STID 1042

ENVIRONMENTAL PROTECTION

98 MAY -5 PM 2:35

Chevron

Chevron Products Company
6001 Bollinger Canyon Road
Building L
San Ramon, CA 94583
P.O. Box 6004
San Ramon, CA 94583-0904

Marketing – Sales West
Phone 510 842-9500

April 30, 1998

Mr. Thomas Peacock, Manager
Alameda County Health Care Services
Division of Environmental Protection
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Re: Chevron Service Station #9-8341
3530 MacArthur Blvd.
Oakland, California

Dear Mr. Peacock:

Enclosed is the First Quarter Groundwater Monitoring Report for 1998 that was prepared by our consultant Gettler-Ryan Inc. for the above noted site. Ground water samples were collected and analyzed for TPH-g, BTEX and MtBE constituents and sampled quarterly.

The concentration of the benzene constituent decreased in monitoring well MW-2 while increasing in well MW-1 from the previous sampling event. In well MW-3 the concentrations were below method detection limits for all constituents.

Depth to ground water varied from 2.67 feet to 4.39 feet below grade with a direction of flow southwesterly.

For your information, I have taken over the responsibility of this site from Ms. Tammy Hodge. This is response to your letter of April 21, 1998 requesting that further investigation be conducted at this site due to the levels of MtBE that has been detected in monitoring well MW-2. The information requested in said letter will be responded to in the noted time frame.

The wells will continue to be sampled in accordance to the schedule as outlined above. If you have any questions, call me at (510) 842-9136.

Sincerely,
CHEVRON PRODUCTS COMPANY

Philip R. Briggs
Site Assessment and Remediation Project Manager

Enclosure

CC. Mr. Chuck Headlee
RWQCB-San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, CA 94612

Ms. Madhulla Logan
Alameda County Health Care Services
Division of Environmental Protection
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Mr. Bill Scudder, Chevron

GETTLER-RYAN INC.

March 16, 1998 Job #6346.80

Ms. Tammy Hodge
Chevron Products Company
P.O. Box 6004
San Ramon, CA 94583

Re: First Quarter 1998 Groundwater Monitoring & Sampling Report
Chevron Service Station #9-8341
3530 MacArthur Boulevard
Oakland, California

Dear Ms. Hodge:

This report documents the quarterly groundwater monitoring and sampling event performed by Gettler-Ryan Inc. (G-R). On February 4, 1998, field personnel were on-site to monitor and sample three wells (MW-1, MW-2 and MW-3) at the above referenced site.

Static groundwater levels were measured and all wells were checked for the presence of separate-phase hydrocarbons. Separate-phase hydrocarbons were not present in any of the wells. Static water level data and groundwater elevations are presented in Table 1. A Potentiometric Map is included as Figure 1.

Groundwater samples were collected from the monitoring wells as specified by G-R Standard Operating Procedure - Groundwater Sampling (attached). The field data sheets for this event are also attached. The samples were analyzed by Sequoia Analytical. Analytical results are presented in Table 1. The chain of custody document and laboratory analytical reports are attached.

Thank you for allowing Gettler-Ryan Inc. to provide environmental services to Chevron. Please call if you have any questions or comments regarding this report.

Sincerely,

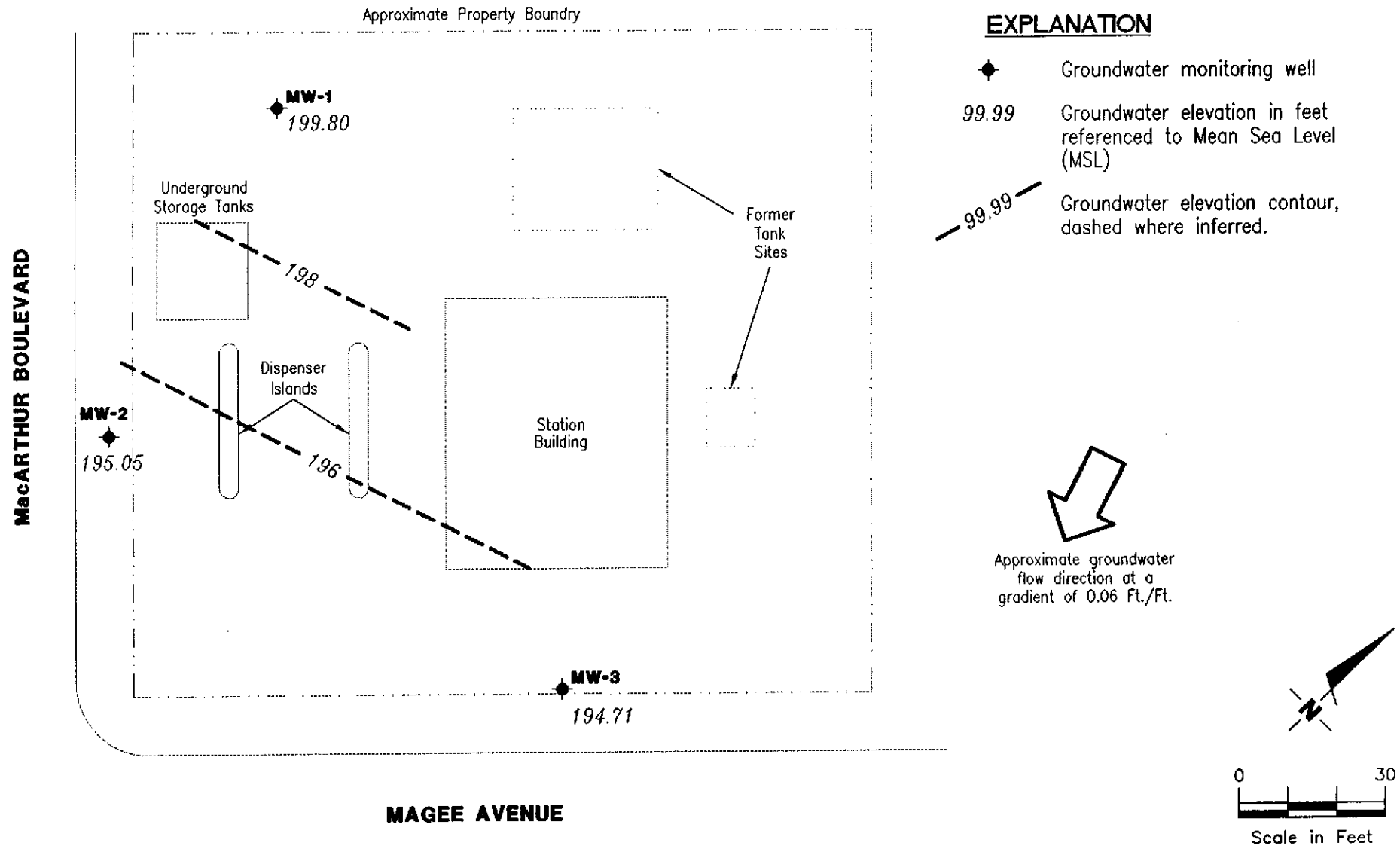
Deanna L. Harding
Project Coordinator

Barbara Sieminski
Project Geologist, R.G. No. 6676

REGISTERED GEOLOGIST ☆ BARBARA SIEMINSKI ☆ No. 6676 STATE OF CALIFORNIA

DLH/SJC/acn
6346.QML

Figure 1: Potentiometric Map
Table 1: Water Level Data and Groundwater Analytical Results
Attachments: Standard Operating Procedure - Groundwater Sampling
Field Data Sheets
Chain of Custody Document and Laboratory Analytical Reports



Gettler - Ryan Inc.

6747 Sierra Ct., Suite J
Dublin, CA 94568
(510) 551-7555

POTENTIOMETRIC MAP
Chevron Service Station No. 9-8341
3530 MacArthur Boulevard
Oakland, California

FIGURE
1

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
6346		February 4, 1998	

Table 1. Water Level Data and Groundwater Analytical Results - Chevron Service Station #9-8341, 3530 MacArthur Blvd., Oakland, California

Well ID/ TOC	Date Sampled	Depth to Water (ft)	GWE (msl)	Product Thickness (ft)	TPH(G)	B	T	E	X	MTBE
					<----------ppb---------->					
MW-1										
202.47	04/04/96	3.82	198.65	---	<50	<0.50	<0.50	<0.50	<0.50	ND
	11/01/96	5.02	197.45	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	01/06/97	2.75	199.72	0.00	<50	<0.50	<0.50	<0.50	<0.50	14
	04/14/97	4.76	197.71	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	07/17/97	5.75	196.72	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	10/29/97	5.50	196.97	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	02/04/98	**2.67**	**199.80**	**0.00**	**<50**	**4.2**	**<0.50**	**<0.50**	**<0.50**	**94**
MW-2										
198.88	04/04/96	2.81	196.07	---	<50	<0.50	<0.50	<0.50	<0.50	6,100
	11/01/96	3.61	195.27	0.00	<500	<5.0	<5.0	<5.0	<5.0	2,600
	01/06/97	2.91	195.97	0.00	<2,000	31	<20	<20	<20	4,000
	04/14/97	3.45	195.43	0.00	<2,000	<20	<20	<20	<20	5,100/5,800[1]
	07/17/97	3.90	194.98	0.00	<500	<5.0	<5.0	<5.0	<5.0	2,300/2,900[1]
	10/29/97	5.92	192.96	0.00	120[2]	12	<0.50	<0.50	<0.50	810/900[1]
	02/04/98	**3.83**	**195.05**	**0.00**	**<1,000**	**<10**	**<10**	**<10**	**<10**	**2,100/2,800[1]**
MW-3										
199.10	04/04/96	3.88	195.22	---	<50	<0.50	<0.50	<0.50	<0.50	ND
	11/01/96	4.19	194.91	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	01/06/97	3.81	195.29	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	04/14/97	4.17	194.93	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	07/17/97	4.18	194.92	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	10/29/97	5.20	193.90	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	02/04/98	**4.39**	**194.71**	**0.00**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<2.5**
Trip Blank	11/01/96	---	---	---	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	01/06/97	---	---	---	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	04/14/97	---	---	---	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	07/17/97	---	---	---	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	10/29/97	---	---	---	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	02/04/98	**---**	**---**	**---**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<2.5**

Table 1. Water Level Data and Groundwater Analytical Results - Chevron Service Station #9-8341, 3530 MacArthur Blvd., Oakland, California (continued)

EXPLANATION:

TOC = Top of casing elevation
(ft) = feet
GWE = Groundwater elevation
(msl) = Measurement referenced relative to mean sea level
TPH(G) = Total Petroleum Hydrocarbons as gasoline
B = Benzene
T = Toluene
E = Ethylbenzene
X = Xylenes
MTBE = Methyl tertiary-butyl ether
ppb = Parts per billion
--- = Not analyzed, not measured
ND = Not-detected at or above laboratory detection limit

ANALYTICAL METHODS:

EPA Method 8015 for TPH(G)
EPA Method 8020 for BTEX and MTBE
EPA Method 8260 for MTBE

NOTES:

Water level elevation data and laboratory analytical results prior to November 1, 1996, were provided by Chevron Products Company.

[1] MTBE by EPA Method 8260.
[2] Laboratory report indicates gas & unidentified hydrocarbons <C8.

6346.tqm

STANDARD OPERATING PROCEDURE - GROUNDWATER SAMPLING

Gettler-Ryan Inc. field personnel adhere to the following procedures for the collection and handling of groundwater samples prior to analysis by the analytical laboratory. Prior to sample collection, the type of analysis to be performed is determined. Loss prevention of volatile compounds is controlled and sample preservation for subsequent analysis is maintained.

Prior to sampling, the presence or absence of free-phase hydrocarbons is determined using a MMC flexi-dip interface probe. Product thickness, if present, is measured to the nearest 0.01 foot and is noted in the field notes. In addition, static water level measurements are collected with the interface probe and are also recorded in the field notes.

After water levels are collected and prior to sampling, each well is purged a minimum of three well casing volumes of water using pre-cleaned pumps (stack, suction, Grundfos), or polyvinyl chloride bailers. Temperature, pH and electrical conductivity are measured a minimum of three times during the purging. Purging continues until these parameters stabilize.

Groundwater samples are collected using Chevron-designated disposable bailers. The water samples are transferred from the bailer into appropriate containers. Pre-preserved containers, supplied by analytical laboratories, are used when possible. When pre-preserved containers are not available, the laboratory is instructed to preserve the sample as appropriate. Duplicate samples are collected for the laboratory to use in maintaining quality assurance/quality control standards. The samples are labeled to include the job number, sample identification, collection date and time, analysis, preservation (if any), and the sample collector's initials. The water samples are placed in a cooler, maintained at 4°C for transport to the laboratory. Once collected in the field, all samples are maintained under chain of custody until delivered to the laboratory.

The chain of custody document includes the job number, type of preservation, if any, analysis requested, sample identification, date and time collected, and the sample collector's name. The chain of custody is signed and dated (including time of transfer) by each person who receives or surrenders the samples, beginning with the field personnel and ending with the laboratory personnel.

A laboratory supplied trip blank accompanies each sampling set. For sampling sets greater than 20 samples, 5% trip blanks are included. The trip blank is analyzed for some or all of the same compounds as the groundwater samples.

As requested by Chevron Products Company, the purge water and decontamination water generated during sampling activities is transported by IWM to McKittrick Waste Management located in McKittrick, California.

WELL MONITORING/SAMPLING
FIELD DATA SHEET

Chevron Facility # 9-8341 Job#: 6346.80

Address: 3530 MacArthur Blvd. Date: 2-4-98

City: Oakland, CA Sampler: F.Cline

Well ID MW- 1 Well Condition: Okay

Well Diameter 2" in. Hydrocarbon Thickness: 0 in. Amount Bailed (product/water): 0 (gal.)

Total Depth 27.14 ft.

Depth to Water 2.67 ft.

Volume Factor (VF)	2" = 0.17	3" = 0.38	4" = 0.66
	6" = 1.50	12" = 5.80	

24.47 X VF 0.17 = 4.16 X 3 (case volume) = Estimated Purge Volume: 12.4 (gal.)

Purge Equipment: Disposable Bailer; Bailer; Stack; ~~Suction~~; Grundfos; Other: _____

Sampling Equipment: Disposable Bailer; Bailer; Pressure Bailer; Grab Sample; Other: _____

Starting Time: 1304 Weather Conditions: Cleaning, warming

Sampling Time: 1315 Water Color: Clear Odor: None

Purging Flow Rate: 1.5 gpm. Sediment Description: None

Did well de-water? _____ If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity µmhos/cm	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
1307	9.5	6.75	470	65.2			
1310	9.0	6.82	515	66.3			
1313	13.5	6.85	511	66.3			
1316	14.0	6.84	512	66.2			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW- 1	3 x 40m/VOA	Y	HCL	SEQUOIA	TPH-G/BTEX/MTBE

COMMENTS: _____

WELL MONITORING/SAMPLING
FIELD DATA SHEET

Chevron Facility # 9-8341 Job#: 6346.80

Address: 3530 MacArthur Blvd. Date: 2-4-98

City: Oakland, CA Sampler: F.Cline

Well ID MW- 2 Well Condition: Okay

Well Diameter 2" in. Hydrocarbon Thickness: — in. Amount Bailed (product/water): — (gal.)

Total Depth 33.20 ft.

Depth to Water 3.83 ft.

Volume Factor (VF)	2" = 0.17	3" = 0.38	4" = 0.66
	6" = 1.50	12" = 5.80	

29.37 X VF 0.17 = 4.99 X 3 (case volume) = Estimated Purge Volume: 14.9 (gal.)

Purge Equipment: Disposable Bailer; Bailer; (Stack); Suction; Grundfos; Other:

Sampling Equipment: (Disposable Bailer); Bailer; Pressure Bailer; Grab Sample; Other:

Starting Time: 1322 Weather Conditions: ~~Cloudy~~ clearing Breeze

Sampling Time: 1333 Water Color: clear Odor: None

Purging Flow Rate: 1.7 gpm. Sediment Description: None

Did well de-water? No If yes; Time: — Volume: — (gal.)

Time	Volume (gal.)	pH	Conductivity µmhos/cm	Temperature °C	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
1325	5.1	6.85	573	67.6			
1329	10.2	6.90	566	69.1			
1331	15.3	6.91	568	66.7			
1333	15.5	6.89	567	66.6			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW- 2	3 x 40m/VOA	Y	HCL	SEQUOIA	TPH-G/BTEX/MTBE

COMMENTS:

9/97-fieldat.frm

WELL MONITORING/SAMPLING
FIELD DATA SHEET

Chevron Facility # 9-8341 Job#: 6346.80

Address: 3530 MacArthur Blvd. Date: 2-4-98

City: Oakland, CA Sampler: F.Cline

Well ID MW- 3 Well Condition: okay

Well Diameter 2" in. Hydrocarbon Thickness: e in. Amount Bailed (product/water): e (gal.)

Total Depth 32.84 ft.

Depth to Water 4.39 ft.

Volume Factor (VF)	2" = 0.17	3" = 0.38	4" = 0.66
	6" = 1.50	12" = 5.80	

28.45 X VF 0.17 = 4.8 X 3 (case volume) = Estimated Purge Volume: 14.5 (gal.)

Purge Equipment: Disposable Bailer, Bailer, (Stack), Suction, Grundfos, Other:

Sampling Equipment: (Disposable Bailer), Bailer, Pressure Bailer, Grab Sample, Other:

Starting Time: 12:40 Weather Conditions: Clearing Breezy

Sampling Time: 12:51 Water Color: Brown Odor: None

Purging Flow Rate: 1.6 gpm. Sediment Description: Light silt

Did well de-water? No If yes; Time: Volume: (gal.)

Time	Volume (gal.)	pH	Conductivity µmhos/cm	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
1243	4.8	6.69	525 618	63.2			
1246	9.6	6.87	~~618~~ 525	62.0			
1249	14.4	6.89	526	62.4			
1251	15.6	6.88	532	62.6			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW- 3	3 x 40m/VOA	Y	HCL	SEQUOIA	TPH-G/BTEX/MTBE

COMMENTS:

Fax copy of Lab Report and COC to Chevron Contact: ☐ No 10024391 Chain-of-Custody-Reco

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

Chevron Facility Number #9-8341
Facility Address 3530 MacArthur, Oakland, CA
Consultant Project Number 6346
Consultant Name Gettler-Ryan
Address 6747 Sierra Ct, Ste J, Dublin 94568
Project Contact (Name) Deanna Harding
(Phone) 551-7555 (Fax Number) 551-7888

Chevron Contact (Name) Ms. Tammy Hodge
(Phone) (510) 842-9449
Laboratory Name SEQUOIA Service Code: 2202790
Laboratory Service Order # 9022851
Samples Collected by (Name) E. Cline
Collection Date 2-4-98
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)	TPH Gas + BTEX w/MTBE (8015) (8020)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd,Cr,Pb,Zn,Ni (ICAP or AA)					Remarks
TB-LB	01	2	W	TB	—	HCl	Y	X												
MW-3	02	3	↓	G	1251	↓	↓	X												
MW-1	03	3		↓	1315			X												
MW-2	04	3			1333			X												

DO NOT BILL TB-LB ANALYS[IS]

Confirm Highest h[it] of 8020 Mtbe by 8260 - Thanks

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
[signature]	G-R Inc.	2-5-98/0800	D. Harding	G-R Inc.	2/5/98
D. Harding	GR	2/6/98	[signature]	Seq	2/6/98
[signature]	Seq	2/6/98	Received For Laboratory By (Signature): [signature]		2/6/98 15:56

Turn Around Time (Circle Choice)
24 Hrs.
48 Hrs.
5 Days
10 Days
As Contracted (circled)

FEB 6 3 56

SOC-3.DWG/06 91/FCH

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Gettler Ryan/Geostrategies	Client Proj. ID: Chevron 9-8341, Oakland	Sampled: 02/04/98
6747 Sierra Court Suite J	Sample Descript: TB-LB	Received: 02/06/98
Dublin, CA 94568	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 02/12/98
Attention: Deanna Harding	Lab Number: 9802459-01	Reported: 02/20/98

QC Batch Number: GC021298802009A
Instrument ID: GCHP09

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	105

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

SEQUOIA ANALYTICAL - ELAP #1271

Mike Gregory
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Gettler Ryan/Geostrategies	Client Proj. ID: Chevron 9-8341, Oakland	Sampled: 02/04/98
6747 Sierra Court Suite J	Sample Descript: MW-1	Received: 02/06/98
Dublin, CA 94568	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 02/12/98
Attention: Deanna Harding	Lab Number: 9802459-03	Reported: 02/20/98

QC Batch Number: GC021298802009A
Instrument ID: GCHP09

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	**2.5**	**94**
Benzene	**0.50**	**4.2**
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	105

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

SEQUOIA ANALYTICAL - ELAP #1271

Mike Gregory
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Gettler Ryan/Geostrategies	Client Proj. ID: Chevron 9-8341, Oakland	Sampled: 02/04/98
6747 Sierra Court Suite J	Sample Descript: MW-2	Received: 02/06/98
Dublin, CA 94568	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 02/12/98
Attention: Deanna Harding	Lab Number: 9802459-04	Reported: 02/20/98

QC Batch Number: GC021298802004A
Instrument ID: GCHP04

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	1000	N.D.
Methyl t-Butyl Ether	**50**	**2100**
Benzene	10	N.D.
Toluene	10	N.D.
Ethyl Benzene	10	N.D.
Xylenes (Total)	10	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	111

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

SEQUOIA ANALYTICAL - ELAP #1271

Mike Gregory
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Gettler Ryan/Geostrategies	Client Proj. ID: Chevron 9-8341, Oakland	Sampled: 02/04/98
6747 Sierra Court Suite J	Sample Descript: MW-2	Received: 02/06/98
Dublin, CA 94568	Matrix: LIQUID	
	Analysis Method: EPA 8260	Analyzed: 02/18/98
Attention: Deanna Harding	Lab Number: 9802459-04	Reported: 02/20/98

QC Batch Number: MS021898B260S2A
Instrument ID: GCMS02

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	**20**	**2800**

Surrogates	Control Limits %		% Recovery
1,2-Dichloroethane-d4	76	114	Q
Toluene-d8	88	110	Q
4-Bromofluorobenzene	86	115	Q

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

SEQUOIA ANALYTICAL - ELAP #1271

Mike Gregory
Project Manager

Sequoia Analytical

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Gettler Ryan/Geostrategies	Client Proj. ID: Chevron 9-8341, Oakland	Sampled: 02/04/98
6747 Sierra Court Suite J	Sample Descript: MW-3	Received: 02/06/98
Dublin, CA 94568	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 02/12/98
Attention: Deanna Harding	Lab Number: 9802459-02	Reported: 02/20/98

QC Batch Number: GC021298802009A
Instrument ID: GCHP09

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	105

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

SEQUOIA ANALYTICAL - ELAP #1271

Mike Gregory
Project Manager

Sequoia Analytical

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Gettler Ryan/Geostrategies
6747 Sierra Court Suite J
Dublin, CA 94568
Attention: Deanna Harding

Client Proj. ID: Chevron 9-8341, Oakland
Lab Proj. ID: 9802459

Received: 02/06/98
Reported: 02/20/98

LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 10 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

TPGBMW: Sample 9802459-04 was diluted 20-fold.

For MTBE confirmation, the only surrogate used was Dibromofluoromethane and had a recovery of 96% with control limits of 50-150.

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Dublin, CA 94568
Attention: Deanna Harding

Client Project ID: Chevron 9-8341, Oakland
Matrix: Liquid
Work Order #: 9802459 -01-03
Reported: Feb 23, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC021298802009A	GC021298802009A	GC021298802009A	GC021298802009A	GC021298802009A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb
MS/MSD #:	8020681	8020681	8020681	8020681	8020681
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	2/12/98	2/12/98	2/12/98	2/12/98	2/12/98
Analyzed Date:	2/12/98	2/12/98	2/12/98	2/12/98	2/12/98
Instrument I.D.#:	HP9	HP9	HP9	HP9	HP9
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	360 µg/L
Result:	21	22	21	64	350
MS % Recovery:	104	110	105	107	97
Dup. Result:	22	22	22	66	340
MSD % Recov.:	110	110	110	110	94
RPD:	4.7	0.0	4.7	3.1	2.9
RPD Limit:	0-20	0-20	0-20	0-20	0-50
LCS #:	LCS021298	LCS021298	LCS021298	LCS021298	LCS021298
Prepared Date:	2/12/98	2/12/98	2/12/98	2/12/98	2/12/98
Analyzed Date:	2/12/98	2/12/98	2/12/98	2/12/98	2/12/98
Instrument I.D.#:	HP9	HP9	HP9	HP9	HP9
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	360 µg/L
LCS Result:	21	22	22	66	350
LCS % Recov.:	105	110	110	110	97
MS/MSD Control Limits	60-140	60-140	60-140	60-140	60-140
LCS Control Limits	70-130	70-130	70-130	70-130	70-130

SEQUOIA ANALYTICAL
Elap #1271

Mike Gregory
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.

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

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Gettler Ryan/Geostrategies	Client Project ID:	Chevron 9-8341, Oakland	
6747 Sierra Court, Ste J	Matrix:	Liquid	
Dublin, CA 94568			
Attention: Deanna Harding	Work Order #:	9802459-04	Reported: Feb 23, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC021298802004A	GC021298802004A	GC021298802004A	GC021298802004A	GC021298802004A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb
MS/MSD #:	8020726	8020726	8020726	8020726	8020726
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	2/12/98	2/12/98	2/12/98	2/12/98	2/12/98
Analyzed Date:	2/12/98	2/12/98	2/12/98	2/12/98	2/12/98
Instrument I.D.#:	HP4	HP4	HP4	HP4	HP4
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	310 µg/L
Result:	19	19	18	56	300
MS % Recovery:	95	95	90	93	97
Dup. Result:	20	20	19	59	310
MSD % Recov.:	100	100	95	98	100
RPD:	5.1	5.1	5.4	5.2	3.3
RPD Limit:	0-20	0-20	0-20	0-20	0-50
LCS #:	LCS021298	LCS021298	LCS021298	LCS021298	LCS021298
Prepared Date:	2/12/98	2/12/98	2/12/98	2/12/98	2/12/98
Analyzed Date:	2/12/98	2/12/98	2/12/98	2/12/98	2/12/98
Instrument I.D.#:	HP4	HP4	HP4	HP4	HP4
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	310 µg/L
LCS Result:	20	20	19	59	300
LCS % Recov.:	100	100	95	98	97
MS/MSD	60-140	60-140	60-140	60-140	60-140
LCS	70-130	70-130	70-130	70-130	70-130
Control Limits					

SEQUOIA ANALYTICAL
Elap #1271

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Gettler Ryan/Geostrategies	Client Project ID:	Chevron 9-8341, Oakland	
6747 Sierra Court, Ste J	Matrix:	Liquid	
Dublin, CA 94568			
Attention: Deanna Harding	Work Order #:	9802459-04	Reported: Feb 23, 1998

QUALITY CONTROL DATA REPORT

Analyte:	MTBE
QC Batch#:	MS0218988260S2A
Analy. Method:	EPA 8260
Prep. Method:	EPA 5030
Analyst:	N. Nelson
MS/MSD #:	LCS/LCSD
Sample Conc.:	N.D.
Prepared Date:	2/18/98
Analyzed Date:	2/18/98
Instrument I.D.#:	GCMS2
Conc. Spiked:	50 µg/L
Result:	62
MS % Recovery:	124
Dup. Result:	55
MSD % Recov.:	110
RPD:	12
RPD Limit:	0-25

LCS #:	
Prepared Date:	
Analyzed Date:	
Instrument I.D.#:	
Conc. Spiked:	
LCS Result:	
LCS % Recov.:	

MS/MSD	60-140
LCS	70-130
Control Limits	

SEQUOIA ANALYTICAL

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