RO-2524

ENVIRONMENTAL MANAGEMENT, INC.

DEC 27 2002

December 6, 2002
KHM Project C81- 809 Stanley

Mr. Scott Seery
Alameda County Environmental Health Services
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:

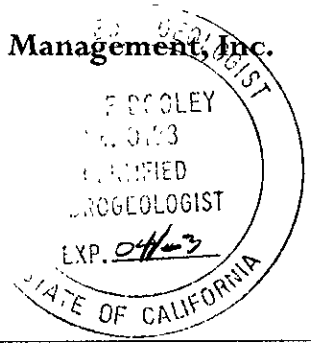
KHM Environmental Management, Inc. (KHM) on behalf of Equilon Enterprises LLC dba Shell Oil Products US (SHELL) has prepared the *Shell GRASP Monitoring Report* for the above referenced site.

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, CHG
Senior Hydrogeologist



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

KHM Environmental Management, Inc

6284 San Ignacio Avenue, Suite E, San Jose, California 95119
PH. (408) 224-4724 FAX (408) 224-4518

Date: 12/23/02
Project: C-81 809 Stanley

DEC 27 2002

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

We have enclosed:

Copies	Description
1	Fourth Quarter Monitoring Report for site at 809 East Stanley, Livermore

For your:

- X Use
- Approval
- Review
- Information

Comments: Please call KHM at (408) 224-4724 with any questions. Thank you.

Attachments: Shell GRASP Monitoring Report

cc: Lynn Walker, Shell Oil Products US (PDF by email)
Karen Petryna, Shell Oil Products US (PDF by email) 4Q02 Report - - -
KHM GRASP file

December 6, 2002

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:	19.63' to 20.85'
Groundwater Gradient	Northeast @ approximately 0.006 ft/ft
Summary of Unusual Activity:	MTBE was detected for the second time in Well MW-3 (0.83 ug/l.)

Lee Dooley
Project Manager (KHM)

ATTACHED:

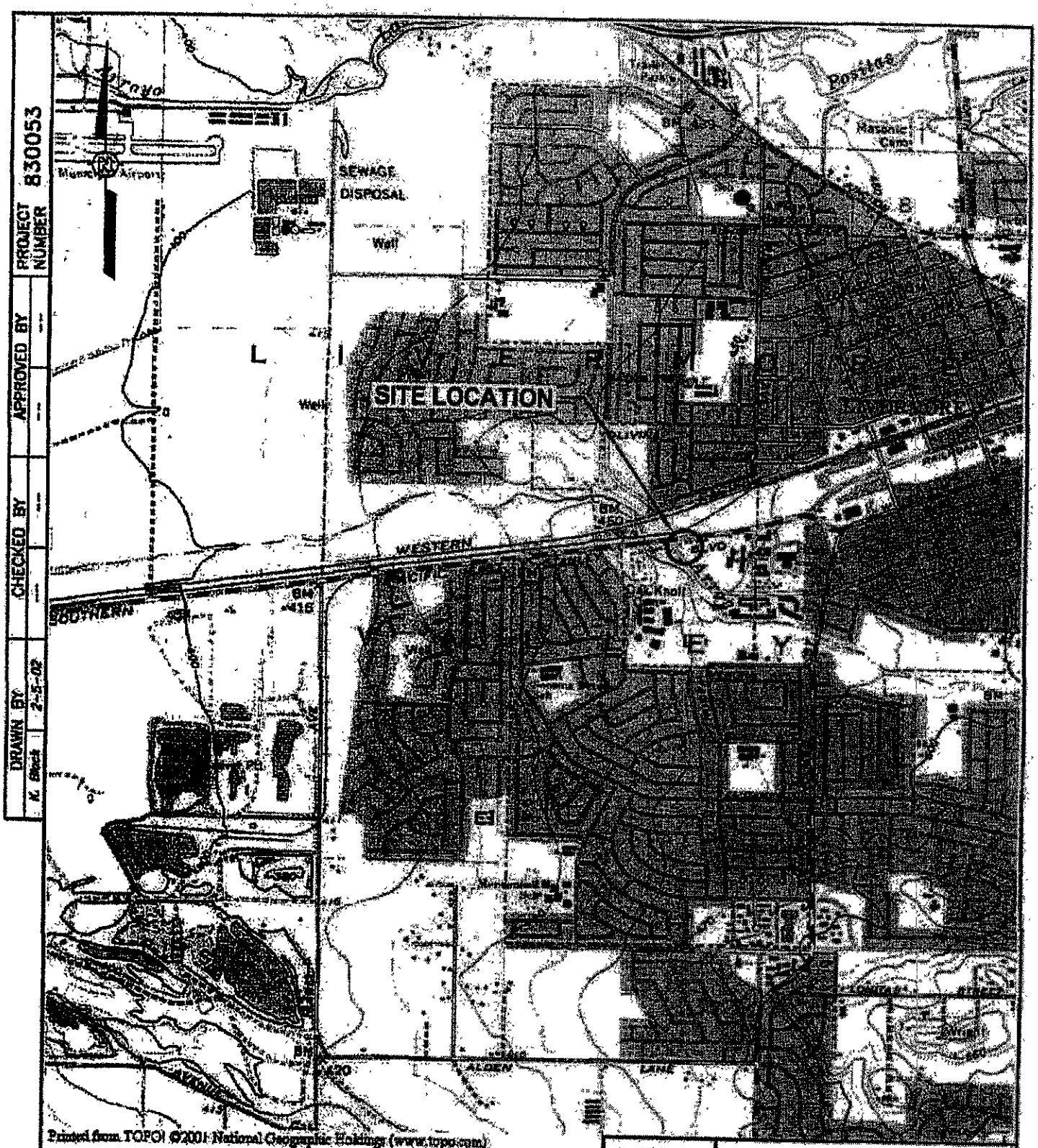
- Table 1 – Summary of Groundwater Data
- Figure 1 – Site Location Map
- Figure 2 – Groundwater Elevation Contour Map
- Figure 3 – TPH-G, Benzene, MTBE Concentrations Map
- Appendix A – Blaine Tech Services, Groundwater Monitoring and Sampling Report, November 20, 2002

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)	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	NM	NM	NM
	7/9/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	455.49	20.06	435.43
	10/25/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	455.49	19.71	435.78
MW-2	9/25/2001	NA	<0.50	<0.50	<0.50	<0.50	<0.50	NM	NM	NM
	7/9/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	454.84	20.40	434.44
	10/25/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	454.84	20.17	434.67
MW-3	9/25/2001	NA	<0.50	<0.50	<0.50	<0.50	**3.6**	NM	NM	NM
	7/9/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	454.87	19.95	434.92
	10/25/2002	<50	<0.50	<0.50	<0.50	<0.50	**0.83**	454.87	19.63	435.24
MW-4	9/25/2001	NA	<0.50	<0.50	<0.50	<0.50	<0.50	NM	NM	NM
	7/9/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	456.24	21.15	435.09
	10/25/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	456.24	20.85	435.39

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
TOC = Top of Well Casing
NM = Not measured
NA = Not analyzed



DRAWN BY	CHECKED BY	APPROVED BY	PROJECT NUMBER
K. Black 2-5-02	---	---	830053

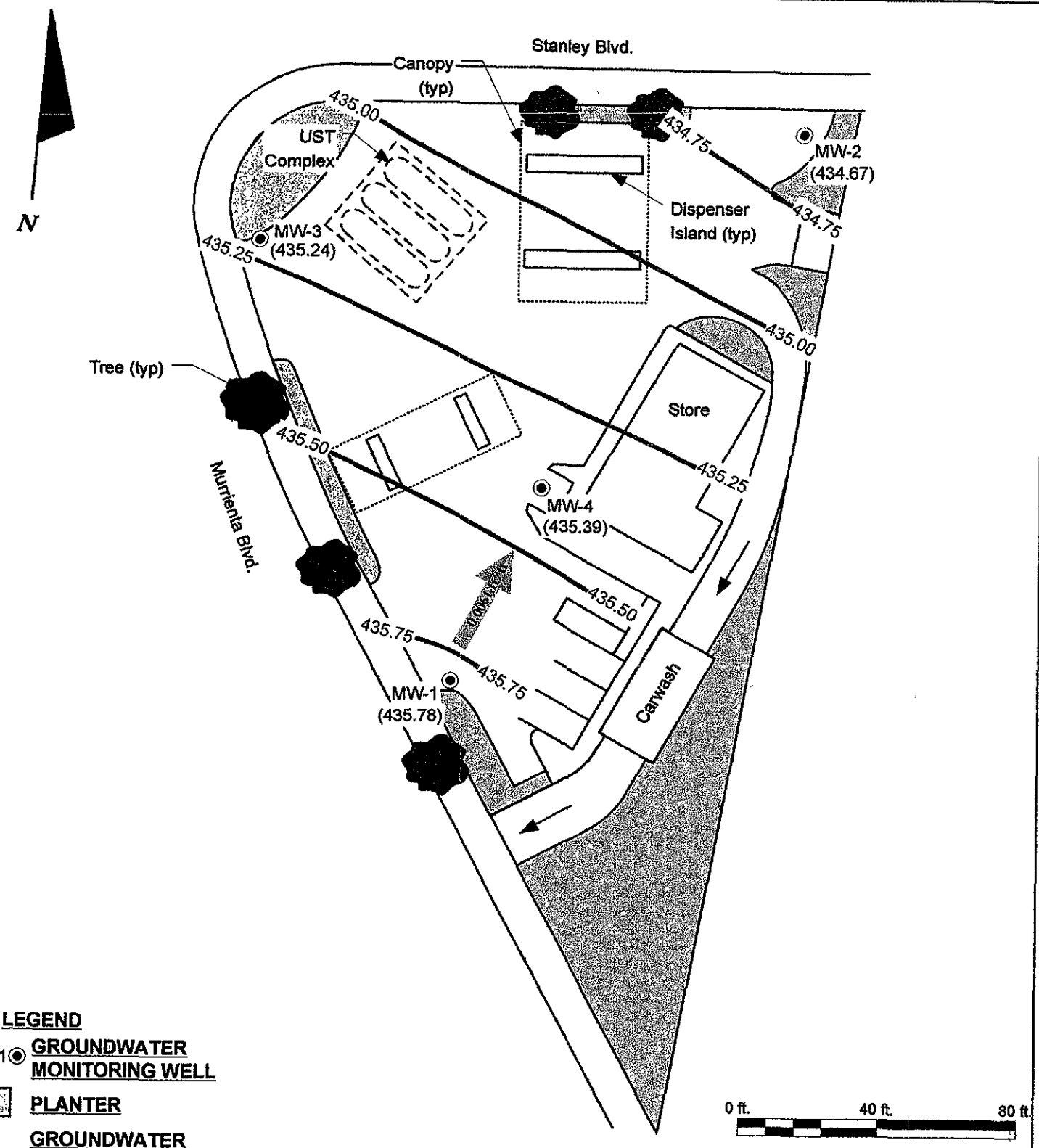
IT CORPORATION

SHELL OIL PRODUCTS US

FIGURE 1
SITE LOCATION MAP

809 EAST STANLEY BLVD.
LIVERMORE, CALIFORNIA

N:\cad\DWG\CRASP\809EStanley\SiteLoc.dwg Thu, 21/Mar/02 09:09am kblack



LEGEND

MW-1 ◉ **GROUNDWATER MONITORING WELL**

PLANTER

(435.09) **GROUNDWATER ELEVATION (FEET-MSL), 10/25/02**

435.00 **GROUNDWATER ELEVATION CONTOUR**

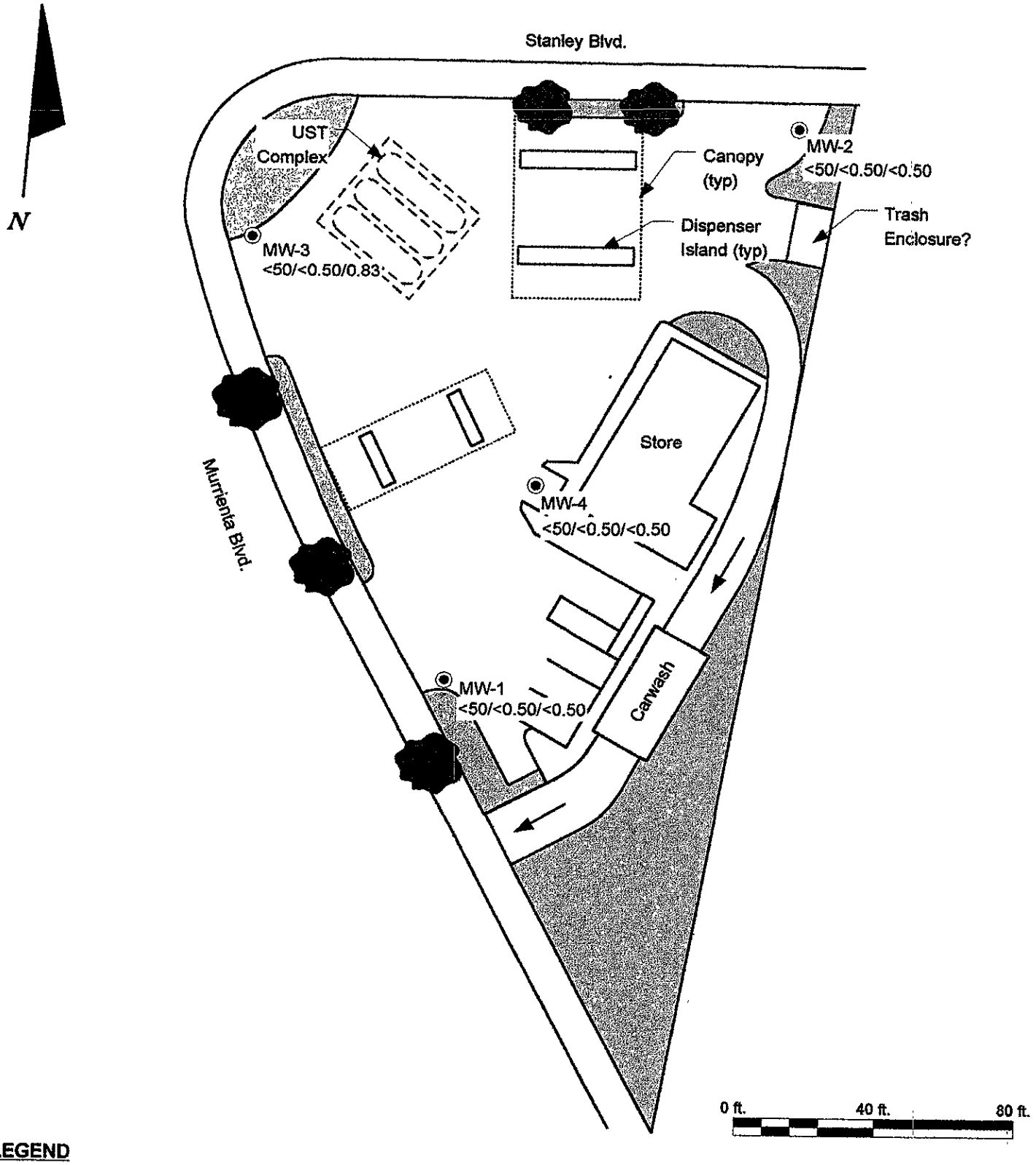
APPROXIMATE GROUNDWATER FLOW DIRECTION AND GRADIENT

KHM
ENVIRONMENTAL MANAGEMENT, INC.

GROUNDWATER ELEVATION CONTOUR MAP, OCTOBER 25, 2002

Shell Service Station
809 East Stanley Blvd
Livermore, California

DATE	PROJECT	FIGURE
12/06/02	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), 10/25/02**

KHM
ENVIRONMENTAL MANAGEMENT, INC.

TPH-G, BENZENE, MTBE CONCENTRATIONS MAP, OCTOBER 25, 2002

Shell Service Station
809 East Stanley Blvd
Livermore, California

DATE	PROJECT	FIGURE
12/06/02	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

November 20, 2002

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

Fourth Quarter 2002 Groundwater Monitoring at
Shell-branded Service Station
809 East Stanley Boulevard
Livermore, CA

Monitoring performed on October 25, 2002

Groundwater Monitoring Report **021025-DW-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-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-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-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**

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 : 29408
Date : 11/01/2002

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 : 021025-DW-3
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 : 29408
Date : 11/01/2002

Project Name : **809 E. Stanley Blvd., Livermore**
Project Number : **021025-DW-3**

Sample : **MW-1** Matrix : Water Lab Number : 29408-01
Sample Date :10/25/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	10/30/2002
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	10/30/2002
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	10/30/2002
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	10/30/2002
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	10/30/2002
Diisopropyl ether (DIPE)	**< 2.0**	2.0	ug/L	EPA 8260B	10/30/2002
Ethyl-t-butyl ether (ETBE)	**< 2.0**	2.0	ug/L	EPA 8260B	10/30/2002
Tert-amyl methyl ether (TAME)	**< 2.0**	2.0	ug/L	EPA 8260B	10/30/2002
Tert-Butanol	**< 50**	50	ug/L	EPA 8260B	10/30/2002
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	10/30/2002
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	10/30/2002
4-Bromofluorobenzene (Surr)	96.8		% Recovery	EPA 8260B	10/30/2002

Approved By: Joel Kiff

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

KIFF ANALYTICAL LLC

Report Number : 29408
Date : 11/01/2002

Project Name : **809 E. Stanley Blvd., Livermore**
Project Number : **021025-DW-3**

Sample : **MW-2** Matrix : Water Lab Number : 29408-02
Sample Date :10/25/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	10/30/2002
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	10/30/2002
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	10/30/2002
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	10/30/2002
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	10/30/2002
Diisopropyl ether (DIPE)	**< 2.0**	2.0	ug/L	EPA 8260B	10/30/2002
Ethyl-t-butyl ether (ETBE)	**< 2.0**	2.0	ug/L	EPA 8260B	10/30/2002
Tert-amyl methyl ether (TAME)	**< 2.0**	2.0	ug/L	EPA 8260B	10/30/2002
Tert-Butanol	**< 50**	50	ug/L	EPA 8260B	10/30/2002
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	10/30/2002
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	10/30/2002
4-Bromofluorobenzene (Surr)	97.2		% Recovery	EPA 8260B	10/30/2002

Approved By: Joel Kiff

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

KIFF ANALYTICAL LLC

Report Number : 29408
Date : 11/01/2002

Project Name : **809 E. Stanley Blvd., Livermore**
Project Number : **021025-DW-3**

Sample : **MW-3** Matrix : Water Lab Number : 29408-03
Sample Date :10/25/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	10/30/2002
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	10/30/2002
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	10/30/2002
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	10/30/2002
Methyl-t-butyl ether (MTBE)	**0.83**	0.50	ug/L	EPA 8260B	10/30/2002
Diisopropyl ether (DIPE)	**< 2.0**	2.0	ug/L	EPA 8260B	10/30/2002
Ethyl-t-butyl ether (ETBE)	**< 2.0**	2.0	ug/L	EPA 8260B	10/30/2002
Tert-amyl methyl ether (TAME)	**< 2.0**	2.0	ug/L	EPA 8260B	10/30/2002
Tert-Butanol	**< 50**	50	ug/L	EPA 8260B	10/30/2002
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	10/30/2002
Toluene - d8 (Surr)	102		% Recovery	EPA 8260B	10/30/2002
4-Bromofluorobenzene (Surr)	100		% Recovery	EPA 8260B	10/30/2002

Approved By: Joel Kiff

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

KIFF ANALYTICAL LLC

Report Number : 29408
Date : 11/01/2002

Project Name : **809 E. Stanley Blvd., Livermore**
Project Number : **021025-DW-3**

Sample : **MW-4** Matrix : Water Lab Number : 29408-04
Sample Date :10/25/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	10/30/2002
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	10/30/2002
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	10/30/2002
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	10/30/2002
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	10/30/2002
Diisopropyl ether (DIPE)	**< 2.0**	2.0	ug/L	EPA 8260B	10/30/2002
Ethyl-t-butyl ether (ETBE)	**< 2.0**	2.0	ug/L	EPA 8260B	10/30/2002
Tert-amyl methyl ether (TAME)	**< 2.0**	2.0	ug/L	EPA 8260B	10/30/2002
Tert-Butanol	**< 50**	50	ug/L	EPA 8260B	10/30/2002
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	10/30/2002
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	10/30/2002
4-Bromofluorobenzene (Surr)	97.2		% Recovery	EPA 8260B	10/30/2002

Approved By: Joel Kiff

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

Report Number : 29408

Date : 11/01/2002

QC Report : Method Blank Data

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

Project Number : **021025-DW-3**

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	10/30/2002
Toluene	< 0.50	0.50	ug/L	EPA 8260B	10/30/2002
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	10/30/2002
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	10/30/2002
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	10/30/2002
Diisopropyl ether (DIPE)	< 2.0	2.0	ug/L	EPA 8260B	10/30/2002
Ethyl-t-butyl ether (ETBE)	< 2.0	2.0	ug/L	EPA 8260B	10/30/2002
Tert-amyl methyl ether (TAME)	< 2.0	2.0	ug/L	EPA 8260B	10/30/2002
Tert-Butanol	< 50	50	ug/L	EPA 8260B	10/30/2002
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	10/30/2002
Toluene - d8 (Surr)	98.7		%	EPA 8260B	10/30/2002
4-Bromofluorobenzene (Surr)	96.4		%	EPA 8260B	10/30/2002
Benzene	< 0.50	0.50	ug/L	EPA 8260B	10/30/2002
Toluene	< 0.50	0.50	ug/L	EPA 8260B	10/30/2002
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	10/30/2002
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	10/30/2002
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	10/30/2002
Diisopropyl ether (DIPE)	< 2.0	2.0	ug/L	EPA 8260B	10/30/2002
Ethyl-t-butyl ether (ETBE)	< 2.0	2.0	ug/L	EPA 8260B	10/30/2002
Tert-amyl methyl ether (TAME)	< 2.0	2.0	ug/L	EPA 8260B	10/30/2002
Tert-Butanol	< 50	50	ug/L	EPA 8260B	10/30/2002
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	10/30/2002
Toluene - d8 (Surr)	102		%	EPA 8260B	10/30/2002
4-Bromofluorobenzene (Surr)	100		%	EPA 8260B	10/30/2002

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

QC Report : Matrix Spike/ Matrix Spike Duplicate

Report Number : 29408

Date : 11/01/2002

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

Project Number : **021025-DW-3**

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	29407-03	<0.50	40.0	40.0	41.4	40.8	ug/L	EPA 8260B	10/30/02	103	102	1.44	70-130	25
Toluene	29407-03	<0.50	40.0	40.0	41.8	41.0	ug/L	EPA 8260B	10/30/02	104	102	1.81	70-130	25
Tert-Butanol	29407-03	<5.0	200	200	203	206	ug/L	EPA 8260B	10/30/02	102	103	1.20	70-130	25
Methyl-t-Butyl Ether	29407-03	100	40.0	40.0	147	146	ug/L	EPA 8260B	10/30/02	106	103	3.30	70-130	25
Benzene	29408-03	<0.50	40.0	40.0	40.3	39.0	ug/L	EPA 8260B	10/30/02	101	97.6	3.20	70-130	25
Toluene	29408-03	<0.50	40.0	40.0	41.4	40.1	ug/L	EPA 8260B	10/30/02	104	100	3.24	70-130	25
Tert-Butanol	29408-03	<5.0	200	200	197	201	ug/L	EPA 8260B	10/30/02	98.3	100	2.15	70-130	25
Methyl-t-Butyl Ether	29408-03	0.83	40.0	40.0	44.9	43.9	ug/L	EPA 8260B	10/30/02	110	108	2.23	70-130	25

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

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

Report Number : 29408

QC Report : Laboratory Control Sample (LCS)

Date : 11/01/2002

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

Project Number : **021025-DW-3**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	40.0	ug/L	EPA 8260B	10/30/02	106	70-130
Toluene	40.0	ug/L	EPA 8260B	10/30/02	107	70-130
Tert-Butanol	200	ug/L	EPA 8260B	10/30/02	104	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	10/30/02	110	70-130
Benzene	40.0	ug/L	EPA 8260B	10/30/02	98.0	70-130
Toluene	40.0	ug/L	EPA 8260B	10/30/02	100	70-130
Tert-Butanol	200	ug/L	EPA 8260B	10/30/02	95.0	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	10/30/02	107	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: Karen Petryna

☑ SCIENCE & ENGINEERING ☐ TECHNICAL SERVICES ☐ CRMT HOUSTON

29408

INCIDENT NUMBER (SAP ONLY): 97306796

SAP or CRMT NUMBER (TS/CRMT):

DATE: 10-25-02

PAGE: 1 of 1

SAMPLING COMPANY: Blaine Tech Services	LOG CODE: BTSS
ADDRESS: 1680 Rogers Avenue, San Jose, CA 95112	
PROJECT CONTACT (Hardcopy or PDF Report to): Leon Gearhart	
TELEPHONE: 408-573-0555	FAX: 408-573-7771
E-MAIL: lgearhart@blainetech.com	
SITE ADDRESS (Street and City): 809 E. Stanley Blvd., Livermore	GLOBAL ID NO.: pending
EDF DELIVERABLE TO (Responsible Party or Designee): Debbie Arnold	PHONE NO.: (408)244-4724
E-MAIL: darnold@khm1.com	CONSULTANT PROJECT NO.: 021025-MW-3 BTS #
SAMPLER NAME(S) (Print): Dave Walter	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)	FIELD NOTES: Container/Preservative or PID Readings or Laboratory Notes / TEMPERATURE ON RECEIPT C°
	MW-1	10-25	14:44	W	3	X	X			X	-01
	MW-2	↓	15:37	↓	↓	X	X			X	-02
	MW-3	↓	16:05	↓	↓	X	X			X	-03
	MW-4	↓	15:09	↓	↓	X	X			X	-04

Relinquished by: (Signature) David C. Kiff	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature) John Cuttle / Kiff Analytical	Date: 102802	Time: 1147

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

Q&Q Graphic (714) 898-9702

10/16/00 Revision

WELLHEAD INSPECTION CHECKLIST

Client Shell Date 10-25-02

Site Address 809 E. Stanley Blvd

Job Number 021025-DW-3 Technician Dave Walter

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:

WELL GAUGING DATA

Project # 021025-DW-3 Date 10-25-02 Client Shell

Site 809 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					19.71	47.60		
mw-2	2					20.17	47.07		
mw-3	2					19.63	47.45		
mw-4	2					20.85	47.83		

SHELL WELL MONITORING DATA SHEET

BTS #: 021025-OW-3	Site: 809 E. Stanley Blvd Livermore
Sampler: Dave Walter	Date: 10-25-02
Well I.D.: MW-1	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth (TD): 47.60	Depth to Water (DTW): 19.71
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]: 25.28	

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

Sampling Method: X Bailer; Disposable Bailer; Extraction Port; Dedicated Tubing; Other:

4.5 (Gals.) X 3 = 13.5 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
14:30	64.3	7.2	601	>200.	4.5	Brown
14:34	63.6	7.2	576	>200	9.0	
14:38	63.5	7.1	569	>200	13.5	

Did well dewater? Yes (No) Gallons actually evacuated: 13.5

Sampling Date: 10-25-02 Sampling Time: 14:44 Depth to Water: 19.76

Sample I.D.: MW-1 Laboratory: (Kiff) SPL Other_____

Analyzed for: (TPH-G BTEX) MTBE TPH-D Other: Oxygenates (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 #: 021025-OW-3	Site: 809 E. Stanley Blvd Livermore
Sampler: Dave Walter	Date: 10-25-02
Well I.D.: MW-2	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 47.07	Depth to Water (DTW): 20.17
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]: 25.55	

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

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

4.3 (Gals.) X	3	=	12.9 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 (uS))	Turbidity (NTUs)	Gals. Removed	Observations
15:23	63.4	7.2	561	7200	4.5	Brown
15:27	63.7	7.2	557	>200	9.0	
15:31	63.7	7.2	559	>200	13.5	

Did well dewater? Yes (No) Gallons actually evacuated: 13.5

Sampling Date: 10-25-02 Sampling Time: 15:37 Depth to Water: 20.25

Sample I.D.: MW-2 Laboratory: (Kiff) SPL Other_____

Analyzed for: (TPH-G BTEX) MTBE TPH-D Other: Oxygenates (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 #: 021025-DW-3	Site: 809 E. Stanley Blvd Livermore
Sampler: Dave Walter	Date: 10-25-02
Well I.D.: MW-3	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth (TD): 47.45	Depth to Water (DTW): 19.63
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]:	

Purge Method: Bailer, Disposable Bailer, X Middleburg, Electric Submersible, Waterra, Peristaltic, Extraction Pump, Other_____

Sampling Method: X Bailer, Disposable Bailer, Extraction Port, Dedicated Tubing, Other:_____

4.5 (Gals.) X 3 = 13.5 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 (uS))	Turbidity (NTUs)	Gals. Removed	Observations
15:50	64.8	7.2	661	>200	4.5	Brown
15:54	65.0	7.1	672	>200	9.0	
15:58	65.0	7.1	678	>200	13.5	little brown, just cloudy

Did well dewater? Yes (No) Gallons actually evacuated: 13.5

Sampling Date: 10-25-02 Sampling Time: 16:05 Depth to Water:

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

Analyzed for: (TPH-G) (BTEX) MTBE TPH-D Other: Oxygenates (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 #: 021025-OW-3	Site: 809 E. Stanley Blvd Livermore
Sampler: Dave Walter	Date: 10-25-02
Well I.D.: MW-4	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth (TD): 47.83	Depth to Water (DTW): 20.85
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]: 26.24	

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

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

4.3 (Gals.) X	3	= 12.9 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
14:55	63.0	7.2	568	>200	4.5	brown
14:59	63.2	7.1	566	>200	9.0	
15:03	63.1	7.1	565	>200	13.5	less brown

Did well dewater? Yes (No) Gallons actually evacuated: 13.5

Sampling Date: 10-25-02 Sampling Time: 15:09 Depth to Water: 20.95

Sample I.D.: MW-4 Laboratory: (Kiff) SPL Other_____

Analyzed for: (TPH-G BTEX) MTBE TPH-D Other: Oxygenates (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