



GETTLER-RYAN INC. ENVIRONMENTAL PROTECTION

TRANSMITTAL

*Continue AMB...
County ORC*

89 JAN -5 AM 9:22

TO: Ms. Eva Chu
Alameda County Health Care Services
1131 Harbor Bay Parkway
Alameda, CA 94502

DATE: December 30, 1998
G-R #: 180181

FROM: Deanna L. Harding
Project Coordinator
Gettler-Ryan Inc.
6747 Sierra Court, Suite J
Dublin, California 94568

RE: Tosco (Unocal) SS #4186
1771 First Street
Livermore, California

WE HAVE ENCLOSED THE FOLLOWING:

COPIES	DATED	DESCRIPTION
1	December 21, 1998	Groundwater Monitoring and Sampling Report Fourth Quarter 1998 - Event of October 7, 1998

COMMENTS:

At the request of Tosco Marketing Company, we are providing you a copy of the above referenced report. The site is monitored and sampled on a semi-annual basis. If you have questions please contact the Tosco Project Manager, Ms. Tina R. Berry at (925) 277-2321.

Enclosure

cc: Mr. David Vossler, Gettler-Ryan Inc., Novato, CA

agency/4186trb.qnt



GETTLER-RYAN INC.

December 21, 1998
G-R Job #180181

Ms. Tina R. Berry
Tosco Marketing Company
2000 Crow Canyon Place, Suite 400
San Ramon, California 94583

RE: Fourth Quarter 1998 Groundwater Monitoring & Sampling Report
Tosco (Unocal) Service Station #4186
1771 First Street
Livermore, California

Dear Ms. Berry:

This report documents the quarterly groundwater monitoring and sampling event performed by Gettler-Ryan Inc. (G-R). On October 7, 1998, field personnel monitored and sampled three wells (U-1, U-2 and U-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 the wells. Static water level data and groundwater elevations are summarized 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 are also attached. The samples were analyzed by Sequoia Analytical. Analytical results are summarized in Table 1 and a Concentration Map is included as Figure 2. The chain of custody document and laboratory analytical reports are also attached.

Sincerely,


Deanna L. Harding
Project Coordinator



Stephen J. Carter
Senior Geologist, R.G. No. 5577



Figure 1: Potentiometric Map
Figure 2: Concentration Map
Table 1: Groundwater Monitoring Data and Analytical Results
Attachments: Standard Operating Procedure - Groundwater Sampling
Field Data Sheets
Chain of Custody Document and Laboratory Analytical Reports

4186.qml

EXPLANATION

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



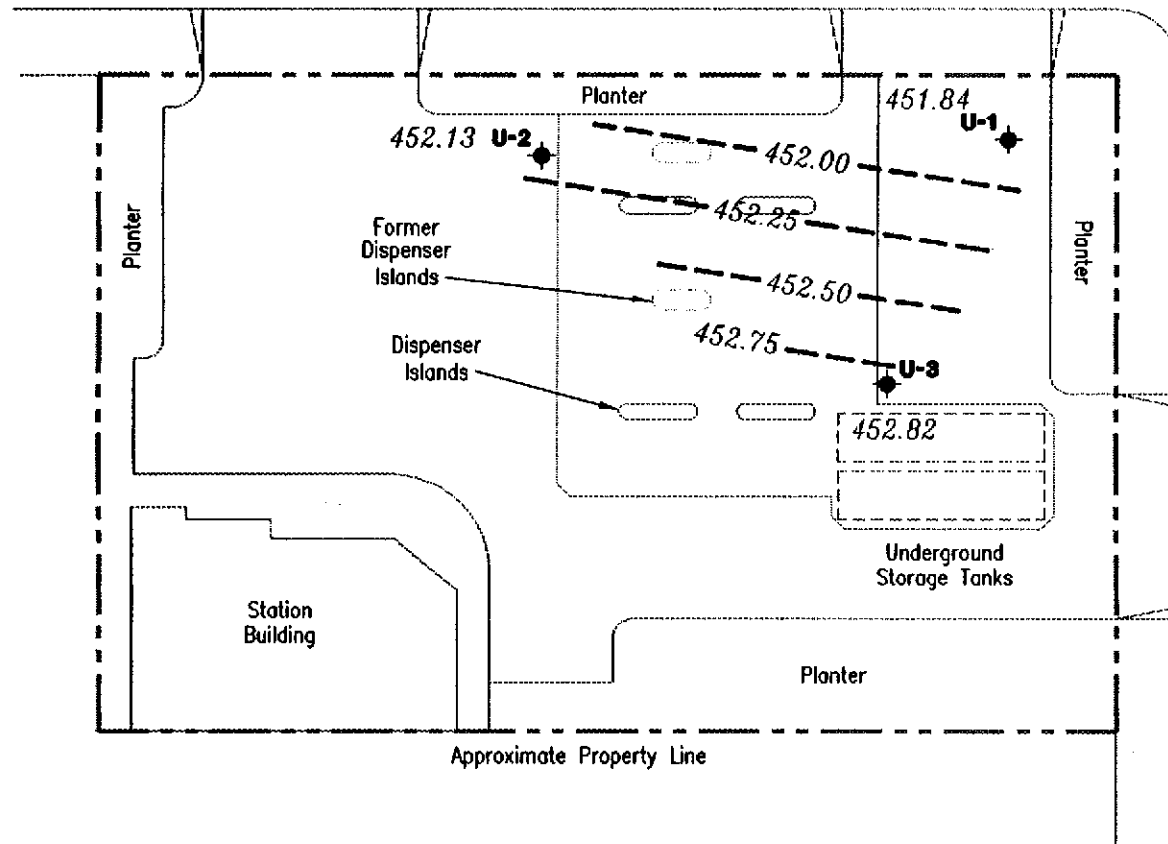
Approximate groundwater flow direction at a gradient of 0.025 Ft./Ft.



Scale in Feet

FIRST STREET

N^o STREET



Source: Virgil Chavez Land Surveying dated August, 1998



Gettler - Ryan Inc.

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

POTENTIOMETRIC MAP
Tosco (Unocal) Service Station No. 4186
1771 First Street
Livermore, California

FIGURE

1

JOB NUMBER
180181

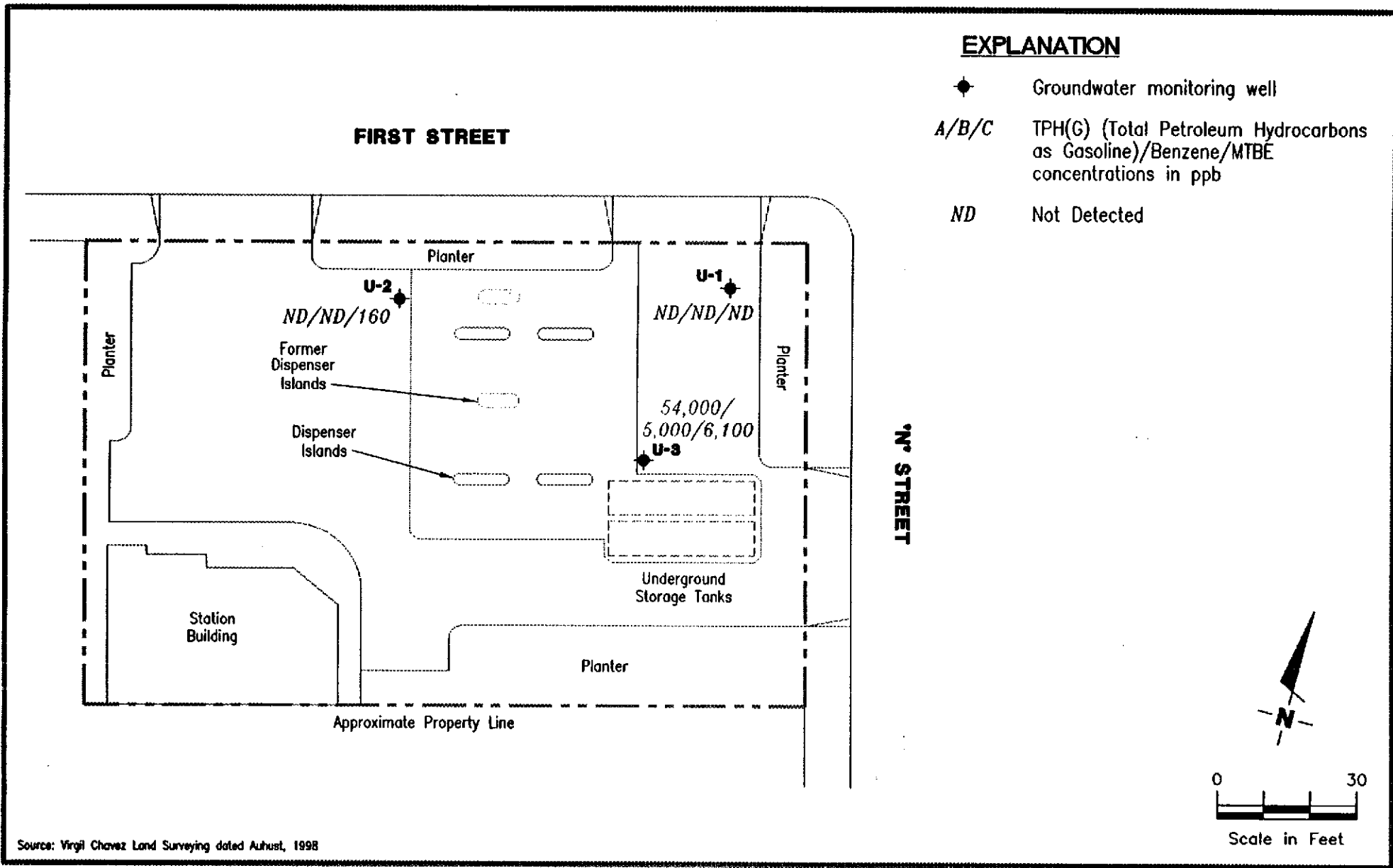
REVIEWED BY

DATE
October 7, 1998

REVISED DATE

EXPLANATION

- ◆ Groundwater monitoring well
- A/B/C TPH(G) (Total Petroleum Hydrocarbons as Gasoline)/Benzene/MTBE concentrations in ppb
- ND Not Detected



Source: Virgil Chavez Land Surveying dated August, 1998



Gottler - Ryan Inc.

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

CONCENTRATION MAP

Tosco (Unocal) Service Station No. 4186
1771 First Street
Livermore, California

FIGURE

2

JOB NUMBER
180181

REVIEWED BY

DATE
October 7, 1998

REVISED DATE

Table 1
Groundwater Monitoring Data and Analytical Results
 Tosco (Unocal) Service Station #4186
 1771 First Street
 Livermore, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
U-1									
478.27	07/13/98	23.28	454.99	ND	ND	ND	ND	ND	ND
	10/07/98	26.43	451.84	ND	ND	ND	ND	ND	ND
U-2									
477.44	07/13/98	23.52	453.92	1,200	130	12	62	180	1,100
	10/07/98	25.31	452.13	ND	ND	ND	ND	ND	160
U-3									
478.46	07/13/98	23.82	454.64	70,000	3,100	5,500	2,700	16,000	7,500
	10/07/98	25.64	452.82	54,000	5,000	1,100	3,100	14,000	6,100
Trip Blank									
TB-LB	07/13/98	--	--	ND	ND	ND	ND	ND	ND
	10/07/98	--	--	ND	ND	ND	ND	ND	ND

Table 1
Groundwater Monitoring Data and Analytical Results
Tosco (Unocal) Service Station #4186
1771 First Street
Livermore, California

EXPLANATIONS:

TOC = Top of Casing elevation

DTW = Depth to Water

(ft.) = Feet

GWE = Groundwater Elevation

msl = 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

ND = Not Detected

-- = Not Measured/Not Analyzed

* TOC elevations are relative to Mean Sea Level (msl) in feet. The benchmark used was a City of Livermore survey monument at First & "Q" Streets.

Depth to water and groundwater elevation history will be updated in future reports.

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 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 Tosco Marketing Company, the purge water and decontamination water generated during sampling activities is transported to Tosco - San Francisco Area Refinery, located in Rodeo, California.

**WELL MONITORING/SAMPLING
FIELD DATA SHEET**

Client/
Facility # 4186 Job#: 180151
Address: 1771 First St Date: 10-7-98
City: Livermore Sampler: Joe

Well ID WU-1 Well Condition: o.k.
Well Diameter 2 in. Hydrocarbon Amount Bailed
Total Depth 34.05 ft. Thickness: 0 (feet) (product/water): _____ (Gallons)
Depth to Water 26.43 ft. Volume 2" = 0.17 3" = 0.38 4" = 0.66
Factor (VF) 6" = 1.50 12" = 5.80

7.62 X VF 0.17 = 1.30 X 3 (case volume) = Estimated Purge Volume: 4 (gal.)

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

Starting Time: 8:05 Weather Conditions: clear
Sampling Time: 8:50 AM Water Color: clear Odor: _____
Purging Flow Rate: 0.5 gpm. Sediment Description: none
Did well de-water? _____ If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{mhos/cm} \times 10^2$	Temperature $^{\circ}\text{F}$	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>8:15</u>	<u>1.5</u>	<u>7.68</u>	<u>4.07</u>	<u>65.5</u>	_____	_____	_____
<u>8:17</u>	<u>3</u>	<u>7.53</u>	<u>4.08</u>	<u>65.5</u>	_____	_____	_____
<u>8:19</u>	<u>4</u>	<u>7.41</u>	<u>4.90</u>	<u>65.5</u>	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>WU-1</u>	<u>3 VOA</u>	<u>Y</u>	<u>HCL</u>	<u>SEQUOIA</u>	<u>TPH(G)/btex/mtbe</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

COMMENTS: _____

**WELL MONITORING/SAMPLING
FIELD DATA SHEET**

Client/
Facility # 4186 Job#: 180151
Address: 1771 First St. Date: 10-7-98
City: Livermore Sampler: Jec.

Well ID: WU-2 Well Condition: o.k.

Well Diameter: 2 in. Hydrocarbon Amount Bailed
Thickness: 0 (feet) (product/water): _____ (Gallons)
Total Depth: 3302 ft.
Depth to Water: 2531 ft.

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

7.71 x VF 0.17 = 1.31 x 3 (case volume) = Estimated Purge Volume: 4 (gal.)

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

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

Starting Time: 8:40 Weather Conditions: clear
Sampling Time: 9:10 AM Water Color: clear Odor: yes
Purging Flow Rate: 0.5 gpm. Sediment Description: none
Did well de-water? _____ If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{mhos/cm} \times 10^3$	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>8:47</u>	<u>1.5</u>	<u>7.20</u>	<u>3.96</u>	<u>65.1</u>			
<u>8:50</u>	<u>3</u>	<u>7.11</u>	<u>3.71</u>	<u>65.2</u>			
<u>8:52</u>	<u>4</u>	<u>7.17</u>	<u>3.72</u>	<u>65.3</u>			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>WU-2</u>	<u>3 VOA</u>	<u>Y</u>	<u>HCL</u>	<u>SEQUOIA</u>	<u>TPH(GI)/btex/mtbe</u>

COMMENTS: _____

**WELL MONITORING/SAMPLING
FIELD DATA SHEET**

Client/
Facility # 4186 Job#: 180151
Address: 1771 First St. Date: 10-7-95
City: Livermore Sampler: Jed

Well ID W000U-3 Well Condition: o.k.
Well Diameter 2 in. Hydrocarbon Amount Bailed
Thickness: 0 (feet) (product/water): _____ (Gallons)
Total Depth 34.03 ft.
Depth to Water 25.64 ft.

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

8.39 X VF 0.17 = 1.43 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: 4:15 Weather Conditions: clear
Sampling Time: 9:35 A.M. Water Color: clear Odor: yes
Purging Flow Rate: 0.5 gpm. Sediment Description: none
Did well de-water? _____ If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity $\mu\text{mhos/cm} \times 10^3$	Temperature °F	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>9:20</u>	<u>1.5</u>	<u>7.10</u>	<u>2.27</u>	<u>65.2</u>			
<u>9:22</u>	<u>3</u>	<u>7.05</u>	<u>2.20</u>	<u>65.1</u>			
<u>9:25</u>	<u>4.5</u>	<u>7.12</u>	<u>2.18</u>	<u>65.3</u>			
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>W000U-3</u>	<u>3 VOA</u>	<u>Y</u>	<u>HCL</u>	<u>SEQUOIA</u>	<u>TPH(G)/btex/mtbe</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

COMMENTS: _____



Tosco Marketing Company
3220 New Canyon Pl., Ste. 400
San Ramon, California 94583

7 5 0

Facility Number UNOCAL SS# 4186
 Facility Address 1771 FIRST STREET, LIVERMORE, CA
 180181.85
 Consultant Project Number _____
 Consultant Name Gattler-Ryan Inc. (G-R Inc.)
 Address 6747 Sierra Court, Suite L, Dublin, CA 94568
 Project Contact (Name) Deanna L. Harding
 (Phone) 510-551-7555 (Fax Number) 510-551-7888

Contact (Name) MS. TINA BERRY
 (Phone) (925) 277-2321
 Laboratory Name Sequoia Analytical
 Laboratory Release Number _____
 Samples Collected by (Name) JOE AJEMIAN
 Collection Date 10-7-98
 Signature Joe Ajemian

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)	Analytes To Be Performed											Remarks				
								TPH Gas + STEK WASTE (8015)	TPH Diesel (8015)	Oil and Greases (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd, Cr, Pb, Zn, Ni (ICAP or AA)								
TB-LB	01	1	A	E		HCL	Y	✓															
U-1	02	3	A		8:30 A.M.	/	/	✓															
U-2	03	"			9:00 A.M.	/	/	✓															
U-3	04	"			9:35 A.M.	/	/	✓															

9810561

DO NOT BILL
TB-LB ANALYSIS

Relinquished By (Signature) <u>Joe Ajemian</u>	Organization G-R Inc.	Date/Time (200) 10-7-98	Received By (Signature) <u>Joe Weber</u>	Organization G-R Inc.	Date/Time (200) 10-7-98	Turn Around Time (Circle Choice) 24 Hrs. 48 Hrs. 5 Days 10 Days <input checked="" type="radio"/> As Contracted
Relinquished By (Signature) <u>Joe Weber</u>	Organization G-R Inc.	Date/Time (520) 10-7-98	Received By (Signature) <u>[Signature]</u>	Organization Seq.	Date/Time 10/7/98	
Relinquished By (Signature) <u>[Signature]</u>	Organization Seq.	Date/Time 10/7/98	Received For Laboratory By (Signature) <u>[Signature]</u>		Date/Time 10-7-98/1740	



Gettler Ryan/Geostrategies 6747 Sierra Court Suite J Dublin, CA 94568	Client Proj. ID: 4186/180181.85, 1771 First St Sample Descript: TB-LB Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9810561-01	Sampled: 10/07/98 Received: 10/07/98 Analyzed: 10/13/98 Reported: 10/19/98
Attention: Deanna Harding		


QC Batch Number: GC101398BTEX03A
Instrument ID: GCHP03

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	97

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

SEQUOIA ANALYTICAL - ELAP #1210



Tod Granicher
Project Manager



Gettler Ryan/Geostrategies 6747 Sierra Court Suite J Dublin, CA 94568	Client Proj. ID: 4186/180181.85, 1771 First St Sample Descript: U-1 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9810561-02	Sampled: 10/07/98 Received: 10/07/98 Analyzed: 10/11/98 Reported: 10/19/98
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QC Batch Number: GC101198BTEX17A
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:		N.D.

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	91

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

SEQUOIA ANALYTICAL - ELAP #1210



Tod Granicher
Project Manager



Gettler Ryan/Geostrategies 6747 Sierra Court Suite J Dublin, CA 94568	Client Proj. ID: 4186/180181.85, 1771 First St Sample Descript: U-2 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9810561-03	Sampled: 10/07/98 Received: 10/07/98 Analyzed: 10/11/98 Reported: 10/19/98
Attention: Deanna Harding		


QC Batch Number: GC101198BTEX17A
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	160
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 #1210



Tod Granicher
Project Manager



Gettler Ryan/Geostrategies 6747 Sierra Court Suite J Dublin, CA 94568	Client Proj. ID: 4186/180181.85, 1771 First St Sample Descript: U-3 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9810561-04	Sampled: 10/07/98 Received: 10/07/98 Analyzed: 10/11/98 Reported: 10/19/98
---	---	---

QC Batch Number: GC101198BTEX17A
Instrument ID: GCHP17


Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	5000	54000
Methyl t-Butyl Ether	250	6100
Benzene	50	5000
Toluene	50	1100
Ethyl Benzene	50	3100
Xylenes (Total)	50	14000
Chromatogram Pattern:		GAS

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	97

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

SEQUOIA ANALYTICAL - ELAP #1210



Tod Granicher
Project Manager



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

Client Project ID: 4186/180181.85, 1771 First St.

QC Sample Group: 9810561

Reported: Oct 19, 1998

QUALITY CONTROL DATA REPORT

Matrix:	Liquid			
Method:	EPA 8020			
Analyst:	MM			
ANALYTE	Benzene	Toluene	Ethylbenzene	Xylenes

QC Batch #: GC101398BTEX03A

Sample No.: GW9810024-1

Date Prepared:	10/13/98	10/13/98	10/13/98	10/13/98
Date Analyzed:	10/13/98	10/13/98	10/13/98	10/13/98
Instrument I.D.#:	GCHP03	GCHP03	GCHP03	GCHP03
Sample Conc., ug/L:	N.D.	N.D.	N.D.	N.D.
Conc. Spiked, ug/L:	10	10	10	30
Matrix Spike, ug/L:	11	11	11	34
% Recovery:	110	110	110	113
Matrix Spike Duplicate, ug/L:	11	11	11	34
% Recovery:	110	110	110	113
Relative % Difference:	0.0	0.0	0.0	0.0
RPD Control Limits:	0-25	0-25	0-25	0-25

LCS Batch#: GWLCS101398A

Date Prepared:	10/13/98	10/13/98	10/13/98	10/13/98
Date Analyzed:	10/13/98	10/13/98	10/13/98	10/13/98
Instrument I.D.#:	GCHP03	GCHP03	GCHP03	GCHP03
Conc. Spiked, ug/L:	10	10	10	30
LCS Recovery, ug/L:	9.4	9.1	9.0	27
LCS % Recovery:	94	91	90	90

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


Tod Granicher
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 FAX (650) 364-9233
(925) 988-9600 FAX (925) 988-9673
(916) 921-9600 FAX (916) 921-0100
(707) 792-1865 FAX (707) 792-0342

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

Client Project ID: 4186/180181.85, 1771 First St.

QC Sample Group: 9810561

Reported: Oct 19, 1998

QUALITY CONTROL DATA REPORT

Matrix: Liquid
Method: EPA 8020
Analyst: AM

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

LCS Batch#: GC101198BTEX17A

Date Prepared:	10/11/98	10/11/98	10/11/98	10/11/98
Date Analyzed:	10/11/98	10/11/98	10/11/98	10/11/98
Instrument I.D.#:	GCHP17	GCHP17	GCHP17	GCHP17
Conc. Spiked, ug/L:	10	10	10	30
LCS Recovery, ug/L:	12	12	12	34
LCS % Recovery:	120	120	120	113

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


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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 8 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

SEQUOIA ANALYTICAL



Tod Granicher
Project Manager