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HAZMAT

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Chevron

December 29, 1993

Chevron U.S.A. Products Company

2410 Camino Ramon
San Ramon, CA 94583
P.O. Box 5004
San Ramon, CA 94583-0804

Marketing Department

Phone 510 842 9500

Ms. Jennifer Eberle
Alameda County Health Care Services
Department of Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621

**Re: Chevron Service Station #9-4587
609 Oak Street, Oakland, CA**

Dear Ms. Eberle:

Per your inquiry of December 28, 1993, regarding the treatment system at the above referenced site, I have enclosed System Startup Report dated December 13, 1993, prepared by our consultant Geraghty & Miller, Inc. for the above referenced site.

As indicated in the report, the system started up on November 8, 1993, and ran for nine days before carbon breakthrough was observed at the midpoint of the carbon vessels. Once the spent carbon has been profiled and sent to a regeneration facility, fresh carbon will be brought in and the system restarted.

Monitor well CR-1 was not sampled during the last quarterly monitoring and sampling event due to the presence of the extraction pump in this well. Geraghty & Miller samples the influent to the extraction system on a monthly basis and this data is considered a good approximation of hydrocarbon concentrations in the well. We will collect a sample directly from this well on a periodic basis to evaluate the progress of the extraction system.

If you have any questions or comments, please do not hesitate to contact me at (510) 842-8134.

Sincerely,
CHEVRON U.S.A. PRODUCTS COMPANY

A handwritten signature in cursive script, appearing to read "Mark A. Miller".

Mark A. Miller
Site Assessment and Remediation Engineer

Enclosure

cc: File (9-4587 LTR1)



Chevron U.S.A. Products Company

2410 Camino Ramon, San Ramon, California • Phone (510) 842-9500
Mail Address PO Box 5004, San Ramon, CA 94583-0804

DEC 23 '93 KLN

December 16, 1993

Mr. Rodney Temples
Wastewater Control Representative
East Bay Municipal Utility District
P.O. Box 24055
Oakland, CA 94623-1055

**SUBJECT: System Startup Report, Acct. No. 502-79291, Chevron Service Station
#9-4587, 609 Oak Street, Oakland, California.**

Dear Mr. Temples:

Enclosed is the system startup report prepared by our consultant, Geraghty & Miller. As outlined in the attached report, three complete sets of samples were collected during the 9 days of operation in November 1993. The analyses of these samples indicate that water discharged to the East Bay Municipal Utility District sewer was in compliance with the Permit to Discharge issued for this site. Currently, we are arranging for replacement of spent activated carbon, after which we will restart the system, collecting samples on a weekly basis for the first month of operation, with the results to be reported on the next scheduled reporting date.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you require any further information, please contact me at (510) 842-⁸¹³⁴~~9581~~.

Sincerely,
CHEVRON U.S.A. PRODUCTS COMPANY

Mark Miller
Environmental Engineer

Enclosures

MM:ckh

December 13, 1993
Project No. RC0113.002

Mr. Rodney Temples
Wastewater Control Representative
East Bay Municipal Utility District
P.O. Box 24055
Oakland, CA 94623-1055

(510) 287-1744

SUBJECT: System Startup Report, Chevron U.S.A. Products Company Service Station
#9-4587, 609 Oak Street, Oakland, California.

Dear Mr. Temples:

Geraghty & Miller, Inc. (Geraghty & Miller) is submitting this system startup report for the groundwater extraction and treatment system at the above-referenced site on behalf of our client, Chevron U.S.A. Products Company (Chevron). The sanitary sewer discharge permit for this system was issued September 15, 1993, under Account No. 502-79291. Written notification of the intent to start the system was submitted to Stan Archacki at East Bay Municipal Utility District (EBMUD) in Geraghty & Miller's letter dated July 20, 1993. The system was originally to be started on August 11, 1993 but, due to delays in obtaining final City of Oakland Building Department inspections, the startup was delayed until November 8, 1993. Approval to start the system was given by Safa Toma of EBMUD on November 8, 1993, during a telephone conversation with Geraghty & Miller. As described in Geraghty & Miller's Sewer Discharge Permit application dated December 1, 1992, the groundwater extraction and treatment system consists of a 1/2-horsepower (hp) electric submersible pump installed in Extraction Well CR-1 with extracted groundwater being treated by two 1,000-pound aqueous carbon vessels plumbed in series.

The permit conditions stipulate that samples are to be collected from the influent, intermediate, and effluent of the carbon system on a weekly basis for the first month of operation. These samples are to be submitted for analysis to a USEPA-certified laboratory for analysis of total petroleum hydrocarbons (TPH) as gasoline (USEPA Method 8015, modified) and benzene, toluene, ethylbenzene, and xylenes (BTEX) (USEPA Method 8020).

Samples were collected on November 8, 1993, approximately 1 hour after startup, at a flow rate of approximately 5 gallons per minute (gpm). These samples were submitted to the



laboratory on a 24-hour turnaround and analyzed for the constituents described above. The analytical results indicated that concentrations of dissolved TPH as gasoline in the extracted groundwater were 110,000 micrograms per liter ($\mu\text{g/L}$). It was determined that, at this concentration and flow rate, hydrocarbon breakthrough of the aqueous carbon filter would occur more rapidly than anticipated. Therefore, a second complete set of samples was collected on November 11, in advance of the one-week interval, and again submitted to the laboratory on a 24-hour basis. The results of this second analysis indicated that, although the concentrations of dissolved petroleum hydrocarbons had decreased substantially ($13,000 \mu\text{g/L}$), the mass of hydrocarbons which had been adsorbed by the first carbon vessel might be near the loading capacity of the first carbon vessel. A third complete set of samples was collected on November 17, at which time the system was turned off pending analytical results. The results of this analysis indicated that the concentrations of petroleum hydrocarbons were continuing to decline ($7,600 \mu\text{g/L}$) and that the first carbon was near saturation.

Geraghty & Miller recommends that the first carbon vessel in the series be replaced prior to restarting the system. Upon restart, the system should be sampled on a weekly basis, with the first sampling submitted to the laboratory on a rapid turnaround basis. Although the flow rate during the initial 9 days of operation in November was approximately 5 gpm, it is expected that the long-term extraction rate will be 3 gpm, as originally proposed in the sewer discharge permit application. Should a higher flow rate be considered necessary to maintain hydraulic containment, a request for an increase in the sewer discharge capacity allotment will be submitted to EBMUD prior to operating at a sustained higher flow rate. It is expected that, if the flow rate is reduced to 3 gpm and the concentrations of TPH in the extracted groundwater remain at 7 ppm with a carbon loading efficiency of 5%, that the first aqueous carbon vessel would last for approximately 7 months. This calculation is shown below.

$$\frac{3 \text{ gal}}{\text{min}} \times \frac{43,200 \text{ min}}{\text{month}} \times \frac{7,000 \mu\text{g/L TPH}}{1,000,000,000 \mu\text{g/L H}_2\text{O}} \times \frac{100 \text{ lb carbon}}{5 \text{ lb TPH}} \times \frac{8.3 \text{ lb H}_2\text{O}}{\text{gal}} = \frac{150 \text{ lb carbon}}{\text{month}}$$

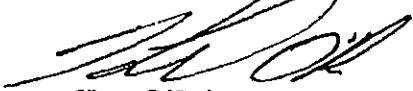
$$1,000 \text{ lb carbon} \times \frac{1 \text{ month}}{150 \text{ lb}} = 7 \text{ months}$$

Copies of the certified laboratory reports and the chain-of-custody documentation are included in Attachment 1. The volume of treated water discharged from system startup on November 8 to November 17, 1993, was 65,765 gallons. A summary of the totalizing flowmeter readings is presented in Table 1. Analytical results are presented in Table 2.

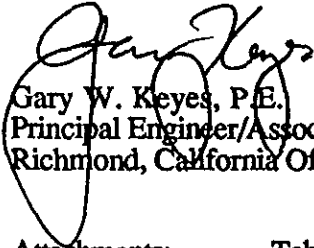


If you have any questions regarding this matter, please contact the undersigned at (510) 233-3200.

Sincerely,
GERAGHTY & MILLER, INC.



Kent O'Brien
Project Scientist/Project Manager



Gary W. Keyes, P.E.
Principal Engineer/Associate
Richmond, California Office Manager

Attachments: Table 1 Flow Totalizer Readings
 Table 2 Groundwater Analytical Results

 Attachment 1 Copies of Certified Laboratory Reports and
 Chain-of-Custody Documentation

cc: Mark Miller, Chevron U.S.A. Products Company



Table 1: Flow Totalizer Readings
 Chevron Service Station #9-4587
 609 Oak Street, Oakland, California.

Date	Totalizer Reading (Gallons)	Gallons Discharged This Period	Cumulative Gallons	Days Since Previous Reading	Average Discharge Rate (GPM)	Notes
8-Nov-93	910 (a)	0	0	0	0	System startup
11-Nov-93	26,301	25,391	25,391	3	5.88	
17-Nov-93	66,675	40,374	65,765	6	4.67	

(a) Meter not zeroed when system began operation.

Table 2: System Analytical Results
 Chevron Service Station #9-4587
 609 Oak Street, Oakland, California.

Sample	Date	TPH as				
		Gasoline (µg/L) (a)	Benzene (µg/L) (b)	Toluene (µg/L) (b)	Ethylbenzene (µg/L) (b)	Xylenes (µg/L) (b)
CARB 1 IN	8-Nov-93	110,000	9,000	11,000	1,600	9,100
CARB 1 IN	11-Nov-93	13,000	1,600	500	140	790
CARB 1 IN	17-Nov-93	7,600	1,500	270	100	490
CARB 2 IN	8-Nov-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<1.5)
CARB 2 IN	11-Nov-93	ND(<50)	ND(<0.5)	0.8	ND(<0.5)	ND(<1.5)
CARB 2 IN	17-Nov-93	97	9.0	2.3	1.0	7.1
CARB 2 OUT	8-Nov-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<1.5)
CARB 2 OUT	11-Nov-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<1.5)
CARB 2 OUT	17-Nov-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)
Trip Blank	8-Nov-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<1.5)
Trip Blank	11-Nov-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<1.5)
Trip Blank	17-Nov-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)

(a) Analyzed by USEPA Method 8015, modified.
 (b) Analyzed by USEPA Method 8020.

TPH Total petroleum hydrocarbons
 µg/L Micrograms per liter
 ND() Laboratory method detection limit; limit in parentheses



ATTACHMENT 1

**COPIES OF CERTIFIED ANALYTICAL REPORTS
AND CHAIN-OF-CUSTODY DOCUMENTATION**



Superior Precision Analytical, Inc.

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

Geraghty & Miller Inc.
Attn: KENT O'BRIEN

Project RC0113.002
Reported 11/09/93

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed Matrix
14925- 1	CARB 1 IN (A)	11/08/93	11/09/93 Water
14925- 2	CARB 2 IN (B)	11/08/93	11/09/93 Water
14925- 3	CARB 2 OUT (C)	11/08/93	11/09/93 Water
14925- 4	TB-LB	11/08/93	11/09/93 Water

RESULTS OF ANALYSIS

Laboratory Number: 14925- 1 14925- 2 14925- 3 14925- 4

Gasoline:	110000	ND<50	ND<50	ND<50
Benzene:	9000	ND<0.5	ND<0.5	ND<0.5
Toluene:	11000	ND<0.5	ND<0.5	ND<0.5
Ethyl Benzene:	1600	ND<0.5	ND<0.5	ND<0.5
Total Xylenes:	9100	ND<1.5	ND<1.5	ND<1.5
Concentration:	ug/L	ug/L	ug/L	ug/L



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

Page 2 of 2
QA/QC INFORMATION
SET: 14925

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:	94/95	1%	75-125
Benzene:	88/89	1%	75-125
Toluene:	91/92	1%	75-125
Ethyl Benzene:	92/94	2%	75-125
Total Xylenes:	95/96	1%	75-125

Cecilia G. Joaquin
Senior Chemist
Account Manager



Superior Precision Analytical, Inc.

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

Geraghty & Miller Inc.
Attn: KENT O'BRIEN

Project RC0113.002
Reported 11/13/93

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed Matrix
14958- 1	CARB1 IN	11/11/93	11/12/93 Water
14958- 2	CARB2 IN	11/11/93	11/15/93 Water
14958- 3	CARB2 OUT	11/11/93	11/12/93 Water
14958- 4	TB-LB	11/11/93	11/12/93 Water

RESULTS OF ANALYSIS

Laboratory Number: 14958- 1 14958- 2 14958- 3 14958- 4

Gasoline:	13000	ND<50	ND<50	ND<50
Benzene:	1600	ND<0.5	ND<0.5	ND<0.5
Toluene:	500	0.8	ND<0.5	ND<0.5
Ethyl Benzene:	140	ND<0.5	ND<0.5	ND<0.5
Total Xylenes:	790	ND<1.5	ND<1.5	ND<1.5
Concentration:	ug/L	ug/L	ug/L	ug/L



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

Page 2 of 2
QA/QC INFORMATION
SET: 14958

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:	90/90	0%	75-125
Benzene:	94/90	4%	75-125
Toluene:	95/91	4%	75-125
Ethyl Benzene:	96/92	4%	75-125
Total Xylenes:	98/94	4%	75-125

Cecilia G. Joaguen

Senior Chemist
Account Manager

Chevron U.S.A. Inc.
P.O. BOX 5004
San Ramon, CA 94583
FAX (415)842-9581

Chevron Facility Number 9-4587
Facility Address 609 OAK ST. OAKLAND
RL20113.002
Consultant Project Number _____
Consultant Name GERAGHTY & MILLER, INC.
Address 1050 MARINA WAY SOUTH RICHMOND
Project Contact (Name) KEIT O'BRIEN
(Phone) 510-233-8200 (Fax Number) 510-233-8204

Chevron Contact (Name) MARK MILLER
(Phone) 510-842-8134
Laboratory Name SUPERIOR ANALYTICAL
Laboratory Release Number 8327510
Samples Collected by (Name) ERDIE ABILLANO
Collection Date 11/11/93
Signature [Signature]

Analyses To Be Performed

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil A = Air W = Water C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	Analyses To Be Performed										Remarks			
								BTEX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Hydrocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd, Cr, Pb, Zn, Ni (201P or M)						
CSRB 1-1W		3	W	G		HCL	Y	✓													
CSRB 2-1W		3	W	G		HCL	Y	✓													
CSRB 2-2W		3	W	G		HCL	Y	✓													
TRIP BLANK		1	W	-			Y	✓													

Piccolo Initial: [Signature]
 Samples Stored in Ice: yes
 Appropriate containers: yes
 Samples preserved: yes
 VOA's without headspace: yes
 Comments: _____

Relinquished By (Signature) <u>[Signature]</u>	Organization <u>G & M</u>	Date/Time <u>11/12/93</u>	Received By (Signature) <u>Mirel S #758</u>	Organization <u>AERO</u>	Date/Time <u>11/12/93</u>	Turn Around Time (Circle Choice) <input checked="" type="radio"/> 24 Hrs. <input type="radio"/> 48 Hrs. <input type="radio"/> 5 Days <input type="radio"/> 10 Days <input type="radio"/> As Contracted
Relinquished By (Signature) <u>Mirel S #758</u>	Organization <u>AERO</u>	Date/Time <u>11/12/93 3:35</u>	Received By (Signature) _____	Organization _____	Date/Time _____	
Relinquished By (Signature) _____	Organization _____	Date/Time _____	Received For Laboratory By (Signature) _____	Date/Time <u>11/12/93 1535</u>		



Superior Precision Analytical, Inc.

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

Geraghty & Miller Inc.
Attn: KENT O'BRIEN

Project RC 0113002
Reported 11/29/93

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed Matrix
14976- 1	CARB 1 IN	11/17/93	11/29/93 Water
14976- 2	CARB 2 IN	11/17/93	11/25/93 Water
14976- 3	CARB 2 OUT	11/17/93	11/25/93 Water
14976- 4	TB-LB	11/17/93	11/25/93 Water

RESULTS OF ANALYSIS

Laboratory Number: 14976- 1 14976- 2 14976- 3 14976- 4

Gasoline:	7600	97	ND<50	ND<50
Benzene:	1500	9.0	ND<0.5	ND<0.5
Toluene:	270	2.3	ND<0.5	ND<0.5
Ethyl Benzene:	100	1.0	ND<0.5	ND<0.5
Total Xylenes:	490	7.1	ND<0.5	ND<0.5
Concentration:	ug/L	ug/L	ug/L	ug/L



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

Page 2 of 2
QA/QC INFORMATION
SET: 14976

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

<u>ANALYTE</u>	<u>MS/MSD RECOVERY</u>	<u>RPD</u>	<u>CONTROL LIMIT</u>
Gasoline:	89/88	1%	75-125
Benzene:	89/94	5%	75-125
Toluene:	90/96	6%	75-125
Ethyl Benzene:	91/97	6%	75-125
Total Xylenes:	93/99	6%	75-125

Cecilia G. Joaguer
Senior Chemist
Account Manager

Chevron U.S.A. Inc.
P.O. BOX 5004
San Ramon, CA 94583
FAX (415)842-9591

Chevron Facility Number 9-4587
Facility Address 609 Oak St. Oakland
Consultant Project Number RC 0113.002
Consultant Name Geraghty & Miller Inc.
Address 1050 Marina Way South Richmond
Project Contact (Name) Kent O'Brien
(Phone) 5102333200 (Fax Number) 5102333204

Chevron Contact (Name) Mark Miller
(Phone) 510 842 8134
Laboratory Name Superior Analytical
Laboratory Release Number 8327510
Samples Collected by (Name) Richy Spencer
Collection Date 11-17-93
Signature Richy Spencer

Analyses To Be Performed

DO NOT BILL FOR TB, LB'S

Sample Number	Lab Sample Number	Number of Containers	Matrix			Time	Sample Preservation	Lead (Yes or No)	Analyses To Be Performed										Remarks						
			S = Soil	A = Air	W = Water				C = Charcoal	Type	G = Grab	C = Composite	D = Discrete	BTEX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Hydrocarbons (8010)	Purgeable Aromatics (8020)		Purgeable Organics (8240)	Extractable Organics (8270)	Metals (Cd, Cr, Pb, Zn, Ni) (ICAP or AA)			
Carb 1 IN		2	W			1230	HCL	yes	X																
carb 2 IN		2	W			↓	↓	↓	↓																
carb 2 out		2	W			↓	↓	↓	↓																
TB		1	-			-	↓	↓	↓																

Please initial:

Samples Stored in ice 4°C

Appropriate containers

Sampler

VOA's

Comments:

Relinquished By (Signature) <u>Richy Spencer</u>	Organization <u>GM</u>	Date/Time <u>11-18-93</u>	Received By (Signature) <u>W. Wood</u>	Organization <u>AERO</u>	Date/Time <u>11/18/93</u>	Turn Around Time (Circle Choice) 24 Hrs. 48 Hrs. <u>5 Days</u> 10 Days As Contracted
Relinquished By (Signature) <u>W. Wood</u>	Organization <u>AERO</u>	Date/Time <u>11/18/93</u>	Received By (Signature) <u>[Signature]</u>	Organization	Date/Time	
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time <u>11/18/93 1040</u>	