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October 16, 2003
Project No. 2007-0057-01

Mr. Don Hwang
Alameda County Health Agency
Department of Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, California 94502

Alameda County
OCT 20 2003
Environmental Health

Re: Quarterly Groundwater Monitoring Report, Third Quarter 2003, for USA Service Station No. 57, Located at 10700 MacArthur Boulevard, Oakland, California

Dear Mr. Hwang:

Stratus Environmental, Inc. (Stratus) is submitting the attached report which presents the results of the third quarter 2003 quarterly monitoring and sampling program on behalf of USA Gasoline Corporation (USA) for the former USA Service Station No. 57, located at 10700 MacArthur Boulevard, Oakland, California (Figure 1). This report is in compliance with California Regional Water Quality Control Board requirements for underground storage tank (UST) investigations.

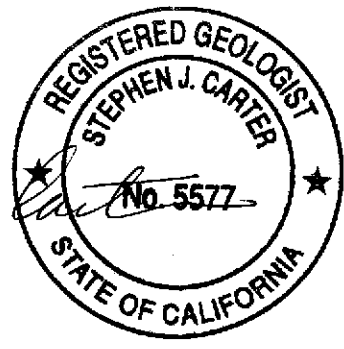
If you have any questions regarding this report, please contact Steve Carter at (530) 676-6008.

Sincerely,

STRATUS ENVIRONMENTAL, INC.

Matthew R. Goolsby
Staff Geologist

Stephen J. Carter, R.G.
Project Manager



Attachment: Quarterly Groundwater Monitoring Report, Third Quarter 2003

cc: Mr. Charles Miller, USA Gasoline Corporation
Mr. Ken Phares, Jay-Phares Corporation
Mr. Peter Intyre, AEI Consultants

Date October 15, 2003

USA GASOLINE QUARTERLY GROUNDWATER MONITORING REPORT

Facility No: 57 Address: 10700 MacArthur Blvd., Oakland, California
USA Gasoline Project Supervisor: Charles Miller
Consulting Co./Contact Person: Stratus Environmental, Inc./ Steve Carter, R.G.
Consultant Project No: 2007-0057-01
Primary Agency/Regulatory ID No: Don Hwang, Alameda County Department of Environmental Health / 4490

WORK PERFORMED THIS QUARTER (Third 2003):

1. Stratus measured groundwater elevations and collected groundwater samples from wells S-1, S-2, MW-4, MW-7, and MW-8 on July 21, 2003. Well MW-5 was damaged and could not be sampled. Wells MW-3 and MW-6 are not part of the current monitoring well network.
2. Stratus compiled and evaluated groundwater monitoring data.

WORK PROPOSED FOR NEXT QUARTER (Fourth 2003):

1. The next sampling event is tentatively scheduled for October 2003. Groundwater samples will be collected for laboratory analysis from wells S-1, S-2, MW-4, MW-5, MW-7, and MW-8.
2. Groundwater samples will be analyzed for total petroleum hydrocarbons as gasoline (TPHG) using U.S. Environmental Protection Agency Method (EPA) Method SW8015B/DHS Luft Manual, and for benzene, toluene, ethylbenzene, total xylenes (BTEX), methyl tertiary butyl ether (MTBE), tertiary butyl alcohol (TBA), ethyl tertiary butyl ether (ETBE), di-isopropyl ether (DIPE), and tertiary amyl methyl ether (TAME) using EPA Method SW8260B.
3. The site is scheduled for redevelopment in February 2004. Stratus will prepare a plan to move monitoring wells and handle impacted soil as required to accommodate development. This plan will be submitted to Alameda County.

Current Phase of Project:	<u>Monitoring</u>
Frequency of Groundwater Sampling:	<u>All Wells = Quarterly</u>
Frequency of Groundwater Monitoring:	<u>Quarterly</u>
Groundwater Sampling Date:	<u>July 21, 2003</u>
Is Free Product (FP) Present on Site:	<u>No</u>
FP Recovered This Quarter:	<u>No</u>
Cumulative FP Recovered to Date:	<u>NA</u>
Approximate Depth to Groundwater:	<u>13.10 to 22.00 feet below top of well casing</u>
Groundwater Flow Direction:	<u>Generally eastward with radial flow toward well S-1</u>
Groundwater Gradient:	<u>0.009 to 0.05 ft/ft</u>

DISCUSSION:

At the time of the third quarter monitoring event, groundwater elevations had decreased between 1.85 and 2.27 feet in all monitoring wells since the April 14, 2003, monitoring event. Depth-to-water measurements were corrected to mean sea level (MSL) and used to construct a groundwater elevation contour map (Figure 2). The groundwater flow direction on July 21, 2003, appears to be generally toward the east, with radial flow inward toward well S-1 at average gradients of 0.009 to 0.05 ft/ft. This flow pattern appears to be consistent with the past two quarters. Historical flow at the site has been toward the southwest, south, southeast, and north.

TPHG and MTBE were reported in samples collected from wells S-1 and S-2. MTBE was also reported in well MW-7. The highest concentrations of TPHG (9,700 µg/L) and MTBE (410 µg/L) were reported in well S-2. Benzene (270 µg/L) and TBA (110 µg/L) were reported in well S-2. The oxygenate compounds TAME, DIPE, or ETBE were not reported in any of the wells. Concentrations reported during the third quarter 2003 are generally consistent with historical analytical data. Analytical results of TPHG, benzene, and MTBE for groundwater samples collected on July 21, 2003, are presented in Figure 3.

ATTACHMENTS:

- Table 1 Groundwater Elevation and Analytical Summary
- Table 2 Groundwater Analytical Results for Oxygenates
- Figure 1 Site Location Map
- Figure 2 Groundwater Elevation Contour Map (Third Quarter 2003)
- Figure 3 Groundwater Analytical Summary (Third Quarter 2003)
- Appendix A Field Data Sheets
- Appendix B Sampling and Analysis Procedures
- Appendix C Certified Analytical Reports and Chain-of-Custody Documentation

TABLE 1
GROUNDWATER
ELEVATION AND ANALYTICAL SUMMARY
Former USA Station No. 57
10700 MacArthur Blvd., Oakland, California

Well Number	Date Collected	Depth to Water (feet)	Well Elevation (ft msl)	Groundwater Elevation (ft msl)	TPHG (µg/L)	TPHD (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)
S-1	03/03/95	13.10	74.74	61.64	910	5,900	260	7.6	16	14	NA
	07/24/95	12.35		62.39	NA	NA	NA	NA	NA	NA	NA
	11/22/95	19.30	78.68	59.38	460	6100	13	0.69	0.99	1.1	460*
	12/06/95	19.59		59.09	NA	NA	NA	NA	NA	NA	NA
	01/04/96	19.52		59.16	NA	NA	NA	NA	NA	NA	NA
	01/31/97	15.07		63.61	1,100	200	11	6	3	6	200*
	10/10/97	18.90		59.78	530	2,000	<0.5	2.1	<0.5	<2	230*
	01/20/98	16.79		61.89	1,800	200	<0.5	<0.5	1.5	10	87*
	04/28/98	8.37		70.31	130	7,300	1.9	3.2	<0.5	<0.5	310*
	07/31/98	11.61		67.07	310	2,000	0.54	4.6	3.8	0.82	280*
	11/02/98	15.28		63.40	1,000	1,200	<0.5	9.5	1.6	9.1	100
	06/10/99	14.35		64.33	660	150	0.99	<0.5	<0.5	2.4	80*[1]
	10/18/00	17.56		61.12	<50	330	<0.5	0.93	<0.5	<0.5	44
	03/12/02	16.29		62.39	500	<50	2.8	4.8	0.79	4.4	63
	11/19/02	19.53		59.15	190	NA	<0.50	<0.50	<0.50	<0.50	190
	01/09/03	18.14		60.54	510	NA	1.1	<0.50	0.52	<0.50	11
04/14/03	18.04		60.64	300	NA	<1.0[2]	<1.0[2]	<1.0[2]	<1.0[2]	27	
07/21/03	20.31		58.37	300	NA	<0.50	<0.50	<0.50	<0.50	11	

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ELEVATION AND ANALYTICAL SUMMARY
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Well Number	Date Collected	Depth to Water (feet)	Well		TPHG (µg/L)	TPHD (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total	
			Elevation (ft msl)	Groundwater Elevation (ft msl)						Xylenes (µg/L)	MTBE (µg/L)
S-2	03/03/95	15.39	76.86	61.47	24,000	6,000	1,900	440	600	2,500	NA
	07/24/95	14.47		62.39	NA	NA	NA	NA	NA	NA	NA
	11/22/95	21.52	80.93	59.41	NA	NA	NA	NA	NA	NA	NA
	12/06/95	21.78		59.15	NA	NA	NA	NA	NA	NA	NA
	01/04/96	21.75		59.18	NA	NA	NA	NA	NA	NA	NA
	01/31/97	17.25		63.68	NA	NA	NA	NA	NA	NA	NA
	10/10/97	21.21		59.72	13,000	<50	260	38	190	280	600*
	01/20/98	19.07		61.86	1,900	2300	4.6	6.3	<0.5	4.6	190*
	04/28/98	10.47		70.46	22,000	<100	980	160	320	680	570*
	07/31/98	13.71		67.22	160,000	<50	950	290	550	1,700	550*
	11/02/98	17.31		63.62	14,000	<500	170	70	170	230	490*
	06/10/99	16.48		64.45	17,000	<50	650	230	<25	750	490*[1]
	10/18/00	19.70		61.23	4,400	<50	2	64	5.1	12	270
	03/12/02	18.56		62.37	5,100	660	62	44	52	78	430
	11/19/02	21.70		59.23	26,000	NA	1,400	180	520	340	750
	01/09/03	20.37		60.56	16,000	NA	120	32	76	214	270
	04/14/03	19.93		61.00	16,000	NA	160	76	210	290	400
07/21/03	22.00		58.93	9,700	NA	270	90	200	277	410	

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Well Number	Date Collected	Depth to Water (feet)	Well		Groundwater						Total	
			Elevation (ft msl)	Elevation (ft msl)	TPHG (µg/L)	TPHD (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	
MW-3	03/03/95	13.99	76.30	62.31	2,500	1,600	540	92	36	200	NA	
	07/24/95	13.33		62.97	NA	NA	NA	NA	NA	NA	NA	
	11/22/95	20.94	80.32	59.38	14,000	5,400	5,700	230	430	650	820*	
	12/06/95	17.48		62.84	NA	NA	NA	NA	NA	NA	NA	
	01/04/96	20.01		60.31	NA	NA	NA	NA	NA	NA	NA	
	01/31/97	16.63		63.69	1,100	<50	130	8	5	5	NA	
	10/10/97	20.62		59.70	3,400	1,100	830	4	100	<10	160*	
	01/20/98	15.40		64.92	3,900	550	7.9	4.1	<0.5	3.7	<5.0*	
	04/28/98	10.51		69.81	800	1,000	82	5.2	5.7	5.4	240*	
	07/31/98	13.46		66.86	2,200	610	510	7.6	16	5.27	310*	
	11/02/98	17.11		63.21	4,900	1,600	220	16	13	13.7	180*	
	06/10/99	15.24		65.08	1,000	120	<0.5	<0.5	<0.5	1.1	120*[1]	
	10/18/00	15.41		64.91	<50	<50	<0.5	<0.5	<0.5	<0.5	12	

Not Part of the Current Monitoring Well Network

TABLE 1

**GROUNDWATER
ELEVATION AND ANALYTICAL SUMMARY**

Former USA Station No. 57
10700 MacArthur Blvd., Oakland, California

Well Number	Date Collected	Depth to Water (feet)	Well Elevation (ft msl)	Groundwater							Total	
				Elevation (ft msl)	TPHG (µg/L)	TPHD (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	
MW-4	11/22/95	14.99	76.42	61.43	<50	200	<0.5	1.5	<0.5	1.7	6.4*	
	12/06/95	11.21		65.21	NA	NA	NA	NA	NA	NA	NA	
	01/04/96	14.62		61.80	NA	NA	NA	NA	NA	NA	NA	
	01/31/97	8.18		68.24	<50	<50	<0.5	2	<0.5	2	11*	
	10/10/97	14.14		62.28	<50	<50	<0.5	<0.5	<0.5	<2	<5.0*	
	01/20/98	7.05		69.37	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	
	04/28/98	5.88		70.54	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	
	07/31/98	8.40		68.02	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	
	11/02/98	16.08		60.34	NA	NA	NA	NA	NA	NA	NA	
	06/10/99	14.81		61.61	NA	NA	NA	NA	NA	NA	NA	
	10/18/00	12.71		63.71	<50	<50	<0.5	0.59	0.82	0.53	<5.0*	
	03/12/02	8.92		67.50	<50	<50	<0.5	0.61	0.72	2.5	1.8	
	11/19/02	13.24		63.18	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	
	01/09/03	11.00		65.42	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	
	04/14/03	11.03		65.39	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	
	07/21/03	13.10		63.32	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	

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Well Number	Date Collected	Depth to	Well	Groundwater	Total						
		Water (feet)	Elevation (ft msl)	Elevation (ft msl)	TPHG (µg/L)	TPHD (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)
MW-5	11/22/95	19.56	80.52	60.96	<50	280	<0.5	1.8	<0.5	3	2.2*
	12/06/95	15.84		64.68	NA	NA	NA	NA	NA	NA	NA
	01/04/96	19.36		61.16	NA	NA	NA	NA	NA	NA	NA
	01/31/97	13.31		67.21	80	<50	<0.5	0.6	<0.5	2	6*
	10/10/97	17.80		62.72	<50	<50	<0.5	<0.5	<0.5	<2	<5*
	01/20/98	12.58		67.94	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*
	04/28/98	9.45		71.07	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*
	07/31/98	7.38		73.14	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*
	11/02/98	15.98		64.54	<50	<500	<0.5	<0.5	<0.5	<0.5	<5.0*
	06/10/99	14.60		65.92	NA	NA	NA	NA	NA	NA	NA
	10/18/00	17.77		62.75	<50	<50	<0.5	0.75	<0.5	0.79	28
	03/12/02	15.72		64.80	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*
	11/19/02	NM		NM							
	01/09/03	NM		NM							
	04/14/03	NM		NM							
	07/21/03	NM		NM							

Well Damaged
Well Damaged
Well Damaged
Well Damaged

TABLE 1

**GROUNDWATER
ELEVATION AND ANALYTICAL SUMMARY**

Former USA Station No. 57
10700 MacArthur Blvd., Oakland, California

Well Number	Date Collected	Depth to Water (feet)	Well Elevation (ft msl)	Groundwater							Total	
				Elevation (ft msl)	TPHG (µg/L)	TPHD (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	
MW-6	11/22/95	21.73	81.64	59.91	<50	140	<0.5	1.2	<0.5	1.5	5.3*	
	12/06/95	18.03		63.61	NA	NA	NA	NA	NA	NA	NA	
	01/04/96	21.67		59.97	NA	NA	NA	NA	NA	NA	NA	
	01/31/97	16.01		65.63	70	<50	<0.5	2	<0.5	<1	5*	
	10/10/97	20.55		61.09	80	<50	<0.5	<0.5	<0.5	<2	<5*	
	01/20/98	15.74		65.90	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	
	04/28/98	10.78		70.86	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	
	07/31/98	13.97		67.67	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	
	11/02/98	17.97		63.67	NA	NA	NA	NA	NA	NA	NA	
	06/10/99	16.92		64.72	NA	NA	NA	NA	NA	NA	NA	

Not Part of the Current Monitoring Well Network

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Former USA Station No. 57
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Well Number	Date Collected	Depth to Water (feet)	Well Elevation (ft msl)	Groundwater							Total	
				Elevation (ft msl)	TPHG (µg/L)	TPHD (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	
MW-7	11/22/95	19.38	78.86	59.48	<50	180	<0.5	0.57	<0.5	0.62	0.73*	
	12/06/95	19.72		59.14	NA	NA	NA	NA	NA	NA	NA	
	01/04/96	19.76		59.10	NA	NA	NA	NA	NA	NA	NA	
	01/31/97	15.25		63.61	70	<50	0.7	1	<0.5	<1	8*	
	10/10/97	19.03		59.83	<50	<50	<0.5	<0.5	<0.5	<2	15*	
	01/20/98	17.11		61.75	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	
	04/28/98	8.22		70.64	<50	<50	<0.5	<0.5	<0.5	<0.5	9.3*	
	07/31/98	11.53		67.33	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	
	11/02/98	15.15		63.71	NA	NA	NA	NA	NA	NA	NA	
	06/10/99	14.23		64.63	NA	NA	NA	NA	NA	NA	NA	
	10/18/00	17.59		61.27	NA	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	
	03/12/02	16.54		62.32	<50	<50	<0.5	<0.5	<0.5	<0.5	2.9	
	11/19/02	19.59		59.27	<50	NA	<0.50	<0.50	<0.50	<0.50	3.8	
	01/09/03	18.38		60.48	<50	NA	<0.50	<0.50	<0.50	<0.50	2.7	
	04/14/03	18.17		60.69	<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	
	07/21/03	20.29		58.57	<50	NA	<0.50	<0.50	<0.50	<0.50	1.8	

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Well Number	Date Collected	Depth to Water (feet)	Well Elevation (ft msl)	Groundwater		TPHG (µg/L)	TPHD (µg/L)	Benzene (µg/L)	Tolucnc (µg/L)	Ethylbenzene (µg/L)	Total	
				Elevation (ft msl)							Xylenes (µg/L)	MTBE (µg/L)
MW-8	11/22/95	33.33	79.55	46.22		<50	360	<0.5	1.3	<0.5	2.1	2.1*
	12/06/95	17.57		61.98		NA	NA	NA	NA	NA	NA	NA
	01/04/96	20.08		59.47		NA	NA	NA	NA	NA	NA	NA
	01/31/97	18.72		60.83		80	<50	0.6	1	<0.5	1	8*
	10/10/97	20.26		59.29		50	<50	<0.5	<0.5	<0.5	<2	<5*
	01/20/98	15.91		63.64		<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*
	04/28/98	10.39		69.16		<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*
	07/31/98	12.93		66.62		<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0*
	11/02/98	16.90		62.65		<50	<500	<0.5	<0.5	<0.5	<0.5	<5.0*
	06/10/99	14.98		64.57		NA	NA	NA	NA	NA	NA	NA
	10/18/00	16.27		63.28		<50	<50	<0.5	<0.5	1.1	6.3	8.6*
	03/12/02	14.56		64.99		<50	<50	<0.5	0.63	0.55	1.7	0.94
	11/19/02	21.14		58.41		<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	01/09/03	17.90		61.65		<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	04/14/03	17.84		61.71		<50	NA	<0.50	<0.50	<0.50	<0.50	<0.50
	07/21/03	19.79		59.76		<100[2]	NA	<0.50	<0.50	<0.50	<0.50	<0.50

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Well Number	Date Collected	Depth to Water (feet)	Well Elevation (ft msl)	Groundwater Elevation (ft msl)	TPHG (µg/L)	TPHD (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)
<u>Note:</u>											
* = MTBE analyzed using EPA Method 8020/8021B										msl = Mean sea level	
[1] Laboratory indicates the chromatogram does not match the diesel hydrocarbon range pattern										µg/L = micrograms per liter	
[2] Reporting limits were increased due to sample foaming											
[3] Reporting limits were increased due to high concentrations of target analytes										NA = Not analyzed	
MTBE = Methyl tert-butyl ether										NM = Not measured	
TPHD = Total petroleum hydrocarbons as diesel											
TPHG = Total petroleum hydrocarbons as gasoline											
TPHG analyzed using EPA Method 8015B and the remaining analytes using EPA Method 8260B											
Data prior to November 19, 2002 provided by GHH Engineering											

TABLE 2
GROUNDWATER
ANALYTICAL RESULTS FOR OXYGENATES
Former USA Station No. 57
10700 MacArthur Blvd., Oakland, California

Well Number	Date Collected	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)
S-1	11/19/02	190	<10	<1.0	<1.0	<1.0
	01/09/03	11	<5.0	<1.0	<1.0	<1.0
	04/14/03	27	<20[2]	<2.0[2]	<2.0[2]	<2.0[2]
	07/21/03	11	<10[2]	<1.0	<1.0	<1.0
S-2	11/19/02	750	<200[1]	<20[1]	<20[1]	<20[1]
	01/09/03	270	<100[1]	<10[1]	<10[1]	<10[1]
	04/14/03	400	95	<5.0[1]	<5.0[1]	<5.0[1]
	07/21/03	410	110	<5.0[1]	<5.0[1]	<5.0[1]
MW-4	11/19/02	<0.50	<5.0	<1.0	<1.0	<1.0
	01/09/03	<0.50	<5.0	<1.0	<1.0	<1.0
	04/14/03	<0.50	<5.0	<1.0	<1.0	<1.0
	07/21/03	<0.50	<5.0	<1.0	<1.0	<1.0
MW-5	11/19/02	Well Damaged				
	01/09/03	Well Damaged				
	04/14/03	Well Damaged				
	07/21/03	Well Damaged				

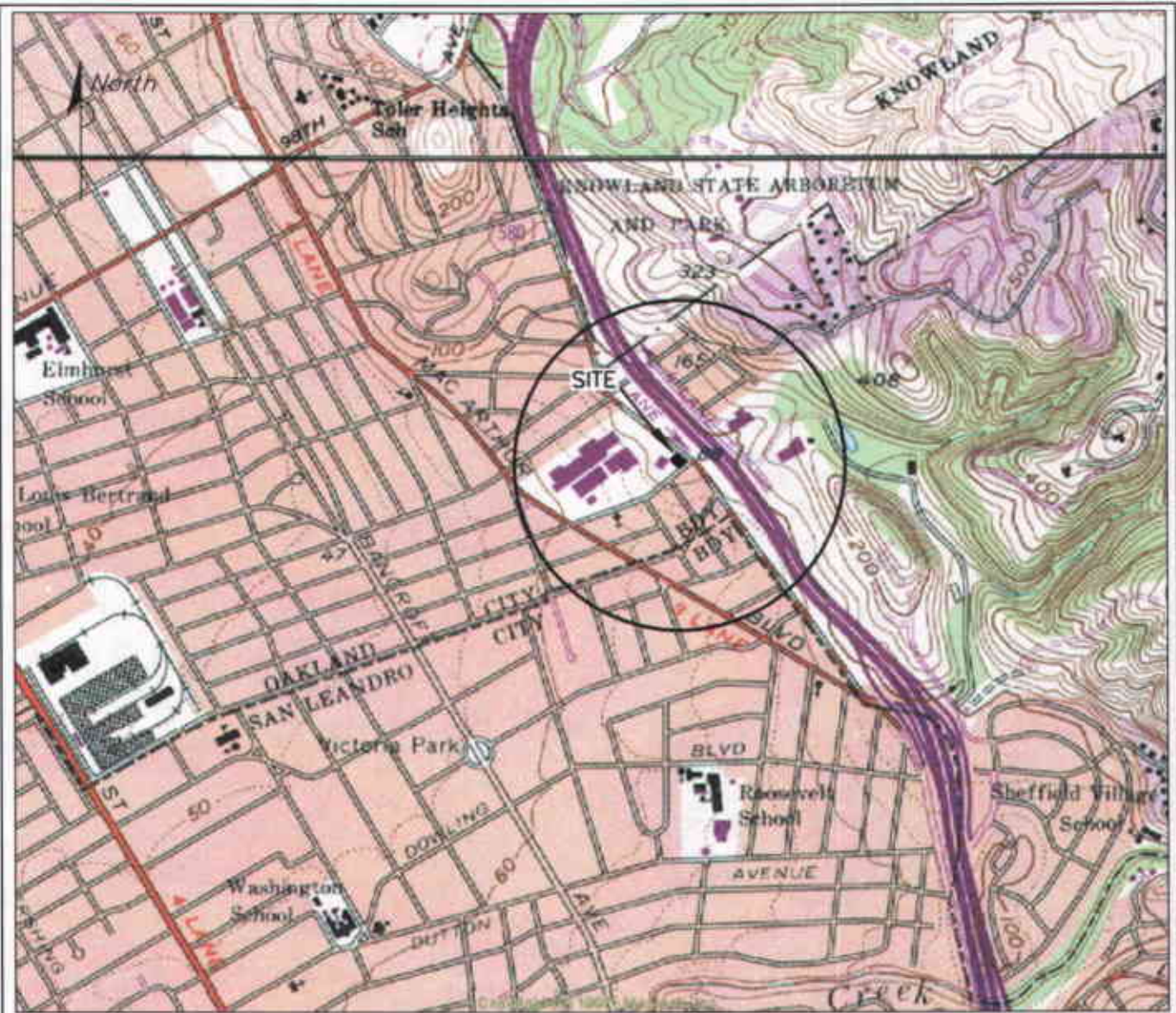
TABLE 2
GROUNDWATER
ANALYTICAL RESULTS FOR OXYGENATES
Former USA Station No. 57
10700 MacArthur Blvd., Oakland, California

Well Number	Date Collected	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)
MW-7	11/19/02	3.8	<5.0	<1.0	<1.0	<1.0
	01/09/03	2.7	<5.0	<1.0	<1.0	<1.0
	04/14/03	<0.50	<5.0	<1.0	<1.0	<1.0
	07/21/03	1.8	<5.0	<1.0	<1.0	<1.0
MW-8	11/19/02	<0.50	<5.0	<1.0	<1.0	<1.0
	01/09/03	<0.50	<5.0	<1.0	<1.0	<1.0
	04/14/03	<0.50	<5.0	<1.0	<1.0	<1.0
	07/21/03	<0.50	<10[2]	<1.0	<1.0	<1.0

Note:
Oxygenates analyzed using EPA Method 8260B
µg/L = micrograms per liter
NA = Not analyzed

[1] Reporting limits were increased due to high concentrations of target analytes
[2] Reporting limits were increased due to sample foaming

MTBE = Methyl tertiary butyl ether
TBA = Tertiary butyl alcohol
DIPE = Di-isopropyl ether
ETBE = Ethyl tertiary butyl ether
TAME = Tertiary amyl methyl ether



GENERAL NOTES:
 BASE MAP FROM U.S.G.S.
 OAKLAND, CA
 7.5 MINUTE TOPOGRAPHIC
 PHOTOREVISED 1980



QUADRANGLE LOCATION

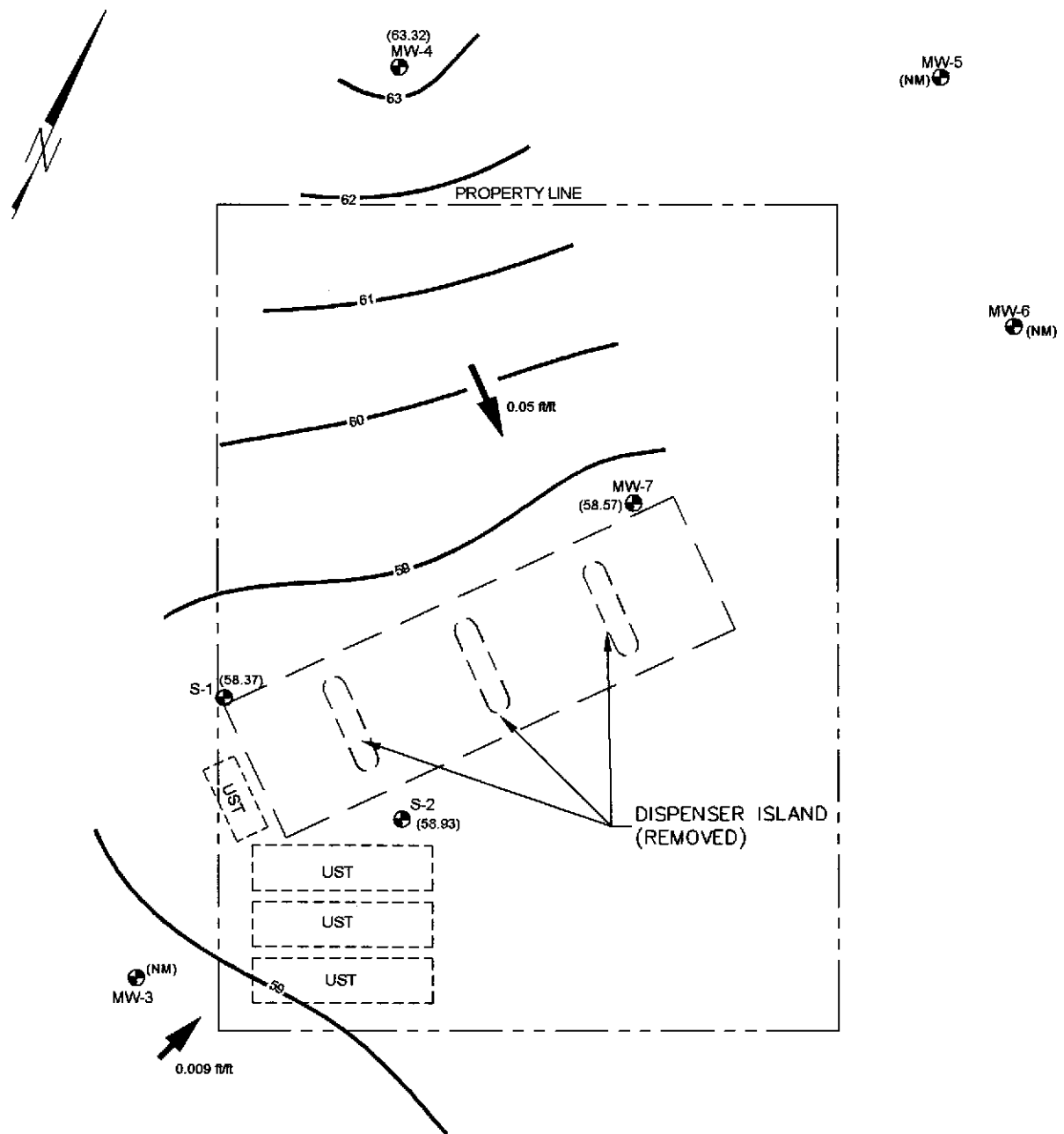


SCALE 1:24,000

STRATUS
 ENVIRONMENTAL, INC.

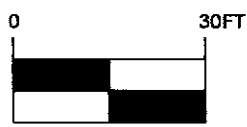
USA SERVICE STATION NO. 57
 10700 MACARTHUR BOULEVARD
 OAKLAND, CALIFORNIA
 SITE LOCATION MAP

FIGURE
1
 PROJECT NO.
 2007-0057-01



MW-8
● (59.76)

- LEGEND:
- MW-3 MONITORING WELL LOCATION
 - (58.37) GROUND WATER ELEVATION IN FEET RELATIVE TO MEAN SEA LEVEL
 - 61 WATER TABLE CONTOUR IN FEET RELATIVE TO MEAN SEA LEVEL
 - (NM) NOT MEASURED
 - ➔ INFERRED DIRECTION OF GROUND WATER FLOW
- WELLS MEASURED: 7/21/03



108TH AVENUE

SOURCE: MAP RECEIVED FROM GHH ENGINEERING, INC.

STRATUS
ENVIRONMENTAL, INC.

USA GASOLINE STATION #57
10700 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA
GROUNDWATER ELEVATION CONTOUR MAP
3rd QUARTER 2003

FIGURE
2
PROJECT NO.
2007-0057-01

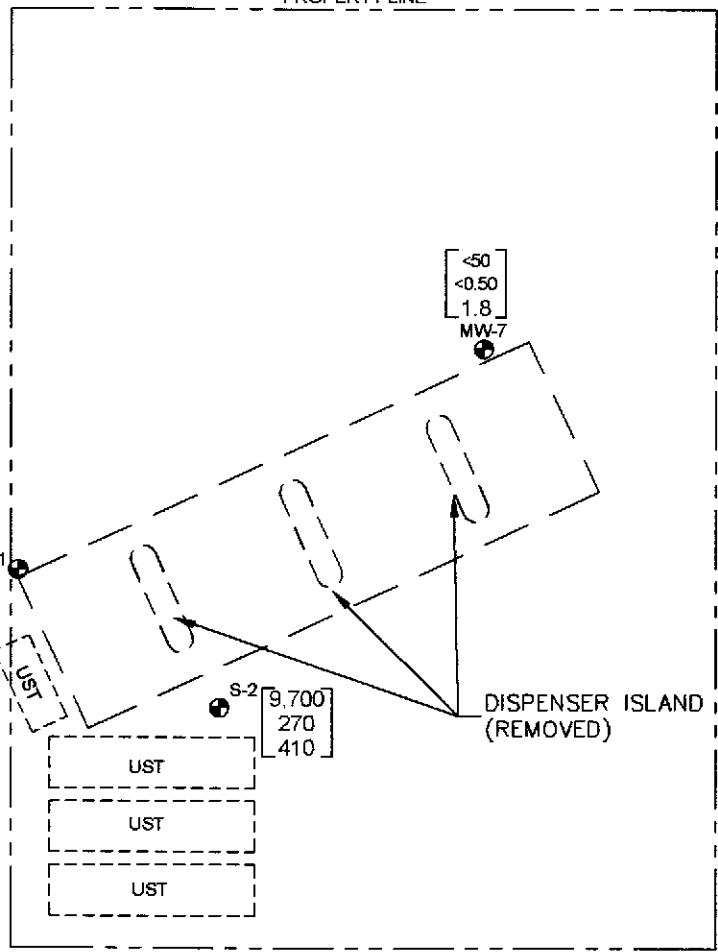
Aug 04, 2003 JMP USA 57 Quarterly Figures.dwg USA57Quarterly Figures



MW-4
 ● <50
 ● <0.50
 ● <0.50

MW-5
 ● [NS]

PROPERTY LINE



S-1
 [300
 <0.50
 11]

[<50
 <0.50
 1.8]
 MW-7

S-2
 [9,700
 270
 410]

DISPENSER ISLAND
 (REMOVED)

[NS]
 ●
 MW-3

MW-8
 ● <100
 ● <0.50
 ● <0.50

LEGEND:

- MW-3 MONITORING WELL LOCATION
- [NS] NOT SAMPLED

- [<50] TOTAL PETROLEUM HYDROCARBONS AS GASOLINE IN $\mu\text{g/L}$
- [<0.50] BENZENE CONCENTRATION IN $\mu\text{g/L}$
- [<0.50] METHYL TERTIARY BUTYL ETHER CONCENTRATION IN $\mu\text{g/L}$

SAMPLES COLLECTED ON 7/21/03
 TPHG ANALYZED BY EPA METHOD 8015B
 BENZENE & MTBE ANALYZED BY EPA METHOD 8260B



108TH AVENUE

SOURCE: MAP RECEIVED FROM GHH ENGINEERING, INC.

STRATUS
 ENVIRONMENTAL, INC.

USA GASOLINE STATION #57
 10700 MACARTHUR BOULEVARD
 OAKLAND, CALIFORNIA
GROUNDWATER ANALYTICAL SUMMARY
3rd QUARTER 2003

FIGURE
3
 PROJECT NO.
 2007-0057-01

USA57/Quarterly Figures
 Aug 05, 2003 JMP USA 57 Quarterly Figures.dwg

Site Address: _____
 Project Manager _____
 Sampled By Mike

Site Number: 68A 57
 Project No. _____
 Project PM _____
 Date Sampled 7/21/03

Site Contact Phone No. _____

Water Level Data				Purge Volume Calculations						Well Purge Method				Sample Record			Field Data
Well ID	Time	Depth to water feet	Top of Screen feet	Total Depth of Well feet	Casing Water Column (A)	Well Diameter (inches)	Multiplier Value (B)	Three Casing Volumes (gallons)	Actual Water Purged (gallons)	No Purge	Bailer	Pump	Other	DTW At Sample Time	Sample I.D.	Sample Time	Dissolved Oxygen (mg/L)
MW-4	0442	13.10		42.45	27.35	4	2	58	58			✓			4	0635	.90
MW-7	0440	20.29		41.95	21.56	4	2	43	43			✓			7	0715	0.81
MW-8	0447	19.79		37.70	17.91	4	2	35	35			✓			8	0523	4.91
S-1	0445	20.31		40.80	20.49	3	1	20	20			✓			1	0551	1.27
S-2	0437	22.0		42.95	20.85	3	1	20				✓			2	0744	.0

(A) Casing water Column
 Depth wlr. Depth to Bottom

Multiplier Values
 2"=0.5 4"=2.0 6"=4.4

Site Address _____
 Project Manager _____
 Site Sampled by Mike

Site Number UGM 57
 Project No. _____
 Project PM _____
 Date Sampled 7/21/07

Well ID <u>MW-9</u>					Well ID <u>S-1</u>				
purge start time <u>0455</u>					purge start time <u>0528</u>				
	Temp C	pH	cond	gallons		Temp C	pH	cond	gallons
time	<u>20.4</u>	<u>7.47</u>	<u>559</u>	<u>0</u>	time	<u>21.9</u>	<u>7.50</u>	<u>1005</u>	<u>0</u>
time <u>0504</u>	<u>22.9</u>	<u>7.19</u>	<u>601</u>	<u>15</u>	time	<u>22.1</u>	<u>7.37</u>	<u>977</u>	<u>20</u>
time	<u>21.1</u>	<u>7.18</u>	<u>693</u>	<u>35</u>	time		7.37		
time					time				
purge stop time <u>0511</u>					pugre stop time <u>0545</u>				
Well ID <u>MW-4</u>					Well ID <u>MW-7</u>				
purge start time <u>0557</u>					purge start time <u>0640</u>				
	Temp C	pH	cond	gallons		Temp C	pH	cond	gallons
time	<u>22.1</u>	<u>7.20</u>	<u>706</u>	<u>0</u>	time	<u>22.4</u>	<u>7.41</u>	<u>789</u>	<u>0</u>
time <u>0612</u>	<u>22.3</u>	<u>7.29</u>	<u>720</u>	<u>30</u>	time <u>0656</u>	<u>22.3</u>	<u>7.39</u>	<u>820</u>	<u>20</u>
time	<u>21.4</u>	<u>7.25</u>	<u>788</u>	<u>58</u>	time	<u>21.7</u>	<u>7.20</u>	<u>821</u>	<u>43</u>
time					time				
purge stop time <u>0630</u>					purge stop time <u>0710</u>				
Well ID <u>S-2</u>					Well ID				
purge start time <u>0723</u>					purge start time				
	Temp C	pH	cond	gallons		Temp C	pH	cond	gallons
time	<u>22.5</u>	<u>7.19</u>	<u>885</u>	<u>0</u>	time				
time	<u>21.7</u>	<u>7.43</u>	<u>873</u>	<u>20</u>	time				
time					time				
time					time				
purge stop time <u>0737</u>					purge stop time				
Well ID					Well ID				
purge start time					purge start time				
	Temp C	pH	cond	gallons		Temp C	pH	cond	gallons
time					time				
time					time				
time					time				
time					time				
purge stop time					purge stop time				

APPENDIX B

SAMPLING AND ANALYSIS PROCEDURES

The sampling and analysis procedures as well as the quality assurance plan are contained in this appendix. The procedures and adherence to the quality assurance plan will provide for consistent and reproducible sampling methods; proper application of analytical methods; accurate and precise analytical results; and finally, these procedures will provide guidelines so that the overall objectives of the monitoring program are achieved.

Ground Water and Liquid-Phase Petroleum Hydrocarbon Depth Assessment

A water/hydrocarbon interface probe is used to assess the liquid-phase petroleum hydrocarbon (LPH) thickness, if present, and a water level indicator is used to measure the ground water depth in monitoring wells that do not contain LPH. Depth to ground water or LPH is measured from a datum point at the top of each monitoring well casing. The datum point is typically a notch cut in the north side of the casing edge. If a water level indicator is used, the tip is subjectively analyzed for hydrocarbon sheen.

Subjective Analysis of Ground Water

Prior to purging, a water sample is collected from the monitoring well for subjective assessment. The sample is retrieved by gently lowering a clean, disposable bailer to approximately one-half the bailer length past the air/liquid interface. The bailer is then retrieved, and the sample contained within the bailer is examined for floating LPH and the appearance of a LPH sheen.

Monitoring Well Purging and Sampling

Monitoring wells are purged using a pump or bailer until pH, temperature, and conductivity of the purge water has stabilized and a minimum of three well volumes of water have been removed. If three well volumes can not be removed in one half hour's time the well is allowed to recharge to 80% of original level. After recharging, a ground water sample is then removed from each of the wells using a disposable bailer.

A Teflon bailer, electric submersible or bladder pump will be the only equipment used for well sampling. When samples for volatile organic analysis are being collected, the pump flow will be regulated at approximately 100 milliliters per minute to minimize pump effluent turbulence and aeration. Glass bottles of at least 40-milliliters volume and fitted with Teflon-lined septa will be used in sampling for volatile organics. These bottles will be filled completely to prevent air from remaining in the bottle. A positive meniscus forms when the bottle is completely full. A convex Teflon septum will be placed over the positive meniscus to eliminate air. After the bottle is capped, it is inverted and tapped to verify that it contains no air bubbles. The sample containers for other parameters will be filled, filtered as required, and capped.

The water sample is collected, labeled, and handled according to the Quality Assurance Plan. Water generated during the monitoring event is disposed of according to regulatory accepted method pertaining to the site.

QUALITY ASSURANCE PLAN

Procedures to provide data quality should be established and documented so that conditions adverse to quality, such as deficiencies, deviations, nonconformants, defective material, services, and/or equipment, can be promptly identified and corrected.

General Sample Collection and Handling Procedures

Proper collection and handling are essential to ensure the quality of a sample. Each sample is collected in a suitable container, preserved correctly for the intended analysis, and stored prior to analysis for no longer than the maximum allowable holding time. Details on the procedures for collection and handling of samples used on this project can be found in this section.

Soil and Water Sample Labeling and Preservation

Label information includes a unique sample identification number, job identification number, date, and time. After labeling all soil and water samples are placed in a Ziploc[®] type bag and placed in an ice chest cooled to approximately 4° Celsius. Upon arriving at Stratus' office the samples are transferred to a locked refrigerator cooled to approximately 4° Celsius. Chemical preservation is controlled by the required analysis and is noted on the chain-of-custody form. Trip blanks supplied by the laboratory accompany the groundwater sample containers and groundwater samples.

Upon recovery, the sample container is sealed to minimize the potential of volatilization and cross-contamination prior to chemical analysis. Soil sampling tubes are typically closed at each end with Teflon[®] sheeting and plastic caps. The sample is then placed in a Ziploc[®] type bag and sealed. The sample is labeled and refrigerated at approximately 4° Celsius for delivery, under strict chain-of-custody, to the analytical laboratory.

Sample Identification and Chain-of-Custody Procedures

Sample identification and chain-of-custody procedures document sample possession from the time of collection to ultimate disposal. Each sample container submitted for analysis has a label affixed to identify the job number, sampler, date and time of sample collection, and a sample number unique to that sample. This information, in addition to a description of the sample, field measurements made, sampling methodology, names of on-site personnel, and any other pertinent field observations, is recorded on the borehole log or in the field records. The samples are analyzed by a California-certified laboratory.

A chain-of-custody form is used to record possession of the sample from time of collection to its arrival at the laboratory. When the samples are shipped, the person in custody of them relinquishes the samples by signing the chain-of-custody form and

noting the time. The sample-control officer at the laboratory verifies sample integrity and confirms that the samples are collected in the proper containers, preserved correctly, and contain adequate volumes for analysis. These conditions are noted on a Laboratory Sample Receipt Checklist that becomes part of the laboratory report upon request.

If these conditions are met, each sample is assigned a unique log number for identification throughout analysis and reporting. The log number is recorded on the chain-of-custody form and in the legally-required log book maintained by the laboratory. The sample description, date received, client's name, and other relevant information is also recorded.

Equipment Cleaning

Sample bottles, caps, and septa used in sampling for volatile and semivolatile organics will be triple rinsed with high-purity deionized water. After being rinsed, sample bottles will be dried overnight at a temperature of 200°C. Sample caps and septa will be dried overnight at a temperature of 60°C. Sample bottles, caps, and septa will be protected from solvent contact between drying and actual use at the sampling site. Sampling containers will be used only once and discarded after analysis is complete.

Plastic bottles and caps used in sampling for metals will be soaked overnight in a 1-percent nitric acid solution. Next, the bottles and caps will be triple rinsed with deionized water. Finally, the bottles and caps will be air dried before being used at the site. Plastic bottles and caps will be constructed of linear polyethylene or polypropylene. Sampling containers will be used only once and discarded after analysis is complete. Glass and plastic bottles used by Stratus to collect groundwater samples are supplied by the laboratory.

Before the sampling event is started, equipment that will be placed in the well or will come in contact with groundwater will be disassembled and cleaned thoroughly with detergent water, and then steam cleaned with deionized water. Any parts that may absorb contaminants, such as plastic pump valves, etc. will be cleaned as described above or replaced.

During field sampling, equipment surfaces that are placed in the well or contact groundwater will be steam cleaned with deionized water before the next well is purged or sampled. Equipment blanks will be collected and analyzed from non-disposable sampling equipment that is used for collecting groundwater samples at the rate of one blank per twenty samples collected.

Internal Quality Assurance Checks

Internal quality assurance procedures are designed to provide reliability of monitoring and measurement of data. Both field and laboratory quality assurance checks are necessary to evaluate the reliability of sampling and analysis results. Internal quality assurance procedures generally include:

- Laboratory Quality Assurance

- Documentation of instrument performance checks
- Documentation of instrument calibration
- Documentation of the traceability of instrument standards, samples, and data
- Documentation of analytical and QC methodology (QC methodology includes use of spiked samples, duplicate samples, split samples, use of reference blanks, and check standards to check method accuracy and precision)

- Field Quality Assurance

- Documentation of sample preservation and transportation
- Documentation of field instrument calibration and irregularities in performance

Internal laboratory quality assurance checks will be the responsibility of the contract laboratories. Data and reports submitted by field personnel and the contract laboratory will be reviewed and maintained in the project files.

Types of Quality Control Checks

Samples are analyzed using analytical methods outlined in EPA Manual SW 846 and approved by the California Regional Water Quality Control Board-Central Valley Region in the Leaking Underground Fuel Tanks (LUFT) manual and appendices. Standard contract laboratory quality control may include analysis or use of the following:

- Method blanks – reagent water used to prepare calibration standards, spike solutions, etc. is analyzed in the same manner as the sample to demonstrate that analytical interferences are under control.
- Matrix spiked samples – a known amount of spike solution containing selected constituents is added to the sample at concentrations at which the accuracy of the analytical method is to satisfactorily monitor and evaluate laboratory data quality.
- Split samples – a sample is split into two separate aliquots before analysis to assess the reproducibility of the analysis.
- Surrogate samples – samples are spiked with surrogate constituents at known concentrations to monitor both the performance of the analytical system and the effectiveness of the method in dealing with the sample matrix.
- Control charts – graphical presentation of spike or split sample results used to track the accuracy or precision of the analysis.
- Quality control check samples – when spiked sample analysis indicates atypical instrument performance, a quality check sample, which is prepared independently of the calibration standards and contains the constituents of interest, is analyzed to confirm that measurements were performed accurately.

- Calibration standards and devices – traceable standards or devices to set instrument response so that sample analysis results represent the absolute concentration of the constituent.

Field QA samples will be collected to assess sample handling procedures and conditions. Standard field quality control may include the use of the following, and will be collected and analyzed as outlined in EPA Manual SW 846.

- Field blanks – reagent water samples are prepared at the sampling location by the same procedure used to collect field groundwater samples and analyzed with the groundwater samples to assess the impact of sampling techniques on data quality. Typically, one field blank per twenty groundwater samples collected will be analyzed per sampling event.
- Field replicates – duplicate or triplicate samples are collected and analyzed to assess the reproducibility of the analytical data. One replicate groundwater sample per twenty samples collected will be analyzed per sampling event, unless otherwise specified. Triplicate samples will be collected only when specific conditions warrant and generally are sent to an alternate laboratory to confirm the accuracy of the routinely used laboratory.
- Trip blanks – reagent water samples are prepared before field work, transported and stored with the samples and analyzed to assess the impact of sample transport and storage for data quality. In the event that any analyte is detected in the field blank, a trip blank will be included in the subsequent groundwater sampling event.

Data reliability will be evaluated by the certified laboratory and reported on a cover sheet attached to the laboratory data report. Analytical data resulting from the testing of field or trip blanks will be included in the laboratory's report. Results from matrix spike, surrogate, and method blank testing will be reported, along with a statement of whether the samples were analyzed within the appropriate holding time.

Stratus will evaluate the laboratory's report on data reliability and note significant QC results that may make the data biased or unacceptable. Data viability will be performed as outlined in EPA Manual SW 846. If biased or unacceptable data is noted, corrective actions (including re-sample/re-analyze, etc.) will be evaluated on a site-specific basis.



ANALYTICAL REPORT

Stratus Environmental
3330 Cameron Park Drive
Cameron Park, CA 956828861

Attn: Gowri Kowtha
Phone: (530) 676-6002
Fax: (530) 676-6005
Date Received 07/26/03

Job#: USA 57

Total Petroleum Hydrocarbons - Purgeable (TPH-P) EPA Method SW8015B/DHS LUFT Manual
Volatile Organic Compounds (VOCs) EPA Method SW8260B

	Parameter	Concentration	Reporting	Date	Date
			Limit	Sampled	Analyzed
Client ID :	TPH Purgeable	ND	50 µg/L	07/21/03	07/30/03
MW-4	Tertiary Butyl Alcohol (TBA)	ND	5.0 µg/L	07/21/03	07/30/03
Lab ID :	Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	07/21/03	07/30/03
STR03072842-01A	Di-isopropyl Ether (DIPE)	ND	1.0 µg/L	07/21/03	07/30/03
	Ethyl Tertiary Butyl Ether (ETBE)	ND	1.0 µg/L	07/21/03	07/30/03
	Benzene	ND	0.50 µg/L	07/21/03	07/30/03
	Tertiary Amyl Methyl Ether (TAME)	ND	1.0 µg/L	07/21/03	07/30/03
	Toluene	ND	0.50 µg/L	07/21/03	07/30/03
	Ethylbenzene	ND	0.50 µg/L	07/21/03	07/30/03
	m,p-Xylene	ND	0.50 µg/L	07/21/03	07/30/03
	o-Xylene	ND	0.50 µg/L	07/21/03	07/30/03
Client ID :	TPH Purgeable	ND	50 µg/L	07/21/03	07/30/03
MW-7	Tertiary Butyl Alcohol (TBA)	ND	5.0 µg/L	07/21/03	07/30/03
Lab ID :	Methyl tert-butyl ether (MTBE)	1.8	0.50 µg/L	07/21/03	07/30/03
STR03072842-02A	Di-isopropyl Ether (DIPE)	ND	1.0 µg/L	07/21/03	07/30/03
	Ethyl Tertiary Butyl Ether (ETBE)	ND	1.0 µg/L	07/21/03	07/30/03
	Benzene	ND	0.50 µg/L	07/21/03	07/30/03
	Tertiary Amyl Methyl Ether (TAME)	ND	1.0 µg/L	07/21/03	07/30/03
	Toluene	ND	0.50 µg/L	07/21/03	07/30/03
	Ethylbenzene	ND	0.50 µg/L	07/21/03	07/30/03
	m,p-Xylene	ND	0.50 µg/L	07/21/03	07/30/03
	o-Xylene	ND	0.50 µg/L	07/21/03	07/30/03
Client ID :	TPH Purgeable	ND	100 µg/L	07/21/03	07/30/03
MW-8	Tertiary Butyl Alcohol (TBA)	ND	10 µg/L	07/21/03	07/30/03
Lab ID :	Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	07/21/03	07/30/03
STR03072842-03A	Di-isopropyl Ether (DIPE)	ND	1.0 µg/L	07/21/03	07/30/03
	Ethyl Tertiary Butyl Ether (ETBE)	ND	1.0 µg/L	07/21/03	07/30/03
	Benzene	ND	0.50 µg/L	07/21/03	07/30/03
	Tertiary Amyl Methyl Ether (TAME)	ND	1.0 µg/L	07/21/03	07/30/03
	Toluene	ND	0.50 µg/L	07/21/03	07/30/03
	Ethylbenzene	ND	0.50 µg/L	07/21/03	07/30/03
	m,p-Xylene	ND	0.50 µg/L	07/21/03	07/30/03
	o-Xylene	ND	0.50 µg/L	07/21/03	07/30/03



Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

Client ID :	TPH Purgeable	300		100 µg/L	07/21/03	07/30/03
S-1	Tertiary Butyl Alcohol (TBA)	ND	O	10 µg/L	07/21/03	07/30/03
Lab ID :	Methyl tert-butyl ether (MTBE)	11		0.50 µg/L	07/21/03	07/30/03
STR03072842-04A	Di-isopropyl Ether (DIPE)	ND		1.0 µg/L	07/21/03	07/30/03
	Ethyl Tertiary Butyl Ether (ETBE)	ND		1.0 µg/L	07/21/03	07/30/03
	Benzene	ND		0.50 µg/L	07/21/03	07/30/03
	Tertiary Amyl Methyl Ether (TAME)	ND		1.0 µg/L	07/21/03	07/30/03
	Toluene	ND		0.50 µg/L	07/21/03	07/30/03
	Ethylbenzene	ND		0.50 µg/L	07/21/03	07/30/03
	m,p-Xylene	ND		0.50 µg/L	07/21/03	07/30/03
	o-Xylene	ND		0.50 µg/L	07/21/03	07/30/03
Client ID :	TPH Purgeable	9,700		500 µg/L	07/21/03	07/30/03
S-2	Tertiary Butyl Alcohol (TBA)	110		50 µg/L	07/21/03	07/30/03
Lab ID :	Methyl tert-butyl ether (MTBE)	410		2.5 µg/L	07/21/03	07/30/03
STR03072842-05A	Di-isopropyl Ether (DIPE)	ND	V	5.0 µg/L	07/21/03	07/30/03
	Ethyl Tertiary Butyl Ether (ETBE)	ND	V	5.0 µg/L	07/21/03	07/30/03
	Benzene	270		2.5 µg/L	07/21/03	07/30/03
	Tertiary Amyl Methyl Ether (TAME)	ND	V	5.0 µg/L	07/21/03	07/30/03
	Toluene	90		2.5 µg/L	07/21/03	07/30/03
	Ethylbenzene	200		2.5 µg/L	07/21/03	07/30/03
	m,p-Xylene	260		2.5 µg/L	07/21/03	07/30/03
	o-Xylene	17		2.5 µg/L	07/21/03	07/30/03

All VOAs that were provided for sample 01A, 02A, and 03A had an air bubble.

O = Reporting Limits were increased due to sample foaming.

Reported in micrograms per liter, per client request.

V = Reporting Limits were increased due to high concentrations of target analytes.

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 281-4848 / Wichita, KS • (316) 722-5890 / info@alpha-analytical.com

8/4/03

Report Date



Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

VOC pH Report

Work Order STR03072842

Project: USA 57

Alpha's Sample ID	Client's Sample ID	Matrix	pH
03072842-01A	MW-4	Aqueous	2
03072842-02A	MW-7	Aqueous	2
03072842-03A	MW-8	Aqueous	2
03072842-04A	S-1	Aqueous	2
03072842-05A	S-2	Aqueous	2

8/4/03
Report Date



Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

Date:
04-Aug-03

OC Summary Report

Work Order:
03072842

Method Blank

Type MBLK Test Code: EPA Method SW8015B/DHS LUFT Manual

File ID: C:\HPCHEM\MS01\DATA\030730\03073006.D

Batch ID: MS1W0730B

Analysis Date: 07/30/2003 11:51

Sample ID: MBLK MS1W0730B

Units: µg/L

Run ID: GC/MSD_1_030730A

Prep Date: 07/30/2003

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPD	Ref Val	%RPD	Qual
TPH Purgeable	ND	50									
Surr: 1,2-Dichloroethane-d4	9.63		10		96	72	126				
Surr: Toluene-d8	10.3		10		103	71	128				
Surr: 4-Bromofluorobenzene	9.5		10		95	76	121				

Laboratory Control Spike

Type LCS Test Code: EPA Method SW8015B/DHS LUFT Manual

File ID: C:\HPCHEM\MS01\DATA\030730\03073005.D

Batch ID: MS1W0730B

Analysis Date: 07/30/2003 11:26

Sample ID: GLCS MS1W0730B

Units: µg/L

Run ID: GC/MSD_1_030730A

Prep Date: 07/30/2003

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPD	Ref Val	%RPD	Qual
TPH Purgeable	374	50	400		94	58	136				
Surr: 1,2-Dichloroethane-d4	9.76		10		98	72	126				
Surr: Toluene-d8	9.92		10		99	71	128				
Surr: 4-Bromofluorobenzene	9.39		10		94	76	121				

Sample Matrix Spike

Type MS Test Code: EPA Method SW8015B/DHS LUFT Manual

File ID: C:\HPCHEM\MS01\DATA\030730\03073028.D

Batch ID: MS1W0730B

Analysis Date: 07/30/2003 21:15

Sample ID: 03072842-01AGS

Units: µg/L

Run ID: GC/MSD_1_030730A

Prep Date: 07/30/2003

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPD	Ref Val	%RPD	Qual
TPH Purgeable	1950	250	2000		98	58	136				
Surr: 1,2-Dichloroethane-d4	47.6		50		95	72	126				
Surr: Toluene-d8	52.8		50		106	71	128				
Surr: 4-Bromofluorobenzene	53.1		50		106	76	121				

Sample Matrix Spike Duplicate

Type MSD Test Code: EPA Method SW8015B/DHS LUFT Manual

File ID: C:\HPCHEM\MS01\DATA\030730\03073029.D

Batch ID: MS1W0730B

Analysis Date: 07/30/2003 21:41

Sample ID: 03072842-01AGSD

Units: µg/L

Run ID: GC/MSD_1_030730A

Prep Date: 07/30/2003

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPD	Ref Val	%RPD	Qual
TPH Purgeable	1910	250	2000		95	58	136	1954		2.28	
Surr: 1,2-Dichloroethane-d4	51		50		102	72	126				
Surr: Toluene-d8	50.2		50		100	71	128				
Surr: 4-Bromofluorobenzene	50.7		50		101	76	121				

Comments: ND - Not Detected at the Reporting Limit. D - If the spiked value is <25% of the reference value, recovery should not be calculated.
 S - Spike Recovery outside accepted recovery limits. M - Spike Recovery outside accepted recovery limits due to matrix.
 B - Analyte detected in the associated Method Blank.
 Reported in micrograms per liter, per client request.



Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

Date:
04-Aug-03

OC Summary Report

Work Order:
03072842

Method Blank

Type **MBLK** Test Code: EPA Method SW8260B

File ID: C:\HPCHEM\MS01\DATA\030730\03073006.D

Batch ID: MS1W0730A

Analysis Date: 07/30/2003 11:51

Sample ID: **MBLK MS1W0730A**

Units : µg/L

Run ID: GC/MSD_1_030730A

Prep Date: 07/30/2003

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPD	Ref Val	%RPD	Qual
Tertiary Butyl Alcohol (TBA)	ND	5									
Methyl tert-butyl ether (MTBE)	ND	0.5									
Di-isopropyl Ether (DIPE)	ND	1									
Ethyl Tertiary Butyl Ether (ETBE)	ND	1									
Benzene	ND	0.5									
Tertiary Amyl Methyl Ether (TAME)	ND	1									
Toluene	ND	0.5									
Ethylbenzene	ND	0.5									
m,p-Xylene	ND	0.5									
o-Xylene	ND	0.5									
Surr: 1,2-Dichloroethane-d4	9.63		10		96	72	126				
Surr: Toluene-d8	10.3		10		103	71	128				
Surr: 4-Bromofluorobenzene	9.5		10		95	76	121				

Laboratory Control Spike

Type **LCS** Test Code: EPA Method SW8260B

File ID: C:\HPCHEM\MS01\DATA\030730\03073004.D

Batch ID: MS1W0730A

Analysis Date: 07/30/2003 11:00

Sample ID: **LCS MS1W0730A**

Units : µg/L

Run ID: GC/MSD_1_030730A

Prep Date: 07/30/2003

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPD	Ref Val	%RPD	Qual
Benzene	10.7	0.5	10		107	83	119				
Toluene	10.3	0.5	10		103	80	120				
Ethylbenzene	9.83	0.5	10		98	80	120				
m,p-Xylene	19.6	0.5	20		98	77	124				
o-Xylene	9.74	0.5	10		97	77	125				
Surr: 1,2-Dichloroethane-d4	10.8		10		108	72	126				
Surr: Toluene-d8	9.7		10		97	71	128				
Surr: 4-Bromofluorobenzene	9.21		10		92	76	121				

Sample Matrix Spike

Type **MS** Test Code: EPA Method SW8260B

File ID: C:\HPCHEM\MS01\DATA\030730\03073026.D

Batch ID: MS1W0730A

Analysis Date: 07/30/2003 20:23

Sample ID: **03072842-01AMS**

Units : µg/L

Run ID: GC/MSD_1_030730A

Prep Date: 07/30/2003

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPD	Ref Val	%RPD	Qual
Benzene	51.5	1.3	50		0	103	83	119			
Toluene	49.4	1.3	50		0	99	80	120			
Ethylbenzene	45.6	1.3	50		0	91	80	120			
m,p-Xylene	93.6	1.3	100		0	94	77	124			
o-Xylene	45.9	1.3	50		0	92	77	125			
Surr: 1,2-Dichloroethane-d4	54.5		50			109	72	126			
Surr: Toluene-d8	49.5		50			99	71	128			
Surr: 4-Bromofluorobenzene	47.3		50			95	76	121			

Sample Matrix Spike Duplicate

Type **MSD** Test Code: EPA Method SW8260B

File ID: C:\HPCHEM\MS01\DATA\030730\03073027.D

Batch ID: MS1W0730A

Analysis Date: 07/30/2003 20:50

Sample ID: **03072842-01AMSD**

Units : µg/L

Run ID: GC/MSD_1_030730A

Prep Date: 07/30/2003

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPD	Ref Val	%RPD	Qual
Benzene	50.8	1.3	50		0	102	83	119	51.54	1.49	
Toluene	50.8	1.3	50		0	102	80	120	49.41	2.83	
Ethylbenzene	47.3	1.3	50		0	95	80	120	45.64	3.57	
m,p-Xylene	93.2	1.3	100		0	93	77	124	93.61	0.471	
o-Xylene	47.1	1.3	50		0	94	77	125	45.85	2.71	
Surr: 1,2-Dichloroethane-d4	51.6		50			103	72	126			
Surr: Toluene-d8	49.3		50			99	71	128			
Surr: 4-Bromofluorobenzene	47.3		50			95	76	121			

Comments: ND - Not Detected at the Reporting Limit.

D - If the spiked value is <25% of the reference value, recovery should not be calculated.

S - Spike Recovery outside accepted recovery limits.

M - Spike Recovery outside accepted recovery limits due to matrix.

B - Analyte detected in the associated Method Blank.

Alpha Analytical, Inc.

Phone : (775) 355-1044 FAX : (775) 355-0406

Sample Receipt Checklist

Date Report is due to Client : 8/5/2003

Date of Notice : 7/28/2003 10:14:54

Please take note of any NO check marks. If we receive no response concerning these items within 24 hours of the date of this notice, all of the samples will be analyzed as requested.

Client Name **Stratus Environmental**

Project ID : **USA 57**

Project Manager : **Gowri Kowtha**

Client's Phone **(530) 676-6002**

Client's FAX **(530) 676-6005**

Work Order Number : **STR03072842**

Date Received : **7/26/2003**

Received by: **Dolly S. Baker**

Chain of Custody (COC) Information

Carrier name **FedEx**

Chain of custody present ?

Yes No

Custody seals intact on shipping container/cooler ?

Yes No Not Present

Custody seals intact on sample bottles ?

Yes No Not Present

Chain of custody signed when relinquished and received ?

Yes No

Chain of custody agrees with sample labels ?

Yes No

Internal Chain of Custody (COC) requested ?

Yes No

Sub Contract Lab Used :

None SEM Other (see comments)

Sample Receipt Information

Shipping container/cooler in good condition?

Yes No Not Present

Samples in proper container/bottle?

Yes No

Sample containers intact?

Yes No

Sufficient sample volume for indicated test?

Yes No

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?

Yes No

Cooler Temperature

Container/Temp Blank temperature in compliance (0-6°C)?

Yes No

4 °C

Water - VOA vials have zero headspace / no bubbles?

Yes No

No VOA vials submitted

TOC Water - pH acceptable upon receipt ?

Yes No

N/A

TOC Samples should have a pH<2 (H2SO4)

Analytical Requirement Information

Are non-Standard or Modified methods requested ?

Yes No

Are there client specific Project requirements ?

Yes No

If YES : see the Chain of Custody (COC)

Comments : All VOA's for MW-4/MW-8, two VOA's for S-1 & three VOA's for S-2 were received w/air bubbles.

Billing Information :

CHAIN-OF-CUSTODY RECORD

CA

Page:
1 of 1

Alpha Analytical, Inc.

255 Glendale Avenue, Suite 21 Sparks, Nevada 89431-5778

TEL: (775) 355-1044 FAX: (775) 355-0406

WorkOrder : STR03072842

Report Due By : 5:00 PM On : 05-Aug-03

Client:

Stratus Environmental
3330 Cameron Park Drive
Suite 550
Cameron Park, CA 95682-8861

Gowri Kowtha

TEL : (530) 676-6002

FAX : (530) 676-6005

Job : USA 57

PO :

Client's COC # : none

EDD Required : Yes

Sampled by : Mike

Cooler Temp : 4 °C

28-Jul-03

Report Attention : Gowri Kowtha

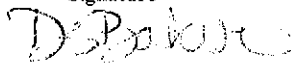
CC Report :

QC Level : S3 = Final Rpt, MBLK, LCS, MS/MSD With Surrogates

Alpha Sample ID	Client Sample ID	Collection Matrix	Collection Date	No. of Bottles			TPHP_W	VOC_W	Requested Tests	Sample Remarks
				ORG	SUB	TAT				
STR03072842-01A	MW-4	AQ	07/21/03 06:35	5	0	6	BTXE/GAS_ C/Soxys	BTXE/GAS_ C/Soxys		All VOA's w/air bubbles.
STR03072842-02A	MW-7	AQ	07/21/03 07:15	5	0	6	BTXE/GAS_ C/Soxys	BTXE/GAS_ C/Soxys		All VOA's w/air bubbles.
STR03072842-03A	MW-8	AQ	07/21/03 05:23	5	0	6	BTXE/GAS_ C/Soxys	BTXE/GAS_ C/Soxys		All VOA's w/air bubbles.
STR03072842-04A	S-1	AQ	07/21/03 05:51	5	0	6	BTXE/GAS_ C/Soxys	BTXE/GAS_ C/Soxys		Two VOA's w/air bubbles.
STR03072842-05A	S-2	AQ	07/21/03 07:44	5	0	6	BTXE/GAS_ C/Soxys	BTXE/GAS_ C/Soxys		Three VOA's w/air bubbles.

Comments:

Custody seal. Frozen ice. CA samples. EDF. Samples received Saturday 7/26/03, samples kept cold & secure until log-in Monday 7/28/03. ALWAYS send copy of receipt checklist with final report. Some VOA's for all samples received with air bubbles. Samples : are a week into their hold time.

Received by:  Signature
 Print Name: DSP, INC
 Company: Alpha Analytical, Inc.
 Date/Time: 7/28/03 9:55

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for the report.

Matrix Type : AQ(Aqueous) AR(Air) SO(Soil) WS(Waste) DW(Drinking Water) OT(Other) Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

