Weiss Associates *Environmental and Geologic Services*

5500 Shellmound Street, Emeryville, CA 94608-2411 *Fax: 510-547-5043* *Phone: **510-450-6000***

May 10, 1994

Mary Fredette
District Manager
Castro Valley Sanitary District
21040 Marshall Street
Castro Valley, California 94546

Re: *Discharge Compliance Report: April 1994*
Former Chevron Service Station 9-2960
2416 Grove Way
Castro Valley, California
Permit No. CV 107
WA Job #4-552-54

Dear Ms. Fredette:

This letter reports the data and analytic results for the April monthly monitoring activities performed by Weiss Associates (WA) on the ground water treatment system at the site referenced above. WA collects samples and submits this report monthly on behalf of Chevron U.S.A. Products Company. A description of the system design, operation, sampling and permit compliance are presented below.

System Operation and Sampling

System Design: Ground water is extracted from well EW-1 using an electric submersible pump. The treatment system consists of a particulate filter followed by two, 1,000-lb aqueous-phase carbon vessels connected in series. As permitted by the Castro Valley Sanitary District (CVSD), treated ground water is discharged to the sanitary sewer.

Sampling Date: April 13, 1994.

Flow Measurement: Between March 15, 1994 and April 13, 1994, 54,652.5 gallons of treated ground water were discharged at an average flow rate of 1.3 gpm. Table 1 summarizes system performance, flow meter readings, average flow rates and comments pertaining to the system operation.

Sample Locations: On March 15, 1994, WA collected water samples from the system influent, first carbon effluent (midpoint) and second carbon effluent.

Sample Handling: Samples were refrigerated and transported under chain-of-custody to a California-certified laboratory.

Sample Analyses: The samples were analyzed for total petroleum hydrocarbons as gasoline (TPH-G) and benzene, toluene, ethylbenzene and xylenes (BTEX). A sample of the effluent water was also submitted for analysis for total suspended solids (TSS) and chemical oxygen demand (COD). The effluent pH was measured in the field. Table 2 presents historical ground water extraction system analytic results. Certificate of analysis and chain-of-custody documents are also attached.

Operation Notes: **The system operated continuously between March 15, 1994, and April 13, 1994.**

- Although not required, WA also periodically measures floating product in extraction well EW-1 and nearby well C-1 and removes collected product from a passive skimmer (currently in well C-1). Table 3 summarizes product thickness measurements and the volume of product removed.

Permit Compliance

April 13, 1994, analytic results and flow data indicate that the treatment system is operating in compliance with discharge permit requirements.

If you have any questions please contact the undersigned at (510) 450-6000.

Sincerely,
Weiss Associates

Paul M. Nuti
Staff Engineer

Michael Cooke
Project Geologist

MC/PMN:pmn

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Attachments:
Table 1. Performance Summary
Table 2. Summary of Analytic Results
Table 3. Floating Free Product Thickness Measurements and Recovery Record
Analytical Reports

cc: Kenneth L. Kan, Chevron U.S.A. Products Company

Table 1. Performance Summary, Former Chevron Service Station #9-2960, 2416 Grove Way, Castro Valley, CA

DATE	EW-1 TOTALIZER READING (gal)		FLOW BETWEEN READINGS (gal)	DAYS BETWEEN READINGS (days)	AVERAGE FLOW (gpm)	COMMENTS
18-Oct-93	1,110.0	(a)	0.0	0	0.0	System Started
02-Nov-93	31,854.0		30,744.0	15	1.4	
09-Nov-93	43,507.5		11,653.5	7	1.2	
17-Nov-93	55,310.8		11,803.3	8	1.0	
24-Nov-93	62,610.5		7,299.7	7	0.7	
20-Dec-93	97,671.0		35,060.5	26	0.9	Hose between pump and treatment system had leak. Temporary repair.
12-Jan-94	119,502.1		21,831.1	23	0.7	Hose replaced.
28-Jan-94	155,877.3		36,375.2	16	1.6	System shut down by WA, because of a toluene hit in the effluent.
09-Feb-94	158,524.0		2,646.7	12	0.2	System restarted by WA. Toluene hit is assumed to be anomylous reading.
15-Mar-94	239,315.5		80,791.5	34	1.7	
13-Apr-94	293,968.0		54,652.5	29	1.3	

Notes:

gal = gallons
gpm = gallons per minute
-- = not available
(a) = Initial 1,110 gallons was from the 3 hour start-up test on 7/7/93.
The water was stored in a tank on site untill analyzed and then discharged to the sanitary sewer on 7/20/93.

Table 2. Summary of Analytic Results, Former Chevron Service Station #9-2960, 2416 Grove Way, Castro Valley, California

DATE SAMPLED	LAB	SYSTEM INFLUENT TPH-G	B	E	T	X	SYSTEM MIDPOINT First Carbon Effluent TPH-G	B	E	T	X	SYSTEM EFFLUENT Second Carbon Effluent TPH-G	B	E	T	X	pH	COD mg/l	TSS mg/l	
		<----------parts per billion (ppb)---------->																		
18-Oct-93	SPA	4,800	*****	72	63	94	---	---	---	---	---	---	---	---	---	---	---	---	---	
26-Oct-93	SPA	---	---	---	---	---	---	---	---	---	---	<50	<0.5	<0.5	<0.5	<1.5	---	---	---	
02-Nov-93	SPA	---	---	---	---	---	---	---	---	---	---	<50	<0.5	<0.5	<0.5	<1.5	---	---	---	
09-Nov-93	SPA	---	---	---	---	---	---	---	---	---	---	<50	<0.5	<0.5	<0.5	<1.5	---	---	---	
17-Nov-93	SPA	---	---	---	---	---	---	---	---	---	---	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	
24-Nov-93	SPA	3,000	880	24	110	130	<50	<0.5	<0.5	<0.5	<0.5	<50	<0.5	<0.5	<0.5	<0.5	6.78	<20	<0.10	(a)
20-Dec-93	SPA	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	7.24	---	---	(b)
12-Jan-94	SPA	970	250	1.8	44	88	<50	<0.5	<0.5	<0.5	<0.5	<50	<0.5	<0.5	0.7	<0.5	7.44	31	<10	(c)
28-Jan-94	SPA	1,500	520	18	82	110	<50	<0.5	<0.5	<0.5	<0.5	<50	<0.5	<0.5	<0.5	<0.5	7.05	28	<4	
15-Mar-94	SPA	2,800	800	31	120	270	<50	<0.5	<0.5	<0.5	<0.5	<50	<0.5	<0.5	<0.5	<0.5	6.96	<20	<10	
13-Apr-94	SPA	4,800	680	38	180	620	<50	<0.5	<0.5	<0.5	<0.5	<50	<0.5	<0.5	<0.5	<0.5	7.30	25	<10	

Abbreviations:

TPH-G = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015
B = Benzene by EPA Method 8020
E = Ethylbenzene by EPA Method 8020
T = Toluene by EPA Method 8020
X = Xylenes by EPA Mehtod 8020
COD = Chemical oxygen demand by EPA Method 410.4
TSS = Total suspended solids by EPA Method 160.1
<n = Not detected at detection limit of n ppb
SPA = Superior Precision Analytical Laboratory, Martinez, California
mg/l = milligrams per liter
--- = Not analyzed

NOTES:

(a) = Due to laboratory error, the sample was analyzed for settleable solids rather than total suspended solids.
(b) = Due to laboratory error, the samples for December were not analyzed.
(c) = The effluent toluene concetration is assumed to be an anomylous reading. A confirmation sample was collected on February 28, 1994, and was below detection limits for toluene.

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Table 3. Floating Product Thickness Measurements and Recovery Record, Former Chevron Service Station #9-2960, 2416 Grove Way, Castro Valley, California

DATE	C-1					EW-1					Passive Skimmer Location
	Depth to Water (ft)	Depth to Product (ft)	Product Thickness (ft)	Product Recovered (gal)	Cumulative Product Recovered (gal)	Depth to Water (ft)	Depth to Product (ft)	Product Thickness (ft)	Product Recovered (gal)	Cumulative Product Recovered (gal)	
18-Oct-93	16.91	NM	NM	NM	NM	16.49	NP	0	0	0	C-1
26-Oct-93	NM	NM	NM	NM	NM	NM	NM	NM	NM	0	C-1
02-Nov-93	18.59	17.71	0.88	NM	NM	23.70	NP	0	0	0	C-1
09-Nov-93	18.54	17.89	0.65	0.75	0.75	22.13	NP	0	0	0	C-1
17-Nov-93	NM	NM	NM	1.00	1.75	21.40	NP	0	0	0	C-1
24-Nov-93	18.15	18.03	0.12	0.55	2.30	22.47	NP	0	0	0	C-1
20-Dec-93	17.72	17.38	0.34	NM	2.30	NM	NM	NM	NM	0	C-1
12-Jan-94	17.75	NM	NM	0.25	2.55	16.36	NP	0	0	0	C-1
28-Jan-94	18.59	17.81	0.78	NM	2.55	NM	NM	NM	NM	0	Reset Skimmer lower in well
15-Mar-94	7.63	7.15	0.48	0.50	3.05	26.60	NP	0	0	0	C-1
13-Apr-94	17.35	NM	NM	1.00	4.05	28.52	NP	0	0	0	C-1

Notes:

NM = Not measured
NP = No product

$0.88\,ft \times \frac{12\,in}{ft} = \sim 10.6''$

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

Weiss Associates
Attn: PAUL NUTI

Project 4-552-54
Reported 04/21/94

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed	Matrix
15407- 1	SYS INF	04/13/94	04/21/94	Water
15407- 2	SYS MID	04/13/94	04/21/94	Water
15407- 3	SYS EFF	04/13/94	04/21/94	Water
15407- 4	TB-LB	04/13/94	04/21/94	Water

RESULTS OF ANALYSIS

Laboratory Number:	15407- 1	15407- 2	15407- 3	15407- 4
Gasoline Range:	4800	ND<50	ND<50	ND<50
Benzene:	680	ND<0.5	ND<0.5	ND<0.5
Toluene:	180	ND<0.5	ND<0.5	ND<0.5
Ethyl Benzene:	38	ND<0.5	ND<0.5	ND<0.5
Total Xylenes:	620	ND<0.5	ND<0.5	ND<0.5
Concentration:	ug/L	ug/L	ug/L	ug/L

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CERTIFICATE OF ANALYSIS

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

QA/QC INFORMATION
SET: 15407

NA = ANALYSIS NOT REQUESTED
ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT
ug/L = parts per billion (ppb)

OIL AND GREASE ANALYSIS By Standard Methods Method 5520F:
Minimum Detection Limit in Water: 5000ug/L

Modified EPA SW-846 Method 8015 for Extractable Hydrocarbons:
Minimum Quantitation Limit for Diesel in Water: 50ug/L

EPA SW-846 Method 8015/5030 Total Purgable Petroleum Hydrocarbons:
Minimum Quantitation Limit for Gasoline in Water: 50ug/L

EPA SW-846 Method 8020/BTXE
Minimum Quantitation Limit in Water: 0.5ug/L

ANALYTE	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Gasoline Range:	98/119	19%	67-129
Benzene:	90/96	6%	74-125
Toluene:	95/104	9%	74-125
Ethyl Benzene:	89/97	9%	74-125
Total Xylenes:	93/103	10%	74-125

Cecilia Joaquin 4/22/94
Senior Chemist
Account Manager

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

CERTIFICATE OF ANALYSIS

Laboratory No.: 15407
Client : Weiss Associates
Client job No.: 4-552-54

Date received : 04/14/94
Date reported : 04/20/94

TOTAL SUSPENDED SOLIDS by EPA Method 160.2

Lab	Sample ID	Date Sampled	Date Analyzed	Analyte	Conc.	RL	Unit
3	SYS EFF	04/13/94	04/20/94	TSS	ND	10	mg/L
QC	METHOD BLANK	Water	04/20/94	TSS	ND	10	mg/L

mg/L = parts per million (ppm)
ND = Not Detected
NA = Not Applicable
RL = Reporting Limit

Cecilia G Joaquin 4/22/94
Senior Chemist
Account Manager

Sequoia Analytical

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

Superior Precision Analytical	Client Project ID:	4-552-54, Chevron 9-2960	Sampled:	Apr 13, 1994
1555 Burke St., Unit 1	Sample Descript:	Water, 15407-3 SYS-EFF	Received:	Apr 15, 1994
San Francisco, CA 94124			Analyzed:	see below
Attention: Cecilia Joaquin	Lab Number:	4D96401	Reported:	Apr 29, 1994

LABORATORY ANALYSIS

Analyte	Date Analyzed	Detection Limit mg/L	Sample Result mg/L
Chemical Oxygen Demand	4/25/94	20	25

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

SEQUOIA ANALYTICAL

Suzanne Chin
Project Manager

Sequoia Analytical

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Superior Precision Analytical
1555 Burke St., Unit 1
San Francisco, CA 94124
Attention: Cecilia Joaquin

Client Project ID: 4-552-54, Chevron 9-2960
Matrix: Liquid
QC Sample Group: 4D96401

Reported: Apr 29, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Chemical Oxygen Demand
Method:	EPA 410.4
Analyst:	C. Hirotsu
MS/MSD Batch#:	4D94901
Date Prepared:	4/25/94
Date Analyzed:	4/25/94
Instrument I.D.#:	N/A
Conc. Spiked:	100 mg/L
Matrix Spike % Recovery:	87
Matrix Spike Duplicate % Recovery:	87
Relative % Difference:	0.0
LCS Batch#:	LCS042594
Date Prepared:	4/25/94
Date Analyzed:	4/25/94
Instrument I.D.#:	N/A
LCS % Recovery:	98
% Recovery Control Limits:	70-130

SEQUOIA ANALYTICAL

Suzanne Chin
Project Manager

Please Note:
The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.