

ENVIRONMENTAL MANAGEMENT, INC.

April 8, 2003  
Project C85-318 Livermore

Mr. Scott Seery  
Alameda County Health Care Services Agency  
Environmental Health Services  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502-6577

**Re: Current Property Owner  
318 S Livermore Ave  
Livermore, California 94550**

Dear Mr. Seery:

The Alameda County Health Care Services Agency, in a letter to Shell Oil Products US (Shell) dated March 7, 2003, required that Shell submit a letter to your office that identifies all current record owners of fee title for the property referenced above. KHM Environmental Management, Inc., on behalf of Shell, contacted the Alameda County Assessors Office regarding the site property owner. The current property owner was identified as:

Equilon Enterprises LLC  
Care of Stewart Title Company  
1980 Post Oak Blvd. #110  
Houston, TX 77056

Equilon Enterprises LLC dba Shell Oil Products US will be represented by Ms. Karen Petryna, the Shell environmental engineer for the site area. Ms. Petryna will receive copies of all documents related to the existence of petroleum hydrocarbons in soil and groundwater beneath the subject property.

If you have any questions, please call me at (408) 224-4724.

Sincerely,  
**KHM Environmental Management, Inc.**

R. Lee Dooley  
Project Manager

Cc. Ms. Lori Casias, California State Water Resource Control Board  
Ms. Karen Petryna, Shell Oil Products US



ENVIRONMENTAL MANAGEMENT, INC.

Alameda County  
MAR 26 2003  
Environmental Health

March 19, 2003  
KHM Project C81- 318 South Livermore

Mr. Scott Seery  
Alameda County Environmental Health Services  
113 Harbor Bay Parkway  
Alameda, CA 94502-6577

**Re: SHELL GRASP MONITORING REPORT**  
**Shell Service Station**  
**318 South Livermore Avenue**  
**Livermore, California**

Dear Mr. Seery:

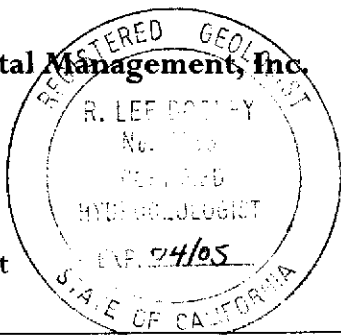
KHM Environmental Management, Inc. (KHM) on behalf of Equilon Enterprises LLC dba Shell Oil Products US (SHELL) has prepared the first quarter 2003 *Shell GRASP Monitoring Report* for the above referenced site.

GRASP (GRoundwater ASsessment Program) is a voluntary initiative by SHELL to install groundwater monitoring wells at numerous retail service stations nationwide that do not have any active release cases but have been identified to be in close proximity to one or more public water supply wells. The purpose of this program is to proactively monitor the groundwater beneath these sites and, in the event of a subsurface release, to respond quickly to protect public wells from this impact.

A telephone notification of an unauthorized release was made to your office on October 10, 2002. An Unauthorized Release Report has been submitted. If you have any questions regarding this site, please contact Lee Dooley (KHM) at (408) 224-4724, or Mr. Lynn Walker (SHELL GRASP Northern California Coordinator) at (925) 706-1559.

Sincerely,  
KHM Environmental Management, Inc.

*R Lee Dooley*  
R. Lee Dooley, CHG  
Senior Hydrogeologist



Attachments: Shell GRASP Monitoring Report

CC: Isabel Mejia, Shell Oil Products US, P.O. Box 7869, Burbank, CA 91510  
Karen Petryna, Shell Oil Products US (PDF by email)  
Chuck Headlee, Regional Water Quality Control Board, San Francisco Bay Region, 1515  
Clay Street, Suite 1400, Oakland, CA 94612

March 19, 2003

## SHELL GRASP MONITORING REPORT

Station Address.: 318 South Livermore Avenue  
Livermore, CA 94550

SHELL GRASP Incident No. 97306783

KHM Project No. C81-318 South Livermore

SHELL Environmental Engin./Phone No.: Karen Petryna (925) 706-1559

KHM Project Manager/Phone No.: Lee Dooley / (408) 224-4724

Current Phase of Project: GRASP Groundwater monitoring

Frequency of Sampling: Quarterly

Frequency of Monitoring: Quarterly

Is Separate Phase Hydrocarbon Present On-site (Well #'s):  Yes  No

Cumulative SPH Recovered to Date : None

SPH Recovered This Quarter : None

Water Wells or Surface Waters within 2000 ft. Radius and Their Respective Directions: Nearest production well, California Water Service Co. Well 12-01 (03S/02E-09P01 M), is approximately 1,192 feet northeast of the site.

Approximate Depth to Groundwater: 26.75' to 27.71'

Groundwater Gradient: West @ approximately 0.014 ft/ft

Summary of Unusual Activity: MTBE detected in Well MW-3 at 0.89 ug/l.

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Lee Dooley  
Project Manager (KHM)

**ATTACHED:**

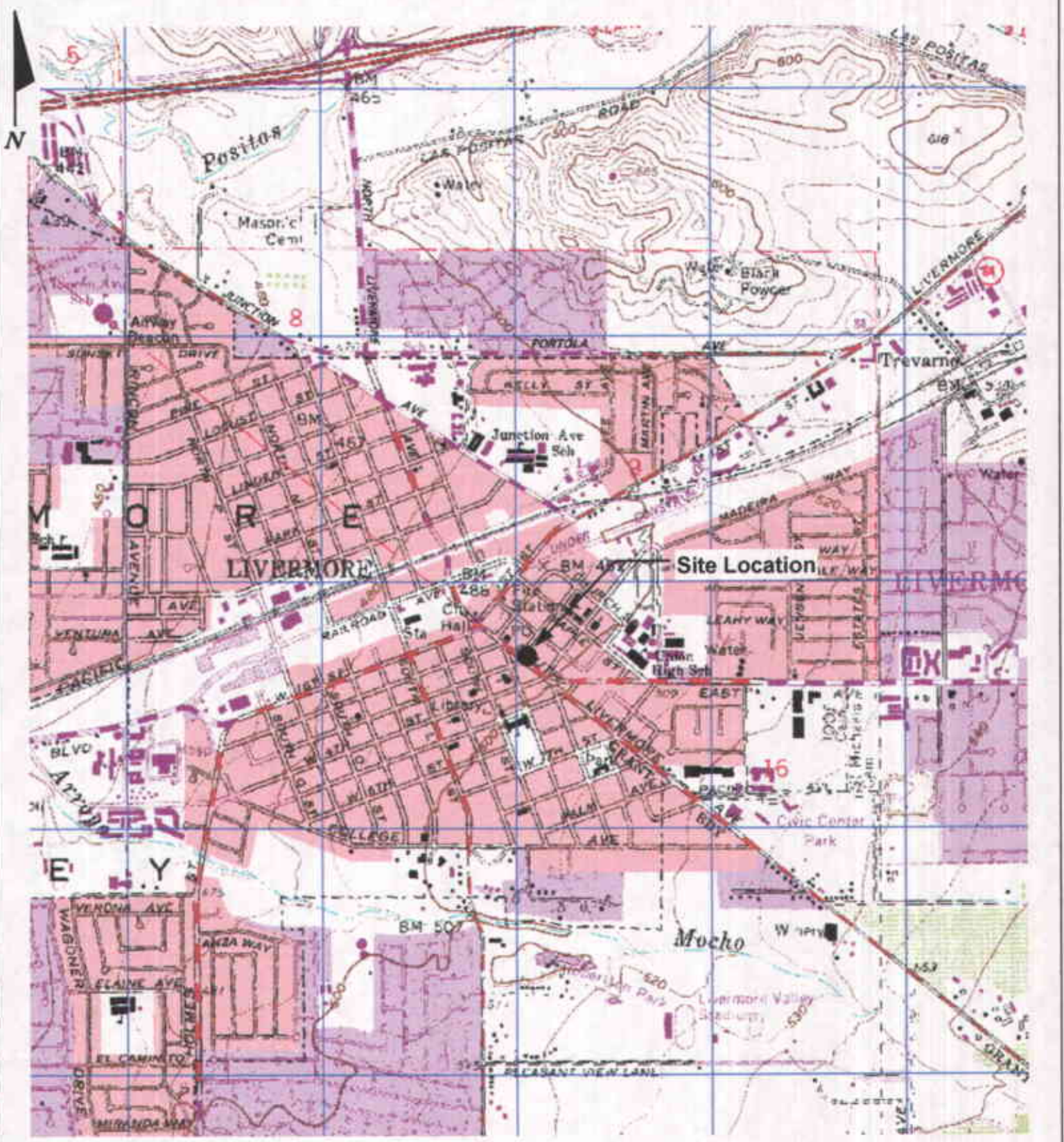
- Table 1 – Summary of Groundwater Data
- Figure 1 – Site Location Map
- Figure 2 – Groundwater Elevation Contour Map
- Figure 3 – TPH-G, Benzene, MTBE Concentrations Map
- Appendix A – Blaine Tech Services, Groundwater Monitoring and Sampling Report, February 27, 2003

**Table 1**  
**Summary of Groundwater Data**  
 Shell Service Station  
 318 South Livermore Avenue  
 Livermore, California

Well Designation	Date Sampled	TPH-g (ug/l)	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylene (ug/l)	MTBE (ug/l)	DIPE (ug/l)	ETBE (ug/l)	TAME (ug/l)	TBA (ug/l)	TOC (MSL)	Depth to Water (ft)	GW Elev. (MSL)
<b>MW-5</b>	9/18/2001	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	NM	NM	NM
	7/9/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	495.47	34.85	460.62
	10/25/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	495.47	37.26	458.21
	1/24/2003	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	495.47	27.30	468.17
<b>MW-6</b>	9/18/2001	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	NM	NM	NM
	7/9/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	497.57	35.41	462.16
	10/25/2002	<50	<0.50	<0.50	<0.50	<0.50	2.5	<2.0	<2.0	<2.0	<50	497.57	37.92	459.65
	1/24/2003	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	497.57	27.71	469.86
<b>MW-7</b>	9/18/2001	NA	<0.50	<0.50	<0.50	<0.50	1.2	<2.0	<2.0	<2.0	<50	NM	NM	NM
	7/9/2002	<50	<0.50	<0.50	<0.50	<0.50	2.0	<2.0	<2.0	<2.0	<50	495.58	34.29	461.29
	10/25/2002	<50	<0.50	<0.50	<0.50	<0.50	1.9	<2.0	<2.0	<2.0	<50	495.58	36.80	458.78
	1/24/2003	<50	<0.50	<0.50	<0.50	<0.50	0.89	<2.0	<2.0	<2.0	<50	495.58	26.75	468.83
<b>MW-8</b>	9/18/2001	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	NM	NM	NM
	7/9/2002	<50	<0.50	<0.50	<0.50	<0.50	6.9	<2.0	<2.0	<2.0	<50	494.90	34.46	460.44
	10/25/2002	140	<0.50	<0.50	<0.50	<0.50	2.2	3.3	<2.0	<2.0	<50	494.90	36.98	457.92
	1/24/2003	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	494.90	27.35	467.55

**Notes:**

All analysis performed by EPA Method 8260B  
 ug/l = micrograms per liter  
 TPH-g = Total petroleum hydrocarbons as gasoline  
 MTBE = Methyl tert-butyl ether  
 DIPE = Diisopropyl ether  
 ETBE = Ethyl-t-butyl ether  
 TAME = Tert-amyl methyl ether  
 TBA = Tert-Butanol  
 TOC = Top of Well Casing  
 NM = Not measured  
 NA = Not analyzed



**KHM**  
ENVIRONMENTAL  
MANAGEMENT,  
INC.

**SITE LOCATION MAP**

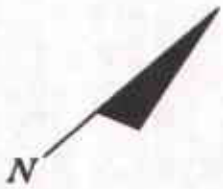
**Shell-branded Service Station**  
318 South Livermore Avenue  
Livermore, California

Map Source: DeLorme, Yarmouth, ME 04096,  
USGA Topo Map

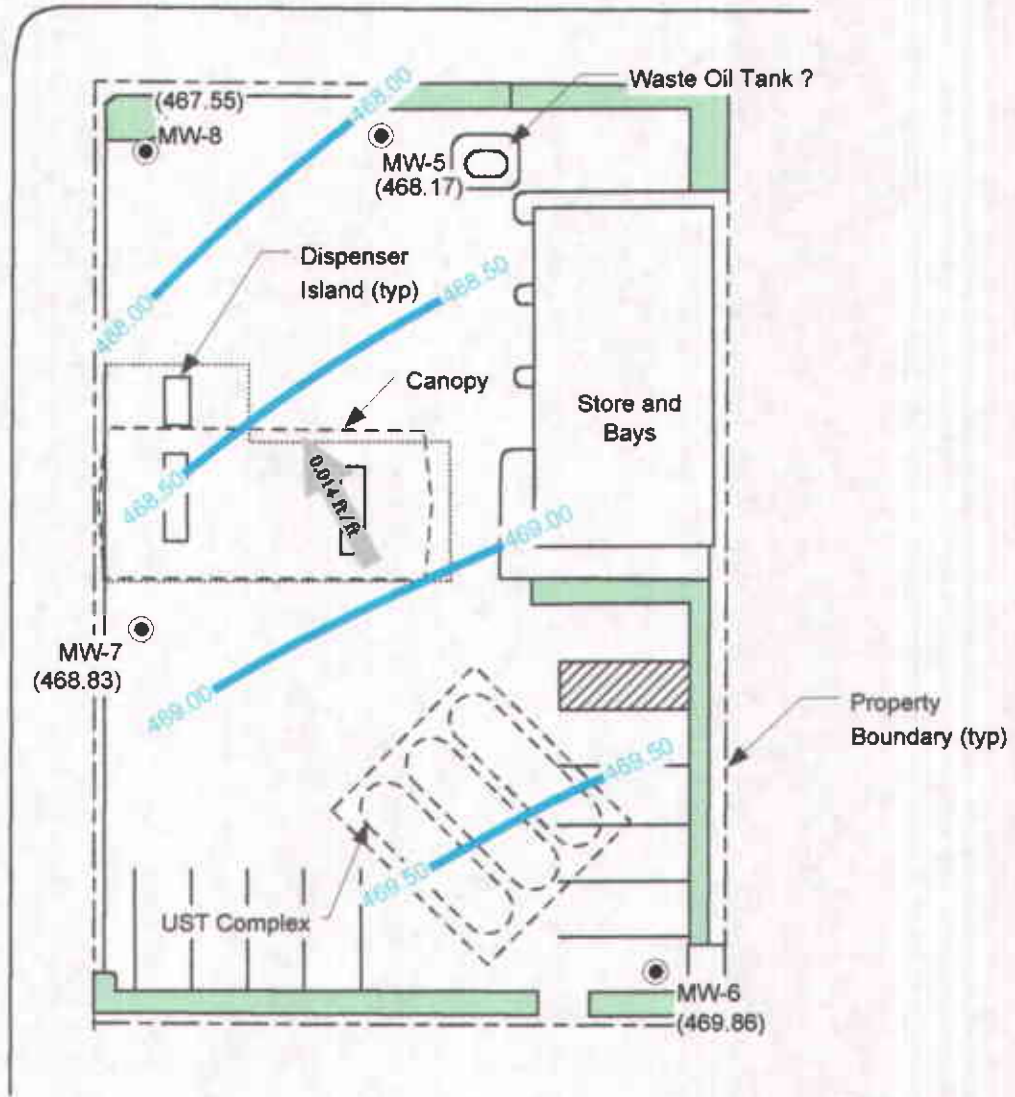
DATE	3/12/03	PROJECT	C81-318 Livermore	FIGURE	1
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Third Street



South Livermore Avenue



**LEGEND**

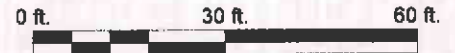
MW-6 ● **GROUNDWATER MONITORING WELL**

■ **PLANTER**

(462.16) **GROUNDWATER ELEVATION (MSL), 1/24/03**

461.00 — **GROUNDWATER ELEVATION CONTOUR**

0.014 ft/ft **APPROXIMATE GROUNDWATER FLOW DIRECTION AND GRADIENT**



**KHM**  
ENVIRONMENTAL  
MANAGEMENT,  
INC.

**GROUNDWATER ELEVATION CONTOUR MAP, JANUARY 24, 2003**

**Shell Service Station**  
318 South Livermore Avenue  
Livermore, California

DATE 3/12/03

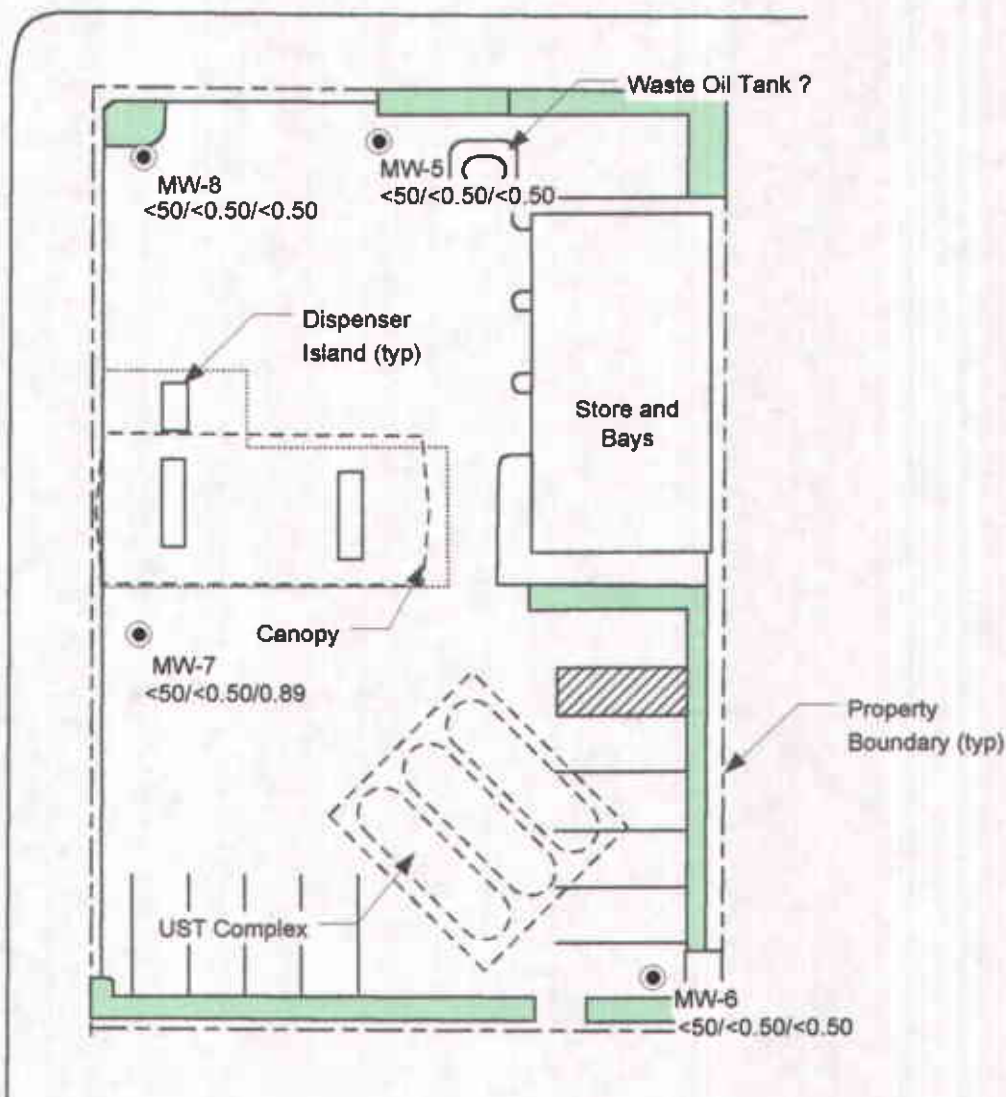
PROJECT C81-318 Livermore

FIGURE 2

Third Street



South Livermore Avenue



**LEGEND**

MW-6 ● **GROUNDWATER MONITORING WELL**

■ **PLANTER**

<math><50/<0.50/<0.50</math> **TPH-G/BENZENE/MTBE CONCENTRATIONS IN GROUNDWATER (UG/L), 1/24/03**

**KHM**  
ENVIRONMENTAL  
MANAGEMENT,  
INC.

**TPH-G, BENZENE, MTBE CONCENTRATION MAP, JANUARY 24, 2003**

**Shell Service Station**  
318 South Livermore Avenue  
Livermore, California

DATE 3/12/03

PROJECT C81-318 Livermore

FIGURE 3

**APPENDIX A**

**GROUNDWATER MONITORING AND SAMPLING REPORT**

**BLAINE**  
TECH SERVICES, INC.



1680 ROGERS AVENUE  
SAN JOSE, CA 95112-1105  
(408) 573-7771 FAX  
(408) 573-0555 PHONE  
CONTRACTOR'S LICENSE #746684  
www.blainetech.com

February 27, 2003

Lynn Walker  
Shell Oil Products US  
P.O. Box 7869  
Burbank, CA 91510-7869

First Quarter 2003 Groundwater Monitoring at  
Shell-branded Service Station  
318 South Livermore Avenue  
Livermore, CA

Monitoring performed on January 24, 2003

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**Groundwater Monitoring Report 030124-MT-2**

This report covers the routine monitoring of groundwater wells at this Shell-branded facility. In accordance with standard procedures that conform to Regional Water Quality Control Board requirements, routine field data collection includes depth to water, total well depth, thickness of any separate immiscible layer, water column volume, calculated purge volume (if applicable), elapsed evacuation time (if applicable), total volume of water removed (if applicable), and standard water parameter instrument readings. Sample material is collected, contained, stored, and transported to the laboratory in conformance with EPA standards. Purge water (if applicable) is, likewise, collected and transported to the Martinez Refining Company.

Basic field information is presented alongside analytical values excerpted from the laboratory report in the cumulative table of **WELL CONCENTRATIONS**. The full analytical report for the most recent samples and the field data sheets are attached to this report.

At a minimum, Blaine Tech Services, Inc. field personnel are certified on completion of a forty-hour Hazardous Materials and Emergency Response training course per 29 CFR 1910.120. Field personnel are also enrolled in annual eight-hour refresher courses.

Blaine Tech Services, Inc. conducts sampling and documentation assignments of this type as an independent third party. Our activities at this site consisted of objective data and sample collection only. No interpretation of analytical results, defining of hydrological conditions or formulation of recommendations was performed.

Please call if you have any questions.

Yours truly,

Leon Gearhart  
Project Coordinator

LG/jt

attachments: Cumulative Table of WELL CONCENTRATIONS  
Certified Analytical Report  
Field Data Sheets

cc: Debbie Arnold  
KHM Environmental  
6234 San Ignacio Avenue, Suite E  
San Jose, CA 95119

**WELL CONCENTRATIONS**  
**Shell-branded Service Station**  
**318 South Livermore Avenue**  
**Livermore, CA**

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
MW-5	07/09/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	495.47	34.85	460.62
MW-5	10/25/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	495.47	37.26	458.21
MW-5	01/24/2003	<50	<0.50	<0.50	<0.50	<0.50	<0.50	495.47	27.30	468.17
MW-6	07/09/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	497.57	35.41	462.16
MW-6	10/25/2002	<50	<0.50	<0.50	<0.50	<0.50	2.5	497.57	37.92	459.65
MW-6	01/24/2003	<50	<0.50	<0.50	<0.50	<0.50	<0.50	497.57	27.71	469.86
MW-7	07/09/2002	<50	<0.50	<0.50	<0.50	<0.50	2.0	495.58	34.29	461.29
MW-7	10/25/2002	<50	<0.50	<0.50	<0.50	<0.50	1.9	495.58	36.80	458.78
MW-7	01/24/2003	<50	<0.50	<0.50	<0.50	<0.50	0.89	495.58	26.75	468.83
MW-8	07/09/2002	<50	<0.50	<0.50	<0.50	<0.50	6.9	494.90	34.46	460.44
MW-8	10/25/2002	140	<0.50	<0.50	<0.50	<0.50	2.2	494.90	36.98	457.92
MW-8	01/24/2003	<50	<0.50	<0.50	<0.50	<0.50	<0.50	494.90	27.35	467.55

**WELL CONCENTRATIONS**  
**Shell-branded Service Station**  
**318 South Livermore Avenue**  
**Livermore, CA**

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
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Abbreviations:

TPPH = Total petroleum hydrocarbons as gasoline by EPA Method 8260B.

BTEX = Benzene, toluene, ethylbenzene, xylenes by EPA Method 8260B.

MTBE = Methyl-tertiary-butyl ether

TOC = Top of Casing Elevation

GW = Groundwater

ug/L = Parts per billion

MSL = Mean sea level

ft = Feet

<n = Below detection limit

NA = Not applicable

Notes:

Survey data provided by KHM Environmental Management, Inc.



Report Number : 31151

Date : 2/3/03

Leon Gearhart  
Blaine Tech Services  
1680 Rogers Avenue  
San Jose, CA 95112-1105

Subject : 4 Water Samples  
Project Name : 318 S. Livermore Ave., Livermore  
Project Number : 030124-MT2  
P.O. Number : 97306783

Dear Mr. Gearhart,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed.

Kiff Analytical is certified by the State of California (# 2236). If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,

A handwritten signature in black ink that reads "Joel Kiff". The signature is written in a cursive style with a large initial "J".

Joel Kiff





Report Number : 31151

Date : 2/3/03

Project Name : 318 S. Livermore Ave., Livermore

Project Number : 030124-MT2

Sample : MW-5

Matrix : Water

Lab Number : 31151-01

Sample Date :1/24/03

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	1/30/03
Toluene	< 0.50	0.50	ug/L	EPA 8260B	1/30/03
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	1/30/03
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	1/30/03
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	1/30/03
Diisopropyl ether (DIPE)	< 2.0	2.0	ug/L	EPA 8260B	1/30/03
Ethyl-t-butyl ether (ETBE)	< 2.0	2.0	ug/L	EPA 8260B	1/30/03
Tert-amyl methyl ether (TAME)	< 2.0	2.0	ug/L	EPA 8260B	1/30/03
Tert-Butanol	< 50	50	ug/L	EPA 8260B	1/30/03
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	1/30/03
Toluene - d8 (Surr)	102		% Recovery	EPA 8260B	1/30/03
4-Bromofluorobenzene (Surr)	101		% Recovery	EPA 8260B	1/30/03

Approved By:  Joel Kiff



Report Number : 31151

Date : 2/3/03

Project Name : 318 S. Livermore Ave., Livermore

Project Number : 030124-MT2

Sample : MW-6

Matrix : Water

Lab Number : 31151-02

Sample Date : 1/24/03

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	1/30/03
Toluene	< 0.50	0.50	ug/L	EPA 8260B	1/30/03
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	1/30/03
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	1/30/03
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	1/30/03
Diisopropyl ether (DIPE)	< 2.0	2.0	ug/L	EPA 8260B	1/30/03
Ethyl-t-butyl ether (ETBE)	< 2.0	2.0	ug/L	EPA 8260B	1/30/03
Tert-amyl methyl ether (TAME)	< 2.0	2.0	ug/L	EPA 8260B	1/30/03
Tert-Butanol	< 50	50	ug/L	EPA 8260B	1/30/03
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	1/30/03
Toluene - d8 (Surr)	102		% Recovery	EPA 8260B	1/30/03
4-Bromofluorobenzene (Surr)	101		% Recovery	EPA 8260B	1/30/03

Approved By:  Joel Kiff



Report Number : 31151

Date : 2/3/03

Project Name : 318 S. Livermore Ave., Livermore

Project Number : 030124-MT2

Sample : MW-7

Matrix : Water

Lab Number : 31151-03

Sample Date : 1/24/03

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	1/30/03
Toluene	< 0.50	0.50	ug/L	EPA 8260B	1/30/03
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	1/30/03
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	1/30/03
Methyl-t-butyl ether (MTBE)	0.89	0.50	ug/L	EPA 8260B	1/30/03
Diisopropyl ether (DIPE)	< 2.0	2.0	ug/L	EPA 8260B	1/30/03
Ethyl-t-butyl ether (ETBE)	< 2.0	2.0	ug/L	EPA 8260B	1/30/03
Tert-amyl methyl ether (TAME)	< 2.0	2.0	ug/L	EPA 8260B	1/30/03
Tert-Butanol	< 50	50	ug/L	EPA 8260B	1/30/03
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	1/30/03
Toluene - d8 (Surr)	98.9		% Recovery	EPA 8260B	1/30/03
4-Bromofluorobenzene (Surr)	95.8		% Recovery	EPA 8260B	1/30/03

Approved By:  Joel Kiff



Report Number : 31151

Date : 2/3/03

Project Name : 318 S. Livermore Ave., Livermore

Project Number : 030124-MT2

Sample : MW-8

Matrix : Water

Lab Number : 31151-04

Sample Date : 1/24/03

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	1/30/03
Toluene	< 0.50	0.50	ug/L	EPA 8260B	1/30/03
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	1/30/03
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	1/30/03
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	1/30/03
Diisopropyl ether (DIPE)	< 2.0	2.0	ug/L	EPA 8260B	1/30/03
Ethyl-t-butyl ether (ETBE)	< 2.0	2.0	ug/L	EPA 8260B	1/30/03
Tert-amyl methyl ether (TAME)	< 2.0	2.0	ug/L	EPA 8260B	1/30/03
Tert-Butanol	< 50	50	ug/L	EPA 8260B	1/30/03
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	1/30/03
Toluene - d8 (Surr)	97.3		% Recovery	EPA 8260B	1/30/03
4-Bromofluorobenzene (Surr)	93.0		% Recovery	EPA 8260B	1/30/03

Approved By:  Joel Kiff

QC Report : Method Blank Data

Project Name : 318 S. Livermore Ave., Livermore

Project Number : 030124-MT2

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	1/29/03
Toluene	< 0.50	0.50	ug/L	EPA 8260B	1/29/03
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	1/29/03
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	1/29/03
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	1/29/03
Diisopropyl ether (DIPE)	< 2.0	2.0	ug/L	EPA 8260B	1/29/03
Ethyl-t-butyl ether (ETBE)	< 2.0	2.0	ug/L	EPA 8260B	1/29/03
Tert-amyl methyl ether (TAME)	< 2.0	2.0	ug/L	EPA 8260B	1/29/03
Tert-Butanol	< 50	50	ug/L	EPA 8260B	1/29/03
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	1/29/03
Toluene - d8 (Surr)	102		%	EPA 8260B	1/29/03
4-Bromofluorobenzene (Surr)	100		%	EPA 8260B	1/29/03
Benzene	< 0.50	0.50	ug/L	EPA 8260B	1/29/03
Toluene	< 0.50	0.50	ug/L	EPA 8260B	1/29/03
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	1/29/03
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	1/29/03
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	1/29/03
Diisopropyl ether (DIPE)	< 2.0	2.0	ug/L	EPA 8260B	1/29/03
Ethyl-t-butyl ether (ETBE)	< 2.0	2.0	ug/L	EPA 8260B	1/29/03
Tert-amyl methyl ether (TAME)	< 2.0	2.0	ug/L	EPA 8260B	1/29/03
Tert-Butanol	< 50	50	ug/L	EPA 8260B	1/29/03
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	1/29/03
Toluene - d8 (Surr)	97.8		%	EPA 8260B	1/29/03
4-Bromofluorobenzene (Surr)	95.1		%	EPA 8260B	1/29/03

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
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Approved By: Joel Kiff  
 Joel Kiff

Report Number : 31151

Date : 2/3/03

QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Name : 318 S. Livermore Ave.,

Project Number : 030124-MT2

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Recov. Limit	Relative Percent Diff. Limit
Benzene	31167-03	<0.50	40.0	40.0	39.4	40.5	ug/L	EPA 8260B	1/30/03	98.4	101	2.88	70-130	25
Toluene	31167-03	<0.50	40.0	40.0	38.4	39.7	ug/L	EPA 8260B	1/30/03	96.1	99.4	3.32	70-130	25
Tert-Butanol	31167-03	<5.0	200	200	188	203	ug/L	EPA 8260B	1/30/03	94.1	102	7.67	70-130	25
Methyl-t-Butyl Ether	31167-03	<0.50	40.0	40.0	37.4	39.1	ug/L	EPA 8260B	1/30/03	93.4	97.7	4.45	70-130	25
Benzene	31167-04	<0.50	40.0	40.0	39.7	39.2	ug/L	EPA 8260B	1/30/03	99.3	98.0	1.29	70-130	25
Toluene	31167-04	<0.50	40.0	40.0	39.4	39.0	ug/L	EPA 8260B	1/30/03	98.6	97.6	1.10	70-130	25
Tert-Butanol	31167-04	<5.0	200	200	206	210	ug/L	EPA 8260B	1/30/03	103	105	1.78	70-130	25
Methyl-t-Butyl Ether	31167-04	<0.50	40.0	40.0	39.5	38.2	ug/L	EPA 8260B	1/30/03	98.8	95.4	3.58	70-130	25

Approved By:  \_\_\_\_\_  
Joel Kiff

QC Report : Laboratory Control Sample (LCS)

Project Name : 318 S. Livermore Ave.,

Project Number : 030124-MT2

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	40.0	ug/L	EPA 8260B	1/29/03	104	70-130
Toluene	40.0	ug/L	EPA 8260B	1/29/03	102	70-130
Tert-Butanol	200	ug/L	EPA 8260B	1/29/03	98.0	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	1/29/03	99.2	70-130
Benzene	40.0	ug/L	EPA 8260B	1/29/03	95.2	70-130
Toluene	40.0	ug/L	EPA 8260B	1/29/03	96.1	70-130
Tert-Butanol	200	ug/L	EPA 8260B	1/29/03	102	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	1/29/03	88.9	70-130

KIFF ANALYTICAL, LLC

Approved By:  Joel Kiff

LAB: Kiff

# SHELL Chain Of Custody Record

Lab Identification (if necessary):  
 Address:  
 City, State, Zip:

Shell Project Manager to be invoiced:  
**Lynn Walker**  
31151

INCIDENT NUMBER (S&E ONLY)  
 9 7 3 0 6 7 8 3  
 SAP or CRMT NUMBER (TS/CRMT)

DATE: 1-24-03  
 PAGE: 1 of 1

SAMPLING COMPANY: <b>Blaine Tech Services</b>		LOG CODE: <b>BTSS</b>	SITE ADDRESS (Street and City): <b>318 S. Livermore Ave., Livermore</b>		GLOBAL ID NO.: <b>pending</b>
ADDRESS: <b>1680 Rogers Avenue, San Jose, CA 95112</b>			EDF DELIVERABLE TO (Responsible Party or Designee): <b>Debbie Arnold</b>	PHONE NO.: <b>(408) 224-4724</b>	E-MAIL: <b>darnold@khm1.com</b>
PROJECT CONTACT (Hardcopy or PDF Report to): <b>Leon Gearhart</b>			CONSULTANT PROJECT NO.: <b>030124-NF2</b>		BTS #
TELEPHONE: <b>408-573-0555</b>	FAX: <b>408-573-7774</b>	E-MAIL: <b>lgearhart@blainetech.com</b>	LAB USE ONLY		

TURNAROUND TIME (BUSINESS DAYS):  
 10 DAYS  5 DAYS  72 HOURS  48 HOURS  24 HOURS  LESS THAN 24 HOURS

LA - RWQCB REPORT FORMAT  LIST AGENCY: \_\_\_\_\_

GC/MS MTBE CONFIRMATION: HIGHEST \_\_\_\_\_ HIGHEST per BORING \_\_\_\_\_ ALL \_\_\_\_\_

SPECIAL INSTRUCTIONS OR NOTES: CHECK BOX IF EDO IS NOT NEEDED

LAB USE ONLY	Field Sample Identification		SAMPLING		MATRIX	NO. OF CONT.	TPH - Gas, Purgeable	BTEX	MTBE (8021B - 5ppb RL)	MTBE (8280B - 0.5ppb RL)	Oxygenates (S) by (8280B)	REQUESTED ANALYSIS	FIELD NOTES: Container/Preservative or PID Readings or Laboratory Notes
	DATE	TIME	TPH - Gas, Purgeable	BTEX									
<input checked="" type="checkbox"/>	MW-5	01/24/03	1145	W	3	X	X			X			-01
<input checked="" type="checkbox"/>	MW-6	1	1105		3	X	X			X			-02
<input checked="" type="checkbox"/>	MW-7	1	1125		3	X	X			X			-03
<input checked="" type="checkbox"/>	MW-8	1	1210	X	3	X	X			X			-04

Relinquished by: (Signature) <i>[Signature]</i>	Received by: (Signature) <i>[Signature]</i>	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature) <i>John C. Kiff Analyst</i>	Date: <i>01-28-03</i>	Time: <i>1133</i>

DISTRIBUTION: Write with final report. Green to File, Yellow and Pink to Client.

10/18/00 Revision

C&G Graphic (714) 898-9702







## SHELL WELL MONITORING DATA SHEET

BTS #: <u>130124-MT2</u>	Site: <u>97306783</u>
Sampler: <u>M. Toll</u>	Date: <u>01-24-03</u>
Well I.D.: <u>MW-5</u>	Well Diameter: <u>2</u> 3 4 6 8 _____
Total Well Depth (TD): <u>5528</u>	Depth to Water (DTW): <u>27.30</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grnde	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>32.90</u>	

Purge Method: <u>Bailer</u>	Waterro	Sampling Method: <u>Bailer</u>
Disposable Bailer	Peristaltic	Disposable Bailer
<u>Middleburg</u>	Extraction Pump	Extraction Port
Electric Submersible	Other _____	Dedicated Tubing
		Other: _____

<u>4.5</u> (Gals.) X	<u>3</u> =	<u>13.5</u> Gals.
Case Volume	Specified Volumes	Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond. (mS or <u>µS</u> )	Turbidity (NTUs)	Gals. Removed	Observations
<u>1128</u>	<u>66.3</u>	<u>7.4</u>	<u>1093</u>	<u>50</u>	<u>4.5</u>	
<u>1133</u>	<u>66.1</u>	<u>7.4</u>	<u>1091</u>	<u>38</u>	<u>9</u>	
<u>1139</u>	<u>66.1</u>	<u>7.4</u>	<u>1090</u>	<u>27</u>	<u>13.5</u>	

Did well dewater? Yes  No  Gallons actually evacuated: 13.5

Sampling Date: 01-24-03 Sampling Time: 1145 Depth to Water: 32.76

Sample I.D.: MW-5 Laboratory: Kiff SPL Other \_\_\_\_\_

Analyzed for: TPH-G BTEX MTBE TPH-D Other: Oxy (5) by 8260

EB I.D. (if applicable): \_\_\_\_\_ @ \_\_\_\_\_ Time Duplicate I.D. (if applicable): \_\_\_\_\_

Analyzed for: TPH-G BTEX MTBE TPH-D Other: \_\_\_\_\_

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

## SHELL WELL MONITORING DATA SHEET

TS #: <u>130124-MTZ</u>	Site: <u>97306783</u>
Sampler: <u>M. Toll</u>	Date: <u>01-24-03</u>
Well I.D.: <u>MW-6</u>	Well Diameter: <u>Ø 3 4 6 8</u> _____
Total Well Depth (TD): <u>53.60</u>	Depth to Water (DTW): <u>27.71</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>32.89</u>	

Recharge Method: <u>Bailer</u> Disposable Bailer <u>Middleburg</u> Electric Submersible	Water: <u>Peristaltic</u> Extraction Pump Other _____	Sampling Method: <u>Bailer</u> Disposable Bailer Extraction Port Dedicated Tubing Other: _____
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$\frac{4.2 \text{ (Gals.)} \times 3}{\text{Specified Volumes}} = \frac{12.6 \text{ Gals.}}{\text{Calculated Volume}}$	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.05</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius<sup>2</sup> * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.05	2"	0.16	6"	1.47	3"	0.37	Other	radius <sup>2</sup> * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.05														
2"	0.16	6"	1.47														
3"	0.37	Other	radius <sup>2</sup> * 0.163														

Time	Temp (°F)	pH	Cond. (mS or $\mu$ S)	Turbidity (NTUs)	Gals. Removed	Observations
1051	64.4	6.9	955	>1000	4.2	
1050	64.4	6.9	950	>1000	8.4	
1101	64.4	7.0	947	>1000	12.6	

Did well dewater? Yes  No  Gallons actually evacuated: 12.6

Sampling Date: 01-24-03 Sampling Time: 1105 Depth to Water: 28.96

Sample I.D.: MW-6 Laboratory: Kief SPL Other \_\_\_\_\_

Analyzed for: TPH-G BTEX MTBE TPH-D Other: Dxy (5) by 8260

SB I.D. (if applicable): \_\_\_\_\_ Duplicate I.D. (if applicable): \_\_\_\_\_

Analyzed for: TPH-G BTEX MTBE TPH-D Other: \_\_\_\_\_

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV



