	Pumped	Bailed
Time: Stop			
Start			
Total hrs/min			

Total Evacuated ___ gal.
Evacuation Rate ___ gpm

Pump # and type N/A Bailer # and type 2" TEF. EE
Hose # and type N/A

Formulas/Conversions
r = well radius in ft
h = ht of water col in ft
vol. in cyl. = $\pi r^2 h$
7.48 gal/ft^3
V_{2}" casing = 0.163 gal/ft
V_{3}" casing = 0.367 gal/ft
V_{4}" casing = 0.653 gal/ft
$V_{4.5}$" casing = 0.826 gal/ft
V_{6}" casing = 1.47 gal/ft
V_{8}" casing = 2.61 gal/ft

Sampling Port: Rate ___ gpm Volume ___ gal.
Location/description ___

Initial height of water in casing = ___ ft; volume = ___ gal.
Evacuation at drawdown limit = 3 x initial volume = ___ gal.
Evacuation at sampling point = 1 x initial volume = ___ gal.
Total to be evacuated = ___ gal.
Water Color: NONE Odor: NONE
Description of sediment and/or foreign matter in sample: NONE

Point of collection: ___
Depth to water during pumping ___ ft ___ time Sampling ___ ft ___ time
Pumped dry? ___ After ___ gal. Recovery rate ___
ADDITIONAL COMMENTS, LOCATION SKETCH, ENVIRONMENTAL CONDITIONS, e.g., weather, van running nearby, problems with equipment or sampling, etc., pump on/off times, etc. (over).

CHEMICAL DATA
Temperature ___ °C Thermometer # ___ Specific Conductance ___ umhos
pH ___ Calibration ___ 4.0, ___ 7.0, ___ 10.0 Calibration Temp. ___ °C

SAMPLES COLLECTED:

Sample ID No.		Bottle/ Cap (Specify)	Filtered (size, u) (N = No)	Preservative (specify) (R = Refrigerated)		Analysis	Lab
(1) 059418-22	40 (ml)	C/U	N	R	NAHSO4	6AS+BETX	SUB
(1) 059418-22	〃 ml	〃	〃	〃	〃		
	ml						
	ml						
	ml						
	ml						
	ml						
	ml						
	ml						
	ml						
	ml						

Bottles: P = Polyethylene; Pp = Polypropylene; C or B = Clear/Brown Glass; O = Other (describe)
Additional Cap Codes: Py = Polyseal; V = VOA/Teflon septa; M = Metal

* USED SEALED F.P. DISTILLED WATER

TRAVEL BLANKS

WEISS ASSOCIATES

WATER SAMPLING DATA Well Name _____ Date 5/10/89 Time 17:15
Job Name/Number Chev. Oakland III 4-418-01 Initials ASR
Well ___ Spring ___ Surface ___ Other _____
Location _____
WELL DATA: Well type _____ (Describe; M = monitoring well)
Depth to Water _____ ft (pump/stat) Maximum Drawdown Limit (MDL) _____ ft
Well depth _____ ft (sounded) Well depth _____ ft (spec)
Well diameter ___ in. TOC height above ground _____ ft Water elev _____ ft

Volume Evacuated:	Pumped	Pumped	Bailed
Time: Stop			
Start			
Total hrs/min			

Total Evacuated _____ gal.
Evacuation Rate _____ gpm

Pump # and type _____ Bailer # and type _____
Hose # and type _____

Formulas/Conversions
r = well radius in ft
h = ht of water col in ft
vol. in cyl. = $\pi r^2 h$
7.48 gal/ft^3
V_2" casing = 0.163 gal/ft
V_3" casing = 0.367 gal/ft
V_4" casing = 0.653 gal/ft
$V_{4.5}$" casing = 0.826 gal/ft
V_6" casing = 1.47 gal/ft
V_8" casing = 2.61 gal/ft

Sampling Port: Rate _____ gpm Volume _____ gal.
Location/description _____

Initial height of water in casing = _____ ft; volume = _____ gal.
Evacuation at drawdown limit = 3 x initial volume = _____ gal.
Evacuation at sampling point = 1 x initial volume = _____ gal.
Total to be evacuated = _____ gal.
Water Color: NONE Odor: NONE
Description of sediment and/or foreign matter in sample: NONE

Point of collection: _____
Depth to water during pumping _____ ft _____ time Sampling _____ ft _____ time
Pumped dry? _____ After _____ gal. Recovery rate _____
ADDITIONAL COMMENTS, LOCATION SKETCH, ENVIRONMENTAL CONDITIONS, e.g., weather, van running nearby, problems with equipment or sampling, etc., pump on/off times, etc. (over).

CHEMICAL DATA
Temperature ____ °C Thermometer # ____ Specific Conductance ____ umhos
pH ____ Calibration ___ 4.0, ___ 7.0, ___ 10.0 Calibration Temp. ____ °C

SAMPLES COLLECTED:

Sample ID No.		Bottle/ Cap (Specify)	Filtered (size, u) (N = No)	Preservative (specify) (R = Refrigerated)		Analysis	Lab
059948-21	40 ml	c/v	N	None	R	Gas+BETX	SAP
	ml						
	ml						
	ml						
	ml						
	ml						
	ml						
	ml						
	ml						
	ml						

Bottles: P = Polyethylene; Pp = Polypropylene; C or B = Clear/Brown Glass; O = Other (describe)
Additional Cap Codes: Py = Polyseal; V = VOA/Teflon septa; M = Metal

WEISS ASSOCIATES

2938 McClure St., Oakland, CA 94609 . 415-465-1100

CHAIN-OF-CUSTODY RECORD AND ANALYTIC INSTRUCTIONS

10002

Page 1 of 1

SEND RESULTS TO: Sharon Halper

WA Personnel: Be sure to include copy of this form in the field sampling files

Project ID: 4-418-01

CHAIN-OF-CUSTODY RECORD AND ANALYTIC INSTRUCTIONS

Shuttle Inventory Number: —

Shipping Seal No. —

Sampled by: ASR/RH/EWA

Laboratory Name: Superior

NOTES TO LAB:
1) Specify analytic method and detection limit in report.
2) Notify us if there are any anomalous peaks on GC or other scans.
3) ANY QUESTIONS/CLARIFICATIONS: CALL US.

No. of Containers	Sample ID	Sampling Date	Sample/ Container Type[A] e.d.	Analyze/ Hold[B] e.d.	Turn-around[C]	Analyze For:	Analytic Method/ Detection Limit	Comments
✓ 2	059418-F1	5/9/89	W/V	~~X~~ Hold	N	Gas + BETX	←	EXPECTING HIGH
✓ 2	059418-F2			A			←	CONCENTRATIONS
✓ 2	059418-EA1						←	
✓ 2	059418-EA2						←	
✓ 2	059418-22						←	
✓ 2	059418-B2						←	
✓ 2	059418-B6						←	
✓ 2	059418-21	5/10/89					←	
✓ 2	059418-B4						←	
✓ 2	059418-B3						←	
✓ 2	059418-A						←	
✓ 2	059418-B7						←	
✓ 2	059418-B1						←	

1 Erin Anderson 5/10/89
Released by (Signature), Date

2 _____
Received by (Signature), Date

3 [signature] 5/11/89
Released by (Signature), Date

4 [signature] 5/11
Shipping Carrier, Method, Date

5 [signature] X499
Released by (Signature), Date

[signature] 5/12/89
Received by Lab Personnel, Date, Telephone

X yes
Seal Intact?, Number

A Sample Type Codes: W = Water, S = Soil, O = Other (Specify)
B Analyze/Hold: A = Analyze; HOLD (spell out) = DO NOT ANALYZE UNLESS NECESSARY OR REQUESTED.
C N = Normal Turnaround, F = 1-Week Turnaround, R = 24-hour Turnaround

SUPERIOR ANALYTICAL LABORATORY, INC.
1385 FAIRFAX ST., STE D • SAN FRANCISCO, CA 94124 • PHONE (415) 647-2081

CERTIFICATE OF ANALYSIS

LABORATORY NO.: 10002
CLIENT: Weiss Associates

DATE RECEIVED: 05-11-89
DATE REPORTED: 05-18-89
JOB NO.: 4-418-01

Laboratory Number	Customer	Sample Identification	Date Sampled
10002-1		059418-F1	05-09-89
10002-2		059418-F2	05-09-89
10002-3		059418-EA1	05-09-89
10002-4		059418-EA2	05-09-89
10002-5		059418-22	05-09-89
10002-6		059418-B2	05-09-89
10002-7		059418-B6	05-09-89
10002-8		059418-21	05-10-89
10002-9		059418-B4	05-10-89
10002-10		059418-B3	05-10-89

Laboratory Number:	1	2	3	4	5
ANALYTE LIST	Amounts/Quantitation Limits (ug/L)				
OIL AND GREASE:	NA	NA	NA	NA	NA
TPH/GASOLINE RANGE:	NA	ND<500	ND<500	760	ND<500
TPH/DIESEL RANGE:	NA	NA	NA	NA	NA
BENZENE:	NA	ND<0.5	ND<0.5	ND<0.5	ND<0.5
TOLUENE:	NA	0.6	ND<0.5	ND<0.5	ND<0.5
ETHYL BENZENE:	NA	ND<0.5	ND<0.5	1.1	ND<0.5
XYLENES:	NA	1.0	ND<0.5	ND<0.5	ND<0.5

Laboratory Number:	6	7	8	9	10
ANALYTE LIST	Amounts/Quantitation Limits (ug/L)				
OIL AND GREASE:	NA	NA	NA	NA	NA
TPH/GASOLINE RANGE:	170000	26000	ND<500	3600	70000
TPH/DIESEL RANGE:	NA	NA	NA	NA	NA
BENZENE:	30000	120	ND<0.5	840	12000
TOLUENE:	8400	110	ND<0.5	34	9500
ETHYL BENZENE:	2300	250	ND<0.5	120	1400
XYLENES:	12000	1300	ND<0.5	200	8900

SUPERIOR ANALYTICAL LABORATORY, INC.
1385 FAIRFAX ST., STE D • SAN FRANCISCO, CA 94124 • PHONE (415) 647-2081

CERTIFICATE OF ANALYSIS

LABORATORY NO.: 10002
CLIENT: Weiss Associates

DATE RECEIVED: 05-11-89
DATE REPORTED: 05-18-89
JOB NO.: 4-418-01

Laboratory Number	Customer Sample Identification	Date Sampled
10002-11	059418-A	05-10-89
10002-12	059418-B7	05-10-89
10002-13	059418-B1	05-10-89

Laboratory Number:	11	12	13
ANALYTE LIST	Amounts/Quantitation Limits (ug/L)		
OIL AND GREASE:	NA	NA	NA
TPH/GASOLINE RANGE:	11000	210000	16000
TPH/DIESEL RANGE:	NA	NA	NA
BENZENE:	260	13000	2300
TOLUENE:	ND<2	19000	260
ETHYL BENZENE:	94	2000	81
XYLENES:	230	20000	740

SUPERIOR ANALYTICAL LABORATORY, INC.
1385 FAIRFAX ST., STE D • SAN FRANCISCO, CA 94124 • PHONE (415) 647-2081

CERTIFICATE OF ANALYSIS

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS
Diesel by Modified EPA SW-846 Method 8015
Gasoline by Purge and Trap: EPA Method 8015/5030
ANALYSIS FOR BENZENE, TOLUENE, ETHYL BENZENE & XYLENES
by EPA SW-846 Methods 5030 and 8020

QA/QC INFORMATION
SET: 10002

NA = ANALYSIS NOT REQUESTED
ND = ANALYTE NOT DETECTED ABOVE QUANTITATION LIMIT

ug/L = part per billion (ppb)

OIL AND GREASE ANALYSIS By Standard Methods Method 503E:
Duplicate RPD= NA.
Minimum Detection limit in Water: 5000 ug/L.

Modified EPA Method 8015 for Extractable Hydrocarbons:
Minimum Quantitation Limit for Diesel in Water: 1000 ug/L.
Daily Standards run at 200 mg/L: RPD Diesel =NA.
MS/MSD: Average Diesel Recovery= NA: Duplicate RPD=NA.

8015/5030 Total Purgable Petroleum Hydrocarbons
Minimum Quantitation Limit for Gasoline in Water: 500 ug/L.
Daily Standards run at 200 mg/L; RPD Gasoline= 1.
MS/MSD: Average Gasoline Recovery =93%:Duplicate RPD =1.

8020/BTXE:
Mimimum Quantitation Limit in Water: 0.50 ug/L.
Daily Standard run at 20 ug/L: RPD < 15.
MS/MSD: Average Recovery = 100%: Duplicate RPD =<3.

Les Partridge, Ph.D.
for Laboratory Manager

OUTSTANDING QUALITY AND SERVICE