8/11/89

...S.A. Inc.
...amino Ramon, San Ramon, California • Phone (415) 842-9500
...ddress: P.O. Box 5004, San Ramon, CA 94583-0804

...tions

...Manager, Operations
... L. Patterson
Area Manager, Operations
C. G. Trimbach
Manager, Engineering

August 10, 1989

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

Re: Former Chevron Facility #94612
San Leandro Street at 37th
Oakland, California

Dear Mr. Shahid:

Enclosed are the results of the quarterly ground water sampling conducted by Weiss Associates at the above-referenced site. As indicated in the report, the water sample was analyzed for total purgeable petroleum hydrocarbons (TPPH) and aromatic hydrocarbons. The water sample from well VH-1 contained TPPH at 15,000 parts per billion (ppb), benzene at 2,200 ppb, ethylbenzene at 540 ppb, toluene at 120 ppb, and xylenes at 310 ppb. Chevron will continue to monitor the ground water beneath the site on a quarterly basis. If you have any questions or comments, please contact 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.

Sincerely,
D. Moller

By John Randall
John Randall
Engineer

JMR/wa
Enclosure

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

Mark Lindquist, 1600 Broadway, Suite 280, Oakland, California 94612

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

JUL 10 '89 H.C.H.

July 6, 1989

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

Re: Former Chevron Service Station #94612
San Leandro Street at 37th
Oakland, California
WA Job #4-438-01

Dear Ms. Marinaro:

Weiss Associates (WA) collected a ground water sample from one monitoring well on June 1, 1989 as part of the quarterly ground water monitoring program at former Chevron Service Station #94612 in Oakland, California (Figures 1 and 2). The ground water sample from monitoring well VH-1 contained benzene above the California Department of Health Services (DHS) maximum contaminant level (MCL) for drinking water as well as toluene above the DHS recommended action level for drinking water.

GROUND WATER SAMPLING

Scott MacLeod, WA geologist, collected a ground water sample from monitoring well VH-1 on June 1, 1989. Prior to sampling, the well was purged of at least four well-casing volumes of ground water, approximately 50 gallons, using a steam-cleaned bladder pump. The ground water sample was pumped into a 40 ml glass volatile organic analysis vial (VOA) with a Teflon septum, preserved with sodium bisulfate, and refrigerated for transport to Superior Analytical Laboratory, Inc. of San Francisco, California. To reduce the possibility of sample contamination during transport or storage, the 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 travel blank of certified organic-free distilled water, supplied by the laboratory, accompanied the sample to provide assurance that contamination was not introduced during sample bottle transport or sample storage.

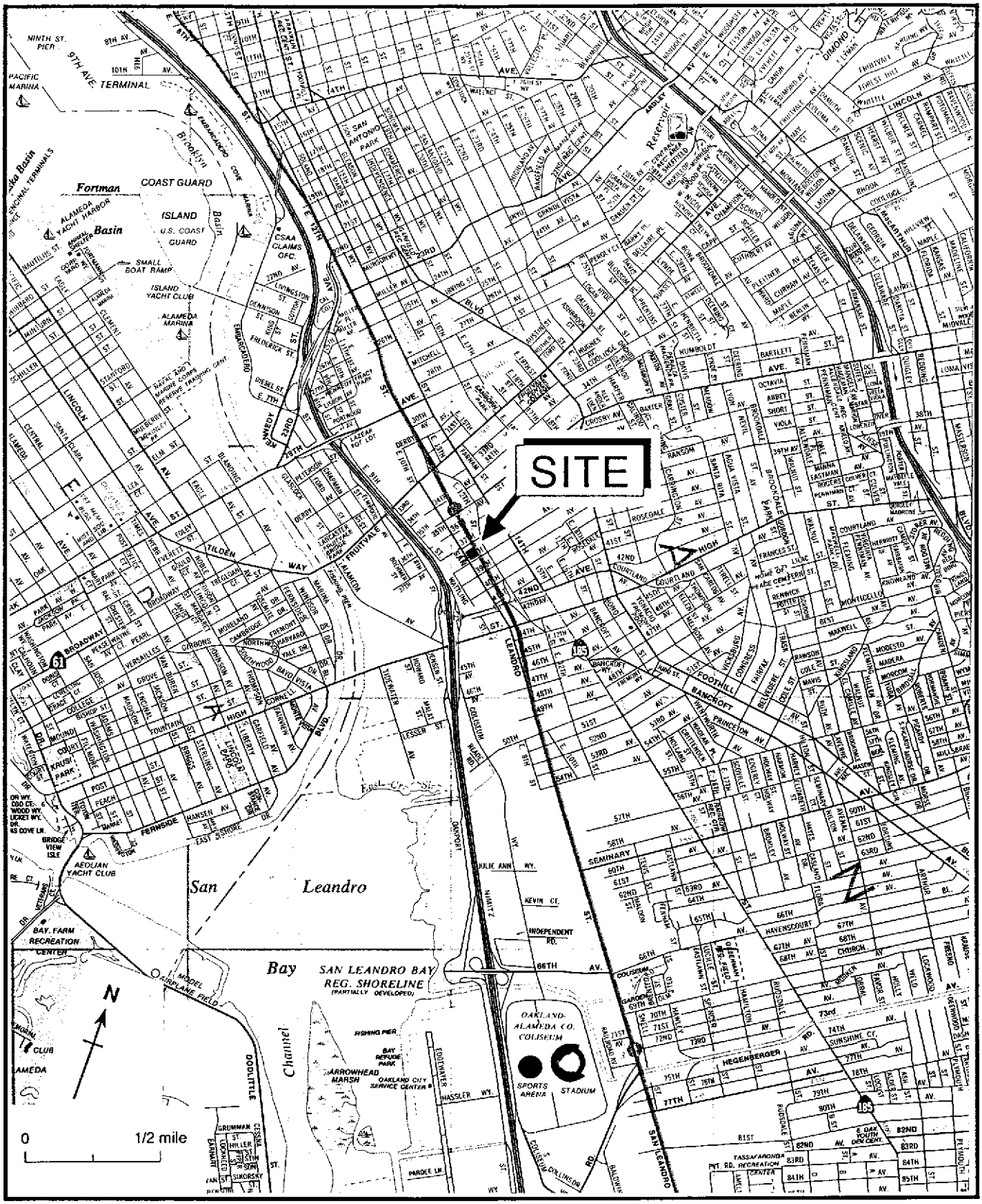


Figure 1. Site Location Map - Chevron Service Station #94612, Oakland, California

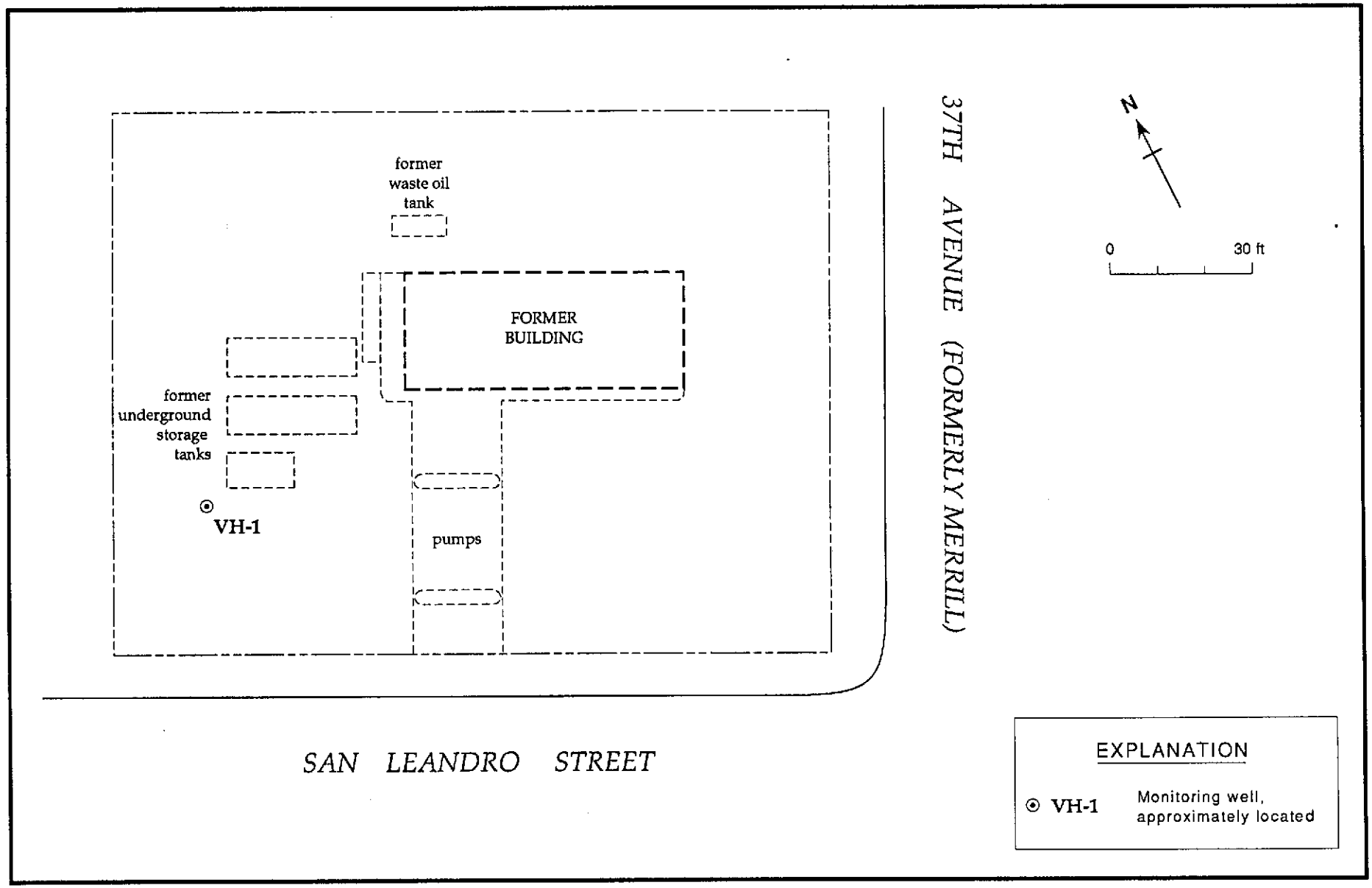


Figure 2. Monitoring Well Location - Former Chevron Service Station #94612, Oakland, California

CHEMICAL ANALYSES

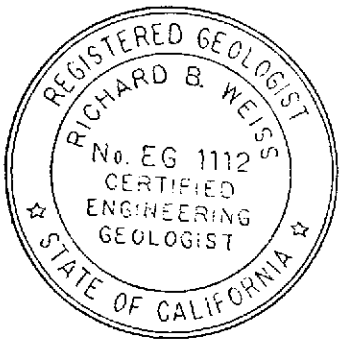
The water sample was analyzed for total purgable petroleum hydrocarbons (TPPH) by modified EPA Method 8015 and for benzene, ethylbenzene, toluene and xylenes (BETX) by EPA Method 602. The results of the water analysis are presented in Table 1 and the analytic report is included as Attachment C. Analytic results for this sampling are generally consistent with results from the previous sampling in August 1988.

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\438L1JN9.WP

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

TABLE 1. Analytic Results for Ground Water - Former Chevron Service Station #94612, Oakland, California

Sample ID	Date Sampled	Analytic Lab	Analytic Method	TPPH	B	E	T	X	TL	C
				<----------parts per billion---------->						
VH-1	8-10-88	CCAS	524.2/8240/7421/407	11,000	3,300	520	200	540	43	43,000
	6-01-89	SUP	8015/602	15,000	2,200	540	120	310	---	---
Travel Blank	6-01-89	SUP	8015/602	<500	<0.5	<0.5	<0.5	<0.5	---	---
DHS MCLs		-	-	NAL	1	620	100**	1,750	NAL	NAL

Abbreviations:

TPPH = Total Purgable Petroleum Hydrocarbons (gasoline)
B = Benzene
E = Ethylbenzene
T = Toluene
X = Xylenes
C = Chloride
TL = Total Lead
--- = Not Analyzed
DHS MCLs = Department of Health Services maximum contaminant levels for drinking water
** = DHS recommended action level for drinking water
NAL = No action level has been established by DHS

Analytic Laboratory:

CCAS = Central Coast Analytical Services of Goleta, California
SUP = Superior Analytical Laboratory of San Francisco, California

Analytic Methods:

8015 = Modified EPA Method 8015, TPPH
602 = EPA Method 602, Aromatic Volatile Hydrocarbons
524.2/8240 = Fuel Fingerprint Analysis - EPA Method 524.2/8240, Total Fuel and Aromatic Volatile Hydrocarbons
7421 = EPA Method 7421, Total Lead
407 = American Public Health Association Standard Method 407, Chloride

WEISS ASSOCIATES

WATER SAMPLING DATA Well Name 25/3W 8E80 Date 6-1-89 Time 9:32
Job Name/Number Chevron Oakland III 4-438-01 Initials NSM
Well ✓ Spring ___ Surface ___ Other ___
Location Inside Restroom
WELL DATA: Well type M (Describe; M = monitoring well)
Depth to Water 10.32 ft (~~pump~~/stat) Maximum Drawdown Limit (MDL) — ft
Well depth 28.54+.11 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	932		
Start	850		
Total hrs/min	:42		
Total Evacuated	50 gal.		
Evacuation Rate	1.2 gpm		

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

Pump # and type WATSON #10 Bailer # and type ✓
Hose # and type New steam cleaned polyethylene

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

Initial height of water in casing = 18.33 ft; volume = 11.97 gal. X4
Evacuation at drawdown limit = 3 x initial volume = ✓ gal.
Evacuation at sampling point = 1 x initial volume = ✓ gal.
Total to be evacuated = 47.9 gal.
Water Color: None Odor: Gasoline
Description of sediment and/or foreign matter in sample: None

Point of collection: end of polyethylene hose
Depth to water during pumping ___ ft — time Sampling 11.09 ft 9:34 time
Pumped dry? NO 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). Soft well bottom

CHEMICAL DATA on back
Temperature ___ °C Thermometer # ___ Specific Conductance ___ umhos
pH ___ Calibration ✓ 4.0, ✓ 7.0, ✓ 10.0 Calibration Temp. 20.0 °C

SAMPLES COLLECTED:

	Sample ID No.			Bottle/ Cap (Specify)	Filtered (size, u) (N = No)	Preservative (specify) (R = Refrigerated)		Analysis	Lab
(2)	060938-1	40	ml	C/V	N	HCl	R	602+BETX	Superior
			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

TRIP BLANK

WEISS ASSOCIATES

WATER SAMPLING DATA Well Name — Date 6-1-89 Time 9:12
Job Name/Number Chevron Oakland IV 4-438-01 Initials MSM
Well — Spring — Surface — Other TRIP BLANK
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: Odor:
Description of sediment and/or foreign matter in sample:

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). Submitted trip blank dated 5-16-89

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) 089438-21	(40)	ml	cl/	N	None	IR	602 + BETX	Superior
		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
338 McClure St., Oakland, CA 94609 415-465-1100

10020

SEND RESULTS TO: Shaun Helper

CHAIN-OF-CUSTODY RECORD AND ANALYTIC INSTRUCTIONS

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

Shuttle Inventory Number: _____

Project ID: 4-438-01

Shipping Seal No. _____

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.

Sampled by: NSM Laboratory Name: Superior

No. of Containers	Sample ID	Sampling Date	Container Type[A]	Sample/ Analyze/ Hold[B]	Turn-around[C]	Analyze For:	Analytic Method/ Detection Limit	Comments
2	069438-1	6-1-89	W/VOA	A	N	Cal + BETX	—	$NaHSO_4$ pres.
2	069438-21	"	"	A	N	"	—	No pres

1 N S Yacel 6-1-89
Released by (Signature), Date

2 _____
Received by (Signature), Date

3 Dean Ross 6/2/89
Released by (Signature), Date

4 Michael De Caires 6/2/89
Shipping Carrier, Method, Date

5 Eugene Worthell 6-2-89
Released by (Signature), Date

Laurie Wright
Received by Lab Personnel, Date, Telephone

x _____
Seal intact?, Number

A Sample Type Codes: W = Water, S = Soil, O = Other (Specify) Container Type Codes: P = Plastic bottles, G = Glass bottle, T = Brass tube, O = Other (Specifiy)
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.: 10020
CLIENT: Weiss Associates

DATE RECEIVED: 06-02-89
DATE REPORTED: 06-06-89
JOB NO.: 4-438-01

Laboratory Number	Customer Sample Identification	Date Sampled
10020-1	069438-1	6-1-89
10020-2	069438-21	6-1-89

Laboratory Number:	1	2
ANALYTE LIST	Amounts/Quantitation Limits (ug/L)	
OIL AND GREASE:	NA	NA
TPH/GASOLINE RANGE:	15000	ND<500
TPH/DIESEL RANGE:	NA	NA
BENZENE:	2200	ND<0.5
TOLUENE:	120	ND<0.5
ETHYL BENZENE:	540	ND<0.5
XYLENES:	310	ND<0.5

SUPERIOR ANALYTICAL LABORATORY, INC.
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C E R T I F I C A T E O F A N A L Y S I S

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS
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: 10020

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 2 mg/L; RPD Gasoline= 5.
MS/MSD: Average Gasoline Recovery = 92%:Duplicate RPD = 0.

8020/BTXE:
Mimimum Quantitation Limit in Water: 0.50 ug/L.
Daily Standard run at 20 ug/L: RPD < 15.
MS/MSD: Average Recovery = 103%: Duplicate RPD =<5.

Les Partridge, Ph.D.
Laboratory Manager

OUTSTANDING QUALITY AND SERVICE