ENVIRONMENTAL MANAGEMENT, INC.

KHM

March 19, 2003
KHM Project C81- 809 Stanley

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

Re: SHELL GRASP MONITORING REPORT
Shell Service Station
809 East Stanley Boulevard
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 *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.

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

REGISTERED GEOLOGIST
R. LEE DOOLEY
No. 0183
CERTIFIED
HYDROGEOLOGIST
EXP. 04/05
STATE OF CALIFORNIA

6284 SAN IGNACIO AVENUE, SUITE E • SAN JOSE, CALIFORNIA • 95119 • PHONE: (408) 224-4724 • FAX: (408) 224-4518

REDMOND, WASHINGTON (425) 558-0134 • PORTLAND, OREGON (503) 233-4068 • CROCKETT, CALIFORNIA (510) 787-6756 • MONROVIA, CALIFORNIA (626) 256-6662

Attachments: Shell GRASP Monitoring Report

cc: Lynn Walker, Shell Oil Products US (PDF by email)
Karen Petryna, Shell Oil Products US (PDF by email)
Danielle Stefani, Livermore-Pleasanton Fire Department, 4550 East Avenue, Livermore, CA 94550
Isabel Mejia, Shell Oil Products US, P.O. Box 7869, Burbank, CA 91510-7869
KHM GRASP file

March 19, 2003

SHELL GRASP MONITORING REPORT

Station Address.:	809 East Stanley Livermore, CA 94550
SHELL GRASP Incident No.	97306796
KHM Project No.	C81-809 Stanley
SHELL Environmental Engin./Phone No.:	Karen Petryna (559) 645-9306
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 03-01(03S/03E-08P02M), is approximately 1,694 feet northeast of site
Approximate Depth to Groundwater:	17.90' to 19.15'
Groundwater Gradient	Northeast @ approximately 0.004 ft/ft
Summary of Unusual Activity:	None

Lee Dooley
Project Manager (KHM)

ATTACHED:

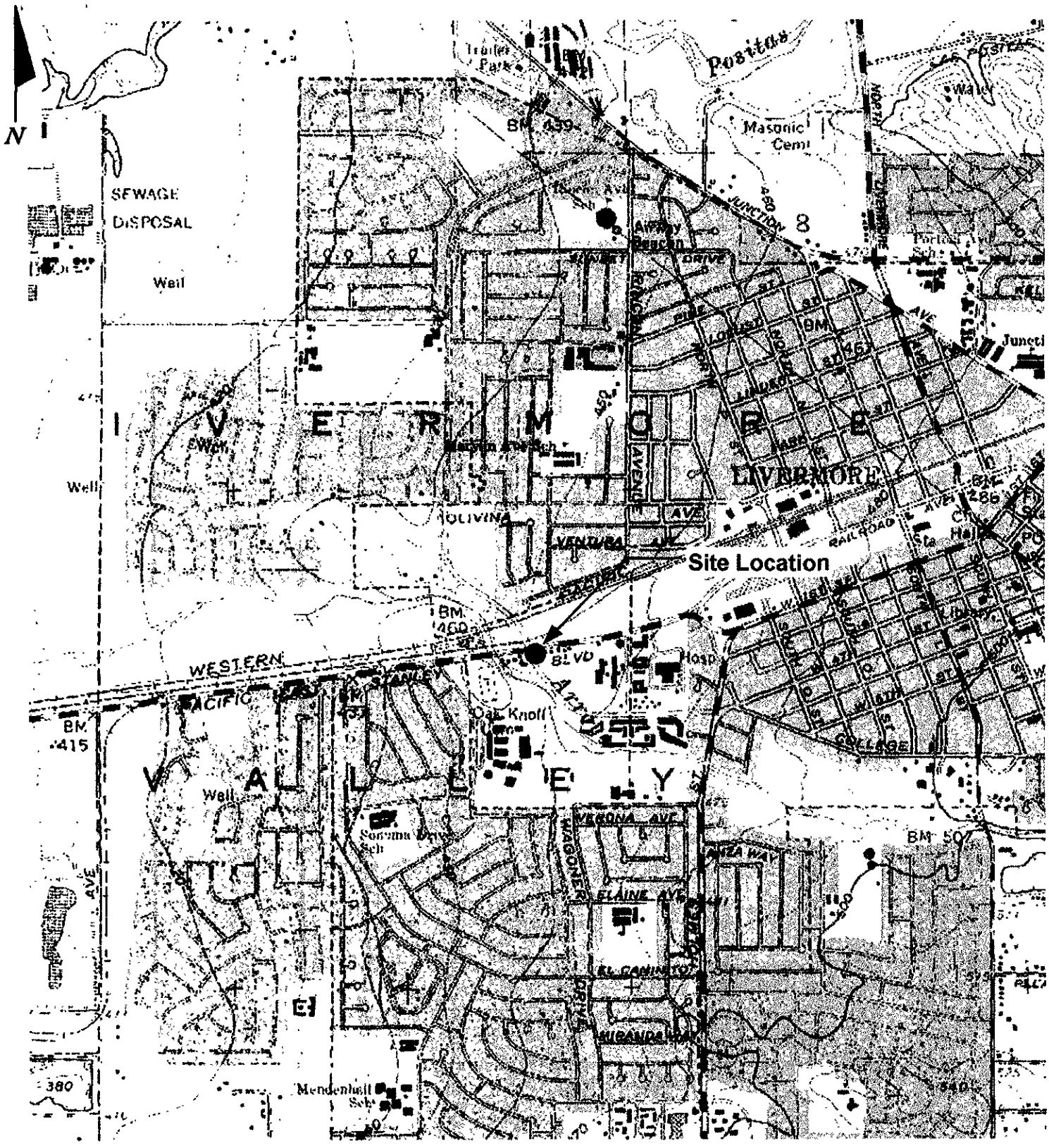
- Table 1 – Summary of Groundwater Data
- Figure 1 – Site Location Map
- Figure 2 – Groundwater Elevation Contour Map
- Figure 3 – TPH-G, Benzene, MTBE Concentrations Map
- Appendix A – Blaine Tech Services, Groundwater Monitoring and Sampling Report, February 27, 2003

TABLE AND FIGURES

Table 1
Summary of Groundwater Data
Shell Service Station
809 East Stanley Blvd.
Livermore, California

Well Designation	Date Sampled	TPH-g (ug/l)	Benzene (ug/l)	Toluene (ug/l)	Ethlybenzene (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)
MW-1	9/25/2001	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	455.49	20.06	435.43
	10/25/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	455.49	19.71	435.78
	1/24/2003	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	455.49	18.05	437.44
MW-2	9/25/2001	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	454.84	20.40	434.44
	10/25/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	454.84	20.17	434.67
	1/24/2003	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	454.84	18.30	436.54
MW-3	9/25/2001	NA	<0.50	<0.50	<0.50	<0.50	**3.6**	<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	454.87	19.95	434.92
	10/25/2002	<50	<0.50	<0.50	<0.50	<0.50	**0.83**	<2.0	<2.0	<2.0	<50	454.87	19.63	435.24
	1/24/2003	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	454.87	17.90	436.97
MW-4	9/25/2001	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	456.24	21.15	435.09
	10/25/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	456.24	20.85	435.39
	1/24/2003	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	456.24	19.15	437.09

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



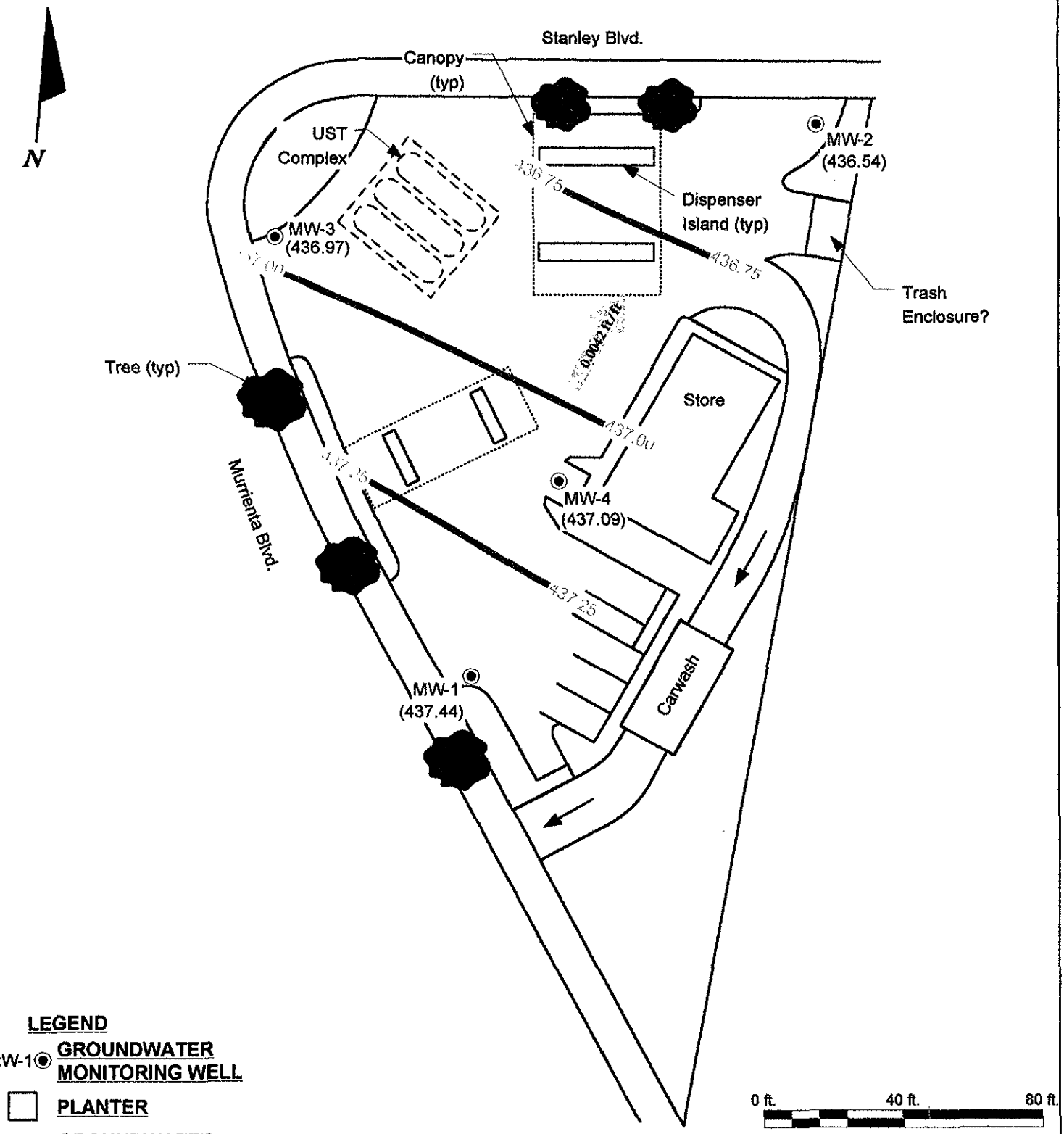
KHM
ENVIRONMENTAL MANAGEMENT, INC.

SITE LOCATION MAP

Shell-branded Service Station
809 East Stanley Blvd.
Livermore, California

DATE	PROJECT	FIGURE
3/12/03	C81-809 Stanley	1

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



LEGEND

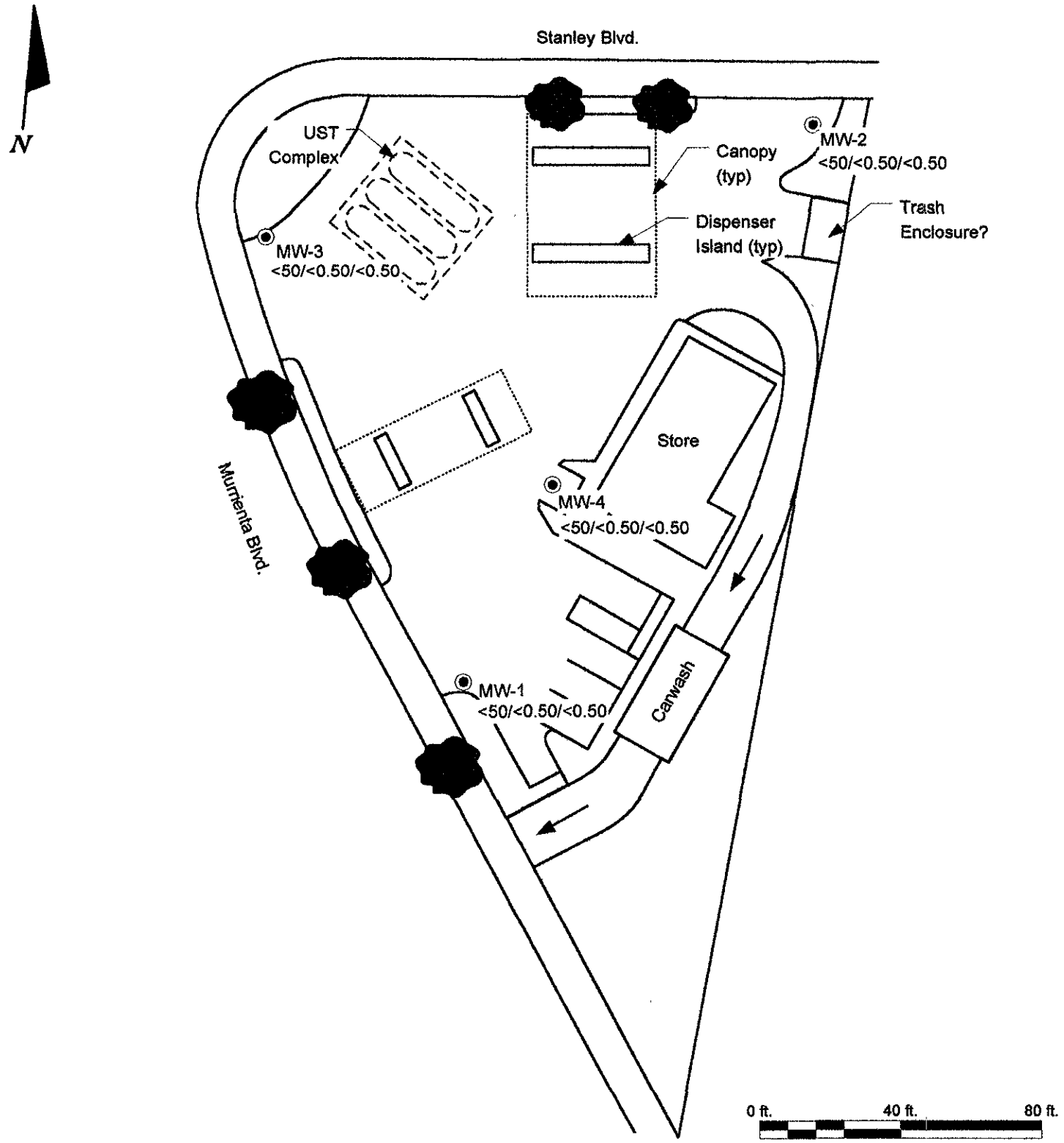
- MW-1 ◉ **GROUNDWATER MONITORING WELL**
- ☐ **PLANTER**
- (435.09) **GROUNDWATER ELEVATION (FEET-MSL), 1/24/03**
- 435.00 **GROUNDWATER ELEVATION CONTOUR**
- 0.0042 ft/ft **APPROXIMATE GROUNDWATER FLOW DIRECTION AND GRADIENT**

KHM ENVIRONMENTAL MANAGEMENT, INC.

GROUNDWATER ELEVATION CONTOUR MAP, JANUARY 24, 2003

Shell Service Station
809 East Stanley Blvd
Livermore, California

DATE	PROJECT	FIGURE
3/12/03	C81-809 Stanley	2



LEGEND

MW-1 ◉ **GROUNDWATER MONITORING WELL**

□ **PLANTER**

<50/<0.50/<0.50 **TPH-G/BENZENE/MTBE CONCENTRATIONS IN GROUNDWATER (ug/l), 1/24/03**

KHM
ENVIRONMENTAL MANAGEMENT, INC.

TPH-G, BENZENE, MTBE CONCENTRATIONS MAP, JANUARY 24, 2003

Shell Service Station
809 East Stanley Blvd
Livermore, California

DATE	PROJECT	FIGURE
3/12/03	C81-809 Stanley	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
809 East Stanley Boulevard
Livermore, CA

Monitoring performed on January 24, 2003

Groundwater Monitoring Report **030124-MT-3**

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. Purgewater (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
809 East Stanley Boulevard
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-1	07/09/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	455.49	20.06	435.43
MW-1	10/25/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	455.49	19.71	435.78
MW-1	**01/24/2003**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**455.49**	**18.05**	**437.44**
MW-2	07/09/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	454.84	20.40	434.44
MW-2	10/25/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	454.84	20.17	434.67
MW-2	**01/24/2003**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**454.84**	**18.30**	**436.54**
MW-3	07/09/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	454.87	19.95	434.92
MW-3	10/25/2002	<50	<0.50	<0.50	<0.50	<0.50	0.83	454.87	19.63	435.24
MW-3	**01/24/2003**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**454.87**	**17.90**	**436.97**
MW-4	07/09/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	456.24	21.15	435.09
MW-4	10/25/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	456.24	20.85	435.39
MW-4	**01/24/2003**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**456.24**	**19.15**	**437.09**

WELL CONCENTRATIONS
Shell-branded Service Station
809 East Stanley Boulevard
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)

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.

KIFF ANALYTICAL LLC

Report Number : 31141
Date : 1/31/2003

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

Subject : 4 Water Samples
Project Name : 809 E. Stanley Blvd., Livermore
Project Number : 030124-MT3
P.O. Number : 97306796

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,

Joel Kiff

Joel Kiff

KIFF ANALYTICAL LLC

Report Number : 31141
Date : 1/31/2003

Project Name : **809 E. Stanley Blvd., Livermore**
Project Number : **030124-MT3**

Sample : **MW-1** Matrix : Water Lab Number : 31141-01
Sample Date :1/24/2003

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	1/29/2003
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	1/29/2003
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	1/29/2003
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	1/29/2003
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	1/29/2003
Diisopropyl ether (DIPE)	**< 2.0**	2.0	ug/L	EPA 8260B	1/29/2003
Ethyl-t-butyl ether (ETBE)	**< 2.0**	2.0	ug/L	EPA 8260B	1/29/2003
Tert-amyl methyl ether (TAME)	**< 2.0**	2.0	ug/L	EPA 8260B	1/29/2003
Tert-Butanol	**< 50**	50	ug/L	EPA 8260B	1/29/2003
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	1/29/2003
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	1/29/2003
4-Bromofluorobenzene (Surr)	103		% Recovery	EPA 8260B	1/29/2003

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800

KIFF ANALYTICAL LLC

Report Number : 31141
Date : 1/31/2003

Project Name : **809 E. Stanley Blvd., Livermore**
Project Number : **030124-MT3**

Sample : **MW-2** Matrix : Water Lab Number : 31141-02
Sample Date :1/24/2003

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	1/29/2003
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	1/29/2003
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	1/29/2003
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	1/29/2003
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	1/29/2003
Diisopropyl ether (DIPE)	**< 2.0**	2.0	ug/L	EPA 8260B	1/29/2003
Ethyl-t-butyl ether (ETBE)	**< 2.0**	2.0	ug/L	EPA 8260B	1/29/2003
Tert-amyl methyl ether (TAME)	**< 2.0**	2.0	ug/L	EPA 8260B	1/29/2003
Tert-Butanol	**< 50**	50	ug/L	EPA 8260B	1/29/2003
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	1/29/2003
Toluene - d8 (Surr)	99.5		% Recovery	EPA 8260B	1/29/2003
4-Bromofluorobenzene (Surr)	103		% Recovery	EPA 8260B	1/29/2003

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800

KIFF ANALYTICAL LLC

Report Number : 31141
Date : 1/31/2003

Project Name : **809 E. Stanley Blvd., Livermore**
Project Number : **030124-MT3**

Sample : **MW-3** Matrix : Water Lab Number : 31141-03
Sample Date :1/24/2003

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	1/29/2003
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	1/29/2003
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	1/29/2003
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	1/29/2003
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	1/29/2003
Diisopropyl ether (DIPE)	**< 2.0**	2.0	ug/L	EPA 8260B	1/29/2003
Ethyl-t-butyl ether (ETBE)	**< 2.0**	2.0	ug/L	EPA 8260B	1/29/2003
Tert-amyl methyl ether (TAME)	**< 2.0**	2.0	ug/L	EPA 8260B	1/29/2003
Tert-Butanol	**< 50**	50	ug/L	EPA 8260B	1/29/2003
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	1/29/2003
Toluene - d8 (Surr)	99.2		% Recovery	EPA 8260B	1/29/2003
4-Bromofluorobenzene (Surr)	101		% Recovery	EPA 8260B	1/29/2003

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800

KIFF ANALYTICAL LLC

Report Number : 31141
Date : 1/31/2003

Project Name : **809 E. Stanley Blvd., Livermore**
Project Number : **030124-MT3**

Sample : **MW-4** Matrix : Water Lab Number : 31141-04
Sample Date :1/24/2003

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	1/29/2003
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	1/29/2003
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	1/29/2003
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	1/29/2003
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	1/29/2003
Diisopropyl ether (DIPE)	**< 2.0**	2.0	ug/L	EPA 8260B	1/29/2003
Ethyl-t-butyl ether (ETBE)	**< 2.0**	2.0	ug/L	EPA 8260B	1/29/2003
Tert-amyl methyl ether (TAME)	**< 2.0**	2.0	ug/L	EPA 8260B	1/29/2003
Tert-Butanol	**< 50**	50	ug/L	EPA 8260B	1/29/2003
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	1/29/2003
Toluene - d8 (Surr)	99.1		% Recovery	EPA 8260B	1/29/2003
4-Bromofluorobenzene (Surr)	102		% Recovery	EPA 8260B	1/29/2003

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800

Report Number : 31141

Date : 1/31/2003

QC Report : Method Blank Data

Project Name : **809 E. Stanley Blvd., Livermore**

Project Number : **030124-MT3**

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0 50	0 50	ug/L	EPA 8260B	1/29/2003
Toluene	< 0.50	0.50	ug/L	EPA 8260B	1/29/2003
Ethylbenzene	< 0.50	0 50	ug/L	EPA 8260B	1/29/2003
Total Xylenes	< 0 50	0.50	ug/L	EPA 8260B	1/29/2003
Methyl-t-butyl ether (MTBE)	< 0.50	0 50	ug/L	EPA 8260B	1/29/2003
Diisopropyl ether (DIPE)	< 2.0	2 0	ug/L	EPA 8260B	1/29/2003
Ethyl-t-butyl ether (ETBE)	< 2 0	2.0	ug/L	EPA 8260B	1/29/2003
Tert-amyl methyl ether (TAME)	< 2 0	2.0	ug/L	EPA 8260B	1/29/2003
Tert-Butanol	< 50	50	ug/L	EPA 8260B	1/29/2003
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	1/29/2003
Toluene - d8 (Surr)	101		%	EPA 8260B	1/29/2003
4-Bromofluorobenzene (Surr)	102		%	EPA 8260B	1/29/2003

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

Report Number : 31141

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 1/31/2003

Project Name : **809 E. Stanley Blvd.,**

Project Number : **030124-MT3**

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 Percent Recov. Limit	Relative Percent Diff. Limit
Benzene	31122-01	<0.50	40.0	40.0	41.5	40.5	ug/L	EPA 8260B	1/29/03	104	101	2.42	70-130	25
Toluene	31122-01	<0.50	40.0	40.0	39.5	38.6	ug/L	EPA 8260B	1/29/03	98.8	96.6	2.25	70-130	25
Tert-Butanol	31122-01	<5.0	200	200	184	197	ug/L	EPA 8260B	1/29/03	91.9	98.6	7.00	70-130	25
Methyl-t-Butyl Ether	31122-01	<0.50	40.0	40.0	37.4	38.0	ug/L	EPA 8260B	1/29/03	93.6	94.9	1.43	70-130	25

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

Report Number : 31141

QC Report : Laboratory Control Sample (LCS)

Date : 1/31/2003

Project Name : **809 E. Stanley Blvd.,**

Project Number : **030124-MT3**

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	103	70-130
Toluene	40.0	ug/L	EPA 8260B	1/29/03	97.8	70-130
Tert-Butanol	200	ug/L	EPA 8260B	1/29/03	93.7	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	1/29/03	93.5	70-130

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

LAB: KIFF

SHELL Chain Of Custody Record

Lab Identification (if necessary):

Address:

City, State Zip:

Shell Project Manager to be invoiced:

☑ SCIENCE & ENGINEERING ☐ TECHNICAL SERVICES ☐ CRMT HOUSTON

Lynn Walker

31141

INCIDENT NUMBER (S&E ONLY): 9 7 3 0 6 7 9 6

SAP or CRMT NUMBER (TS/CRMT):

DATE: 1-24-03

PAGE: 1 of 1

SAMPLING COMPANY	LOG CODE:	SITE ADDRESS (Street and City):	GLOBAL ID NO.:
Blaine Tech Services	BTSS	809 E. Stanley Blvd., Livermore	pending

ADDRESS	EDF DELIVERABLE TO (Responsible Party or Designee)	PHONE NO	E-MAIL	CONSULTANT PROJECT NO
1680 Rogers Avenue, San Jose, CA 95112	Debbie Arnold	(408)244-4724	darnold@khm1.com	030124-MT3

PROJECT CONTACT (Hardcopy or PDF Report to):	TELEPHONE:	FAX:	E-MAIL:	SAMPLER NAME(S) (Print):	BTS #
Leon Gearhart	408-573-0555	408-573-7771	lgearhart@blainetech.com	Michael Toll	

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 ☐ UST AGENCY: _____

GC/MS MTBE CONFIRMATION: HIGHEST _____ HIGHEST per BORING _____ ALL _____

SPECIAL INSTRUCTIONS OR NOTES: CHECK BOX IF EDD IS NOT NEEDED ☐

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	TPH - Gas, Purgeable	BTEX	MTBE (8021B - 5ppb RL)	MTBE (8260B - 0.5ppb RL)	Oxygenates (5) by (8260B)	TEMPERATURE ON RECEIPT C°
	MW-1	01/24/03	1320	W	3	X	X			X	-01
	MW-2	"	1435	"	3	X	X			X	-02
	MW-3	"	1410	"	3	X	X			X	-03
	MW-4	"	1345	"	3	X	X			X	-04

FIELD NOTES:

Container/Preservative or PID Readings or Laboratory Notes

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Michael Toll			
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
	John Cuttle/Kiff Analytical	012803	1131

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

10/16/00 Revision

Q&Q Graphic (714) 898-9702

WELLHEAD INSPECTION CHECKLIST

ent SHELL Date 1/23/03

e Address 809 E. STANLEY BLVD. LIVERMORE

b Number 030123-SS3 Technician SOOCH

Well ID	Well Inspected - No Corrective Action Required	Water Bailed From Wellbox	Wellbox Components Cleaned	Cap Replaced	Lock Replaced	Other Action Taken (explain below)	Well Not Inspected (explain below)	Repair Order Submitted
MW-1								✓
MW-2								✓
MW-3								✓
MW-4								✓

NOTES: MW-1, MW-2, MW-3, MW-4: All Need 2" Caps & Locks

WELL GAUGING DATA

Project # 030124-MT3 Date 1-24-03 Client 97306796

Site 309 E. Stanley Blvd., Livermore

Well ID	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	
MW-1	2					18.05	47.60		
MW-2	2					18.30	47.07		
MW-3	2					17.90	47.45		
MW-4	2					19.15	47.83	↓	

SHELL WELL MONITORING DATA SHEET

BTS #: 030124-MT3	Site: 97306796
Sampler: M. Tell	Date: 01-24-03
Well I.D.: MW-1	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth (TD): 47.60	Depth to Water (DTW): 18.05
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 23.96	

Purge Method: Bailer; Disposable Bailer; (Middlebury) Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other_____

Sampling Method: (Bailer); Disposable Bailer; Extraction Port; Dedicated Tubing; Other: _____

4.7 (Gals.) X 3 = 14.1 Gals.
1 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	radius² * 0.163

Time	Temp (°F)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1307	65.0	7.7	618	77	4.7	
1312	65.0	7.6	653	121	9.4	
1317	65.2	7.6	700	618	14.1	

Did well dewater? Yes (No) Gallons actually evacuated: 14.1

Sampling Date: 01-24-03 Sampling Time: 1320 Depth to Water: 23.50

Sample I.D.: MW-1 Laboratory: (KTF) 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

BTS #: 030124-MT3	Site: 97306796
Sampler: M. TOLL	Date: 01-24-03
Well I.D.: MW-2	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth (TD): 47.07	Depth to Water (DTW): 18.30
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 24.05	

Purge Method: Bailer / Disposable Bailer / (Middleburg) / Electric Submersible / Waterra / Peristaltic / Extraction Pump / Other_____

Sampling Method: (Bailer) / Disposable Bailer / Extraction Port / Dedicated Tubing / Other: _____

4.6 (Gals.) X 3 = 13.8 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	radius² * 0.163

Time	Temp (°F)	pH	Cond. (mS or (uS))	Turbidity (NTUs)	Gals. Removed	Observations
1420	63.7	7.5	624	700	4.6	
1425	63.2	7.4	611	262	9.2	
1431	63.0	7.4	610	112	13.8	

Did well dewater? Yes (No) Gallons actually evacuated: 13.8

Sampling Date: 01-24-03 Sampling Time: 1435 Depth to Water: 23.30

Sample I.D.: MW-2 Laboratory: (KHF) 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

BTS #: 030124-MT3	Site: 97306796
Sampler: M. TOLL	Date: 01-24-03
Well I.D.: MW-3	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth (TD): 47.45	Depth to Water (DTW): 17.90
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 23.81	

Purge Method: Bailer / Disposable Bailer / (Middleburg) / Electric Submersible / Waterra / Peristaltic / Extraction Pump / Other_____

Sampling Method: (Bailer) / Disposable Bailer / Extraction Port / Dedicated Tubing / Other: _____

4.7 (Gals.) X 3 = 14.1 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	radius² * 0.163

Time	Temp (°F)	pH	Cond. (mS or (uS))	Turbidity (NTUs)	Gals. Removed	Observations
1351	65.4	7.0	690	126	4.7	
1357	65.3	7.1	688	79	9.4	
1403	65.2	7.1	679	52	14.1	

Did well dewater? Yes (No) Gallons actually evacuated: 14.1

Sampling Date: 01-24-03 Sampling Time: 1410 Depth to Water: 23.81

Sample I.D.: MW-3 Laboratory: (Cliff) SPL Other_____

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

DUP 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

STS #: 030124-MT3	Site: 97306796
Sampler: M. TOLL	Date: 01-24-03
Well I.D.: MW-4	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth (TD): 47.33	Depth to Water (DTW): 19.15
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 24.89	

Purge Method: Bailer; Disposable Bailer; (Middleburg); Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other_____

Sampling Method: (Bailer); Disposable Bailer; Extraction Port; Dedicated Tubing; Other:_____

4.6 (Gals.) X 3 = 13.8 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	radius² * 0.163

Time	Temp (°F)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1330	65.4	7.3	721	>1000	4.6	
1335	65.3	7.2	700	110	9.2	
1340	65.3	7.1	712	97	13.8	

Did well dewater? Yes (No) Gallons actually evacuated: 13.8

Sampling Date: 01-24-03 Sampling Time: 1345 Depth to Water: 23.76

Sample I.D.: MW-4 Laboratory: (KHT) 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