



GETTLER-RYAN INC.

July 31, 1998

Job #6395.80

Mr. Phill Briggs
Chevron Products Company
P.O. Box 6004
San Ramon, CA 94583

Re: Second Quarter 1998 Groundwater Monitoring & Sampling Report
Chevron Service Station #9-9708
5910 MacArthur Boulevard
Oakland, California

Dear Mr. Briggs:

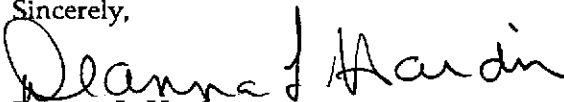
This report documents the quarterly groundwater monitoring and sampling event performed by Gettler-Ryan Inc. (G-R). On June 28, 1998, field personnel were on-site to monitor and sample three wells (MW-1, MW-2 and MW-3) at the above referenced site.

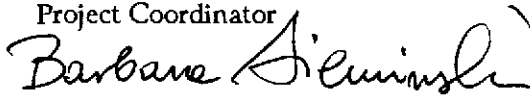
Static groundwater levels were measured and all wells were checked for the presence of separate-phase hydrocarbons. Separate-phase hydrocarbons were not present in any of the wells. Static water level data and groundwater elevations are presented in Table 1. A Potentiometric Map is included as Figure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

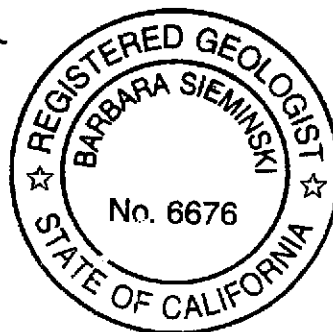
Groundwater samples were collected from the monitoring wells as specified by G-R Standard Operating Procedure - Groundwater Sampling (attached). The field data sheets for this event are also attached. The samples were analyzed by Sequoia Analytical. Analytical results are presented in Table 1. The chain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

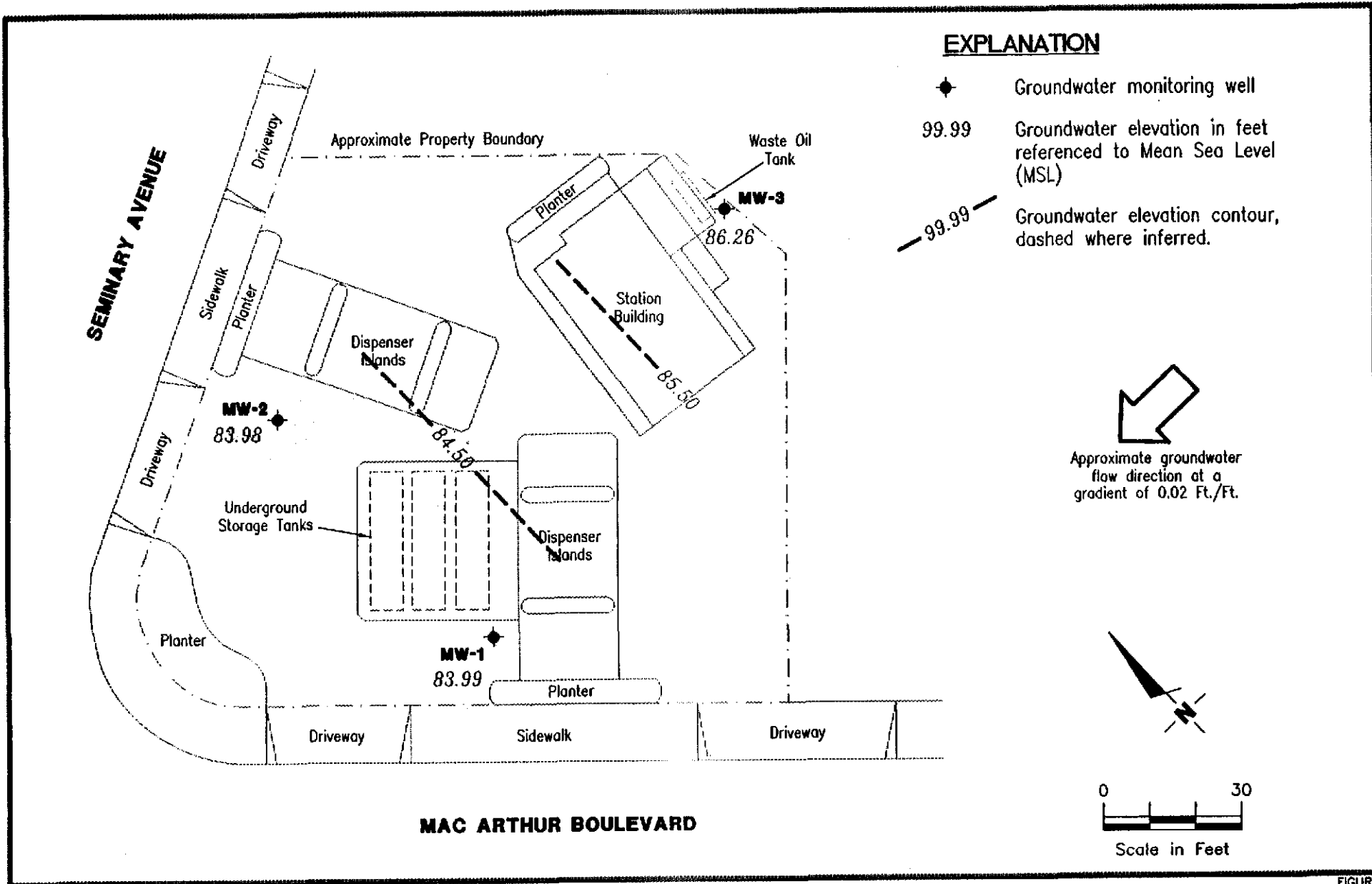

Deanna L. Harding
Project Coordinator


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



DLH/bs/dlh
6395.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



EXPLANATION

- ◆ Groundwater monitoring well
- 99.99 Groundwater elevation in feet referenced to Mean Sea Level (MSL)
- 99.99 - Groundwater elevation contour, dashed where inferred.

Approximate groundwater flow direction at a gradient of 0.02 Ft./Ft.



Gottler - Ryan Inc.

6747 Sierra Ct., Suite J (925) 551-7555
Dublin, CA 94568

POTENTIOMETRIC MAP
Chevron Service Station No. 9-9708
5910 Mac Arthur Boulevard
Oakland, California

FIGURE

1

JOB NUMBER
6395

REVIEWED BY

DATE
June 28, 1998

REVISED DATE

Table 1. Water Level Data and Groundwater Analytical Results - Chevron Service Station #9-9708, 5910 MacArthur Blvd., Oakland, California

Well ID/ TOC(ft)	Date Sampled	Depth to Water (ft)	GWE (msl)	Product Thickness (ft)	TPH(D) <-----	TPH(G)	-----ppb-----					MTBE >
							B	T	E	X		
MW-1 96.61 ¹	05/29/97	12.20	84.41	0.00	---	---	---	---	---	---	---	
	06/04/97	12.21	84.40	0.00	---	380	58	1.2	5.4	40	85	
	09/16/97	12.77	83.84	0.00	---	420 ³	120	<0.5	19	2.7	28	
	12/17/97	11.18	85.43	0.00	---	210 ⁵	43	0.61	11	0.61	69	
	03/18/98	12.02	84.59	0.00	---	210 ⁸	47	<0.50	8.2	<0.50	92	
	06/28/98	12.62	83.99	0.00	---	<50	<0.50	<0.50	<0.50	<0.50	66	
MW-2 96.91 ¹	05/29/97	13.06	83.85	0.00	---	---	---	---	---	---	---	
	06/04/97	12.95	83.96	0.00	---	1,600	120	5.9	32	15	2,100	
	09/16/97	12.99	83.92	0.00	---	1,100 ³	23	3.2	7.0	2.5	1,200	
	12/17/97	12.18	84.73	0.00	---	7,100 ⁵	650	69	610	69	4,700/2,600 ⁶	
	03/18/98	12.70	84.21	0.00	---	5,900 ⁹	250	<50	98	<50	12,000/7,100 ⁶	
	06/28/98	12.93	83.98	0.00	---	4,300	400	<10	<10	<10	3,000/4,000 ⁶	
MW-3 97.86 ¹	05/29/97	11.45	86.41	0.00	---	---	---	---	---	---	---	
	06/04/97 ²	11.28	86.58	0.00	1,200	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	09/16/97	12.19	85.67	0.00	2,700 ⁴	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	12/17/97	10.80	87.06	0.00	1,200 ⁷	<50	0.90	0.53	<0.50	<0.50	<2.5	
	03/18/98	10.88	86.98	0.00	820 ⁷	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
	06/28/98 ¹⁰	11.60	86.26	0.00	1,100 ⁷	<50	<0.50	<0.50	<0.50	<0.5	<2.5	
Trip Blank	06/04/97	---	---	---	---	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	09/16/97	---	---	---	---	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	12/17/97	---	---	---	---	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
	03/18/98	---	---	---	---	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
	06/28/98	---	---	---	---	<50	<0.50	<0.50	<0.50	<0.50	<2.5	

Table 1. Water Level Data and Groundwater Analytical Results - Chevron Service Station #9-9708, 5910 MacArthur Blvd., Oakland, California (continued)

EXPLANATION:

TOC = Top of casing elevation
(ft) = feet
GWE = Groundwater elevation
(msl) = Mean Sea Level
TPH(D) = Total Petroleum Hydrocarbons as diesel
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
HVOs = Halogenated Volatile Organics

ANALYTICAL METHODS:

EPA Method 8015 Modified for TPH(D)
EPA Method 8015 for TPH(G)
EPA Method 8020 for BTEX & MTBE
EPA Method 8260 for MTBE
EPA Method 8010 for HVOs

NOTES:

- ¹ MW-1 through MW-3 were surveyed on June 18, 1997, by Virgil Chavez Land Surveying (PLS #6323). Benchmark Elevation = 95.88' (msl).
- ² Sample also analyzed for the following: Total Oil & Grease by EPA Method 5520F was ND; Semivolatile Organics by EPA Method 8270B were ND; Volatile Organics by EPA Method 8010B were ND except 1,2-Dichloroethane was detected at 1 ppb.
- ³ Laboratory report indicates the concentration of MTBE has not been included in the reported concentration of TPH(G).
- ⁴ Laboratory report indicates the material present is qualitatively uncertain. Therefore, all material in the C9 to C22 range was quantitated against diesel fuel without respect to pattern. Chromatographic data indicates the presence of material, which is heavier than diesel fuel in this sample.
- ⁵ Laboratory report indicates gas & unidentified hydrocarbons > C6.
- ⁶ MTBE by EPA Method 8260.
- ⁷ Laboratory report indicates unidentified hydrocarbons C9-C24.
- ⁸ Laboratory report indicates unidentified hydrocarbons C6-C12.
- ⁹ Laboratory report indicates gas & unidentified hydrocarbons + C6-C12.
- ¹⁰ Sample was also analyzed for HVOs. 1,2-Dichlorobenzene (0.99 ppb) was detected. Concentrations of all other compounds were below method detection limits ranging from 0.5 ppb to 5.0 ppb.



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 # 9-9708 Job#: 6395.80
 Address: 5910 MacArthur Blvd. Date: 6-28-98
 City: Oakland, CA Sampler: E. Cline

Well ID: MW-1 Well Condition: dry
 Well Diameter: 2" in. Hydrocarbon Amount Bailed
 Total Depth: 20.2 ft. Thickness: _____ in. (product/water): _____ (gal.)
 Depth to Water: 12.62 ft.

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

9.58 x VF 0.17 = 1.3 x 3 (case volume) = Estimated Purge Volume: 3.9 (gal.)

Purge Equipment: Disposable Bailer Bailer Stack Suction Grundfos Other: _____
 Sampling Equipment: Disposable Bailer Bailer Pressure Bailer Grab Sample Other: _____

Starting Time: 1550 Weather Conditions: clear warm
 Sampling Time: 1555 Water Color: clear Odor: White
 Purging Flow Rate: 1.5 gpm. Sediment Description: None
 Did well de-water? _____ If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity μ mhos/cm	Temperature $^{\circ}$ C	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>1550</u>	<u>1.5</u>	<u>6.94</u>	<u>967</u>	<u>21.8</u>			
<u>1552</u>	<u>3.0</u>	<u>6.96</u>	<u>966</u>	<u>21.7</u>			
<u>1553</u>	<u>4.5</u>	<u>7.01</u>	<u>992</u>	<u>21.9</u>			
<u>1555</u>	<u>6.0</u>	<u>6.99</u>	<u>990</u>	<u>21.3</u>			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-	3 x 40m/VOA	Y	HCL	NEUGTEL Sequoia	TPH-Gas/BTEX/MTBE
MW-	2 X Liter	Y	NONE	NEUGTEL Sequoia	TPH-Diesel

COMMENTS: _____

WELL MONITORING/SAMPLING FIELD DATA SHEET

Chevron Facility # 9-9708
 Address: 5910 MacArthur Blvd.
 City: Oakland, CA

Job #: 6395.80
 Date: 6-28-98
 Sampler: E. Cline

Well ID: MW-2
 Well Diameter: 2" in.
 Total Depth: 20.11 ft.
 Depth to Water: 12.93 ft.

Well Condition: okay

Hydrocarbon Thickness:	<u>0</u> in.	Amount Bailed (product/water):	<u>0</u> (gal.)
Volume Factor (VF)	2" = 0.17	3" = 0.38	4" = 0.66
	6" = 1.50	12" = 5.80	

7.17 x VF 0.17 = 1.22 x 3 (case volume) = Estimated Purge Volume: 3.6 (gal.)

Purge Equipment: Stack
~~Suction~~
 Grundfos
 Other: _____

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

Starting Time: 16:02
 Sampling Time: 16:09
 Purging Flow Rate: 1.5 gpm
 Did well de-water? no

Weather Conditions: clear w/gum
 Water Color: clear Odor: min
 Sediment Description: clear
 If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity μ mhos/cm	Temperature $^{\circ}$ C	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>16:03</u>	<u>1.5</u>	<u>6.87</u>	<u>710</u>	<u>19.7</u>			
<u>16:09</u>	<u>3.0</u>	<u>6.91</u>	<u>725</u>	<u>19.3</u>			
<u>16:02</u>	<u>4.5</u>	<u>6.94</u>	<u>757</u>	<u>18.9</u>			
<u>16:01</u>	<u>5.0</u>	<u>6.92</u>	<u>726</u>	<u>19.0</u>			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW- <u>2</u>	<u>3 x 40m/VOA</u>	<u>Y</u>	<u>HCL</u>	NEUGTEL <u>Sequoia</u>	TPH-Gas/BTEX/MTBE
MW-	<u>2 X Liter</u>	<u>Y</u>	<u>NONE</u>	NEUGTEL <u>Sequoia</u>	TPH-Diesel

COMMENTS: _____

**WELL MONITORING/SAMPLING
FIELD DATA SHEET**

Chevron Facility # 9-9708

Job#: 6395.80

Address: 5910 MacArthur Blvd.

Date: 6-28-98

City: Oakland, CA

Sampler: E. Cline

Well ID MW-3
Well Diameter 2" in.
Total Depth 2011 ft.
Depth to Water 11.660 ft.

Well Condition: dry
Hydrocarbon Thickness: 0 in. Amount Bailed 0 (gal.)

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

8.50 x VF 0.17 = 1.45 x 3 (case volume) = Estimated Purge Volume: 4.3 (gal.)

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

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

Starting Time: 1:33
Sampling Time: 5:35
Purging Flow Rate: 1.5 gpm.
Did well de-water? _____

Weather Conditions: clear, warm
Water Color: _____ Odor: _____
Sediment Description: _____
If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity μ mhos/cm	Temperature $^{\circ}$ C	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>15:35</u>	<u>1.5</u>	<u>6.95</u>	<u>767</u>	<u>22.2</u>			
<u>15:36</u>	<u>3.0</u>	<u>6.93</u>	<u>751</u>	<u>21.7</u>			
<u>15:37</u>	<u>4.5</u>	<u>6.92</u>	<u>752</u>	<u>21.4</u>			
<u>15:39</u>	<u>5.0</u>	<u>6.93</u>	<u>752</u>	<u>21.3</u>			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-3</u>	<u>3 x 40m/VOA</u>	<u>Y</u>	<u>HCL</u>	<u>NEUGTEL Sequoia</u>	<u>TPH-Gas/BTEX/MTBE</u>
<u>MW-3</u>	<u>2 X Liter</u>	<u>Y</u>	<u>NONE</u>	<u>NEUGTEL Sequoia</u>	<u>TPH-Diesel</u>
<u>MW-3</u>	<u>3 x 40m/VOA</u>	<u>Y</u>	<u>HCL</u>	<u>SRG</u>	<u>HVOC</u>

COMMENTS: _____

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

Chevron Facility Number #9-9708
Facility Address 5910 MACARTHUR BLVD., OAKLAND, CA 6395
Consultant Project Number _____
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) MR. PHIL BRIGGS
(Phone) (510) 842-9136
Laboratory Name NET/TEL SEPULCRA Service Code: 7202790
Laboratory Service Order #9064504 9105606
Samples Collected by (Name) Frank Cline
Collection Date 6-28-98
Signature _____

Analyses To Be Performed 9806I82

DO NOT BILL
TB-LB ANALYSIS
Confirm highest
hit of (8020)-
MTBE by 8260.

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	Analyses To Be Performed											Remarks				
								TPH Gas + BTEX w/MTBE (8016)	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)								
111	TB-1B	2	W	TB	-	HCL	Y	X															
112	MW-3	8		G	1535	HCL, Na		X	X		X												
113	MW-1	3		G	1535	HCL		X															
114	MW-2	3		G	1605	HCL		X															

Relinquished By (Signature) _____	Organization <u>G-R Inc.</u>	Date/Time <u>6/29/98</u>	Received By (Signature) <u>D. Harding</u>	Organization <u>G-R Inc.</u>	Date/Time <u>6/29/98</u>	Turn Around Time (Circle Choice) 24 Hrs. 48 Hrs. 5 Days 10 Days <u>As Contracted</u>
Relinquished By (Signature) <u>D. Harding</u>	Organization <u>GR</u>	Date/Time <u>6/29/98</u>	Received By (Signature) <u>[Signature]</u>	Organization <u>SEPULCRA</u>	Date/Time <u>6/29/98 2:50</u>	
Relinquished By (Signature) <u>[Signature]</u>	Organization <u>SEPULCRA</u>	Date/Time <u>6/29/98</u>	Received For Laboratory By (Signature) <u>[Signature]</u>	Date/Time <u>6/29/98 15:47</u>		

www.ocs.com



**Sequoia
Analytical**

680 Chesapeake Drive
404 N. Wiget Lane
819 Striker Avenue, Suite 8
1455 McDowell Blvd. North, Ste. D

Redwood City, CA 94063 (650) 364-9600
Walnut Creek, CA 94598 (925) 988-9600
Sacramento, CA 95834 (916) 921-9600
Petaluma, CA 94954 (707) 792-1865

FAX (650) 364-9233
FAX (925) 988-9673
FAX (916) 921-0100
FAX (707) 792-0342

06/28/98
06/29/98
07/06/98
07/15/98

Gettler Ryan/Geostrategies 6747 Sierra Court Suite J Dublin, CA 94568	Client Proj. ID: Chevron 9-9708, Oakland Sample Descript: TB-LB Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9806182-01	Sampled: 06/28/98 Received: 06/29/98 Analyzed: 07/06/98 Reported: 07/15/98
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QC Batch Number: GC070698BTEX17A
Instrument ID: GCHP17

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	89

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

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager



Sequoia Analytical

680 Chesapeake Drive
404 N. Wiger Lane
819 Striker Avenue, Suite 8
1455 McDowell Blvd. North, Ste. D

Redwood City, CA 94063
Walnut Creek, CA 94598
Sacramento, CA 95834
Petaluma, CA 94954

(650) 364-9600
(925) 988-9600
(916) 921-9600
(707) 792-1865

FAX (650) 364-9233
FAX (925) 988-9673
FAX (916) 921-0100
FAX (707) 792-0342

Gettler Ryan/Geostrategies 6747 Sierra Court Suite J Dublin, CA 94568	Client Proj. ID: Chevron 9-9708, Oakland Sample Descript: MW-1 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9806182-03	Sampled: 06/28/98 Received: 06/29/98 Analyzed: 07/07/98 Reported: 07/15/98
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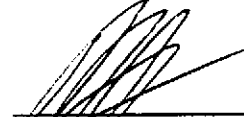
QC Batch Number: GC070798BTEX21A
Instrument ID: GCHP21

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	66
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	116

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

SEQUOIA ANALYTICAL - ELAP #1210



Mike Gregory
Project Manager



**Sequoia
Analytical**

680 Chesapeake Drive
404 N. Wiget Lane
819 Striker Avenue, Suite 8
1455 McDowell Blvd, North, Ste. D

Redwood City, CA 94063
Walnut Creek, CA 94598
Sacramento, CA 95834
Petaluma, CA 94954

(650) 364-9600
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(707) 792-1865

FAX (650) 364-9233
FAX (925) 988-9673
FAX (916) 921-0100
FAX (707) 792-0342

Gettler Ryan/Geostrategies
6747 Sierra Court Suite J
Dublin, CA 94568

Attention: Deanna Harding

Client Proj. ID: Chevron 9-9708, Oakland
Sample Descript: MW-2
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9806182-04

Sampled: 06/28/98
Received: 06/29/98
Analyzed: 07/08/98
Reported: 07/15/98

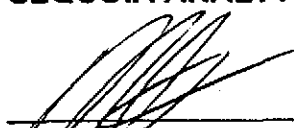
QC Batch Number: GC070898BTEX02A
Instrument ID: GCHP02

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	1000	4300
Methyl t-Butyl Ether	50	3000
Benzene	10	400
Toluene	10	N.D.
Ethyl Benzene	10	N.D.
Xylenes (Total)	10	N.D.
Chromatogram Pattern:		GAS
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	108

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

SEQUOIA ANALYTICAL - ELAP #1210



Mike Gregory
Project Manager



**Sequoia
Analytical**

680 Chesapeake Drive
404 N. Wiget Lane
819 Striker Avenue, Suite 8
1455 McDowell Blvd. North, Ste. D

Redwood City, CA 94063
Walnut Creek, CA 94598
Sacramento, CA 95834
Petaluma, CA 94954

(650) 364-9600
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(707) 792-1865

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FAX (707) 792-0342

Gettler Ryan/Geostrategies
6747 Sierra Court Suite J
Dublin, CA 94568

Client Proj. ID: Chevron 9-9708, Oakland
Sample Descript: MW-2
Matrix: LIQUID
Analysis Method: EPA 8260
Lab Number: 9806182-04

Sampled: 06/28/98
Received: 06/29/98
Analyzed: 07/15/98
Reported: 07/15/98

Attention: Deanna Harding

QC Batch Number: MS071498MTBEF2A
Instrument ID: F2

Methyl t-Butyl Ether (MTBE)

Analyte	Detection Limit ug/L	Sample Results ug/L
Methyl t-Butyl Ether	40	4000
Surrogates	Control Limits %	% Recovery
1,2-Dichloroethane-d4	76	114
		107

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

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager



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Gettler Ryan/Geostrategies 6747 Sierra Court Suite J Dublin, CA 94568	Client Proj. ID: Chevron 9-9708, Oakland Sample Descript: MW-3 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9806182-02	Sampled: 06/28/98 Received: 06/29/98 Extracted: 07/06/98 Analyzed: 07/08/98 Reported: 07/15/98
---	--	--


QC Batch Number: GC0706980HBPEXZ
Instrument ID: GCHP5B

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern:	50 C9-C24	1100 Unid.-HC
Surrogates n-Pentacosane (C25)	Control Limits % 50 150	% Recovery 158 Q

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

SEQUOIA ANALYTICAL - ELAP #1210



Mike Gregory
Project Manager



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Analytical**

680 Chesapeake Drive
404 N. Wiget Lane
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1455 McDowell Blvd. North, Ste. D

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Gettler Ryan/Geostrategies 6747 Sierra Court Suite J Dublin, CA 94568 Attention: Deanna Harding	Client Proj. ID: Chevron 9-9708, Oakland Sample Descript: MW-3 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9806182-02	Sampled: 06/28/98 Received: 06/29/98 Analyzed: 07/07/98 Reported: 07/15/98
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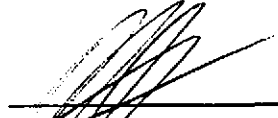
QC Batch Number: GC070798BTEX21A
Instrument ID: GCHP21

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	121

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

SEQUOIA ANALYTICAL - ELAP #1210



Mike Gregory
Project Manager



Gettler Ryan/Geostrategies 6747 Sierra Court Suite J Dublin, CA 94568	Client Proj. ID: Chevron 9-9708, Oakland Sample Descript: MW-3 Matrix: LIQUID Analysis Method: EPA 8010 Lab Number: 9806182-02	Sampled: 06/28/98 Received: 06/29/98 Analyzed: 07/10/98 Reported: 07/15/98
Attention: Deanna Harding		

QC Batch Number: GC071098OVOA24A
Instrument ID: GCHP24_2

Halogenated Volatile Organics (EPA 8010)

Analyte	Detection Limit ug/L	Sample Results ug/L
Bromodichloromethane	0.50	N.D.
Bromoform	0.50	N.D.
Bromomethane	1.0	N.D.
Carbon Tetrachloride	0.50	N.D.
Chlorobenzene	0.50	N.D.
Chloroethane	1.0	N.D.
2-Chloroethylvinyl ether	1.0	N.D.
Chloroform	0.50	N.D.
Chloromethane	1.0	N.D.
Dibromochloromethane	0.50	N.D.
1,2-Dichlorobenzene	0.50	0.99
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
1,1-Dichloroethane	0.50	N.D.
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	0.50	N.D.
cis-1,2-Dichloroethene	0.50	N.D.
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
cis-1,3-Dichloropropene	0.50	N.D.
trans-1,3-Dichloropropene	0.50	N.D.
Methylene chloride	5.0	N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	0.50	N.D.
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	0.50	N.D.
Trichlorofluoromethane	0.50	N.D.
Vinyl chloride	1.0	N.D.
Surrogates	Control Limits %	% Recovery
1-Chloro-2-fluorobenzene	70 130	117

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

SEQUOIA ANALYTICAL - ELAP #1210


Mike Gregory
Project Manager



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Analytical**

680 Chesapeake Drive
404 N. Wiget Lane
819 Striker Avenue, Suite 8
1455 McDowell Blvd. North, Ste. D

Redwood City, CA 94063
Walnut Creek, CA 94598
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Gettler Ryan/Geostrategies 6747 Sierra Court Suite J Dublin, CA 94568 Attention: Deanna Harding	Client Proj. ID: Chevron 9-9708, Oakland Lab Proj. ID: 9806182	Received: 06/29/98 Reported: 07/15/98
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LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 16 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

8010: 4-BFB surrogate is reported.

SEQUOIA ANALYTICAL


Mike Gregory
Project Manager



Sequoia Analytical

680 Chesapeake Drive
404 N. Wiget Lane
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Gettler Ryan/Geostrategies
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Deanna Harding

Client Project ID: Chevron 9-9708, Oakland

QC Sample Group: 9806182-01

Reported: Jul 14, 1998

QUALITY CONTROL DATA REPORT

Matrix: Liquid
Method: EPA 8020
Analyst: N. HERRERA

ANALYTE	Benzene	Toluene	Ethylbenzene	Xylenes
---------	---------	---------	--------------	---------

QC Batch #: GC070698BTEX17A

Sample No.: GW9806G23-1

	7/6/98	7/6/98	7/6/98	7/6/98
Date Prepared:	7/6/98	7/6/98	7/6/98	7/6/98
Date Analyzed:	7/6/98	7/6/98	7/6/98	7/6/98
Instrument I.D.#:	GCHP17	GCHP17	GCHP17	GCHP17

Sample Conc., ug/L:	N.D.	N.D.	N.D.	N.D.
Conc. Spiked, ug/L:	10	10	10	30

Matrix Spike, ug/L:	9.7	9.3	8.4	29
% Recovery:	97	93	84	97

Matrix				
Spike Duplicate, ug/L:	10	9.9	9.2	30
% Recovery:	101	99	92	100

Relative % Difference:	4.0	6.2	9.1	3.0
------------------------	-----	-----	-----	-----

RPD Control Limits:	0-25	0-25	0-25	0-25
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LCS Batch#: GWBLK070698ABS

	7/6/98	7/6/98	7/6/98	7/6/98
Date Prepared:	7/6/98	7/6/98	7/6/98	7/6/98
Date Analyzed:	7/6/98	7/6/98	7/6/98	7/6/98
Instrument I.D.#:	GCHP17	GCHP17	GCHP17	GCHP17

Conc. Spiked, ug/L:	10	10	10	30
---------------------	----	----	----	----

LCS Recovery, ug/L:	11	10	11	31
LCS % Recovery:	106	104	109	103

Percent Recovery Control Limits:

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

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

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.

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager





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Redwood City, CA 94063
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Gettler Ryan/Geostrategies
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Deanna Harding

Client Project ID: Chevron 9-9708, Oakland

QC Sample Group: 9806182-02,03

Reported: Jul 14, 1998

QUALITY CONTROL DATA REPORT

Matrix: Liquid
Method: EPA 8015
Analyst: N. HERRERA

ANALYTE Gasoline

QC Batch #: GC070798BTEX21A

Sample No.: GW9806G23-6

Date Prepared: 7/7/98

Date Analyzed: 7/7/98

Instrument I.D.#: GCHP21

Sample Conc., ug/L: N.D.
Conc. Spiked, ug/L: 250

Matrix Spike, ug/L: 250
% Recovery: 100

Matrix
Spike Duplicate, ug/L: 200
% Recovery: 79

Relative % Difference: 23

RPD Control Limits: 0-25

LCS Batch#: GWBLK070798ABS

Date Prepared: 7/7/98

Date Analyzed: 7/7/98

Instrument I.D.#: GCHP21

Conc. Spiked, ug/L: 250

LCS Recovery, ug/L: 240
LCS % Recovery: 95

Percent Recovery Control Limits:

MS/MSD 60-140

LCS 70-130

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

Please Note:

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819 Striker Avenue, Suite 8
1455 McDowell Blvd. North, Ste. D

Redwood City, CA 94063
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Gettler Ryan/Geostrategies
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Deanna Harding

Client Project ID: Chevron 9-9708, Oakland

QC Sample Group: 9806182-04

Reported: Jul 14, 1998

QUALITY CONTROL DATA REPORT

Matrix: Liquid
Method: EPA 8020
Analyst: N. HERERRA

ANALYTE	Benzene	Toluene	Ethylbenzene	Xylenes
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QC Batch #: GC070898BTEX02A

Sample No.: GW9806H95-13

	7/8/98	7/8/98	7/8/98	7/8/98
Date Prepared:	7/8/98	7/8/98	7/8/98	7/8/98
Date Analyzed:	7/8/98	7/8/98	7/8/98	7/8/98
Instrument I.D.#:	GCHP02	GCHP02	GCHP02	GCHP02

Sample Conc., ug/L:	N.D.	N.D.	N.D.	N.D.
Conc. Spiked, ug/L:	10	10	10	30

Matrix Spike, ug/L:	10	10	9.8	30
% Recovery:	100	100	98	100

Matrix				
Spike Duplicate, ug/L:	11	11	10	31
% Recovery:	110	110	100	103

Relative % Difference:	9.5	9.5	2.0	3.0
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RPD Control Limits:	0-25	0-25	0-25	0-25
---------------------	------	------	------	------

LCS Batch#: GWBLK070898ABS

	7/8/98	7/8/98	7/8/98	7/8/98
Date Prepared:	7/8/98	7/8/98	7/8/98	7/8/98
Date Analyzed:	7/8/98	7/8/98	7/8/98	7/8/98
Instrument I.D.#:	GCHP02	GCHP02	GCHP02	GCHP02

Conc. Spiked, ug/L:	10	10	10	30
---------------------	----	----	----	----

LCS Recovery, ug/L:	11	9.9	9.9	30
LCS % Recovery:	110	99	99	100

Percent Recovery Control Limits:

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

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

Please Note:

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Mike Gregory
Project Manager





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

Client Project ID: Chevron 9-9708, Oakland

QC Sample Group: 9806182-02

Reported: Jul 14, 1998

QUALITY CONTROL DATA REPORT

Matrix: Liquid
Method: EPA 8010/8020, 601/602
Analyst: M. McLachlan

ANALYTE	1,1-DCE	TCE	Chlorobenzene	Benzene	Toluene	Chlorobenzene
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QC Batch #: GC0710980VOA24A

Sample No.:	9807156-01					
Date Prepared:	7/9/98	7/9/98	7/9/98	7/9/98	7/9/98	7/9/98
Date Analyzed:	7/10/98	7/10/98	7/10/98	7/10/98	7/10/98	7/10/98
Instrument I.D.#:	gchp24-2	gchp24-2	gchp24-2	gchp24-2	gchp24-2	gchp24-2
Sample Conc., ug/L:	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Conc. Spiked, ug/L:	25	25	25	25	25	25
Matrix Spike, ug/L:	29	27	31	25	23	23
% Recovery:	116	108	124	100	92	92
Matrix Spike Duplicate, ug/L:	26	27	30	24	22	22
% Recovery:	104	108	120	96	88	88
Relative % Difference:	11	0.0	3.3	4.1	4.4	4.4
RPD Control Limits:	0-50	0-50	0-50	0-50	0-50	0-50

LCS Batch#: VWBLK071098BSA

Date Prepared:	7/10/98	7/10/98	7/10/98	7/10/98	7/10/98	7/10/98
Date Analyzed:	7/10/98	7/10/98	7/10/98	7/10/98	7/10/98	7/10/98
Instrument I.D.#:	gchp24-2	gchp24-2	gchp24-2	gchp24-2	gchp24-2	gchp24-2
Conc. Spiked, ug/L:	25	25	25	25	25	25
Recovery, ug/L:	26	25	29	26	25	25
LCS % Recovery:	104	100	116	104	100	100

Percent Recovery Control Limits:

MS/MSD	60-140	60-140	60-140	60-140	60-140	60-140
LCS	65-135	70-130	70-130	70-130	70-130	70-130

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

Please Note:

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SEQUOIA ANALYTICAL

Mike Gregory
Project Manager





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

Client Project ID: Chevron 9-9708, Oakland

QC Sample Group: 9806182-02

Reported: Jul 14, 1998

QUALITY CONTROL DATA REPORT

Matrix: Liquid
Method: EPA 8015A
Analyst: A. PORTER

ANALYTE Diesel

QC Batch #: GC0706980HBPEXZ

Sample No.: 9806144-1

Date Prepared: 7/6/98

Date Analyzed: 7/7/98

Instrument I.D.#: GCHP5A

Sample Conc., ug/L: 920

Conc. Spiked, ug/L: 1000

Matrix Spike, ug/L: 2400

% Recovery: 148

Matrix

Spike Duplicate, ug/L: 2700

% Recovery: 178

Relative % Difference: 18

RPD Control Limits: 0-50

LCS Batch#: BLK070698ZS

Date Prepared: 7/6/98

Date Analyzed: 7/7/98

Instrument I.D.#: GCHP5A

Conc. Spiked, ug/L: 1000

Recovery, ug/L: 660

LCS % Recovery: 66

Percent Recovery Control Limits:

MS/MSD 50-150

LCS 60-140

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Gregory
Project Manager

Please Note:

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Chromatogram

Sample Name : DW9806I82-2 (500:1)

FileName : S:\GHP_05\0712\7078040.raw

Method : TPH05A

Start Time : 0.00 min

Scale Factor: 0.0

End Time : 33.65 min

Plot Offset: 0 mV

Sample #: MW-3

Date : 7/8/98 12:51

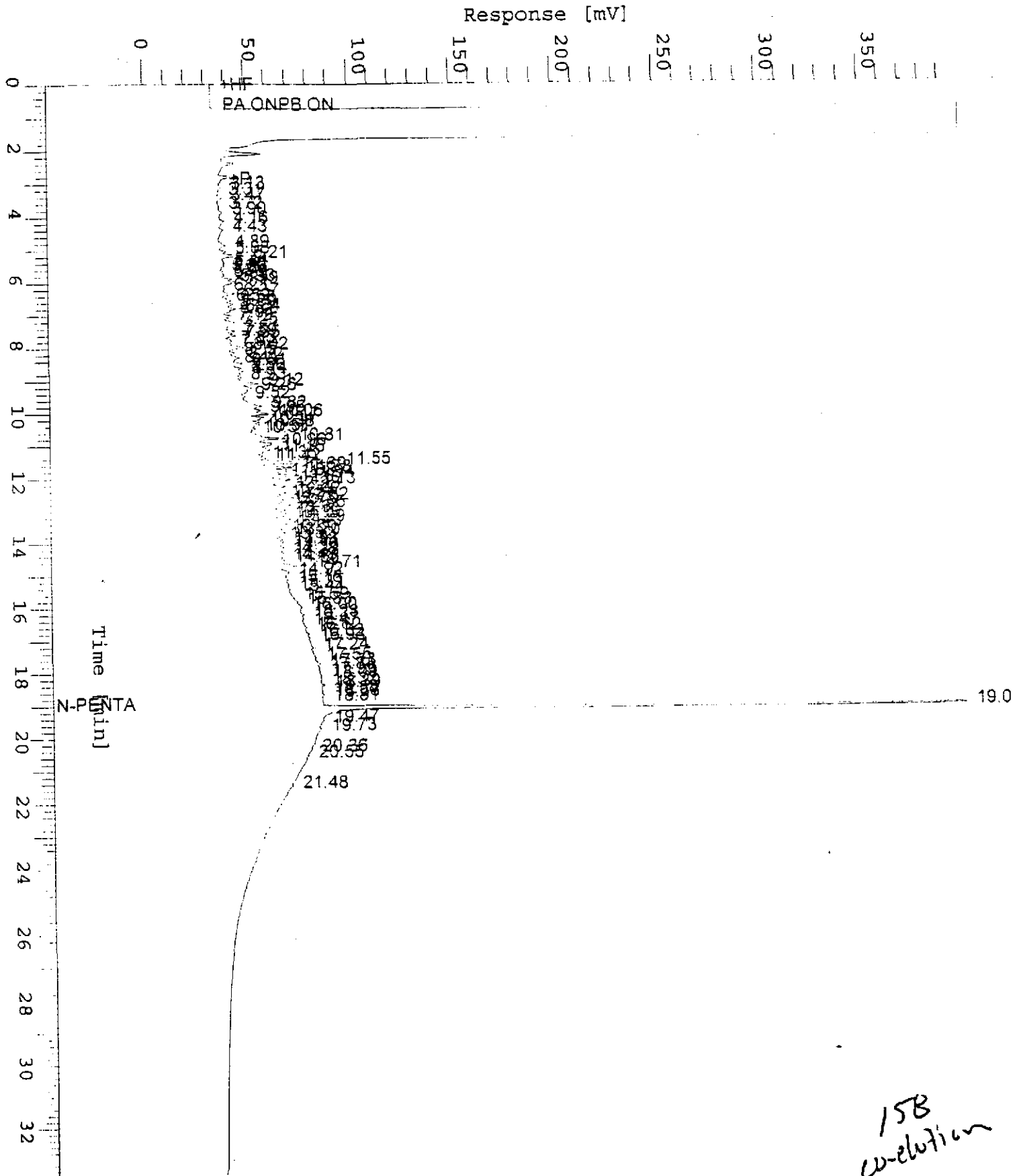
Time of Injection: 7/8/98 12:17

Low Point : 0.00 mV

Plot Scale: 400.0 mV

Page 1 of 1

High Point : 400.00 mV





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

Client Project ID: Chevron 9-9708, Oakland
Matrix: Liquid

Work Order #: 9806182 -04

Reported: Jul 16, 1998

QUALITY CONTROL DATA REPORT

Analyte: MTBE
QC Batch#: MS071498MTBEF2A
Analy. Method: EPA 8260
Prep. Method: N.A.

Analyst: S. Goldstein
MS/MSD #: 980759901
Sample Conc.: 3.6
Prepared Date: -
Analyzed Date: 7/14/98
Instrument I.D.#: F2
Conc. Spiked: 50 µg/L

Result: 53
MS % Recovery: 99

Dup. Result: 54
MSD % Recov.: 101

RPD: 1.9
RPD Limit: 0-25

LCS #: LCS071498
Prepared Date: -
Analyzed Date: 7/14/98
Instrument I.D.#: F2
Conc. Spiked: 50 µg/L
LCS Result: 48
LCS % Recov.: 96

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

Please Note:

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

9806182.GET <1>

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

