



Subsurface Consultants, Inc.

ENVIRONMENTAL
PROTECTION

97 SEP 26 PM 3:30

R. William Rudolph, P.E.
President

September 24, 1997
SCI 447.055

Mr. George Hill
655 University Avenue, Suite 100
Sacramento, California 95825

Mr. Gordon Linden
150 LaSalle Avenue
Piedmont, California 94611

**Groundwater Monitoring
August 1997 Quarterly Event
Connell Oldsmobile Facility
3093 Broadway
Oakland, California**

Dear Messrs. Hill & Linden:

This letter records the results of the August 1997 groundwater monitoring event, as well as the June, July, and August 1997 free product recovery events performed by Subsurface Consultants, Inc. (SCI) at the Connell Oldsmobile facility in Oakland, California. The facility is situated at the southwest corner of the intersection of Hawthorne Street and Broadway, as shown on the Site Plan, Plate 1.

BACKGROUND

On December 18, 1989, three underground storage tanks (USTs), which previously contained gasoline, diesel fuel, and waste oil, were removed within a sidewalk area located adjacent to the existing Connell Oldsmobile facility. A fuel dispenser island located within the existing building was also removed at the time. SCI understands that the pipelines connecting the fuel dispenser island with the USTs remained in-place.

Twelve wells have been periodically sampled at the site since 1990 to evaluate impacts to groundwater due to previous UST releases. Groundwater monitoring is performed in general accordance with the program outlined in the Corrective Action Plan Work Plan (Work Plan) dated November 6, 1995, and approved by the Alameda County Health Care Services Agency

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(ACHCSA) in a letter dated November 29, 1995. On May 30, 1997, ACHCSA modified the groundwater monitoring program to include quarterly sampling of wells MW-1, MW-4, and MW-9 whenever free product is absent in those wells.

The monitoring described in this letter was the quarterly event as described in the Work Plan and involved sampling and monitoring of wells MW-7, MW-8, MW-9, and MW-13. Free product recovery has been conducted on a monthly basis by bailing at the site since 1991. In October 1996, free product recovery was initiated at MW-6 using a soil vapor extraction (SVE) system and an internal combustion engine.

MONITORING ACTIVITIES

Quarterly Groundwater Monitoring Event

In accordance with the Work Plan, this event was the quarterly monitoring event. On August 7, 1997, depth-to-water and free product thickness were measured in all wells. Free product was removed by hand bailing methods from the wells in which appreciable free product was measured. Product removal is further discussed later in this letter. Free product removal data are summarized in Table 1. Groundwater and free product elevation data are summarized in Table 2. The groundwater flow direction is generally towards the east-southeast at gradients varying from 0.01 to 0.1 foot vertical to 1 foot horizontal. Groundwater table contours are presented on Plate 2.

On August 7 and 8, 1997, monitoring wells MW-7, MW-8, MW-9, and MW-13 were purged by removing water with new disposable bailers (2-inch-diameter wells) or with a pre-cleaned submersible pump (6-inch-diameter wells). The wells were purged until measurements of pH, temperature, and conductivity had stabilized. After the wells recharged to within 80 percent of their initial level, they were sampled with new disposable bailers. Purge water was placed in a depression created on top of an existing soil stockpile onsite (see Plate 1) and allowed to evaporate.

Samples were retained in pre-cleaned containers supplied by the analytical laboratory and were placed in ice-filled coolers and remained iced until delivery to the analytical laboratory. Chain-of-custody records accompanied the samples to the laboratory.

Chemical analysis of the samples was performed by Curtis & Tompkins, Ltd., a state-certified chemical testing laboratory in Berkeley, California. A summary of sample preparation and test methods is presented below.

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Analysis	Sample Preparation Method	Analysis Method
Total Volatile Hydrocarbons (TVH)	EPA 5030	EPA 8015 Mod.
Total Extractable Hydrocarbons (TEH)	EPA 3520	EPA 8015 Mod.
Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)	EPA 5030	EPA 8020
Methyl tert-butyl ether (MTBE)	EPA 5030	EPA 8020
1,1- and 1,2 Dichloroethane (1,1- and 1,2-DCA)	EPA 5030	EPA 8260

Analytical test results are summarized in Table 3. Field sampling forms, analytical test reports, and chain-of-custody documents are attached.

Free Product Removal

SCI has been measuring separate-phase product thickness and the depth to water in all wells on a monthly basis. As requested by ACHCSA, data from the June 6, July 8, and August 7 monthly measurements are summarized in this report. Field forms for these events are attached. Future reporting on the monthly measurements will continue on a quarterly basis.

Free product is present in three of the site wells (MW-1, MW-4, and MW-6). Between June and August 1997, the free product thickness in MW-1 ranged from 0.96 to 1.69 feet. In MW-4, the free product thickness ranged from 0.02 to 0.19 foot. In MW-6, free product thickness decreased from 0.21 foot on June 6 to 0 foot on August 7.

To date, approximately 143 gallons of free product have been removed by hand bailing from MW-1, MW-4, and MW-6. Approximately 1 gallon of free product has been removed by hand bailing since the last quarterly event in May 1997. Free product removal by SVE continues at well MW-6. As of August 7, 1997, approximately 116 gallons of product have been removed by SVE alone. Approximately 13 gallons of free product have been removed from MW-6 by SVE since May 1997. As summarized in Table 1, a total of approximately 259 gallons of free product have been removed from the wells since December 1991.

DISCUSSION OF RESULTS

Free Product

Free product continues to be present in wells MW-1, MW-4, and MW-6. The most recent gauging data indicate that only a sheen of product was observed in MW-6. The apparent source of the free product (i.e., USTs) was removed in 1989. The changes in free product thickness are, in our opinion, related to the redistribution of free product along preferential flow paths. Free product

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accumulation rates in various wells and the migration of free product along preferential pathways are likely to be highly dependent on the presence and thickness of permeable sand and gravel layers within the screened intervals of the wells, as well as seasonal fluctuations of groundwater levels. The groundwater level controls whether the free product layer is in hydraulic contact with locally more permeable zones where migration is likely to occur. Thus, the observed decrease of free product thickness in MW-6 may be caused by a rise in the groundwater elevation since the last water level measurement event on May 8, 1997, as well as free product removal at the well by the SVE system.

Dissolved Product Plume

Generally, the concentrations of dissolved hydrocarbons during this event (Table 3) remain similar as in previous events. However, since the May 1997 monitoring event, the concentrations of benzene in wells MW-8 and MW-13 have decreased to non-detectable levels. Samples from MW-13, the farthest downgradient well, contained 1,2-DCA at 6.8 micrograms per liter ($\mu\text{g/l}$). This compound has been detected in MW-13 at relatively low concentrations (less than 7 $\mu\text{g/l}$) since 1995.

Ongoing Monitoring and Corrective Action Work Plan Addendum

Product recovery by SVE is ongoing at well MW-6. SCI will continue to record product and water level measurements on a monthly basis. The next monitoring event will be a semi-annual event which will occur in November 1997. The next report will be submitted by December 31, 1997.

SCI is currently developing an addendum to the Corrective Action Work Plan. The purpose of the addendum is to summarize the status of pre-approved work, describe the scope of additional recommended tasks needed to prepare the final Corrective Action Plan, and obtain budget pre-approval from the Underground Storage Tank Cleanup Fund for several on-going tasks, as well as for additional recommended tasks. This addendum will be submitted to ACHCSA under separate cover.

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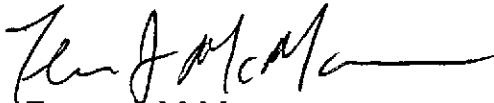
If you have any questions, please call.

Yours very truly,

Subsurface Consultants, Inc.



Samuel C. Won
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Attachments: Table 1 - Free Product Recovery
Table 2 - Groundwater and Free Product Elevation Data
Table 3 - Summary of Contaminant Concentrations in Groundwater
Plate 1 - Site Plan
Plate 2 - Groundwater Elevation Contours, 8/7/97
Field Forms- June through August 1997
Analytical Test Reports
Chain-of-Custody Documents

cc: ✓ Ms. Susan Hugo
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TABLE 1
FREE PRODUCT RECOVERY
3093 BROADWAY
OAKLAND, CALIFORNIA

<u>Well</u>	<u>Removal Date</u>	<u>Product Removed (gallons)</u>	<u>Cumulative Product Removed by Hand Bailing (gallons)</u>
MW-1	12/23/91	2.00	2.00
	12/26/91	0.50	2.50
	1/13/92	1.00	3.50
	2/28/92	2.00	5.50
	11/9/93	0.50	6.00
	11/3/95	0.25	6.75
	11/30/95	0.25	7.00
	1/3/96	0.53	7.53
	2/2/96	0.75	8.28
	3/1/96	0.10	8.38
	4/4/96	0.00	8.38
	5/2/96	0.00	8.38
	6/5/96	0.10	8.48
	7/9/96	0.10	8.58
	8/8/96	0.05	8.63
	9/10/96	0.10	8.73
	10/1/96	0.25	8.98
	11/4/96	0.13	9.11
	12/2/96	0.26	9.37
	1/3/97	0.39	9.76
2/6/97	0.01	9.77	
3/5/97	0.00	9.77	
4/1/97	0.01	9.78	
5/8/97	0.02	9.80	
6/6/97	0.26	10.06	
7/8/97	0.20	10.26	
8/7/97	1.00	11.26	
MW-4	12/23/91	2.50	2.50
	12/26/91	6.00	8.50
	1/10/92	5.00	13.50
	2/28/92	4.00	17.50
	3/11/92	3.50	21.00
	3/13/92	3.50	24.50
	3/17/92	2.25	26.75
	3/18/92	2.50	29.25
	3/19/92	1.50	30.75
	3/23/92	4.00	34.75
3/24/92	1.50	36.25	

TABLE 1
FREE PRODUCT RECOVERY
3093 BROADWAY
OAKLAND, CALIFORNIA

<u>Well</u>	<u>Removal Date</u>	<u>Product Removed (gallons)</u>	<u>Cumulative Product Removed by Hand Bailing (gallons)</u>
MW-4 (cont.)	3/25/92	1.00	37.25
	3/26/92	1.00	38.25
	3/27/92	0.50	38.75
	3/31/92	0.50	39.25
	4/1/92	0.25	39.50
	4/2/92	0.13	39.63
	4/6/92	0.13	39.76
	4/10/92	0.25	40.01
	4/13/92	0.25	40.26
	4/20/92	0.13	40.39
	5/4/92	0.13	40.52
	5/18/92	0.13	40.65
	5/26/92	0.13	40.78
	6/1/92	0.06	40.84
	6/29/92	0.25	41.09
	7/29/92	1.11	42.20
	8/28/92	1.68	43.88
	4/3/93	0.13	44.01
	11/9/93	0.03	44.04
	8/30/95	1.75	45.79
	10/2/95	0.50	46.29
	11/3/95	0.25	46.54
	11/30/95	0.25	46.79
	1/3/96	0.05	46.84
	2/2/96	0.10	46.94
	3/1/96	0.20	47.14
	4/4/96	0.20	47.34
	5/2/96	0.20	47.54
	6/5/96	0.15	47.59
	7/9/96	0.16	47.75
	8/8/96	0.00	47.75
	9/10/96	0.05	47.80
	10/1/96	0.05	47.85
11/4/96	0.02	47.87	
12/2/96	0.02	47.89	
1/3/97	0.02	47.91	
2/6/97	0.01	47.92	
3/5/97	0.00	47.92	
4/1/97	0.00	47.92	

TABLE 1
FREE PRODUCT RECOVERY
3093 BROADWAY
OAKLAND, CALIFORNIA

<u>Well</u>	<u>Removal Date</u>	<u>Product Removed (gallons)</u>	<u>Cumulative Product Removed by Hand Bailing (gallons)</u>
MW-4 (cont.)	5/8/97	0.00	47.92
	6/6/97	0.00	47.92
	7/8/97	0.00	47.92
	8/7/97	0.00	47.92
MW-6	12/23/91	7.50	7.50
	12/26/91	2.00	9.50
	1/10/92	1.00	10.50
	2/4/92	2.00	12.50
	2/28/92	3.00	15.50
	3/10/92	2.75	18.25
	3/12/92	2.00	20.25
	3/23/92	1.00	21.25
	3/30/92	0.50	21.75
	4/10/92	0.25	22.00
	4/13/92	0.13	22.13
	4/20/92	0.13	22.26
	5/4/92	0.13	22.39
	5/8/92	0.06	22.45
	5/26/92	0.13	22.58
	6/1/92	0.06	22.64
	6/29/92	0.19	22.83
	7/29/92	0.60	23.43
	8/28/92	2.40	25.83
	12/2/92	(obstruction in well)	--
	4/3/93	1.75	27.58
	11/9/93	0.83	28.41
	8/30/95	4.50	32.91
	10/2/95	4.0	36.91
	11/3/95	3.00	39.91
	11/30/95	2.50	42.41
	1/3/96	2.50	44.91
	2/2/95	5.00	49.90
3/1/96	4.00	53.90	
4/4/96	5.00	58.90	
5/2/96	4.50	63.40	
6/5/96	4.00	67.40	
7/9/96	4.50	71.90	
8/8/96	4.00	75.90	

TABLE 1
FREE PRODUCT RECOVERY
3093 BROADWAY
OAKLAND, CALIFORNIA

<u>Well</u>	<u>Removal Date</u>	<u>Product Removed (gallons)</u>	<u>Cumulative Product Removed by Hand Bailing (gallons)</u>
MW-6 (cont.)	9/10/96	3.50	79.40
	10/1/96	4.00	83.40
	11/4/96	NM*	83.40
	12/2/96	NM*	83.40
	1/3/97	NM*	83.40
	2/6/97	NM*	83.40
	3/5/97	NM*	83.40
	4/1/97	NM*	83.40
	5/8/97	0.40**	83.80**
	6/6/97	0.03	83.83
	7/8/97	0.00	83.83
	8/7/97	0.00	83.83
MW-9	8/8/96	0.10	0.10
	9/10/96	0.00	0.10
	10/1/96	0.00	0.10
	11/4/96	0.00	0.10
	12/2/96	0.00	0.10
	1/3/97	0.00	0.10
	2/6/97	0.00	0.10
	3/5/97	0.00	0.10
	4/1/97	0.00	0.10
	5/8/97	0.00	0.10
	6/6/97	0.00	0.10
	7/8/97	0.00	0.10
8/7/97	0.00	0.10	
Total Product removed by bailing			143.11
Total Product removed by Soil Vapor Extraction (as of 8/7/97)			<u>115.66</u>
Cumulative Total of Product Removed			258.77

* NM - Not measured. Product is currently being removed by vapor extraction from this well.

** Product levels measured and bailed for annual monitoring event.

TABLE 2
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

<u>Well</u>	<u>TOC Elevation (feet)</u>	<u>Date</u>	<u>Groundwater Depth (feet)</u>	<u>Groundwater Elevation (feet)</u>	<u>Product Thickness (feet)</u>	<u>Product Elevation (feet)</u>
MW-1	94.48	10/3/90	26.40	68.08	NM	--
		3/5/91	27.46	67.02	NM	--
		3/18/91	26.88	67.60	NM	--
		4/12/91	25.49	68.99	NM	--
		12/23/91	26.86	67.62	1.15	68.77
		12/26/91	26.08	68.40	0.22	68.63
		1/13/92	26.53	67.95	0.66	68.61
		2/28/92	27.75	66.73	0.42	67.15
		5/18/92	24.75	69.73	NM	--
		6/29/92	25.09	69.39	0.04	69.43
		7/29/92	25.46	69.02	0.15	69.17
		8/28/92	25.56	68.92	0.29	69.21
		10/28/92	26.44	68.04	0.52	68.56
		11/24/92	26.63	67.85	NM	--
		12/22/92	26.37	68.11	NM	--
		4/5/93	23.77	70.71	0.00	--
		7/20/93	24.51	69.97	0.60	70.57
		11/9/93	26.06	68.42	1.17	69.59
		8/30/95	21.73	72.75	0.23	72.98
		9/15/95	21.88	72.61	0.15	72.75
		10/2/95	22.42	72.06	0.42	72.48
		11/3/95	23.10	72.74	0.76	73.50
		11/30/95	23.38	72.54	0.70	73.24
		1/3/96	23.30	72.62	0.78	73.40
		2/2/96	22.96	72.28	0.84	74.12
		3/1/96	21.69	72.79	0.14	72.65
		4/4/96	21.11	73.67	0.00	--
		5/2/96	20.96	73.83	0.00	--
		6/5/96	20.98	73.81	0.04	73.85
		7/9/96	21.64	72.84	0.20	73.04
		8/8/96	22.43	72.05	0.33	72.38
		9/10/96	23.25	71.23	0.60	71.83
		10/1/96	23.58	70.90	0.60	71.50
		11/4/96	24.29	70.19	0.78	70.97
		12/2/96	24.63	69.85	0.88	70.73
		1/3/97	24.08	70.40	0.81	71.21
		2/6/97	22.46	72.02	0.30	72.32
		3/5/97	23.00	71.48	0.00	--
		4/1/97	22.29	72.19	0.20	72.39

TABLE 2
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

<u>Well</u>	<u>TOC Elevation (feet)</u>	<u>Date</u>	<u>Groundwater Depth (feet)</u>	<u>Groundwater Elevation (feet)</u>	<u>Product Thickness (feet)</u>	<u>Product Elevation (feet)</u>
MW-1 (cont.)	94.48	5/8/97	22.79	71.69	0.33	72.02
		6/6/97	24.33	70.15	1.69	71.84
		7/8/97	24.00	70.48	0.96	71.44
		8/7/97	24.58	69.90	1.29	71.19
MW-2	94.81	3/5/91	27.86	66.95	0.00	--
		3/18/91	27.46	67.35	0.00	--
		4/12/91	26.98	67.83	0.00	--
		5/18/92	26.50	68.31	0.00	--
		6/29/92	26.80	68.01	0.00	--
		7/29/92	27.08	67.73	0.00	--
		8/28/92	27.33	67.48	0.00	--
		10/28/92	27.65	67.16	0.00	--
		11/24/92	27.91	66.90	0.00	--
		12/22/92	27.74	67.07	--	--
		4/5/93	25.95	68.86	0.00	--
		7/20/93	25.59	69.22	0.00	--
		11/9/93	26.72	68.09	0.00	--
		8/30/95	25.75	69.06	0.00	--
		10/2/95	25.10	69.71	0.00	--
		11/3/95	25.73	69.02	0.00	--
		11/30/95	25.34	69.41	0.00	--
		1/3/96	25.32	69.43	0.00	--
		2/2/96	25.10	69.65	0.00	--
		3/1/96	24.05	70.76	0.00	--
		4/4/96	23.41	71.49	0.00	--
		5/2/96	23.37	71.53	0.00	--
		6/5/96	23.75	71.11	0.00	--
		7/9/96	23.79	71.02	0.00	--
		8/8/96	24.27	70.54	0.00	--
		9/10/96	24.87	69.94	0.00	--
		10/1/96	25.12	69.69	0.00	--
11/4/96	25.54	69.27	0.00	--		
12/2/96	25.74	69.07	0.00	--		
1/3/97	25.51	69.30	0.00	--		
2/6/97	24.68	70.13	0.00	--		
3/5/97	24.14	70.67	0.00	--		
4/1/97	24.18	70.63	0.00	--		
5/8/97	24.58	70.23	0.00	--		

TABLE 2
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

<u>Well</u>	<u>TOC Elevation (feet)</u>	<u>Date</u>	<u>Groundwater Depth (feet)</u>	<u>Groundwater Elevation (feet)</u>	<u>Product Thickness (feet)</u>	<u>Product Elevation (feet)</u>
MW-2 (cont.)	94.81	6/6/97	25.20	69.61	0.00	--
		7/8/97	25.38	69.43	0.00	--
		8/7/97	25.52	69.29	0.00	--
MW-3	90.08	3/6/91	23.17	66.91	NM	--
		3/18/91	22.76	67.32	NM	--
		4/12/91	22.51	67.57	NM	--
		5/12/92	23.17	66.91	NM	--
		6/29/92	22.90	67.18	NM	--
		7/29/92	22.17	67.91	NM	--
		8/28/92	22.28	67.80	NM	--
		10/28/92	22.67	67.41	0.00	--
		11/24/92	23.01	67.07	0.00	--
		12/22/92	22.91	67.17	--	--
		4/5/93	22.11	67.97	0.00	--
		7/20/93	23.93	66.15	0.00	--
		11/9/93	23.14	66.94	0.00	--
		8/29/95	20.61	69.47	0.00	--
		10/2/95	21.18	68.90	0.00	--
		11/3/95	20.74	69.60	0.00	--
		11/30/95	20.68	69.66	0.00	--
		1/3/96	20.58	69.76	0.00	--
		2/2/96	20.43	69.91	0.00	--
		3/1/96	20.24	69.84	0.00	--
		4/4/96	18.50	71.58	0.00	--
		5/2/96	18.43	71.65	0.00	--
		6/5/96	18.51	71.57	0.00	--
		7/9/96	18.97	71.11	0.00	--
		8/8/96	19.51	70.57	0.00	--
		9/10/96	19.86	70.22	0.00	--
		10/1/96	20.04	70.04	0.00	--
11/4/96	20.25	69.83	0.00	--		
12/2/96	20.40	69.68	0.00	--		
1/3/97	20.33	69.75	0.00	--		
2/6/97	19.98	70.10	0.00	--		
3/5/97	19.80	70.28	0.00	--		
4/1/97	19.76	70.32	0.00	--		
5/8/97	19.77	70.31	0.00	--		
6/6/97	20.18	69.90	0.00	--		

TABLE 2
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

<u>Well</u>	<u>TOC Elevation (feet)</u>	<u>Date</u>	<u>Groundwater Depth (feet)</u>	<u>Groundwater Elevation (feet)</u>	<u>Product Thickness (feet)</u>	<u>Product Elevation (feet)</u>
MW-3 (cont.)	90.08	7/8/97	20.24	69.84	0.00	--
		8/7/97	20.38	69.70	0.00	--
MW-4	88.84	3/5/91	23.79	65.05	NM	--
		3/18/91	22.30	66.54	NM	--
		4/12/91	21.85	66.99	NM	--
		12/23/91	22.63	66.22	0.98	67.19
		12/26/91	22.52	66.32	0.96	67.28
		1/10/92	22.74	66.10	0.99	67.09
		2/28/92	22.00	66.84	0.67	67.51
		3/11/92	21.71	67.13	0.55	67.68
		3/13/92	21.56	67.28	0.49	67.77
		3/17/92	25.46	63.38	0.44	63.82
		3/18/92	21.38	67.47	0.44	67.90
		3/19/92	21.33	67.51	0.48	67.99
		3/23/92	21.29	67.55	0.42	67.97
		3/24/92	21.31	67.53	0.38	67.90
		3/25/92	21.17	67.67	0.36	68.04
		3/26/92	21.08	67.76	0.35	68.11
		3/27/92	20.92	67.92	0.26	68.18
		3/31/92	21.15	67.69	0.44	68.13
		4/1/92	20.90	67.94	0.24	68.18
		4/2/92	20.90	67.94	0.17	68.11
		4/10/92	20.91	67.93	0.33	68.26
		4/13/92	21.04	67.80	0.42	68.22
		4/20/92	20.74	68.10	0.19	68.29
		5/4/92	20.83	68.01	0.33	68.34
		5/18/92	21.33	67.51	0.23	67.74
		5/26/92	20.83	68.01	0.17	68.18
6/1/92	20.85	67.99	0.19	68.17		
6/29/92	21.38	67.46	0.53	67.99		
7/29/92	21.69	67.15	0.56	67.71		
8/28/92	21.35	67.49	0.63	68.12		
10/28/92	22.48	66.36	0.84	67.20		
11/24/92	22.60	66.24	NM	--		
12/22/92	22.47	66.37	NM	--		
4/3/93	20.11	68.73	0.51	69.24		
7/20/93	20.48	68.36	0.52	68.88		
11/9/93	21.71	67.13	0.63	67.76		

TABLE 2
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

<u>Well</u>	<u>TOC Elevation (feet)</u>	<u>Date</u>	<u>Groundwater Depth (feet)</u>	<u>Groundwater Elevation (feet)</u>	<u>Product Thickness (feet)</u>	<u>Product Elevation (feet)</u>
MW-4 (cont.)	88.84	8/30/95	19.90	68.94	2.20	71.14
		9/15/95	18.76	70.08	0.57	70.65
		10/2/95	19.17	69.67	0.65	70.32
		11/3/95	19.45	69.39	0.44	69.83
		11/30/95	19.50	69.44	0.32	69.76
		1/3/96	19.31	69.53	0.20	69.73
		2/2/96	18.91	69.93	0.20	70.13
		3/1/96	18.25	70.59	0.19	70.78
		4/4/96	17.53	71.31	0.18	71.47
		5/2/96	17.50	71.34	0.25	71.59
		6/5/96	17.67	71.17	0.39	71.56
		7/9/96	18.29	70.55	0.50	71.05
		8/8/96	18.84	70.00	0.00	--
		9/10/96	19.31	69.53	0.34	69.87
		10/1/96	19.51	69.33	0.29	69.62
		11/4/96	20.13	68.71	0.35	69.06
		12/2/96	20.23	68.61	0.33	68.94
		1/3/97	19.33	69.51	0.10	69.61
		2/6/97	18.13	70.72	0.01	70.73
		3/5/97	18.17	70.67	0.06	70.73
4/1/97	18.38	70.46	0.05	70.51		
5/8/97	18.63	70.21	0.03	70.24		
6/6/97	18.78	70.06	0.19	70.25		
7/8/97	19.21	69.63	0.02	69.65		
8/7/97	19.50	69.34	0.07	69.41		
MW-5	84.84	3/18/91	26.31	58.53	NM	--
		3/12/91	26.41	58.43	NM	--
		5/18/92	26.75	58.09	NM	--
		6/29/92	26.73	58.11	NM	--
		7/29/92	26.66	58.18	NM	--
		8/28/92	26.90	57.94	NM	--
		10/28/92	26.39	58.45	0.00	--
		11/24/92	26.83	58.01	0.00	--
		12/22/92	27.33	57.51	--	--
		4/3/93	26.62	58.22	0.00	--
		7/20/93	26.60	58.24	0.00	--
		11/9/93	27.24	57.60	0.00	--
		8/30/95	27.46	57.38	0.00	--

TABLE 2
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

<u>Well</u>	<u>TOC Elevation (feet)</u>	<u>Date</u>	<u>Groundwater Depth (feet)</u>	<u>Groundwater Elevation (feet)</u>	<u>Product Thickness (feet)</u>	<u>Product Elevation (feet)</u>
MW-5 (cont.)	84.84	10/2/95	26.85	57.99	0.00	--
		11/3/95	26.67	58.87	0.00	--
		11/30/95	27.05	58.49	0.00	--
		1/3/96	26.60	59.04	0.00	--
		2/2/96	26.70	59.14	0.00	--
		3/1/96	26.00	58.84	0.00	--
		4/4/96	26.20	58.64	0.00	--
		5/2/96	26.02	58.82	0.00	--
		6/5/96	25.91	58.93	0.00	--
		7/9/96	26.20	58.64	0.00	--
		8/8/96	26.38	58.46	0.00	--
		9/10/96	26.42	58.42	0.00	--
		10/1/96	26.52	58.32	0.00	--
		11/4/96	26.69	58.15	0.00	--
		12/2/96	26.70	58.14	0.00	--
		1/3/97	25.84	59.00	0.00	--
		2/6/97	26.26	58.58	0.00	--
		3/5/97	26.20	58.64	0.00	--
		4/1/97	26.98	57.86	0.00	--
		5/8/97	26.76	58.08	0.00	--
6/6/97	26.33	58.51	0.00	--		
7/8/97	26.84	58.00	0.00	--		
8/7/97	26.89	57.95	0.00	--		
MW-6	85.62	3/18/91	25.82	59.80	NM	--
		4/12/91	27.23	58.39	NM	--
		12/23/91	28.40	57.22	3.21	60.44
		12/26/91	27.25	58.37	1.67	60.04
		1/10/92	27.23	58.39	0.90	59.29
		2/4/92	27.71	57.91	2.04	59.95
		2/28/92	27.92	57.70	3.00	60.70
		3/10/92	27.16	58.46	2.06	60.53
		3/12/92	25.96	59.66	0.52	60.18
		3/13/92	25.70	59.92	0.21	60.13
		3/23/92	26.34	59.28	1.09	60.37
		3/30/92	25.73	59.89	0.35	60.25
		4/10/92	25.29	60.33	0.05	60.38
		4/13/92	25.52	60.10	0.21	60.31
		4/20/92	25.38	60.25	0.10	60.35

TABLE 2
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

<u>Well</u>	<u>TOC Elevation (feet)</u>	<u>Date</u>	<u>Groundwater Depth (feet)</u>	<u>Groundwater Elevation (feet)</u>	<u>Product Thickness (feet)</u>	<u>Product Elevation (feet)</u>
MW-6 (cont.)	85.62	5/4/92	25.40	60.22	NM	--
		5/18/92	25.50	60.12	0.17	60.29
		5/26/92	25.46	60.16	0.13	60.29
		6/1/92	25.46	60.16	0.09	60.26
		6/29/92	25.59	60.03	0.14	60.17
		7/29/92	26.90	58.72	1.71	60.43
		8/28/92	25.09	60.53	2.62	63.15
		10/28/92	25.02	60.60	3.94	64.54
		11/24/92	28.87	56.75	NM	--
		4/3/93	26.96	58.66	2.86	61.52
		7/20/93	26.17	59.45	2.60	62.05
		11/9/93	27.51	58.11	3.06	61.17
		8/30/95	28.00	57.62	7.96	65.58
		9/15/95	28.24	57.38	6.14	63.52
		10/2/95	28.39	57.23	6.13	63.36
		11/3/95	26.91	58.71	3.44	62.15
		11/30/95	27.58	58.04	4.41	62.45
		1/3/96	27.58	58.04	4.37	62.41
		2/2/96	27.96	57.68	5.15	62.83
		3/1/96	27.96	57.68	5.41	63.09
		4/4/96	27.69	57.93	5.69	63.62
		5/2/96	26.83	58.79	4.66	63.45
		6/5/96	27.15	58.47	5.17	63.64
7/9/96	27.08	58.54	4.86	63.40		
8/8/96	26.71	58.91	4.05	62.96		
9/10/96	26.83	58.79	3.82	62.61		
10/1/96	26.96	58.66	3.77	62.43		
MW-6*	86.94	11/4/96	NM	NM	NM	NM
		12/2/96	NM	NM	NM	NM
		1/3/97	NM	NM	NM	NM
		2/6/97	25.08	61.86	0.20	62.06
		3/5/97	24.20	62.74	0.00	--
		4/1/97	24.04	62.90	0.00	--
		5/8/97	26.54	60.40	1.88	62.28
		6/6/97	25.33	61.61	0.21	61.82
		7/8/97	25.30	61.64	0.07	61.71
8/7/97	25.52	61.42	0.00	61.42		
MW-7	85.41	3/18/91	21.63	63.78	NM	--

TABLE 2
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

<u>Well</u>	<u>TOC Elevation (feet)</u>	<u>Date</u>	<u>Groundwater Depth (feet)</u>	<u>Groundwater Elevation (feet)</u>	<u>Product Thickness (feet)</u>	<u>Product Elevation (feet)</u>
MW-7 (cont.)	85.41	4/12/91	22.13	63.28	NM	--
		5/18/92	21.67	63.74	NM	--
		6/29/92	20.75	64.66	NM	--
		7/29/92	21.07	64.34	NM	--
		8/28/92	21.35	64.06	NM	--
		10/28/92	21.81	63.60	0.00	--
		11/24/92	21.52	63.89	0.00	--
		12/22/92	obstructed	--	0.00	--
		4/3/93	20.08	65.33	0.00	--
		7/20/93	19.59	65.82	0.00	--
		11/9/93	20.65	64.76	0.00	--
		8/30/95	18.78	66.63	0.00	--
		10/2/95	18.73	66.68	0.00	--
		11/3/95	19.23	66.18	0.00	--
		11/30/95	19.47	65.94	0.00	--
		1/3/96	18.52	66.89	0.00	--
		2/2/96	17.83	67.58	0.00	--
		3/1/96	17.61	67.80	0.00	--
		4/4/96	17.28	68.13	0.00	--
		5/2/96	17.15	68.26	0.00	--
		6/5/96	17.47	67.94	0.00	--
		7/9/96	18.06	67.35	0.00	--
		8/8/96	18.48	66.93	0.00	--
		9/10/96	18.79	66.62	0.00	--
		10/1/96	18.90	66.51	0.00	--
		11/4/96	18.69	66.72	0.00	--
		12/2/96	18.47	66.94	0.00	--
		1/3/97	17.98	67.43	0.00	--
		2/6/97	17.44	67.97	0.00	--
		3/5/97	16.73	68.68	0.00	--
4/1/97	17.32	68.09	0.00	--		
5/8/97	17.72	67.69	0.00	--		
6/6/97	17.75	67.66	0.00	--		
7/8/97	17.94	67.47	0.00	--		
8/7/97	18.49	66.92	0.00	--		
MW-8	85.50	10/28/92	27.70	57.80	0.00	--
		11/24/92	27.62	57.88	0.00	--
		12/22/92	27.40	58.10	--	--

TABLE 2
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

<u>Well</u>	<u>TOC Elevation (feet)</u>	<u>Date</u>	<u>Groundwater Depth (feet)</u>	<u>Groundwater Elevation (feet)</u>	<u>Product Thickness (feet)</u>	<u>Product Elevation (feet)</u>
MW-8 (cont.)	85.50	4/3/93	26.64	58.86	0.00	--
		7/20/93	26.60	58.90	0.00	--
		11/9/93	27.18	58.32	0.00	--
		8/30/95	26.35	59.15	0.00	--
		10/2/95	26.60	58.90	0.00	--
		11/3/95	26.62	58.88	0.00	--
		11/30/95	26.72	58.78	0.00	--
		1/3/96	26.64	58.86	0.00	--
		2/2/96	26.28	59.22	0.00	--
		3/1/96	25.81	59.69	0.00	--
		4/4/96	25.81	59.69	0.00	--
		5/2/96	26.15	60.03	0.00	--
		6/5/96	26.17	60.01	0.00	--
		7/9/96	26.32	59.18	0.00	--
		8/8/96	26.41	59.09	0.00	--
		9/10/96	26.66	58.84	0.00	--
		10/1/96	26.65	58.85	0.00	--
		11/4/96	26.77	58.73	0.00	--
		12/2/96	26.59	58.91	0.00	--
		1/3/97	25.98	59.52	0.00	--
2/6/97	25.84	59.66	0.00	--		
3/5/97	25.94	59.56	0.00	--		
4/1/97	26.34	59.16	0.00	--		
5/8/97	26.39	59.11	0.00	--		
6/6/97	26.45	59.05	0.00	--		
7/8/97	26.65	58.85	0.00	--		
8/7/97	26.72	58.78	0.00	--		
MW-9	90.37	10/28/92	23.37	67.00	0.00	--
		11/24/92	23.51	66.86	0.00	--
		12/22/92	23.31	67.06	--	--
		4/3/93	21.14	69.23	0.00	--
		7/20/93	21.54	68.83	0.00	--
		11/9/93	27.53	62.84	0.00	--
		8/30/95	19.59	70.78	0.00	--
		10/2/95	20.05	70.32	0.00	--
		11/3/95	20.40	69.97	0.00	--
		11/30/95	20.65	69.72	0.00	--
		1/3/96	20.73	69.64	0.00	--

TABLE 2
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

<u>Well</u>	<u>TOC Elevation (feet)</u>	<u>Date</u>	<u>Groundwater Depth (feet)</u>	<u>Groundwater Elevation (feet)</u>	<u>Product Thickness (feet)</u>	<u>Product Elevation (feet)</u>
MW-9 (cont.)	90.37	2/2/96	20.19	70.18	0.00	--
		3/1/96	19.53	70.84	0.00	--
		4/4/96	18.74	71.63	0.00	--
		5/2/96	18.63	71.74	0.00	--
		7/9/96	19.15	71.22	0.00	--
		8/8/96	19.89	70.48	0.35	70.83
		9/10/96	20.11	70.26	0.00	--
		10/1/96	20.37	70.00	0.00	--
		11/4/96	20.69	69.68	0.00	--
		12/2/96	21.43	68.94	0.00	--
		1/3/97	20.72	69.65	0.00	--
		2/6/97	19.72	70.65	0.00	--
		3/5/97	19.59	70.78	0.00	--
		4/1/97	19.73	70.64	0.00	--
		5/8/97	19.96	70.41	0.00	--
		6/6/97	20.13	70.24	0.00	--
		7/8/97	20.53	69.84	0.00	--
8/7/97	20.84	69.53	0.00	--		
MW-10	88.60	10/28/92	21.55	67.05	0.00	--
		11/24/92	21.86	66.74	0.00	--
		12/22/92	21.68	66.92	--	--
		4/3/93	19.14	69.46	0.00	--
		7/20/93	19.79	68.81	0.00	--
		11/9/93	20.83	67.77	0.00	--
		8/30/95	17.99	70.61	0.00	--
		10/2/95	18.42	70.18	0.00	--
		11/3/95	18.82	69.78	0.00	--
		11/30/95	19.03	69.57	0.00	--
		1/3/96	18.96	69.64	0.00	--
		2/2/96	18.55	70.05	0.00	--
		3/1/96	17.81	70.79	0.00	--
		4/4/96	17.11	71.49	0.00	--
		5/2/96	17.04	71.56	0.00	--
		6/5/96	17.11	71.49	0.00	--
		7/9/96	17.64	70.96	0.00	--
8/8/96	18.24	70.36	0.00	--		
9/10/96	18.82	69.78	0.00	--		
10/1/96	19.02	69.58	0.00	--		

TABLE 2
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

<u>Well</u>	<u>TOC Elevation (feet)</u>	<u>Date</u>	<u>Groundwater Depth (feet)</u>	<u>Groundwater Elevation (feet)</u>	<u>Product Thickness (feet)</u>	<u>Product Elevation (feet)</u>
MW-10 (cont.)	88.60	11/4/96	19.59	69.01	0.00	--
		12/2/96	19.72	68.88	0.00	--
		1/3/97	18.86	69.74	0.00	--
		2/6/97	17.76	70.84	0.00	--
		3/5/97	17.84	70.76	0.00	--
		4/1/97	18.00	70.60	0.00	--
		5/8/97	18.36	70.24	0.00	--
		6/6/97	18.50	70.10	0.00	--
		7/8/97	18.98	69.62	0.00	--
		8/7/97	19.18	69.42	0.00	--
MW-11	102.06	11/24/92	33.65	68.41	0.00	--
		12/22/92	33.37	68.69	--	--
		4/5/93	31.03	71.03	0.00	--
		7/20/93	31.90	70.16	0.00	--
		11/9/93	32.60	69.46	0.00	--
		8/29/95	28.92	73.14		
		10/2/95	29.48	72.58	0.00	--
		11/3/95	29.73	72.33	0.00	--
		11/30/95	30.26	71.80	0.00	--
		1/3/96	30.06	72.00	0.00	--
		2/2/96	29.67	72.39	0.00	--
		3/1/96	28.74	73.32	0.00	--
		4/4/96	28.13	73.93	0.00	--
		5/2/96	28.26	74.06	0.00	--
		6/5/96	28.30	74.02	0.00	--
		7/9/96	28.92	73.14	0.00	--
		8/8/96	29.64	72.42	0.00	--
		9/10/96	30.66	71.40	0.00	--
		10/1/96	30.58	71.48	0.00	--
		11/4/96	31.14	70.92	0.00	--
		12/2/96	31.36	70.70	0.00	--
		1/3/97	30.73	71.33	0.00	--
		2/6/97	29.38	72.68	0.00	--
3/5/97	29.22	72.84	0.00	--		
4/1/97	29.46	72.60	0.00	--		
5/8/97	29.93	72.13	0.00	--		
6/6/97	30.17	71.89	0.00	--		
7/8/97	30.62	71.44	0.00	--		

TABLE 2
GROUNDWATER AND FREE PRODUCT ELEVATION DATA
3093 BROADWAY
OAKLAND, CALIFORNIA

<u>Well</u>	<u>TOC Elevation (feet)</u>	<u>Date</u>	<u>Groundwater Depth (feet)</u>	<u>Groundwater Elevation (feet)</u>	<u>Product Thickness (feet)</u>	<u>Product Elevation (feet)</u>
MW-11 (cont.)	102.06	8/7/97	30.95	71.11	0.00	--
MW-13	84.06	11/24/92	26.05	58.01	0.00	--
		12/22/92	25.08	58.98	--	--
		4/5/93	24.64	59.42	0.00	--
		7/20/93	24.29	59.77	0.00	--
		11/9/93	24.23	59.83	0.00	--
		8/29/95	23.30	60.76	NM	--
		10/2/95	23.78	60.28	0.00	--
		11/3/95	23.73	60.33	0.00	--
		11/30/95	23.80	60.26	0.00	--
		1/3/96	23.95	60.11	0.00	--
		2/2/96	23.70	60.36	0.00	--
		3/1/96	23.36	60.70	0.00	--
		4/4/96	23.27	60.79	0.00	--
		5/2/96	23.35	60.87	0.00	--
		6/5/96	23.07	60.99	0.00	--
		7/9/96	23.31	60.75	0.00	--
		8/8/96	23.44	60.62	0.00	--
		9/10/96	23.66	60.40	0.00	--
		10/1/96	23.80	60.26	0.00	--
		11/4/96	24.04	60.02	0.00	--
		12/2/96	24.00	60.06	0.00	--
		1/3/97	23.30	60.76	0.00	--
		2/6/97	23.24	60.82	0.00	--
		3/5/97	23.24	60.82	0.00	--
		4/1/97	23.37	60.69	0.00	--
		5/8/97	23.46	60.60	0.00	--
		6/6/97	23.57	60.49	0.00	--
		7/8/97	23.80	60.26	0.00	--
		8/7/97	23.92	60.14	0.00	--

Reference datum: arbitrary benchmark established by Levine Fricke.

TOC = Top of casing

Groundwater depths are measured below TOC.

NM = Not measured

* New TOC from connection to remediation system.

TABLE 3
SUMMARY OF CONTAMINANT CONCENTRATIONS IN GROUNDWATER
FROM MONITORING WELLS
3093 BROADWAY
OAKLAND, CALIFORNIA

<u>Well</u>	<u>Event Date</u>	<u>TVH</u> <u>µg/l</u>	<u>TEH</u> <u>µg/l</u>	<u>B</u> <u>µg/l</u>	<u>T</u> <u>µg/l</u>	<u>E</u> <u>µg/l</u>	<u>X</u> <u>µg/l</u>	<u>1,2-DCA</u> <u>µg/l</u>	<u>Other Purgeable Halocarbons⁺</u> <u>µg/l</u>	<u>Oil & Grease</u> <u>mg/l</u>	<u>Semi-volatile Compounds</u> <u>µg/l</u>	<u>MTBE</u> <u>µg/l</u>
MW-1	10/1/90	620,000	<500	33,000	50,000	7,900	41,000	2,900	ND	--	--	--
	10/1/92	490,000	--	51,000	59,000	5,000	27,000	1,300	--	--	--	--
	11/1/92	320,000	4,600	35,000	43,000	4,200	22,000	1,600	ND	--	--	--
	4/1/93	270,000	25,000	50,000	58,000	4,600	25,000	1,800	ND	--	--	--
	7/1/93	FP	--	--	--	--	--	--	--	--	--	--
	11/1/93	FP	--	--	--	--	--	--	--	--	--	--
	8/1/95	FP	--	--	--	--	--	--	--	10	--	--
	12/1/95	FP	--	--	--	--	--	--	--	--	**	--
	5/1/96	340,000	32,000	57,000	73,000	7,200	38,000	1,200	--	<5	**	--
	11/5/96	270,000	--	43,000	56,000	4,500	34,000	--	--	9.8	--	--
5/9/97	240,000	28,000 ^{1,2}	36,000	45,000	3,300	17,900	930	--	20	***	--	
MW-2	3/1/91	<50	<50	<0.5	<0.5	<0.5	<0.5	<1	ND	--	--	--
	11/1/92	<50	<50	<0.5	1.1	<0.5	1.5	<1	ND	--	--	--
	4/1/93	<50	870	<0.5	<0.5	<0.5	<0.5	<1	ND	--	--	--
	7/1/93	<50	<50	<0.5	<0.5	<0.5	<0.5	<1	ND	--	--	--
	11/1/93	<50	240	<0.5	<0.5	<0.5	<0.5	<1	ND	--	--	--
	8/1/95	<50	150*	<0.5	<0.5	<0.5	<0.5	<1	--	--	--	--
	5/1/96	<50	<50	<0.5	<0.5	<0.5	<0.5	<1	ND	--	--	--
	5/8/97	<50	<50	<0.5	0.7	<0.5	<0.5	<1	--	--	--	--

TABLE 3
SUMMARY OF CONTAMINANT CONCENTRATIONS IN GROUNDWATER
FROM MONITORING WELLS
3093 BROADWAY
OAKLAND, CALIFORNIA

<u>Well</u>	<u>Event Date</u>	<u>TVH</u> <u>µg/l</u>	<u>TEH</u> <u>µg/l</u>	<u>B</u> <u>µg/l</u>	<u>T</u> <u>µg/l</u>	<u>E</u> <u>µg/l</u>	<u>X</u> <u>µg/l</u>	<u>1,2-DCA</u> <u>µg/l</u>	<u>Other Purgeable Halocarbons⁺</u> <u>µg/l</u>	<u>Oil & Grease</u> <u>mg/l</u>	<u>Semi-volatile Compounds</u> <u>µg/l</u>	<u>MTBE</u> <u>µg/l</u>
MW-3	3/1/91	<50	<50	<50	0.6	<0.5	<0.5	<1	ND	--	--	--
	11/1/92	50	160	<0.5	0.9	<0.5	2	<1	ND	--	--	--
	4/1/93	<50	<50	<0.5	<0.5	<0.5	<0.5	<1	ND	--	--	--
	7/1/93	<50	<50	<0.5	<0.5	<0.5	<0.5	<1	ND	--	--	--
	11/1/93	<50	<50	<0.5	<0.5	<0.5	<0.5	<1	ND	--	--	--
	8/1/95	<50	<50	<0.5	<0.5	<0.5	<0.5	<1	--	--	--	--
	5/1/96	<50	<50	<0.5	<0.5	<0.5	<0.5	<1	ND	--	--	--
	5/8/97	<50	<50	<0.5	0.7	<0.5	<0.5	<1	--	--	--	--
MW-4	3/1/91	150,000	<500	20,000	38,000	2,800	14,000	610	ND	--	--	--
	10/1/92	230,000	--	15,000	32,000	2,500	14,000	430	--	--	--	--
	11/1/92	210,000	1,600	14,000	31,000	2,500	14,000	500	ND	--	--	--
	4/1/93	FP	--	--	--	--	--	--	--	--	--	--
	7/1/93	FP	--	--	--	--	--	--	--	--	--	--
	11/1/93	FP	--	--	--	--	--	--	--	--	--	--
	8/1/95	FP	--	--	--	--	--	--	--	--	--	--
	12/1/95	FP	--	--	--	--	--	--	--	--	--	--
	5/1/96	140,000	9,200	24,000	50,000	3,000	15,100	420	ND	--	--	--
	11/4/96	160,000	4,700 ^{1,2}	16,000	38,000	2,700	14,000	380	ND	--	--	--
5/8/97	170,000	5,100 ^{1,2}	16,000	37,000	2,400	15,900	290	--	--	--	--	

TABLE 3
SUMMARY OF CONTAMINANT CONCENTRATIONS IN GROUNDWATER
FROM MONITORING WELLS
3093 BROADWAY
OAKLAND, CALIFORNIA

<u>Well</u>	<u>Event Date</u>	<u>TVH</u> <u>µg/l</u>	<u>TEH</u> <u>µg/l</u>	<u>B</u> <u>µg/l</u>	<u>T</u> <u>µg/l</u>	<u>E</u> <u>µg/l</u>	<u>X</u> <u>µg/l</u>	<u>1,2-DCA</u> <u>µg/l</u>	<u>Other Purgeable Halocarbons⁺</u> <u>µg/l</u>	<u>Oil & Grease</u> <u>mg/l</u>	<u>Semi-volatile Compounds</u> <u>µg/l</u>	<u>MTBE</u> <u>µg/l</u>
MW-5	3/1/91	<50	<50	<0.5	<0.5	<0.5	<0.5	<1	ND	--	--	--
	11/1/92	<50	50	<0.5	<0.5	<0.5	<0.5	<1	ND	--	--	--
	4/1/93	<50	<50	<0.5	<0.5	<0.5	<0.5	<1	ND	--	--	--
	7/1/93	<50	190	<0.5	<0.5	<0.5	<0.5	<1	ND	--	--	--
	11/1/93	<50	170	<0.5	<0.5	<0.5	<0.5	<1	ND	--	--	--
	8/1/95	<50	180*	<0.5	<0.5	<0.5	<0.5	<1	--	--	--	--
	5/1/96	<50	<50	<0.5	<0.5	<0.5	<0.5	<1	ND	--	--	--
	5/8/97	<50	<50	<0.5	0.5	<0.5	<0.5	<1	--	--	--	--
MW-6	3/1/91	80,000	<50	12,000	13,000	1,100	5,400	1,400	Dibromochloromethane (160)	--	--	--
	10/1/92	19,000	--	3,200	1,400	200	560	840	--	--	--	--
	12/1/92	FP	--	--	--	--	--	--	--	--	--	--
	4/1/93	FP	--	--	--	--	--	--	--	--	--	--
	7/1/93	FP	--	--	--	--	--	--	--	--	--	--
	11/1/93	FP	--	--	--	--	--	--	--	--	--	--
	8/1/95	FP	--	--	--	--	--	--	--	--	--	--
	5/1/96	130,000	9,000	37,000	50,000	3,200	14,200	2,400	ND	--	--	--
5/9/97	1,700,000	53,000 ^{1,2}	14,000	27,000	4,000	28,200	1,200	--	--	--	--	
MW-7	3/1/91	<50	<50	<0.5	<0.5	<0.5	<0.5	<1	ND	--	--	--
	11/1/92	<50	<50	<0.5	<0.5	<0.5	<0.5	<1	ND	--	--	--

TABLE 3
SUMMARY OF CONTAMINANT CONCENTRATIONS IN GROUNDWATER
FROM MONITORING WELLS
3093 BROADWAY
OAKLAND, CALIFORNIA

<u>Well</u>	<u>Event Date</u>	<u>TVH</u> <u>µg/l</u>	<u>TEH</u> <u>µg/l</u>	<u>B</u> <u>µg/l</u>	<u>T</u> <u>µg/l</u>	<u>E</u> <u>µg/l</u>	<u>X</u> <u>µg/l</u>	<u>1,2-DCA</u> <u>µg/l</u>	<u>Other Purgeable Halocarbons⁺</u> <u>µg/l</u>	<u>Oil & Grease</u> <u>mg/l</u>	<u>Semi-volatile Compounds</u> <u>µg/l</u>	<u>MTBE</u> <u>µg/l</u>
MW-7	4/1/93	<50	<50	<0.5	<0.5	<0.5	<0.5	<1	ND	--	--	--
(cont.)	7/1/93	<50	150	<0.5	<0.5	<0.5	<0.5	<1	ND	--	--	--
	11/1/93	<50	200	<0.5	1	<0.5	1.7	<1	ND	--	--	--
	8/1/95	<50	170*	<0.5	<0.5	<0.5	<0.5	<1	--	--	--	--
	12/1/95	<50	<50	<0.5	<0.5	<0.5	<0.5	<1	ND	--	--	--
	5/1/96	<50	<50	<0.5	<0.5	<0.5	<0.5	<1	ND	--	--	--
	8/1/96	<50	<50	<0.5	<0.5	<0.5	<0.5	<1	ND	--	--	<2.0
	11/4/96	<50	<50	<1	<1	<1	<1	<1	ND	--	--	--
	2/6/97	<50	<50	<0.5	<0.5	<0.5	<0.5	<1	ND	--	--	<2.0
	5/8/97	<50	<50	<0.5	<0.5	<0.5	<0.5	<1	--	--	--	--
	8/7/97	<50	<50	<0.5	<0.5	<0.5	<0.5	<1	ND	--	--	<2.0
MW-8	10/1/92	70	--	20	1	1	3	210	--	--	--	--
	11/1/92	<50	170	<0.5	<0.5	<0.5	<0.5	200	ND	--	--	--
	4/1/93	490	100	15	45	5.1	73	210	ND	--	--	--
	7/1/93	180	90	2.5	3	<0.5	1.9	350	ND	--	--	--
	11/1/93	310	170	23	<0.5	<0.5	<0.5	240	ND	--	--	--
	8/1/95	660	240*	360	6.8	13	2.8	130	--	--	--	--
	12/1/95	250	<50	46	0.9	4.9	<0.5	94	ND	--	--	--
	5/1/96	69	94	110	<0.5	<0.5	1.5	100	ND	--	--	--
	8/1/96	120	250 ^{1,2}	11	<0.5	<0.5	<0.5	93	ND	--	--	<2.0
	11/5/96	110	<50	20	<1	1	<1	98	ND	--	--	--

TABLE 3
SUMMARY OF CONTAMINANT CONCENTRATIONS IN GROUNDWATER
FROM MONITORING WELLS
3093 BROADWAY
OAKLAND, CALIFORNIA

<u>Well</u>	<u>Event Date</u>	<u>TVH</u> <u>µg/l</u>	<u>TEH</u> <u>µg/l</u>	<u>B</u> <u>µg/l</u>	<u>T</u> <u>µg/l</u>	<u>E</u> <u>µg/l</u>	<u>X</u> <u>µg/l</u>	<u>1,2-DCA</u> <u>µg/l</u>	<u>Other Purgeable Halocarbons⁺</u> <u>µg/l</u>	<u>Oil & Grease</u> <u>mg/l</u>	<u>Semi-volatile Compounds</u> <u>µg/l</u>	<u>MTBE</u> <u>µg/l</u>
MW-8	2/6/97	67 ^{1,2}	130	51	<0.5	0.56	<0.5	81	ND	--	--	<2.0
(cont.)	5/9/97	110 ^{1,2}	120 ^{1,2}	59	<0.5	<0.5	<0.5	76	--	--	--	--
	8/7/97	<50	150 ²	12 ³	<0.5	<0.5	<0.5	79	ND	--	--	<2.0
MW-9	11/1/92	19,000	320	180	590	23	2000	340	Chloroform (15)	--	--	--
	4/1/93	2,300	920	48	4	0.6	13	600	Chloroform (2)	--	--	--
	7/1/93	2,300	450	170	8.1	15	<0.5	1100	ND	--	--	--
	11/1/93	4,400	450	69	7.3	21	9.7	900	ND	--	--	--
	8/1/95	3,200	680	3,900	49	80	22.8	960	--	--	--	--
	5/1/96	<1300	710	2,600	<13	200	<13	550	ND	--	--	--
	11/5/96	1,800	420	280	<5	65	<5	770	ND	--	--	--
	5/9/97	1,100	490 ^{1,2}	160	<0.5	42	<0.5	690	--	--	--	--
	8/8/97	570 ^{1,2}	480 ²	<0.5	<0.5	<0.5	0.78 ³	680	ND	--	--	<2.0
MW-10	10/1/92	28,000	--	2,700	3,800	210	1,300	150	--	--	--	--
	11/1/92	130,000	1,300	9,700	19,000	1,400	8,400	370	ND	--	--	--
	4/1/93	63,000	5,000	6,300	14,000	1,100	7,500	70	ND	--	--	--
	7/1/93	140,000	20,000	16,000	31,000	2,200	13,000	700	ND	--	--	--
	8/1/95	92,000	5,900	13,000	24,000	1,800	9,100	300	--	--	--	--
	5/1/96	81,000	5,600	17,000	29,000	2,100	8,500	320	ND	--	--	--
	5/9/97	63,000	2,500 ^{1,2}	7,400	13,000	940	4,100	150	--	--	--	--

TABLE 3
SUMMARY OF CONTAMINANT CONCENTRATIONS IN GROUNDWATER
FROM MONITORING WELLS
3093 BROADWAY
OAKLAND, CALIFORNIA

<u>Well</u>	<u>Event Date</u>	<u>TVH</u> <u>µg/l</u>	<u>TEH</u> <u>µg/l</u>	<u>B</u> <u>µg/l</u>	<u>T</u> <u>µg/l</u>	<u>E</u> <u>µg/l</u>	<u>X</u> <u>µg/l</u>	<u>1,2-DCA</u> <u>µg/l</u>	<u>Other Purgeable Halocarbons⁺</u> <u>µg/l</u>	<u>Oil & Grease</u> <u>mg/l</u>	<u>Semi-volatile Compounds</u> <u>µg/l</u>	<u>MTBE</u> <u>µg/l</u>
MW-11	11/1/92	<50	220	<0.5	<0.5	<0.5	<0.5	<1	ND	--	--	--
	12/1/92	<50	140	<0.1	<0.1	<0.1	<0.1	--	--	--	--	--
	12/1/92	<50	120	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--
	4/1/93	<50	<50	<0.5	<0.5	<0.5	<0.5	<1	ND	--	--	--
	7/1/93	160	150	<0.5	1.8	<0.5	<0.5	<1	ND	--	--	--
	11/1/93	80	60	<0.5	<0.5	<0.5	<0.5	<1	ND	--	--	--
	8/1/95	<50	240*	<0.5	<0.5	<0.5	<0.5	<1	--	--	--	--
	5/1/96	<50	<50	<0.5	<0.5	<0.5	<0.5	<1	ND	--	--	--
	5/8/97	<50	<50	<0.5	<0.5	<0.5	<0.5	<1	--	--	--	--
MW-13	11/1/92	<50	3,600	<0.5	<0.5	<0.5	<0.5	<1	ND	--	--	--
	12/1/92	<50	210	<0.1	<0.1	<0.1	<0.1	--	--	--	--	--
	12/1/92	<50	100	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--
	4/1/93	<50	<50	<0.5	0.9	<0.5	<0.5	<1	ND	--	--	--
	7/1/93	<50	<50	<0.5	<0.5	<0.5	<0.5	<1	ND	--	--	--
	11/1/93	<50	160	<0.5	<0.5	<0.5	<0.5	<1	ND	--	--	--
	8/1/95	<50	<50	49	<0.5	<0.5	<0.5	3.6	--	--	--	--
	12/1/95	<50	<50	<0.5	<0.5	<0.5	<0.5	4.1	ND	--	--	--
	5/1/96	<50	<50	<0.5	<0.5	<0.5	<0.5	4	ND	--	--	--
	8/1/96	<50	<50	32	<0.5	<0.5	<0.5	6.4	ND	--	--	<2.0
	11/5/96	<50	<50	<1	<1	<1	<1	5.7	ND	--	--	--
2/6/97	<50	<50	<0.5	<0.5	<0.5	<0.5	3.5	ND	--	--	<2.0	

TABLE 3
SUMMARY OF CONTAMINANT CONCENTRATIONS IN GROUNDWATER
FROM MONITORING WELLS
3093 BROADWAY
OAKLAND, CALIFORNIA

<u>Well</u>	<u>Event Date</u>	<u>TVH</u> <u>µg/l</u>	<u>TEH</u> <u>µg/l</u>	<u>B</u> <u>µg/l</u>	<u>T</u> <u>µg/l</u>	<u>E</u> <u>µg/l</u>	<u>X</u> <u>µg/l</u>	<u>1,2-DCA</u> <u>µg/l</u>	<u>Other Purgeable Halocarbons⁺</u> <u>µg/l</u>	<u>Oil & Grease</u> <u>mg/l</u>	<u>Semi-volatile Compounds</u> <u>µg/l</u>	<u>MTBE</u> <u>µg/l</u>
MW-13	5/8/97	<50	<50	81	<0.5	<0.5	<0.5	5.5	--	--	--	--
(cont.)	8/8/97	<50	<50	<0.5	<0.5	<0.5	<0.5	6.8	ND	--	--	<2.0

µg/l = micrograms per liter = parts per billion = ppb

TVH = Total Volatile Hydrocarbons

TEH = Total Extractable Hydrocarbons

BTEX = Benzene, Toluene, Ethylbenzene, Xylenes

1,2-DCA = 1,2-Dichloroethane

<0.5 = Chemical not present at a concentration in excess of detection limit shown

ND = None detected, chemicals not present at concentrations

above detection limits reported on laboratory test reports

MW-1 was initially referred to as Sample 5

-- = Test not requested

FP = Free product encountered in well

+ = Includes 1,1-dichloroethane

* = Suspect laboratory contamination contributing to test result.

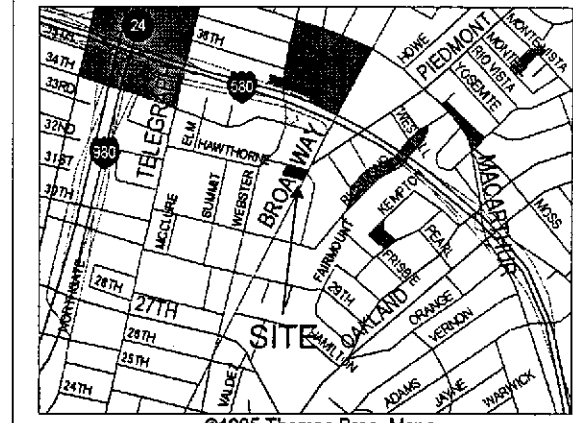
** = 2,4-dichlorophenol (1,700 µg/l), naphthalene (1,200 µg/l), 2-methylnaphthalene (630 µg/l), bis (2-ethylhexyl) phthalate (240 µg/l) detected during August 1995 event, naphthalene (640 µg/l), 2-methylnaphthalene (250 µg/l) during the May 1996 event

*** = Phenol (93 µg/l), Benzoic acid (570 µg/l), Naphthalene (650 µg/l), 2-Methylnaphthalene (280 µg/l) during May 1997 event.

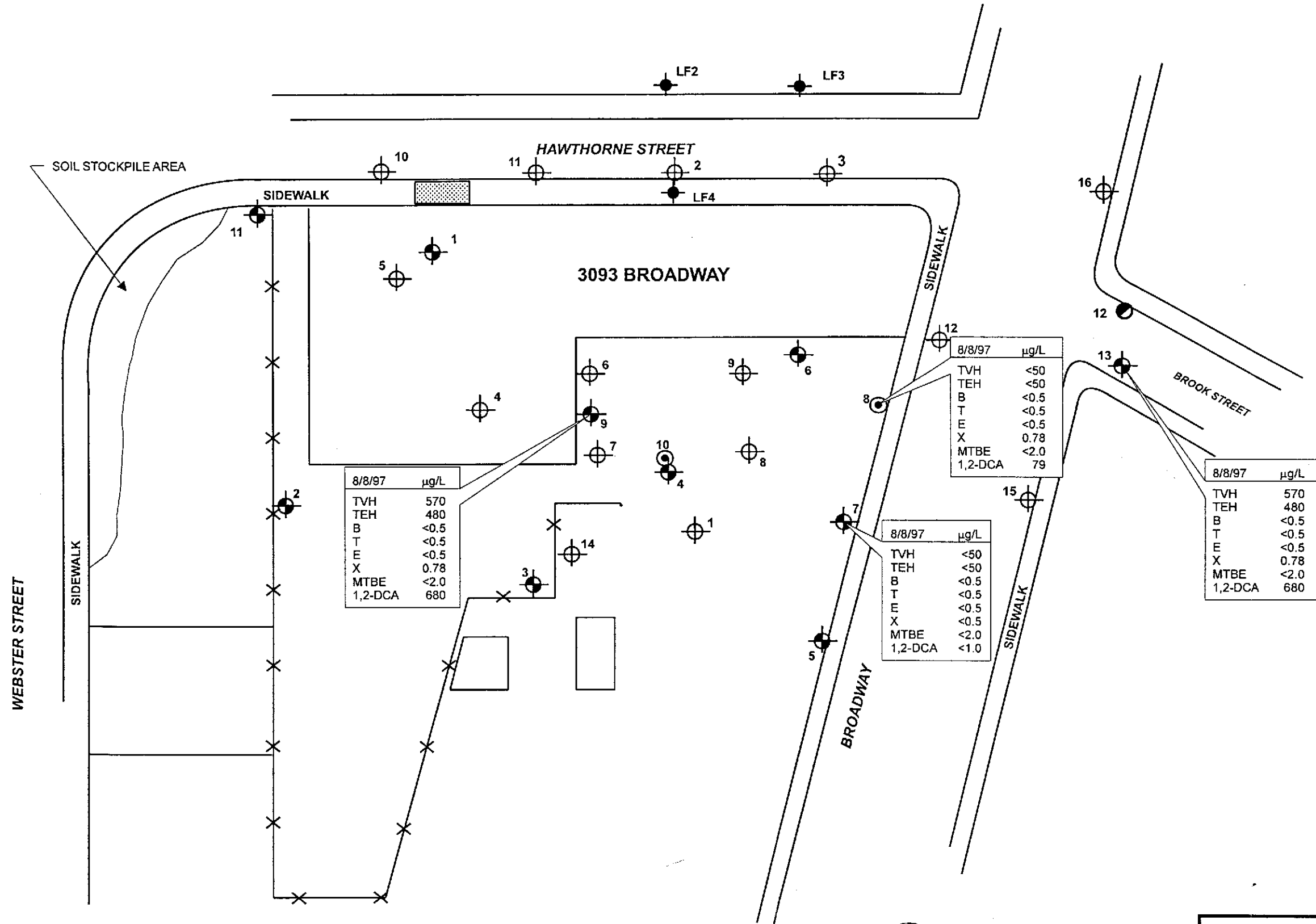
¹ = Sample exhibits fuel pattern which does not resemble standard

² = Lighter hydrocarbons than indicated standard

³ = Presence of this compound confirmed by second column, however, the confirmation concentration differed from the reported result by more than a factor of two



©1995 Thomas Bros. Maps
VICINITY MAP



8/8/97	µg/L
TVH	570
TEH	480
B	<0.5
T	<0.5
E	<0.5
X	0.78
MTBE	<2.0
1,2-DCA	680

8/8/97	µg/L
TVH	<50
TEH	<50
B	<0.5
T	<0.5
E	<0.5
X	0.78
MTBE	<2.0
1,2-DCA	79

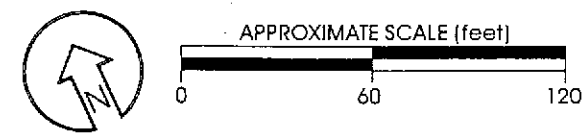
8/8/97	µg/L
TVH	<50
TEH	<50
B	<0.5
T	<0.5
E	<0.5
X	<0.5
MTBE	<2.0
1,2-DCA	<1.0

8/8/97	µg/L
TVH	570
TEH	480
B	<0.5
T	<0.5
E	<0.5
X	0.78
MTBE	<2.0
1,2-DCA	680

EXPLANATION

- SCI TEST BORING
- SCI MONITORING WELL
- EXTRACTION WELL
- LEVINE FRICKE MONITORING WELL
- CONE PENETRATION TEST (CPT)
- FENCE
- RETAINING WALL
- FORMER TANK LOCATION

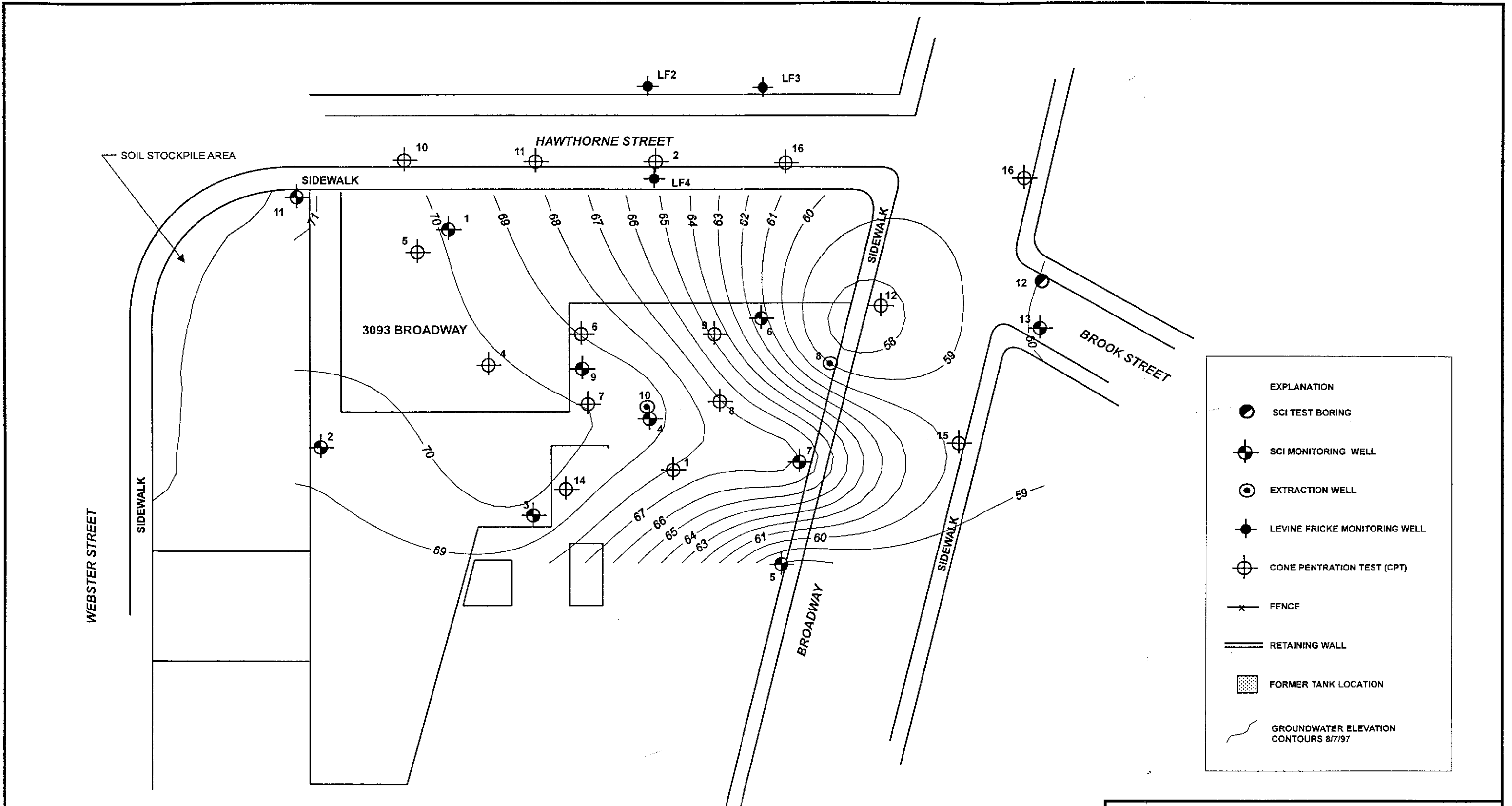
µg/L Micrograms per liter
 TVH Total volatile hydrocarbons
 TEH Total extractable hydrocarbons
 B Benzene
 T Toluene
 E Ethylbenzene
 X Total xylenes
 MTBE Methyl tert butyl ether
 1,2-DCA 1,2-dichloroethane



SITE PLAN

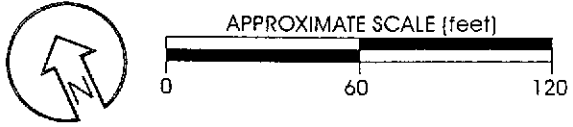
CONNELL OLDSMOBILE - OAKLAND, CA			1
JOB NUMBER 447.055	DATE 8/5/97	APPROVED <i>SW</i>	

SCI Subsurface Consultants, Inc.
Geotechnical & Environmental Engineers



EXPLANATION

- SCI TEST BORING
- SCI MONITORING WELL
- EXTRACTION WELL
- LEVINE FRICKE MONITORING WELL
- CONE PENTRATION TEST (CPT)
- FENCE
- RETAINING WALL
- FORMER TANK LOCATION
- GROUNDWATER ELEVATION CONTOURS 8/7/97



**GROUNDWATER ELEVATION CONTOURS
AUGUST 1997**

SCI Subsurface Consultants, Inc.
Geotechnical & Environmental Engineers

CONNELL OLDSMOBILE - OAKLAND, CA			PLATE
JOB NUMBER 447.055	DATE 8/27/97	APPROVED <i>SV</i>	2

ibsurface Consultants, Inc.

PENSE RECORD for SCI FIELD SERVICES and FIELD SUPPLIES

PROJECT NAME: <u>Connell Olds</u>	JOB NUMBER: <u>447.055</u>	DATE SUBMITTED: <u>6/6/97</u>
SUBMITTED BY: <u>D. Alexander</u>	ENTERED BY:	

TYPE OF FIELD SUPPLY/FIELD SERVICE	UNIT NUMBER	NUMBER OF UNITS/DAYS	COST
			\$
<u>Baiter</u>	<u>53023</u>	<u>1</u>	<u>4.00</u>

FILE COPY

SCI FIELD SUPPLIES				FIELD SERVICES			
Unit No.	Unit Name	Billing Per Unit	Cost Per Unit	Unit No.	Unit Name	Billing Per Unit	Cost Per Unit
1020	Plastic Sheet (20x100')	per roll	\$100.00	53041	2" PVC Blank Pipe - 5' section	per foot	3.11
1021	Plastic Sheet (10x100' or 20x50')	per roll	50.00	53042	2" PVC Blank Pipe - 10' section	per foot	2.05
1022	Brass Liners	each	5.00	53043	2" PVC Screen Pipe - 5' section	per foot	4.32
1023	Disposable Ballers	each	8.00	53044	2" PVC Screen Pipe - 10' section	per foot	3.05
1024	Keyed-Allke Locks	each	8.00	53045	4" PVC Blank Pipe - 5' section	per foot	6.24
1025	Zip-Lock Bags - quart	per box	2.00	53046	4" PVC Blank Pipe - 10' section	per foot	4.89
1026	Zip-Lock Bags - gallon	per box	4.00	53047	4" PVC Screen Pipe - 5' section	per foot	8.92
1027	Portland Cement - 94#	sack	8.95	53048	4" PVC Screen Pipe - 10' section	per foot	7.10
1028	Concrete Mix - 90#	sack	4.05	53049	55 Gallon Drum	each	43.57
1029	Asphalt Mix - 90#	sack	5.01	53050	Slope Indicator Casing	10-foot sec	65.98
1030	Bentonite Gel - 1#	sack	6.10	53051	Coupling	each	5.29
1031	Bentonite Pellets - 1/4"	bucket	39.84	53052	End Cap	each	3.73
1032	Bentonite Pellets - 3/8"	bucket	32.37				
1033	Bentonite Pellets - 1/2"	bucket	28.64				
1034	Sand - #3	sack	7.12	53001	Generator	\$25/day	
1035	2" PVC Slip Cap	each	.94	53002	Steam Cleaner	\$75/day	
1036	2" PVC Screw Cap	each	7.51	53003	Inclinometer	\$150/day	
1037	2" Locking Cap	each	22.91	53004	Rotary Hammer	\$25/day	
1038	4" PVC Slip Cap	each	7.53	53005	Hand Pump	\$10/day	
1039	4" PVC Screw Cap	each	13.25	53006	Nitrogen Pump	\$50/day	
1040	4" Locking Cap	each	24.93	53007	OVM	\$25/day	
				53008	Gas Tech	\$25/day	
				53009	PH Meter	\$10/day	
				53010	Conductivity Meter	\$10/day	
				53011	Submersible Pump	\$25/day	

Subsurface Consultants, Inc.

EXPENSE RECORD for SCI FIELD SERVICES and FIELD SUPPLIES

PROJECT NAME: <i>Connell Olds</i>	JOB NUMBER: <i>447.055</i>	DATE SUBMITTED: <i>7/8/97</i>
SUBMITTED BY: <i>D. Alexander</i>	ENTERED BY:	

TYPE OF FIELD SUPPLY/FIELD SERVICE	UNIT NUMBER	NUMBER OF UNITS/DAYS	COST
			\$
<i>Bailer</i>	<i>53023</i>	<i>1</i>	<i>0.00</i>
FILE COPY			

SCI FIELD SUPPLIES

Unit No.	Unit Name	Billing Per Unit	Cost Per Unit
3020	Plastic Sheet (20x100')	per roll	\$100.00
3021	Plastic Sheet (10x100' or 20x50')	per roll	50.00
3022	Brass Liners	each	5.00
3023	Disposable Ballers	each	8.00
3024	Keyed-Allke Locks	each	8.00
3025	Zip-Lock Bags - quart	per box	2.00
3026	Zip-Lock Bags - gallon	per box	4.00
3027	Portland Cement - 94#	sack	8.95
3028	Concrete Mix - 90#	sack	4.05
3029	Asphalt Mix - 90#	sack	5.01
3030	Bentonite Gel - 1#	sack	6.10
3031	Bentonite Pellets - 1/4"	bucket	39.04
3032	Bentonite Pellets - 3/8"	bucket	32.37
3033	Bentonite Pellets - 1/2"	bucket	20.64
3034	Sand - #3	sack	7.12
3035	2" PVC Slip Cap	each	.94
3036	2" PVC Screw Cap	each	7.51
3037	2" Locking Cap	each	22.91
3038	4" PVC Slip Cap	each	7.53
3039	4" PVC Screw Cap	each	13.25
3040	4" Locking Cap	each	24.93

Unit No.	Unit Name	Billing Per Unit	Cost Per Unit
53041	2" PVC Blank Pipe - 5' section	per foot	3.11
53042	2" PVC Blank Pipe - 10' section	per foot	2.05
53043	2" PVC Screen Pipe - 5' section	per foot	4.32
53044	2" PVC Screen Pipe - 10' section	per foot	3.05
53045	4" PVC Blank Pipe - 5' section	per foot	6.24
53046	4" PVC Blank Pipe - 10' section	per foot	4.89
53047	4" PVC Screen Pipe - 5' section	per foot	8.92
53048	4" PVC Screen Pipe - 10' section	per foot	7.10
53049	55 Gallon Drum	each	43.57
53050	Slope Indicator Caslng	10-foot sec	65.98
53051	Coupling	each	5.29
53052	End Cap	each	3.73

FIELD SERVICES

53001	Generator	\$25/day
53002	Steam Cleaner	\$75/day
53003	Inclinometer	\$150/day
53004	Rotary Hammer	\$25/day
53005	Hand Pump	\$10/day
53006	Nitrogen Pump	\$50/day
53007	OVM	\$25/day
53008	Gas Tech	\$25/day
53009	PH Meter	\$10/day
53010	Conductivity Meter	\$10/day
53011	Submersible Pump	\$25/day

Subsurface Consultants, Inc.

EXPENSE RECORD for SCI FIELD SERVICES and FIELD SUPPLIES

PROJECT NAME: <u>Connell Olds</u>	JOB NUMBER: <u>447.055</u>	DATE SUBMITTED: <u>8/8/97</u>
SUBMITTED BY: <u>D. Alexander</u>	ENTERED BY:	

TYPE OF FIELD SUPPLY/FIELD SERVICE	UNIT NUMBER	NUMBER OF UNITS/DAYS	COST
			\$
<u>Barrels</u>	<u>53023</u>	<u>9</u>	<u>72.00</u>
<u>PH Meter</u>	<u>53009</u>	<u>2</u>	<u>60.00</u>
<u>Cond. Meter</u>	<u>53010</u>	<u>2</u>	<u>20.00</u>
FILE COPY			

SCI FIELD SUPPLIES

Unit No.	Unit Name	Billing Per Unit	Cost Per Unit
3020	Plastic Sheet (20x100')	per roll	\$100.00
3021	Plastic Sheet (10x100' or 20x50')	per roll	50.00
3022	Brass Liners	each	5.00
3023	Disposable Ballers	each	8.00
3024	Keyed-Allke Locks	each	8.00
3025	Zip-Lock Bags - quart	per box	2.00
3026	Zip-Lock Bags - gallon	per box	4.00
3027	Portland Cement - 94#	sack	8.95
3028	Concrete Mix - 90#	sack	4.05
3029	Asphalt Mix - 90#	sack	5.01
3030	Bentonite Gel - 1#	sack	6.10
3031	Bentonite Pellets - 1/4"	bucket	39.84
3032	Bentonite Pellets - 3/8"	bucket	32.37
3033	Bentonite Pellets - 1/2"	bucket	28.64
3034	Sand - #3	sack	7.12
3035	2" PVC Slip Cap	each	.94
3036	2" PVC Screw Cap	each	7.51
3037	2" Locking Cap	each	22.91
3038	4" PVC Slip Cap	each	7.53
3039	4" PVC Screw Cap	each	13.25
3040	4" Locking Cap	each	24.93

Unit No.	Unit Name	Billing Per Unit	Cost Per Unit
53041	2" PVC Blank Pipe - 5' section	per foot	3.11
53042	2" PVC Blank Pipe - 10' section	per foot	2.05
53043	2" PVC Screen Pipe - 5' section	per foot	4.32
53044	2" PVC Screen Pipe - 10' section	per foot	3.05
53045	4" PVC Blank Pipe - 5' section	per foot	6.24
53046	4" PVC Blank Pipe - 10' section	per foot	4.89
53047	4" PVC Screen Pipe - 5' section	per foot	8.92
53048	4" PVC Screen Pipe - 10' section	per foot	7.10
53049	55 Gallon Drum	each	43.57
53050	Slope Indicator Casing	10-foot sec	65.98
53051	Coupling	each	5.29
53052	End Cap	each	3.73

FIELD SERVICES

53001	Generator	\$25/day
53002	Steam Cleaner	\$75/day
53003	Inclinometer	\$150/day
53004	Rotary Hammer	\$25/day
53005	Hand Pump	\$10/day
53006	Nitrogen Pump	\$50/day
53007	OVM	\$25/day
53008	Gas Tech	\$25/day
53009	PH Meter	\$10/day
53010	Conductivity Meter	\$10/day
53011	Submersible Pump	\$25/day



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710. Phone (510) 486-0900

A N A L Y T I C A L R E P O R T

Prepared for:

Subsurface Consultants
3736 Mt. Diablo Blvd.
Suite 200
Lafayette, CA 94549

Date: 15-AUG-97
Lab Job Number: 130211
Project ID: 447.055
Location: Connell Olds

Reviewed by:

Teresa Morrison

Reviewed by:

Tracy B. B. B.

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TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
 Project#: 447.055
 Location: Connell Olds

Analysis Method: EPA 8015M
 Prep Method: EPA 3520

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
130211-001	MW-7	35703	08/07/97	08/15/97	08/20/97	
130211-002	MW-8	35703	08/07/97	08/15/97	08/20/97	
130211-003	MW-9	35703	08/08/97	08/15/97	08/20/97	
130211-004	MW-13	35703	08/08/97	08/15/97	08/20/97	

Matrix: Water

Analyte	Units	130211-001	130211-002	130211-003	130211-004
Diln Fac:		1	1	1	1
Diesel C12-C22	ug/L	<50	150 L	480 L	<50
Surrogate					
Hexacosane	%REC	112	104	114	111

L: Lighter hydrocarbons than indicated standard

Chromatogram

Sample Name : 130211-002,35703

FileName : G:\GC13\CHA\231A019.RAW

Method : ATEH217.MTH

Start Time : 0.07 min

Scale Factor: 0.0

Sample #: 35703

Date : 8/20/97 11:44 AM

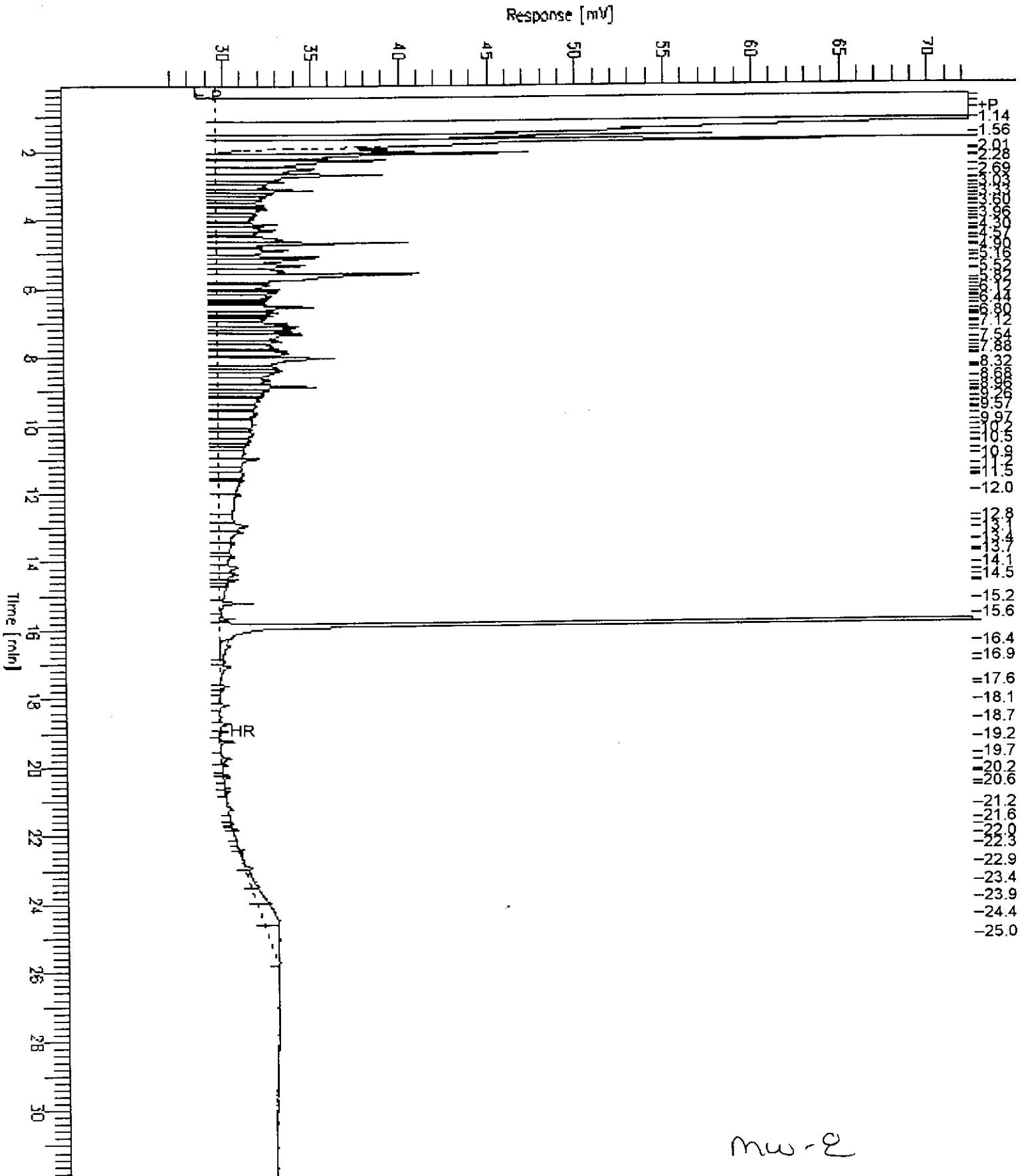
Time of Injection: 8/20/97 04:17 AM

Low Point : 26.11 mV

Plot Scale: 46.3 mV

Page 1 of 1

High Point : 72.38 mV



Chromatogram

Sample Name : 130211-003,35703

Sample #: 35703

Page 1 of 1

FileName : G:\GC13\CHA\231A020.RAW

Date : 8/20/97 11:42 AM

Method : ATEH217.MTH

Time of Injection: 8/20/97 08:23 AM

Start Time : 0.12 min

End Time : 31.91 min

Low Point : 21.65 mV

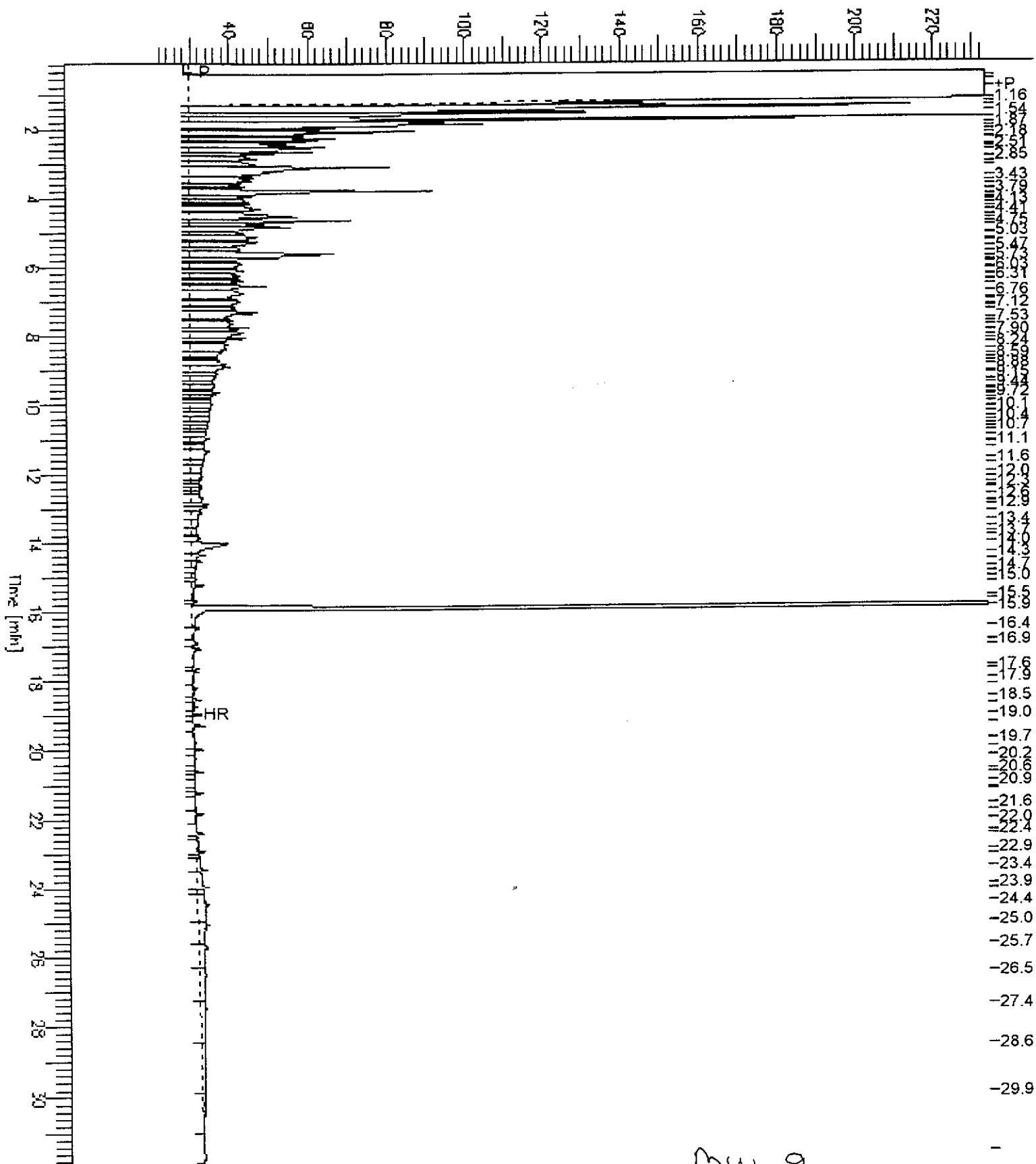
High Point : 233.56 mV

Scale Factor: 0.0

Plot Offset: 22 mV

Plot Scale: 211.9 mV

Response [mV]

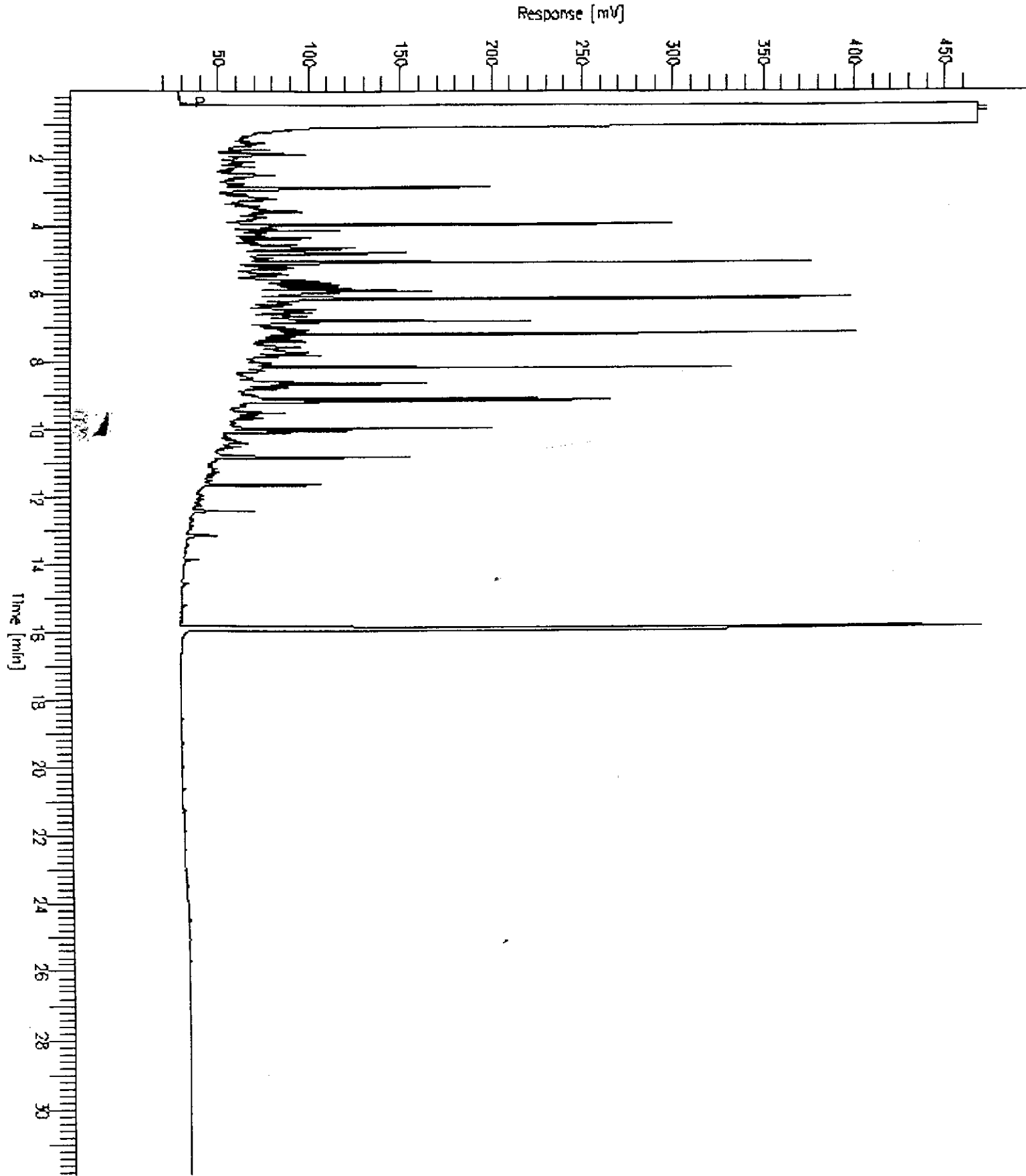


mw-9

Sample Name : CCV,97WS4508,DS
FileName : G:\GC13\CHA\231A023.RAW
Method : ATEH217.MTH
Start Time : 0.01 min
Scale Factor: 0.0

End Time : 31.91 min
Plot Offset: 19 mV

Sample #: 500MG/L
Date : 8/20/97 12:05 PM
Time of Injection: 8/20/97 10:30 AM
Low Point : 19.41 mV
High Point : 468.65 mV
Plot Scale: 449.2 mV



Lab #: 130211

BATCH QC REPORT



Curtis & Associates, Inc. 1

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 447.055
Location: Connell Olds

Analysis Method: EPA 8015M
Prep Method: EPA 3520

METHOD BLANK

Matrix: Water
Batch#: 35703
Units: ug/L
Diln Fac: 1

Prep Date: 08/15/97
Analysis Date: 08/20/97

MB Lab ID: QC52332

Analyte	Result	
Diesel C12-C22	<50	
Surrogate	%Rec	Recovery Limits
Hexacosane	131	60-140

Lab #: 130211

BATCH QC REPORT



Curtis & Pasniks, P.C. 1

TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants
Project#: 447.055
Location: Connell Olds

Analysis Method: EPA 8015M
Prep Method: EPA 3520

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
Batch#: 35703
Units: ug/L
Diln Fac: 1

Prep Date: 08/15/97
Analysis Date: 08/20/97

BS Lab ID: QC52333

Analyte	Spike Added	BS	%Rec #	Limits
Diesel C12-C22	2475	2085	84	60-140
Surrogate	%Rec	Limits		
Hexacosane	120	60-140		

BSD Lab ID: QC52334

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Diesel C12-C22	2475	2170	88	60-140	4	35
Surrogate	%Rec	Limits				
Hexacosane	126	60-140				


Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 1 outside limits

Spike Recovery: 0 out of 2 outside limits

LABORATORY NUMBER: 130211
 CLIENT: SUBSURFACE CONSULTANTS
 PROJECT ID: 447.055
 LOCATION: CONNELL OLDS

 Curtis & Tompkins, Ltd.
 DATE SAMPLED: 08/07/97
 DATE RECEIVED: 08/08/97
 DATE ANALYZED: 08/12/97
 DATE REPORTED: 08/15/97
 BATCH NO: 35559

EPA 8240


LAB ID	CLIENT ID	1,1-DCA	1,2-DCA	REPORTING LIMIT (ug/L)	SURROGATE RECOVERIES		
		(ug/L)	(ug/L)		1	2	3
130211-001	MW-7	ND	ND	1.0	99%	101%	108%
130211-002	MW-8	ND	79	1.0	100%	101%	107%
METHOD BLANK	N/A	ND	ND	1.0	99%	101%	102%

1=Toluene-d8
 2=Bromofluorobenzene
 3= 1,2-Dichloroethane-d4

Limits
 87-125
 79-122
 68-126

ND = Not detected at or above reporting limit.

LABORATORY NUMBER: 130211
 CLIENT: SUBSURFACE CONSULTANTS
 PROJECT ID: 447.055
 LOCATION: CONNELL OLDS

 Curtis & Tompkins Ltd
 DATE SAMPLED: 08/08/97
 DATE RECEIVED: 08/08/97
 DATE ANALYZED: 08/12/97
 DATE REPORTED: 08/15/97
 BATCH NO: 35576

EPA 8240

LAB ID	CLIENT ID	1,1-DCA (ug/L)	1,2-DCA (ug/L)	REPORTING LIMIT (ug/L)	SURROGATE RECOVERIES		
					1	2	3
130211-003	MW-9	ND	680	5.0	102%	102%	111%
130211-004	MW-13	ND	6.8	1.0	101%	103%	110%
METHOD BLANK	N/A	ND	ND	1.0	99%	103%	106%

1=Toluene-d8
 2=Bromofluorobenzene
 3= 1,2-Dichloroethane-d4

Limits
 87-125
 79-122
 68-126

ND = Not detected at or above reporting limit.

Halogenated Volatile Organics

Client: Subsurface Consultants
 Project#: 447.055
 Location: Connell Olds

Analysis Method: EPA 8260
 Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
 Batch#: 35559
 Units: ug/L
 Diln Fac: 1

Prep Date: 08/11/97
 Analysis Date: 08/11/97

LCS Lab ID: QC51809

Analyte	Result	Spike Added	%Rec #	Limits
1,1-Dichloroethene	44.91	50	90	51-180
Trichloroethene	47.17	50	94	73-141
Chlorobenzene	47.68	50	95	83-129
Surrogate	%Rec	Limits		
Toluene-d8	101	87-125		
Bromofluorobenzene	97	79-122		
1,2-Dichloroethane-d4	101	68-126		

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 3 outside limits

Lab #: 130211

BATCH QC REPORT

Halogenated Volatile Organics			
Client: Subsurface Consultants	Analysis Method: EPA 8260		
Project#: 447.055	Prep Method: EPA 5030		
Location: Connell Olds			
LABORATORY CONTROL SAMPLE			
Matrix: Water	Prep Date:	08/12/97	
Batch#: 35576	Analysis Date:	08/12/97	
Units: ug/L			
Diln Fac: 1			

LCS Lab ID: QC51871

Analyte	Result	Spike Added	%Rec #	Limits
1,1-Dichloroethene	51.76	50	104	51-180
Trichloroethene	58.17	50	116	73-141
Chlorobenzene	51.96	50	104	83-129
Surrogate	%Rec	Limits		
Toluene-d8	100	87-125		
Bromofluorobenzene	101	79-122		
1,2-Dichloroethane-d4	103	68-126		

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 3 outside limits

Lab #: 130211

BATCH QC REPORT

Halogenated Volatile Organics	
Client: Subsurface Consultants	Analysis Method: EPA 8260
Project#: 447.055	Prep Method: EPA 5030
Location: Connell Olds	
MATRIX SPIKE/MATRIX SPIKE DUPLICATE	
Field ID: ZZZZZZ	Sample Date: 08/07/97
Lab ID: 130210-001	Received Date: 08/07/97
Matrix: Water	Prep Date: 08/12/97
Batch#: 35559	Analysis Date: 08/12/97
Units: ug/L	
Diln Fac: 1	

MS Lab ID: QC51811

Analyte	Spike Added	Sample	MS	%Rec #	Limits
1,1-Dichloroethene	50	<1	43.05	86	51-180
Trichloroethene	50	<1	44.39	89	73-141
Chlorobenzene	50	<1	45.62	91	83-129
Surrogate	%Rec	Limits			
Toluene-d8	99	87-125			
Bromofluorobenzene	99	79-122			
1,2-Dichloroethane-d4	101	68-126			

MSD Lab ID: QC51812

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
1,1-Dichloroethene	50	42.66	85	51-180	1	14
Trichloroethene	50	45.76	92	73-141	3	14
Chlorobenzene	50	46.08	92	83-129	1	13
Surrogate	%Rec	Limits				
Toluene-d8	99	87-125				
Bromofluorobenzene	99	79-122				
1,2-Dichloroethane-d4	103	68-126				

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 3 outside limits

Spike Recovery: 0 out of 6 outside limits

Lab #: 130211

BATCH QC REPORT

Halogenated Volatile Organics	
Client: Subsurface Consultants	Analysis Method: EPA 8260
Project#: 447.055	Prep Method: EPA 5030
Location: Connell Olds	
MATRIX SPIKE/MATRIX SPIKE DUPLICATE	
Field ID: ZZZZZZ	Sample Date: 08/11/97
Lab ID: 130231-001	Received Date: 08/12/97
Matrix: Water	Prep Date: 08/12/97
Batch#: 35576	Analysis Date: 08/12/97
Units: ug/L	
Diln Fac: 1	

MS Lab ID: QC51884

Analyte	Spike Added	Sample	MS	%Rec #	Limits
1,1-Dichloroethene	50	<1	47.35	95	51-180
Trichloroethene	50	<1	54.19	107	73-141
Chlorobenzene	50	<1	49.24	98	83-129
Surrogate	%Rec	Limits			
Toluene-d8	101	87-125			
Bromofluorobenzene	101	79-122			
1,2-Dichloroethane-d4	109	68-126			

MSD Lab ID: QC51885

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
1,1-Dichloroethene	50	46.3	93	51-180	2	14
Trichloroethene	50	53.6	106	73-141	1	14
Chlorobenzene	50	49.13	98	83-129	0	13
Surrogate	%Rec	Limits				
Toluene-d8	100	87-125				
Bromofluorobenzene	101	79-122				
1,2-Dichloroethane-d4	108	68-126				

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 3 outside limits

Spike Recovery: 0 out of 6 outside limits

TVH-Total Volatile Hydrocarbons

 Client: Subsurface Consultants
 Project#: 447.055
 Location: Connell Olds

 Analysis Method: TVH
 Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
130211-001	MW-7	35638	08/07/97	08/14/97	08/14/97	
130211-002	MW-8	35638	08/07/97	08/14/97	08/14/97	
130211-003	MW-9	35638	08/08/97	08/14/97	08/14/97	
130211-004	MW-13	35638	08/08/97	08/14/97	08/14/97	

Matrix: Water

Analyte	Units	130211-001	130211-002	130211-003	130211-004
Diln Fac:		1	1	1	1
Gasoline C7-C12	ug/L	<50	<50	570 YL	<50
Surrogate					
Bromobenzene	%REC	106	105	113	108

Y: Sample exhibits fuel pattern which does not resemble standard

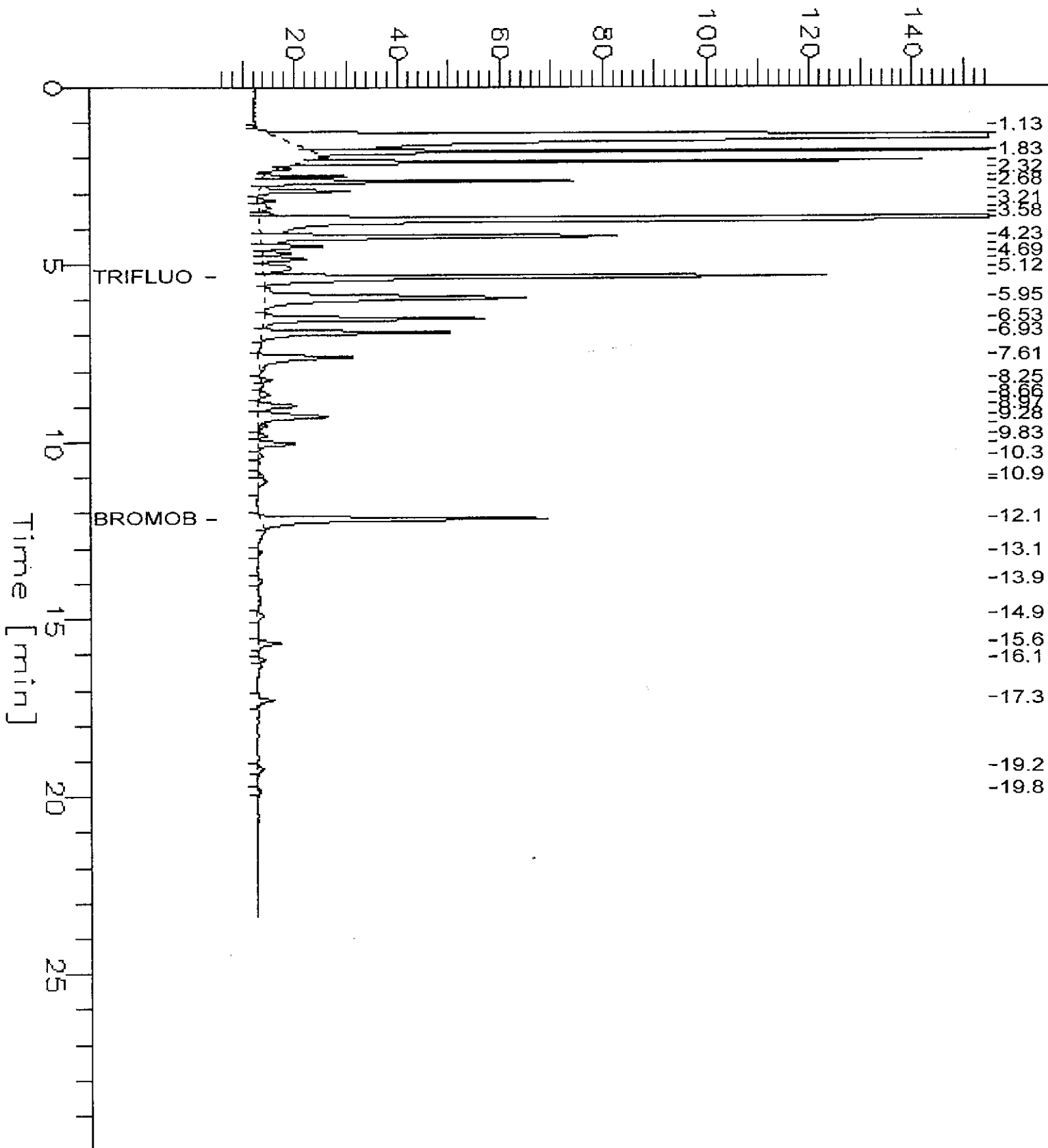
L: Lighter hydrocarbons than indicated standard

GC05 RTX1 TVH Chromatogram

Sample Name : S,130211-003,35638,
 FileName : G:\GC05\DATA\226H013.raw
 Method : G_081297
 Start Time : 0.00 min End Time : 30.00 min
 Scale Factor: -1.0 Plot Offset: 5 mV

Sample #: Page 1 of 1
 Date : 8/14/97 10:52 AM
 Time of Injection: 8/14/97 10:27 AM
 Low Point : 4.71 mV High Point : 154.71 mV
 Plot Scale: 150.0 mV

Response [mV]

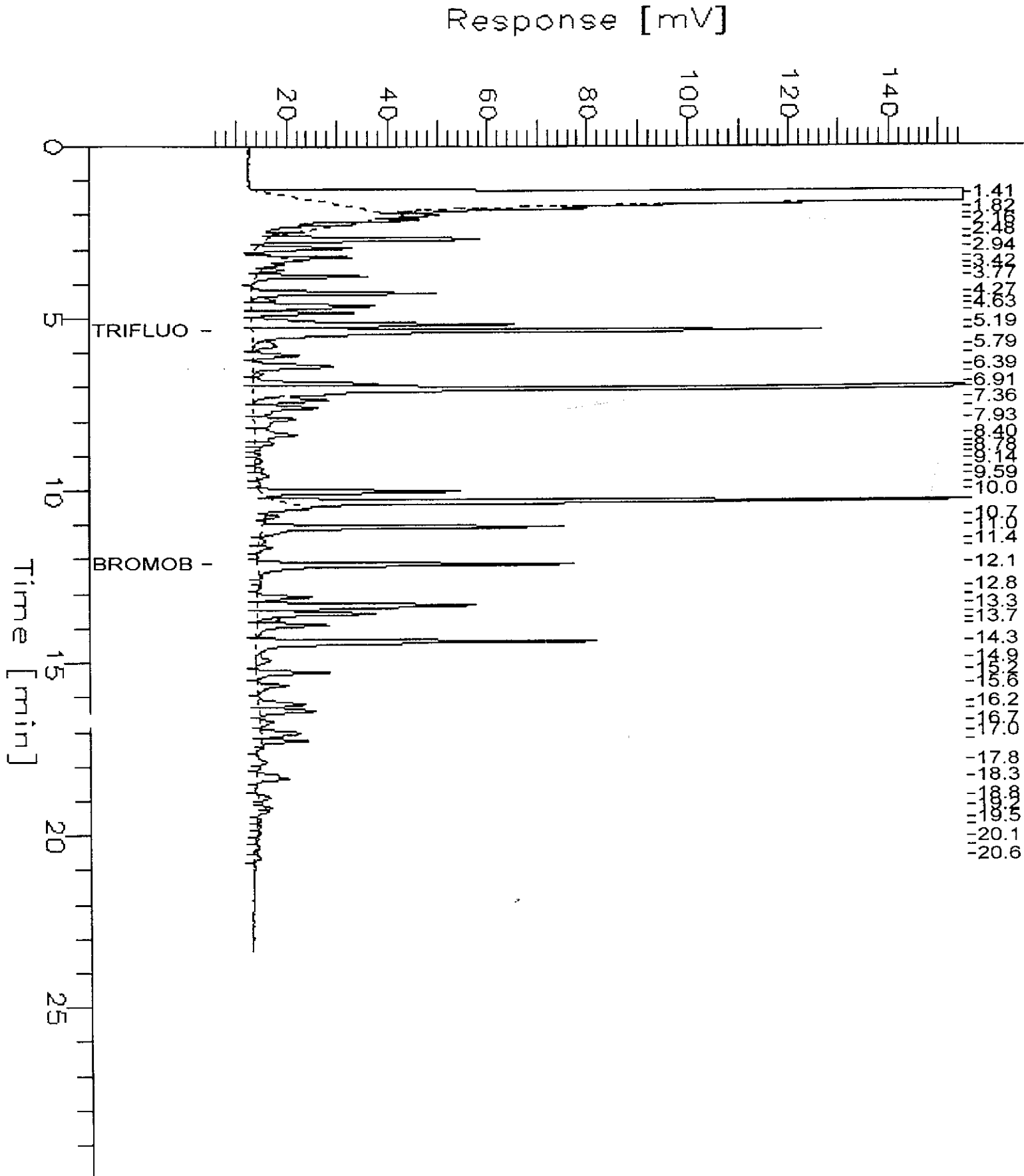


GC05 RTX1 TVH Chromatogram

Sample Name : CCV/LCS, QC52089, 97WS4392, 35638,
 FileName : G:\GC05\DATA\226H001.raw
 Method : G_081297
 Start Time : 0.00 min
 Scale Factor: -1.0

End Time : 30.00 min
 Plot Offset: 5 mV

Sample #: GAS
 Date : 8/14/97 03:13 AM
 Time of Injection: 8/14/97 02:44 AM
 Low Point : 4.85 mV
 Plot Scale: 150.0 mV
 Page 1 of 1
 High Point : 154.85 mV



BTXE

 Client: Subsurface Consultants
 Project#: 447.055
 Location: Connell Olds

 Analysis Method: EPA 8020A
 Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
130211-001	MW-7	35638	08/07/97	08/14/97	08/14/97	
130211-002	MW-8	35638	08/07/97	08/14/97	08/14/97	
130211-003	MW-9	35638	08/08/97	08/14/97	08/14/97	
130211-004	MW-13	35638	08/08/97	08/14/97	08/14/97	

Matrix: Water

Analyte	Units	130211-001	130211-002	130211-003	130211-004
Diln Fac:		1	1	1	1
MTBE	ug/L	<2	<2	<2	<2
Benzene	ug/L	<0.5	12 C	<0.5	<0.5
Toluene	ug/L	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	ug/L	<0.5	<0.5	7.4	<0.5
m,p-Xylenes	ug/L	<0.5	<0.5	0.78C	<0.5
o-Xylene	ug/L	<0.5	<0.5	<0.5	<0.5
Surrogate					
Trifluorotoluene	%REC	95	96	112	95
Bromobenzene	%REC	103	101	111	106

C: Presence of this compound confirmed by second column,
 however, the confirmation concentration differed from the reported
 result by more than a factor of two

Lab #: 130211

BATCH QC REPORT



Curtis & Tompkins Ltd. Page 1 of 1

TVH-Total Volatile Hydrocarbons

Client: Subsurface Consultants
Project#: 447.055
Location: Connell Olds

Analysis Method: TVH
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 35638
Units: ug/L
Diln Fac: 1

Prep Date: 08/14/97
Analysis Date: 08/14/97

MB Lab ID: QC52091

Analyte	Result	
Gasoline C7-C12	<50	
Surrogate	%Rec	Recovery Limits
Bromobenzene	96	65-135



BTXE			
Client:	Subsurface Consultants	Analysis Method:	EPA 8020A
Project#:	447.055	Prep Method:	EPA 5030
Location:	Connell Olds		
METHOD BLANK			
Matrix:	Water	Prep Date:	08/14/97
Batch#:	35638	Analysis Date:	08/14/97
Units:	ug/L		
Diln Fac:	1		

MB Lab ID: QC52091

Analyte	Result	
MTBE	<2.0	
Benzene	<0.5	
Toluene	<0.5	
Ethylbenzene	<0.5	
m,p-Xylenes	<0.5	
o-Xylene	<0.5	
Surrogate	%Rec	Recovery Limits
Trifluorotoluene	96	58-130
Bromobenzene	96	62-131

TVH-Total Volatile Hydrocarbons			
Client: Subsurface Consultants	Analysis Method: TVH		
Project#: 447.055	Prep Method: EPA 5030		
Location: Connell Olds			
LABORATORY CONTROL SAMPLE			
Matrix: Water	Prep Date: 08/14/97		
Batch#: 35638	Analysis Date: 08/14/97		
Units: ug/L			
Diln Fac: 1			

LCS Lab ID: QC52089

Analyte	Result	Spike Added	%Rec #	Limits
Gasoline C7-C12	2020	2000	101	75-125
Surrogate	%Rec	Limits		
Bromobenzene	125	65-135		

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 1 outside limits

Lab #: 130211

BATCH QC REPORT

BTXE			
Client: Subsurface Consultants	Analysis Method: EPA 8020A		
Project#: 447.055	Prep Method: EPA 5030		
Location: Connell Olds			
LABORATORY CONTROL SAMPLE			
Matrix: Water	Prep Date:	08/14/97	
Batch#: 35638	Analysis Date:	08/14/97	
Units: ug/L			
Diln Fac: 1			

LCS Lab ID: QC52090

Analyte	Result	Spike Added	%Rec #	Limits
MTBE	17.73	20	89	65-135
Benzene	17.43	20	87	80-120
Toluene	18.1	20	91	80-120
Ethylbenzene	19.24	20	96	80-120
m,p-Xylenes	37.79	40	94	80-120
o-Xylene	20.26	20	101	80-120
Surrogate	%Rec	Limits		
Trifluorotoluene	96	58-130		
Bromobenzene	103	62-131		

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 6 outside limits

TVH-Total Volatile Hydrocarbons			
Client: Subsurface Consultants	Analysis Method: TVH		
Project#: 447.055	Prep Method: EPA 5030		
Location: Connell Olds			
MATRIX SPIKE/MATRIX SPIKE DUPLICATE			
Field ID: ZZZZZZ	Sample Date:	07/31/97	
Lab ID: 130143-002	Received Date:	07/31/97	
Matrix: Water	Prep Date:	08/14/97	
Batch#: 35638	Analysis Date:	08/14/97	
Units: ug/L			
Diln Fac: 1			

MS Lab ID: QC52092

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Gasoline C7-C12	2000	2912	5385	124	75-125
Surrogate	%Rec	Limits			
Bromobenzene	135	65-135			

MSD Lab ID: QC52093

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Gasoline C7-C12	2000	5354	122	75-125	1	35
Surrogate	%Rec	Limits				
Bromobenzene	135	65-135				

Column to be used to flag recovery and RPD values with an asterisk
 * Values outside of QC limits
 RPD: 0 out of 1 outside limits
 Spike Recovery: 0 out of 2 outside limits

CHAIN OF CUSTODY FORM

130211

PAGE _____ OF _____

PROJECT NAME: Connell Olds
 JOB NUMBER: 447.055 LAB: Curtis + Tompkins
 PROJECT CONTACT: Samuel Wan TURNAROUND: Normal
 SAMPLED BY: Dennis Alexander REQUESTED BY: Samuel Wan

ANALYSIS REQUESTED					
TVH	BTXE	MTBE	TEH	DCA	
X	X		X	X	
X	X		X	X	
X	X	X	X	X	
X	X		X	X	

LABORATORY I.D. NUMBER	SCI SAMPLE NUMBER	MATRIX				CONTAINERS				METHOD PRESERVED					SAMPLING DATE				NOTES				
		WATER	SOIL	WASTE	AIR	VOA	LITER	PINT	TUBE	HCL	H ₂ SO ₄	HNO ₃	ICE	NONE	MONTH	DAY	YEAR	TIME					
-1	MW-7	X				2	1			X		X			08	07	97	1115	X	X			
-2	MW-8	X				2	1			X		X			08	07	97	1345	X	X			
-3	MW-9	X				7	1			X		X			08	08	97	0815	X	X	X		
-4	MW-13	X				7	1			X		X			08	08	97	0745	X	X			

CHAIN OF CUSTODY RECORD				COMMENTS & NOTES:
RELEASED BY: (Signature) <i>Dennis Alexander</i>	DATE / TIME 8/5/97 0840	RECEIVED BY: (Signature) <i>[Signature]</i>	DATE / TIME 8-8-97 18:40	
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME	
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME	
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME	

Subsurface Consultants, Inc.
 171 12TH STREET, SUITE 201, OAKLAND, CALIFORNIA 94607
 (510) 268-0461 • FAX: 510-268-0137

WELL SAMPLING FORM

Project Name: Connell Olds Well Number: MW-7
 Job No.: 447.055 Well Casing Diameter: 2 inch
 Sampled By: DWA Date: 8/7/97
 TOC Elevation: _____ Weather: Sunny

Depth to Casing Bottom (below TOC) 30.00 feet
 Depth to Groundwater (below TOC) 18.49 feet
 Feet of Water in Well 11.51 feet
 Depth to Groundwater When 80% Recovered 20.79 feet
 Casing Volume (feet of water x Casing DIA² x 0.0408) 1.9 gallons
 Depth Measurement Method Electronic Sounder / Other _____
 Free Product none
 Purge Method disposable bailer

fast recharge

FIELD MEASUREMENTS

Gallons Removed	pH	Temp (°C)	Conductivity (micromhos/cm)	Salinity S%	Comments
0	6.19	22.5	390		clear no odor
2	6.17	22.5	500		semi-clear
4	6.16	22.5	675		murky
6	6.23	22.5	700		↓

Total Gallons Purged 6 gallons
 Depth to Groundwater Before Sampling (below TOC)* 20.56 feet
 Sampling Method disposable bailer
 Containers Used 7 40 ml 1 liter _____ pint

Subsurface Consultants

JOB NUMBER

DATE

APPROVED

PLATE

WELL SAMPLING FORM

Project Name: Connell olds Well Number: MW-8
 Job No.: 447.055 Well Casing Diameter: 6 inch
 Sampled By: DWA Date: 8/7/97
 TOC Elevation: _____ Weather: Sunny

Depth to Casing Bottom (below TOC) 39.50 feet
 Depth to Groundwater (below TOC) 26.72 feet
 Feet of Water in Well 12.78 feet
 Depth to Groundwater When 80% Recovered 29.28 feet
 Casing Volume (feet of water x Casing DIA² x 0.0408) 19.0 gallons
 Depth Measurement Method Tape & Paste / Electronic Sounder / Other
 Free Product none
 Purge Method disposable bailer

moderate recharge

FIELD MEASUREMENTS

Gallons Removed	pH	Temp (°c)	Conductivity (micromhos/cm)	Salinity S%	Comments
<u>20</u>	<u>5.96</u>	<u>24.5</u>	<u>900</u>	_____	<u>clear / slight odor</u>
<u>30</u>	<u>5.96</u>	<u>25.5</u>	<u>1000</u>	_____	↓
<u>40</u>	<u>5.99</u>	<u>25.5</u>	<u>1025</u>	_____	
<u>50</u>	<u>5.99</u>	<u>25.0</u>	<u>1025</u>	_____	<u>semi-clear</u>
<u>60</u>	<u>6.03</u>	<u>25.0</u>	<u>1075</u>	_____	<u>murky</u>

Total Gallons Purged 60 gallons
 Depth to Groundwater Before Sampling (below TOC) 29.20 feet
 Sampling Method disposable bailer
 Containers Used 7 40 ml 1 liter _____ pint

Subsurface Consultants

JOB NUMBER

DATE

APPROVED

PLATE

WELL SAMPLING FORM

Project Name: Connell olds Well Number: MW-9
 Job No.: 447.055 Well Casing Diameter: 2 inch
 Sampled By: DWA Date: 8/7/97
 TOC Elevation: _____ Weather: Sunny

Depth to Casing Bottom (below TOC) 30.50 feet
 Depth to Groundwater (below TOC) 20.84 feet
 Feet of Water in Well 9.66 feet
 Depth to Groundwater When 80% Recovered 22.11 feet
 Casing Volume (feet of water x Casing DIA² x 0.0408) 1.6 gallons
 Depth Measurement Method Tape & Paste / Electronic Sounder / Other
 Free Product None
 Purge Method disposable bailer

FIELD MEASUREMENTS

*slow recharge
(overnight)*

Gallons Removed	pH	Temp (°C)	Conductivity (micromhos/cm)	Salinity S%	Comments
<u>1</u>	<u>5.96</u>	<u>22.0</u>	<u>775</u>		<u>semiclear/slight odor</u>
<u>2</u>	<u>5.70</u>	<u>22.0</u>	<u>875</u>		<u>↓</u>
<u>3</u>	<u>5.57</u>	<u>22.0</u>	<u>875</u>		<u>increasing turbidity dry @ 3 gals.</u>
<u>4</u>	<u>5.83</u>	<u>23.5</u>	<u>850</u>		<u>clear</u>
<u>5</u>	<u>5.87</u>	<u>24.0</u>	<u>925</u>		<u>muddy</u>

Total Gallons Purged 5 gallons
 Depth to Groundwater Before Sampling (below TOC) 20.84 on 8/7/97 @ 0800 feet
 Sampling Method disposable bailer
 Containers Used 7 40 ml 1 liter _____ pint

Subsurface Consultants		PLATE
	JOB NUMBER	DATE

WELL SAMPLING FORM

Project Name: Connell olds Well Number: MW-13
 Job No.: 447,055 Well Casing Diameter: 2 inch
 Sampled By: DWA Date: 8/8/97
 TOC Elevation: _____ Weather: Sunny

Depth to Casing Bottom (below TOC) 40.00 feet
 Depth to Groundwater (below TOC) 23.92 feet
 Feet of Water in Well 16.08 feet
 Depth to Groundwater When 80% Recovered 27.14 feet
 Casing Volume (feet of water x Casing DIA² x 0.0408) 25 gallons
 Depth Measurement Method Electronic Sounder (circled) Tape & Paste Other
 Free Product none
 Purge Method disposable bailer

fast recharge

FIELD MEASUREMENTS

Gallons Removed	pH	Temp (°C)	Conductivity (micromhos/cm)	Salinity S%	Comments
2	6.63	19.0	600		clean no odor
4	6.43	19.0	600		↓
6	6.31	19.0	600		semi-clean
8	6.31	19.0	600		↓

Total Gallons Purged 8 gallons
 Depth to Groundwater Before Sampling (below TOC) 27.14 feet
 Sampling Method disposable bailer
 Containers Used 7 40 ml 1 liter _____ pint

Subsurface Consultants

JOB NUMBER

DATE

APPROVED

PLATE

CHAIN OF CUSTODY FORM

PROJECT NAME: Connell Olds
 JOB NUMBER: 447.055 LAB: Curtis + Tompkins
 PROJECT CONTACT: Samuel Won TURNAROUND: Normal
 SAMPLED BY: Dennis Alexander REQUESTED BY: Samuel Won

ANALYSIS REQUESTED					

LABORATORY I.D. NUMBER	SCI SAMPLE NUMBER	MATRIX				CONTAINERS				METHOD PRESERVED					SAMPLING DATE				NOTES	TVH	BTXE	MTBE	TEH	DCA					
		WATER	SOIL	WASTE	AIR	VOA	LITER	PINT	TUBE	HCL	H ₂ SO ₄	HNO ₃	ICE	NONE	MONTH	DAY	YEAR	TIME											
	MW-7	X							2	1				X				08	07	97	11	15		XX		XX			
	MW-8	X							2	1				X				08	07	97	13	45		XX		XX			
	MW-9	X							7	1				X				08	09	97	08	15		XX	XX	X			
	MW-13	X							7	1				X				08	08	97	07	45		XX		XX			

CHAIN OF CUSTODY RECORD				COMMENTS & NOTES:			
RELEASED BY: (Signature) <u>Dennis Alexander</u>	DATE / TIME <u>8/8/97 08:40</u>	RECEIVED BY: (Signature) <u>[Signature]</u>	DATE / TIME <u>8-8-97 8:40</u>				
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME				
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RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME				

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CHAIN OF CUSTODY FORM

PROJECT NAME: Connell Olds
 JOB NUMBER: 447.055 LAB: Curtis + Tompkins
 PROJECT CONTACT: Samuel Wan TURNAROUND: Normal
 SAMPLED BY: Dennis Alexander REQUESTED BY: Samuel Wan

ANALYSIS REQUESTED					
TVH	BTXE	MTBE	TEH	DCA	

LABORATORY I.D. NUMBER	SCI SAMPLE NUMBER	MATRIX				CONTAINERS				METHOD PRESERVED					SAMPLING DATE				NOTES					
		WATER	SOIL	WASTE	AIR	VOA	LITER	PINT	TUBE	HCL	H ₂ SO ₄	HNO ₃	ICE	NONE	MONTH	DAY	YEAR	TIME						
	MW-7	X				7	1			X		X			08	07	97	1115	X	X				
	MW-8	X				7	1			X		X			08	07	97	1345	X	X				
	MW-9	X				7	1			X		X			08	09	97	0915	X	X	X	X		
	MW-13	X				7	1			X		X			08	08	97	0745	X	X				

CHAIN OF CUSTODY RECORD			
RELEASED BY: (Signature) <u>Dennis Alexander</u>	DATE / TIME 8/8/97 0840	RECEIVED BY: (Signature) <u>[Signature]</u>	DATE / TIME 8-8-97 8:40
RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
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COMMENTS & NOTES:

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