Subsurface Consultants, Inc.

R. William Rudolph, P.E.
President

February 27, 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
February 1997 Event
3093 Broadway
Oakland, California

Dear Messers Hill & Linden:

This letter records the results of the February 1997 quarterly groundwater monitoring event 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 Avenue and Broadway, as shown on the Site Plan, Plate 1.

BACKGROUND

Twelve wells have been periodically sampled at the site since 1990 to evaluate impacts to groundwater due to previous underground storage tank (UST) releases. Groundwater monitoring is performed in general accordance with the program outlined in the Corrective Action Plan (CAP) dated November 6, 1995 and approved by the Alameda County Health Care Services Agency (ACHCSA) in a letter dated November 29, 1995. This event was a quarterly event as described in the CAP and involved the sampling of monitoring wells MW-7, MW-8, and MW-13.

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MONITORING EVENT RESULTS

Groundwater Monitoring

On February 6, 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. Free product removal data are summarized in Table 1. Groundwater and free product elevation data are summarized in Table 2. Our interpretation of the flow direction and gradient for the February 1997 event are presented on Plate 2.

On February 6, 1997, monitoring wells MW-7, MW-8, and MW-13 were purged by removing water with new disposable bailers. 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 the existing soil stockpile 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 characterization testing of individual samples was performed by Curtis & Tompkins, Ltd. A summary of sample preparation and test methods are presented below.

Analysis	Sample Preparation Method	Analysis Method
Total Volatile Hydrocarbons (TVH)	EPA 5030	EPA 8015 Mod.
Total Extractable Hydrocarbons (TEH)	EPA 3550	EPA 8015 Mod.
Benzene, Toluene, Ethylbenzene, Xylene (BTEX)	EPA 5030	EPA 8020
1,2-Dichloroethane (DCA)	EPA 5030	EPA 8010
Methyl Tert Butyl Ethylene (MTBE)	EPA 5030	EPA 8020

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

CONCLUSIONS

Free Product

The apparent lateral extent of free product has remained relatively constant when compared to the previous monitoring events. Free product continues to be present in wells MW-1, MW-4 and MW-6. The product thickness in well MW-6 (2.5 inches) was much less than measurements from previous events. Table 1 summarizes the amount of free product removed by the combination of hand bailing and soil vapor extraction (SVE).

The SVE system, consisting of an internal combustion (IC) engine, has been extracting hydrocarbon vapors from well MW-6 since October 1996. The decrease in free product thickness at well MW-6 is in response to the vaporization of free product in the well by the SVE.

Product Removal

The SVE system has been operating at the site since start-up on October 29, 1996. Approximately 94 gallons of product have been removed and thermally destroyed by the SVE system. A small quantity of free product was recovered from wells MW-1 and MW-4 by hand bailing. Recovery of free product by hand bailing during this event was less than past events. To date a total of approximately 235 gallons of

product have been removed from the site. Product recovery and depth to groundwater data are presented on the attached Tables 1 and 2.

The operation of the SVE system was intermittent during December 1996 and January 1997 due to mechanical problems with the IC engine. On February 3, 1997 a replacement IC engine was installed at the site.

Dissolved Product Plume

The distribution of the dissolved product plume remains relatively the same when compared to previous events. The dissolved plume at the site does not seem to have migrated significantly since monitoring began in March 1991. Samples from MW-8, situated at the downgradient property consistently contains low concentrations of petroleum hydrocarbons. Samples from well MW-13, the farthest downgradient well, contained only 1,2-DCA, at a concentration of 3.5 ug/l. The concentration of 1,2-DCA is consistent with results from previous events.

Future Monitoring

The next monitoring event will occur in May 1997. During this annual event, monitoring wells, MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11 and MW-13 will be sampled.

If you have any questions, please call.

Yours very truly,

Subsurface Consultants, Inc.

James R. Helge

James R. Helge
Environmental Planner

Samuel C. Won, PE, REA
Project Manager

Attachments: Table 1 - Free Product Recovery
Table 2 - Groundwater Elevation Data
Table 3 - Summary of Contaminant Concentrations in Groundwater
Plate 1 - Site Plan
Plate 2 - Groundwater Surface Elevation Contours. 2/6/97
Field forms
Analytical test reports
Chain-of-custody documents

1 copy submitted

cc: ✓ Ms. Susan Hugo
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JRH:SCW:JNA:esh

TABLE 1
FREE PRODUCT RECOVERY
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	Removal Date	Product Removed (gallons)	Cumulative Product Removed (gallons)
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
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

Well	Removal Date	Product Removed (gallons)	Cumulative Product Removed (gallons)
	3/25/92	1.00	37.25
MW-4	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

TABLE 1
FREE PRODUCT RECOVERY
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	Removal Date	Product Removed (gallons)	Cumulative Product Removed (gallons)
	11/4/96	0.02	47.87
	12/2/96	0.02	47.89
MW-4	1/3/97	0.02	47.91
	2/6/97	0.01	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

TABLE 1
FREE PRODUCT RECOVERY
3093 BROADWAY
OAKLAND, CALIFORNIA

Well	Removal Date	Product Removed (gallons)	Cumulative Product Removed (gallons)
	3/1/96	4.00	53.90
	4/4/96	5.00	58.90
	5/2/96	4.50	63.40
MW-6	6/5/96	4.00	67.40
	7/9/96	4.50	71.90
	8/8/96	4.00	75.90
	9/10/96	3.50	79.40
	10/1/96	4.00	83.40
	11/4/96	NM*	NM*
	12/2/96	NM*	NM*
	1/3/97	NM*	NM*
	2/6/97	NM*	NM*
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
	Total Product removed by bailing		**141.19**
	Total Product removed by Soil Vapor Extraction		***93.64***
	Cumulative Total of Product Removed		**234.83**

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

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

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
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

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

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
		11/4/96	24.29	70.19	0.78	70.97
MW-1	94.48	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
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	--

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

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
		12/2/96	25.74	69.07	0.00	--
		1/3/97	25.51	69.30	0.00	--
MW-2	94.81	2/6/97	24.68	70.13	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	--

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

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
		1/3/97	20.33	69.75	0.00	--
		2/6/97	19.98	70.10	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

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

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
		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
MW-4	88.84	7/20/93	20.48	68.36	0.52	68.88
		11/9/93	21.71	67.13	0.63	67.76
		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
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	--

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

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
		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	--
MW-5	84.84	8/30/95	27.46	57.38	0.00	--
		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	--
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

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

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
		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
MW-6	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

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

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
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

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

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
MW-7	85.41	3/18/91	21.63	63.78	NM	--
		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	--
MW-8	85.50	10/28/92	27.70	57.80	0.00	--

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

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
		11/24/92	27.62	57.88	0.00	--
MW-8	85.50	12/22/92	27.40	58.10	--	--
		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	--
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	--

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

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
		11/30/95	20.65	69.72	0.00	--
		1/3/96	20.73	69.64	0.00	--
MW-9	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	--
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	--

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

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
		9/10/96	18.82	69.78	0.00	--
		10/1/96	19.02	69.58	0.00	--
		11/4/96	19.59	69.01	0.00	--
MW-10	88.60	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	--
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	--
MW-13	84.06	11/24/92	26.05	58.01	0.00	--
		12/22/92	25.08	58.98	--	--

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

Well	TOC Elevation (feet)	Date	Groundwater Depth (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Product Elevation (feet)
		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	--
MW-13	84.06	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	--

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.

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

Well	Event Date	TVH ug/l	TEH ug/l	B ug/l	T ug/l	E ug/l	X ug/l	1,2-DCA ug/l	Other Purgeable Halocarbons ug/l	Oil & Grease mg/l	Semi-volatile Compounds ug/l	MTBE ug/l
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	--	--
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	--	--	--
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	--	--	--

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

Well	Event Date	TVH ug/l	TEH ug/l	B ug/l	T ug/l	E ug/l	X ug/l	1,2-DCA ug/l	Other Purgeable Halocarbons ug/l	Oil & Grease mg/l	Semi-volatile Compounds ug/l	MTBE ug/l
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	--	--	--	--
SA	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	--	--	--
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	--	--	--
D	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	--	--	--
MW-6	3/1/91	80,000	<50	12,000	13,000	1,100	5,400	1,400	Dibromochloro-	--	--	--
	10/1/92	19,000	--	3,200	1,400	200	560	840	--	--	--	--
	12/1/92	FP	--	--	--	--	--	--	--	--	--	--
	4/1/93	FP	--	--	--	--	--	--	--	--	--	--
SA	7/1/93	FP	--	--	--	--	--	--	--	--	--	--
	11/1/93	FP	--	--	--	--	--	--	--	--	--	--
	8/1/95	FP	--	--	--	--	--	--	--	--	--	--

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

Well	Event Date	TVH ug/l	TEH ug/l	B ug/l	T ug/l	E ug/l	X ug/l	1,2-DCA ug/l	Other Purgeable Halocarbons ug/l	Oil & Grease mg/l	Semi-volatile Compounds ug/l	MTBE ug/l
	5/1/96	130,000	9,000	37,000	50,000	3,200	14,200	2,400	ND	--	--	--
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	--	--	--
	4/1/93	<50	<50	<0.5	<0.5	<0.5	<0.5	<1	ND	--	--	--
	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
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	--	--	--
	2/6/97	67 [1,2]	130	51	<0.5	0.56	<0.5	81	ND	--	--	<2.0
MW-9	11/1/92	19,000	320	180	590	23	2000	340	Chloroform (15)	--	--	--

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

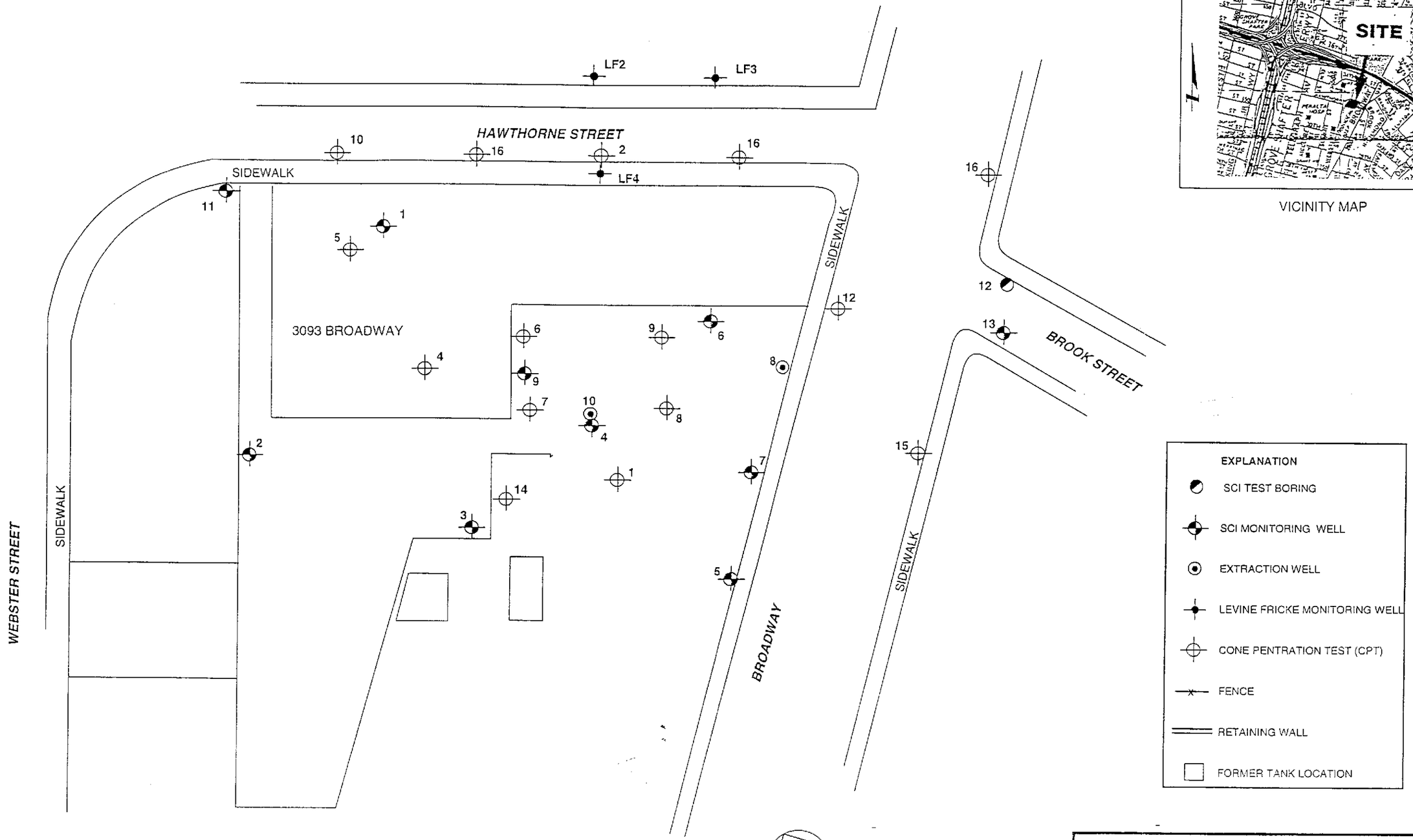
Well	Event Date	TVH ug/l	TEH ug/l	B ug/l	T ug/l	E ug/l	X ug/l	1,2-DCA ug/l	Other Purgeable Halocarbons ug/l	Oil & Grease mg/l	Semi-volatile Compounds ug/l	MTBE ug/l
	4/1/93	2,300	920	48	4	0.6	13	600	Chloroform (2)	--	--	--
	7/1/93	2,300	450	170	8.1	15	<0.5	1100	ND	--	--	--
	11/1/93	4,400	450	69	7.3	21	9.7	900	ND	--	--	--
	8/1/95	3,200	680	3,900	49	80	22.8	960	--	--	--	--
MW-9	5/1/96	<1300	710	2,600	<13	200	<13	550	ND	--	--	--
	11/5/96	1,800	420	280	<5	65	<5	770	ND	--	--	--
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	--	--	--
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	--	--	--
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	--	--	--

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

Well	Event Date	TVH ug/l	TEH ug/l	B ug/l	T ug/l	E ug/l	X ug/l	1,2-DCA ug/l	Other Purgeable Halocarbons ug/l	Oil & Grease mg/l	Semi-volatile Compounds ug/l	MTBE ug/l
	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
MW-13	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

ug/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
* = Suspect laboratory contamination contributing to test result.
** = 2,4-dichlorophenol (1,700), naphthalene (1,200), 2-methylnapthalene (630), bis (2-ethylhexyl) phthalate (240) detected during August 1995 event, naphthalene (640), 2-methylnapthalene (250) during the May 1996 event
[1] = Sample exhibits fuel pattern which does not resemble standard
[2] = Lighter hydrocarbons than indicated standard

f:\jobdocs\447\447.055\concen.xls



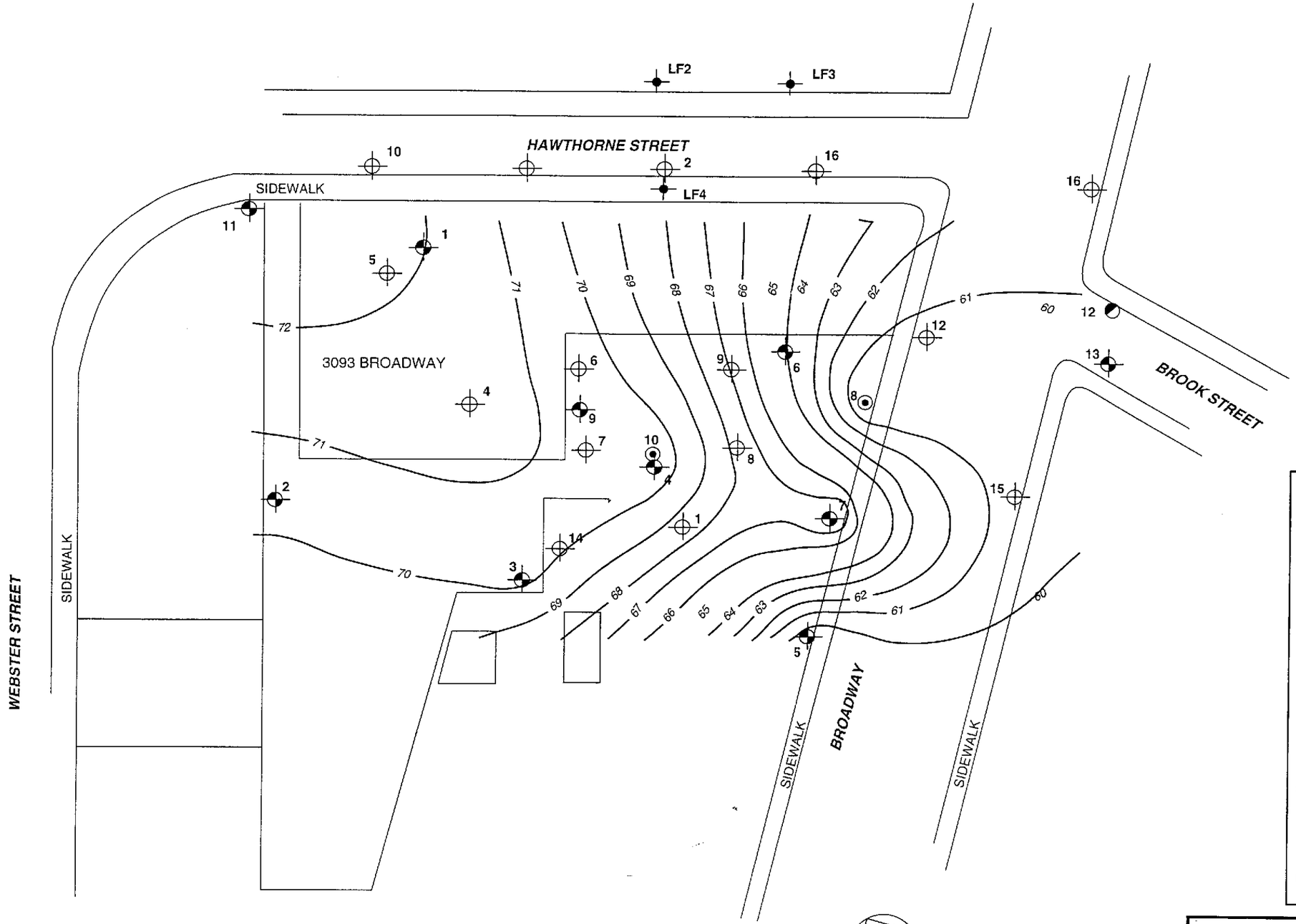
SITE PLAN

Subsurface Consultants

CONNELL OLDSMOBILE - OAKLAND, CA

JOB NUMBER	DATE	APPROVED
447.055	11/4//96	JH

PLATE 1



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 2/6/97

N

APPROXIMATE SCALE (feet)

0 60 120

GROUNDWATER ELEVATION CONTOURS

Subsurface Consultants

CONNELL OLDSMOBILE - OAKLAND, CA

JOB NUMBER	DATE	APPROVED
447.055	2/27/97	JH

PLATE 2

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
Layfayette, CA 94549

Date: 12-FEB-97
Lab Job Number: 128257
Project ID: 447.055
Location: Connell Olds

Reviewed by: _____

Reviewed by: _____

TEH-Tot Ext Hydrocarbons

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

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 3520

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128257-001	MW-7	32317	02/06/97	02/10/97	02/11/97	
128257-002	MW-8	32317	02/06/97	02/10/97	02/11/97	
128257-003	MW-13	32317	02/06/97	02/10/97	02/12/97	

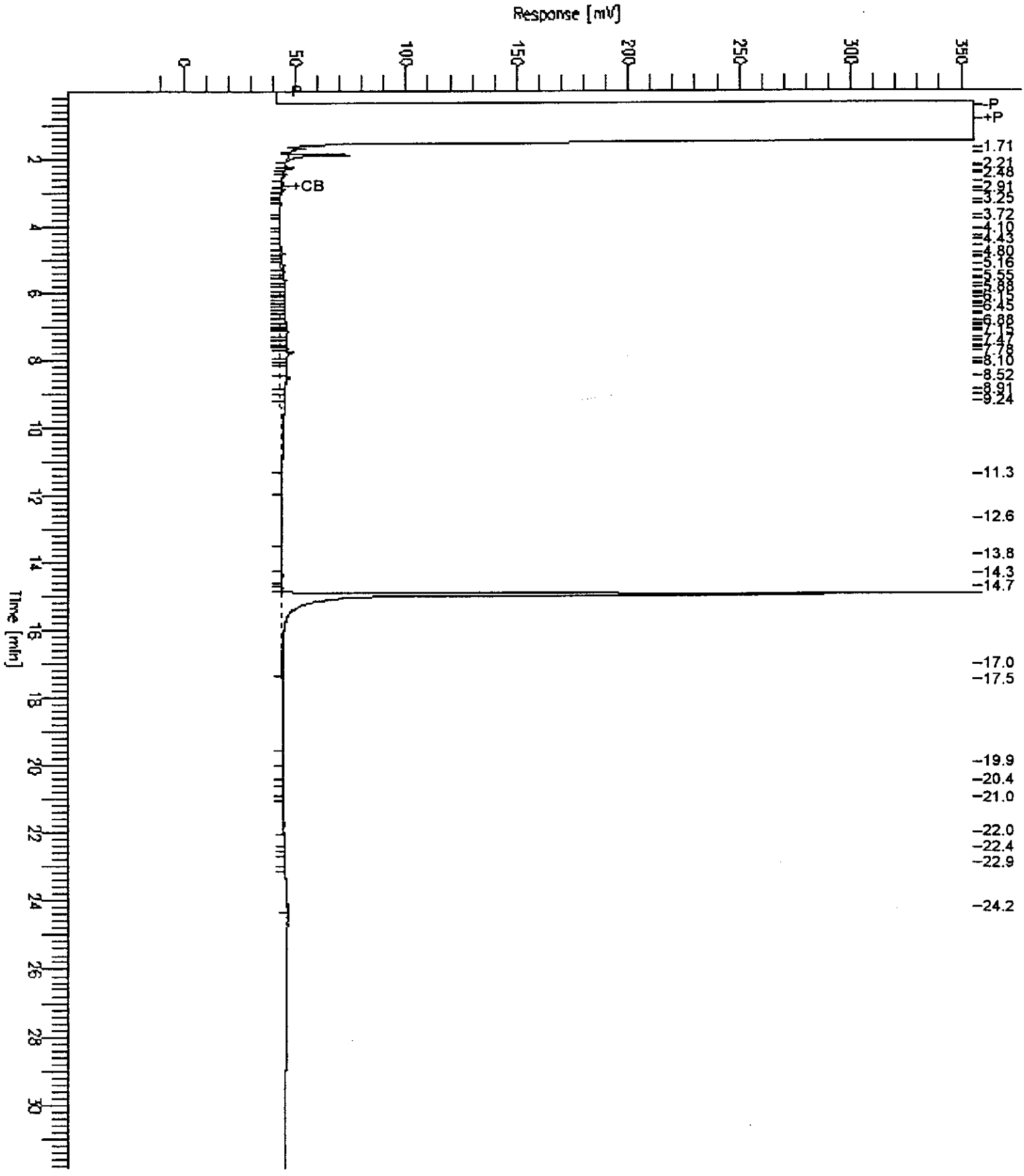
Matrix: Water

Analyte Diln Fac:	Units	128257-001 1	128257-002 1	128257-003 1
Diesel C12-C22	ug/L	<50	130	<50
Surrogate				
Hexacosane	%REC	99	103	106

GC15 Channel B TEH

Sample Name : 128257-002,32317
FileName : G:\GC15\CHB\042B013.RAW
Method : B038TEH.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: -10 mV

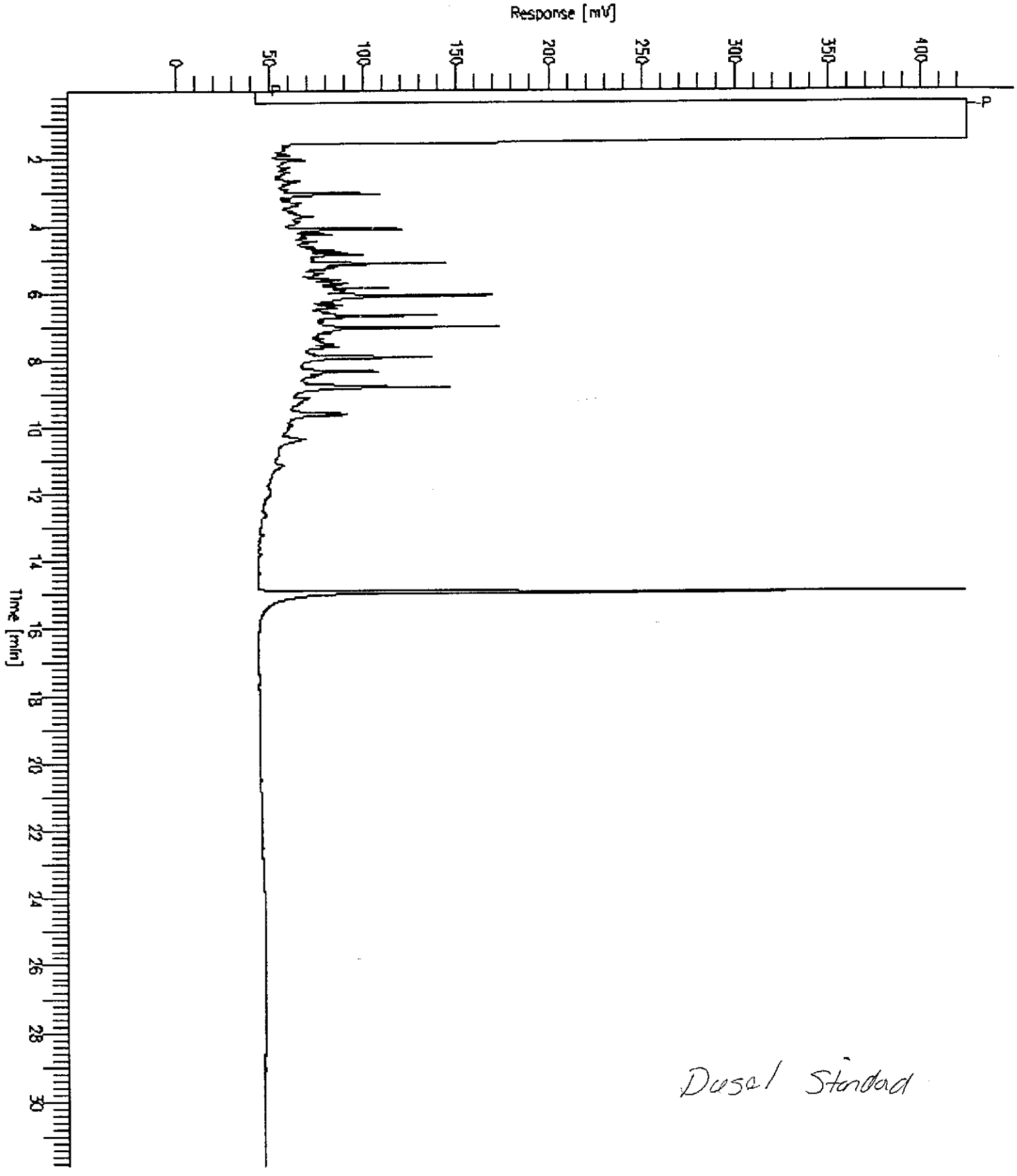
Sample #: 32317 Page 1 of 1
Date : 2/13/97 01:29 PM
Time of Injection: 2/11/97 10:15 PM
Low Point : -10.42 mV High Point : 355.77 mV
Plot Scale: 366.2 mV



GC15 Channel B TEH

Sample Name : CCV,97WS3659,DS
FileName : G:\GC15\CHB\042B019.RAW
Method : B038TEH.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: -9 mV

Sample #: 500MG/L
Date : 2/13/97 05:13 PM
Time of Injection: 2/12/97 02:34 AM
Low Point : -9.04 mV High Point : 425.20 mV
Plot Scale: 434.2 mV

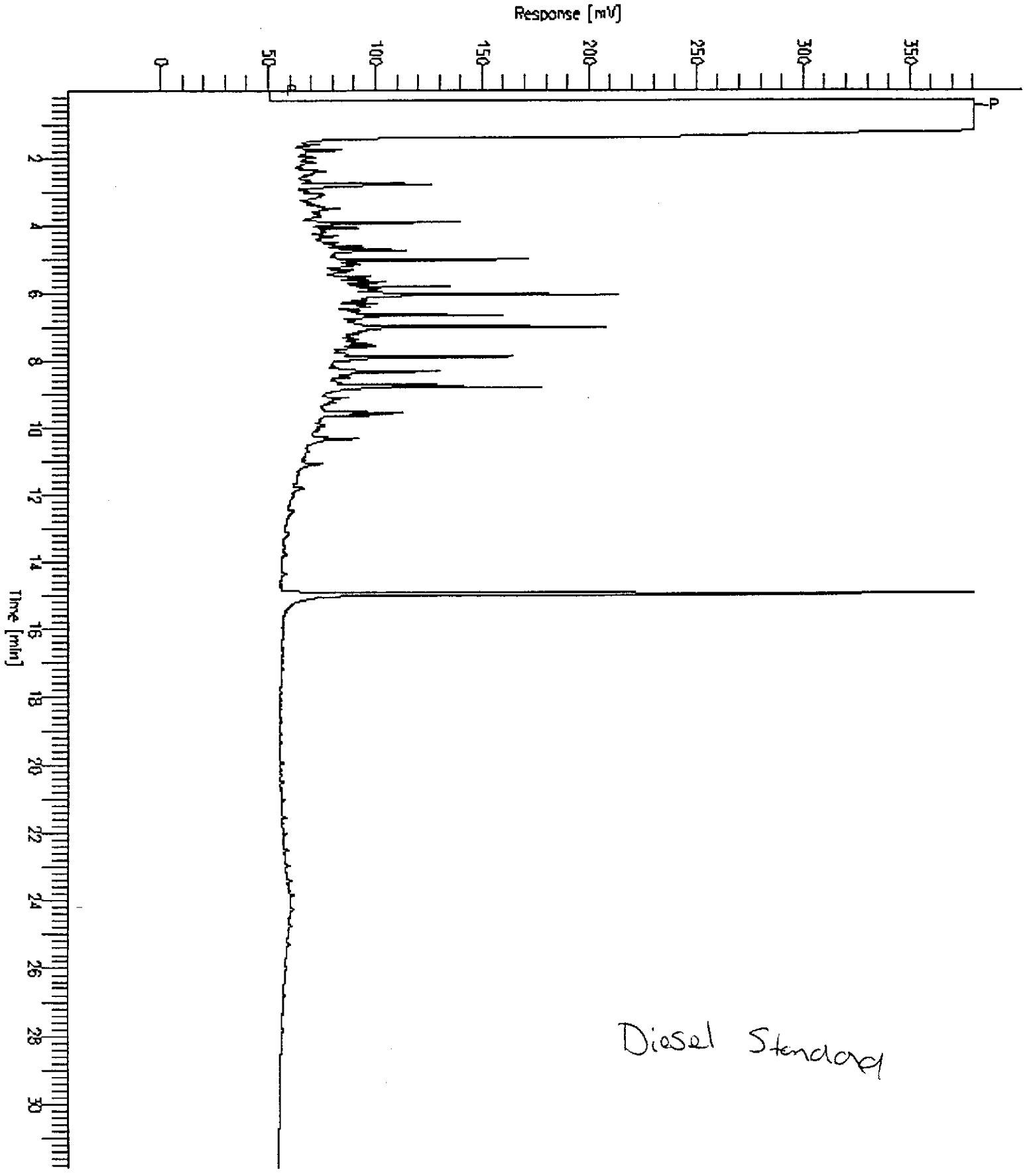


Dosal Standard

GC15 Channel B TEH

Sample Name : CCV,97WS3659,DS
FileName : G:\GC15\CHB\045_026.RAW
Method : B038TEH.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: -0 mV

Sample #: 500MG/L Page 1 of 1
Date : 2/18/97 02:27 PM
Time of Injection: 2/16/97 10:24 AM
Low Point : -0.18 mV High Point : 380.50 mV
Plot Scale: 380.7 mV



Diesel Standard

Curtis & Tompkins, Ltd.

WATER TEH LCS RECOVERY

Lab Name: CURTIS & TOMPKINS, LTD.

Instrument ID: GC15 CHB Run Date: 2/12/97

C&T ID: QC39879 Batch No.: 32317

COMPOUND	SPIKE ADDED ug/L	LCS CONC. ug/L	LCS % REC	RECOVERY LIMITS
DIESEL	2475	2088.7	84 PASS	65 -135

Surrogate Recovery: 111 PASS
(Limits: 65 - 135)

Spike Recovery: 0 out of 1 outside QC limits
LCS PASS

COMMENTS: _____

_____

Halogenated Volatile Organics
EPA 8010 Analyte List

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

Analysis Method: EPA 8260
Prep Method: EPA 5030

Field ID: MW-7
Lab ID: 128257-001
Matrix: Water
Batch#: 32298
Units: ug/L
Diln Fac: 1

Sampled: 02/06/97
Received: 02/06/97
Extracted: 02/11/97
Analyzed: 02/11/97

Analyte	Result	Reporting Limit
Chloromethane	ND	2.0
Bromomethane	ND	2.0
Vinyl Chloride	ND	2.0
Chloroethane	ND	2.0
Methylene Chloride	ND	20
Trichlorofluoromethane	ND	1.0
1,1-Dichloroethene	ND	1.0
1,1-Dichloroethane	ND	1.0
cis-1,2-Dichloroethene	ND	1.0
trans-1,2-Dichloroethene	ND	1.0
Chloroform	ND	1.0
Freon 113	ND	1.0
1,2-Dichloroethane	ND	1.0
1,1,1-Trichloroethane	ND	1.0
Carbon Tetrachloride	ND	1.0
Bromodichloromethane	ND	1.0
1,2-Dichloropropane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
Trichloroethene	ND	1.0
1,1,2-Trichloroethane	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
Dibromochloromethane	ND	1.0
Bromoform	ND	2.0
Tetrachloroethene	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
Chlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0

Surrogate	%Recovery	Recovery Limits
Toluene-d8	99	87-125
Bromofluorobenzene	102	79-122
1,2-Dichloroethane-d4	102	68-126

Halogenated Volatile Organics
EPA 8010 Analyte List

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

Analysis Method: EPA 8260
Prep Method: EPA 5030

Field ID: MW-8
Lab ID: 128257-002
Matrix: Water
Batch#: 32298
Units: ug/L
Diln Fac: 1

Sampled: 02/06/97
Received: 02/06/97
Extracted: 02/11/97
Analyzed: 02/11/97

Analyte	Result	Reporting Limit
Chloromethane	ND	2.0
Bromomethane	ND	2.0
Vinyl Chloride	ND	2.0
Chloroethane	ND	2.0
Methylene Chloride	ND	20
Trichlorofluoromethane	ND	1.0
1,1-Dichloroethene	ND	1.0
1,1-Dichloroethane	ND	1.0
cis-1,2-Dichloroethene	ND	1.0
trans-1,2-Dichloroethene	ND	1.0
Chloroform	ND	1.0
Freon 113	ND	1.0
1,2-Dichloroethane	81	1.0
1,1,1-Trichloroethane	ND	1.0
Carbon Tetrachloride	ND	1.0
Bromodichloromethane	ND	1.0
1,2-Dichloropropane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
Trichloroethene	ND	1.0
1,1,2-Trichloroethane	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
Dibromochloromethane	ND	1.0
Bromoform	ND	2.0
Tetrachloroethene	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
Chlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0

Surrogate	%Recovery	Recovery Limits
Toluene-d8	99	87-125
Bromofluorobenzene	105	79-122
1,2-Dichloroethane-d4	101	68-126

Halogenated Volatile Organics
EPA 8010 Analyte List

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

Analysis Method: EPA 8260
Prep Method: EPA 5030

Field ID: MW-13
Lab ID: 128257-003
Matrix: Water
Batch#: 32298
Units: ug/L
Diln Fac: 1

Sampled: 02/06/97
Received: 02/06/97
Extracted: 02/11/97
Analyzed: 02/11/97

Analyte	Result	Reporting Limit
Chloromethane	ND	2.0
Bromomethane	ND	2.0
Vinyl Chloride	ND	2.0
Chloroethane	ND	2.0
Methylene Chloride	ND	20
Trichlorofluoromethane	ND	1.0
1,1-Dichloroethene	ND	1.0
1,1-Dichloroethane	ND	1.0
cis-1,2-Dichloroethene	ND	1.0
trans-1,2-Dichloroethene	ND	1.0
Chloroform	ND	1.0
Freon 113	ND	1.0
1,2-Dichloroethane	3.5	1.0
1,1,1-Trichloroethane	ND	1.0
Carbon Tetrachloride	ND	1.0
Bromodichloromethane	ND	1.0
1,2-Dichloropropane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
Trichloroethene	ND	1.0
1,1,2-Trichloroethane	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
Dibromochloromethane	ND	1.0
Bromoform	ND	2.0
Tetrachloroethene	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
Chlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0

Surrogate	%Recovery	Recovery Limits
Toluene-d8	99	87-125
Bromofluorobenzene	106	79-122
1,2-Dichloroethane-d4	103	68-126

Curtis & Tompkins, Ltd.

Lab #: 128257 BATCH QC REPORT

Halogenated Volatile Organics
EPA 8010 Analyte List

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

Analysis Method: EPA 8260
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 32298
Units: ug/L
Diln Fac: 1

Prep Date: 02/10/97
Analysis Date: 02/10/97

MB Lab ID: QC39806

Analyte	Result	Reporting Limit
Chloromethane	ND	2.0
Bromomethane	ND	2.0
Vinyl Chloride	ND	2.0
Chloroethane	ND	2.0
Methylene Chloride	ND	20
Trichlorofluoromethane	ND	1.0
1,1-Dichloroethene	ND	1.0
1,1-Dichloroethane	ND	1.0
cis-1,2-Dichloroethene	ND	1.0
trans-1,2-Dichloroethene	ND	1.0
Chloroform	ND	1.0
Freon 113	ND	1.0
1,2-Dichloroethane	ND	1.0
1,1,1-Trichloroethane	ND	1.0
Carbon Tetrachloride	ND	1.0
Bromodichloromethane	ND	1.0
1,2-Dichloropropane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
Trichloroethene	ND	1.0
1,1,2-Trichloroethane	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
Dibromochloromethane	ND	1.0
Bromoform	ND	2.0
Tetrachloroethene	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
Chlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0

Surrogate	%Rec	Recovery Limits
Toluene-d8	98	87-125
Bromofluorobenzene	113	79-122
1,2-Dichloroethane-d4	103	68-126

Halogenated Volatile Organics
EPA 8010 Analyte List

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

Analysis Method: EPA 8260
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 32298
Units: ug/L
Diln Fac: 1

Prep Date: 02/10/97
Analysis Date: 02/10/97

MB Lab ID: QC39865

Analyte	Result	Reporting Limit
Chloromethane	ND	2.0
Bromomethane	ND	2.0
Vinyl Chloride	ND	2.0
Chloroethane	ND	2.0
Methylene Chloride	ND	20
Trichlorofluoromethane	ND	1.0
1,1-Dichloroethene	ND	1.0
1,1-Dichloroethane	ND	1.0
cis-1,2-Dichloroethene	ND	1.0
trans-1,2-Dichloroethene	ND	1.0
Chloroform	ND	1.0
Freon 113	ND	1.0
1,2-Dichloroethane	ND	1.0
1,1,1-Trichloroethane	ND	1.0
Carbon Tetrachloride	ND	1.0
Bromodichloromethane	ND	1.0
1,2-Dichloropropane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
Trichloroethene	ND	1.0
1,1,2-Trichloroethane	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
Dibromochloromethane	ND	1.0
Bromoform	ND	2.0
Tetrachloroethene	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
Chlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0

Surrogate	%Rec	Recovery Limits
Toluene-d8	98	87-125
Bromofluorobenzene	110	79-122
1,2-Dichloroethane-d4	94	68-126

Curtis & Tompkins, Ltd.

Lab #: 128257 BATCH QC REPORT

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#: 32298
Units: ug/L
Diln Fac: 1

Prep Date: 02/10/97
Analysis Date: 02/10/97

LCS Lab ID: QC39805

Analyte	Result	Spike Added	%Rec #	Limits
1,1-Dichloroethene	66.78	50	134	51-180
Trichloroethene	56.13	50	112	73-141
Chlorobenzene	55.53	50	111	83-129

Surrogate	%Rec	Limits
Toluene-d8	97	87-125
Bromofluorobenzene	108	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

Curtis & Tompkins, Ltd.

Lab #: 128257 BATCH QC REPORT

Halogenated Volatile Organics

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

Analysis Method: EPA 8260
Prep Method: EPA 5030

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: ZZZZZZ
Lab ID: 128237-001
Matrix: Soil
Batch#: 32298
Units: ug/Kg
Diln Fac: 25

Sample Date: 02/03/97
Received Date: 02/05/97
Prep Date: 02/10/97
Analysis Date: 02/10/97

MS Lab ID: QC39839

Analyte	Spike Added	Sample	MS	%Rec #	Limits
1,1-Dichloroethene	1250	19.45	1471	117	51-180
Trichloroethene	1250	2195	3513	105	73-141
Chlorobenzene	1250	<25	1340	107	83-129

Surrogate	%Rec	Limits
Toluene-d8	98	87-125
Bromofluorobenzene	103	79-122
1,2-Dichloroethane-d4	94	68-126

MSD Lab ID: QC39840

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
1,1-Dichloroethene	1250	1398	111	51-180	5	14
Trichloroethene	1250	3369	94	73-141	4	14
Chlorobenzene	1250	1309	105	83-129	2	13

Surrogate	%Rec	Limits
Toluene-d8	98	87-125
Bromofluorobenzene	104	79-122
1,2-Dichloroethane-d4	95	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: CA LUFT (EPA 8015M)
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128257-001	MW-7	32296	02/06/97	02/10/97	02/10/97	
128257-002	MW-8	32296	02/06/97	02/10/97	02/10/97	
128257-003	MW-13	32296	02/06/97	02/10/97	02/10/97	

Matrix: Water

Analyte	Units	128257-001	128257-002	128257-003
Diln Fac:		1	1	1
Gasoline	ug/L	<50	67 YL	<50
Surrogate				
Trifluorotoluene	%REC	90	91	86
Bromobenzene	%REC	83	86	77

Y: Sample exhibits fuel pattern which does not resemble standard
L: Lighter hydrocarbons than indicated standard

BTXE

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

Analysis Method: EPA 8020
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
128257-001	MW-7	32296	02/06/97	02/10/97	02/10/97	
128257-002	MW-8	32296	02/06/97	02/10/97	02/10/97	
128257-003	MW-13	32296	02/06/97	02/10/97	02/10/97	

Matrix: Water

Analyte	Units	128257-001	128257-002	128257-003
Diln Fac:		1	1	1
MTBE	ug/L	<2	<2	<2
Benzene	ug/L	<0.5	51	<0.5
Toluene	ug/L	<0.5	<0.5	<0.5
Ethylbenzene	ug/L	<0.5	0.56	<0.5
m,p-Xylenes	ug/L	<0.5	<0.5	<0.5
o-Xylene	ug/L	<0.5	<0.5	<0.5
Surrogate				
Trifluorotoluene	%REC	89	93	85
Bromobenzene	%REC	86	89	80

Curtis & Tompkins, Ltd.

Lab #: 128257 BATCH QC REPORT

TVH-Total Volatile Hydrocarbons			
Client:	Subsurface Consultants	Analysis Method:	CA LUFT (EPA 8015M)
Project#:	447.055	Prep Method:	EPA 5030
Location:	Connell Olds		

METHOD BLANK			
Matrix:	Water	Prep Date:	02/10/97
Batch#:	32296	Analysis Date:	02/10/97
Units:	ug/L		
Diln Fac:	1		

MB Lab ID: QC39799

Analyte	Result	
Gasoline	<50	
Surrogate	**%Rec**	**Recovery Limits**
Trifluorotoluene	77	65-135
Bromobenzene	77	65-135

Curtis & Tompkins, Ltd.

Lab #: 128257 BATCH QC REPORT

BTXE	
Client: Subsurface Consultants	Analysis Method: EPA 8020
Project#: 447.055	Prep Method: EPA 5030
Location: Connell Olds	

METHOD BLANK	
Matrix: Water	Prep Date: 02/10/97
Batch#: 32296	Analysis Date: 02/10/97
Units: ug/L	
Diln Fac: 1	

MB Lab ID: QC39799

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	76	58-130
Bromobenzene	72	62-131

Curtis & Tompkins, Ltd.

Lab #: 128257 BATCH QC REPORT

TVH-Total Volatile Hydrocarbons	
Client: Subsurface Consultants	Analysis Method: CA LUFT (EPA 8015M)
Project#: 447.055	Prep Method: EPA 5030
Location: Connell Olds	

LABORATORY CONTROL SAMPLE

Matrix:	Water	Prep Date:	02/10/97
Batch#:	32296	Analysis Date:	02/10/97
Units:	ug/L		
Diln Fac:	1		

LCS Lab ID: QC39797

Analyte	Result	Spike Added	%Rec #	Limits
Gasoline	1754	2000	88	75-125
Surrogate	**%Rec**	**Limits**		
Trifluorotoluene	87	65-135		
Bromobenzene	83	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

Curtis & Tompkins, Ltd.

BTXE LCS RECOVERY - WATER

Instrument ID:	GC05	LIMS Standard ID:	97WS3625
Sequence ID:	Feb10	ICAL Date:	30-Sep-96
Batch Number:	32296	Injection Date:	10-Feb-97
C&T LIMS ID:	QC39798	File ID:	041G003

ANALYTE	SPIKE ADDED ug/L	LCS CONC. ug/L	LCS % REC	RECOVERY LIMITS	STATUS
MTBE	20.00	20.01	100	65-135	PASS
BENZENE	20.00	17.16	86	80-120	PASS
TOLUENE	20.00	18.60	93	80-120	PASS
ETHYLBENZENE	20.00	16.83	84	80-120	PASS
m,p-XYLENE	40.00	36.05	90	80-120	PASS
o-XYLENE	20.00	19.08	95	80-120	PASS

Surrogate :	TFT	81	PASS
Recoveries :	BB	82	PASS

TFT 58-130%
BB 62-131%

Spike Recovery: 0 out of 6 outside QC limits

LCS PASS

COMMENTS: _____

_____

TVH-Total Volatile Hydrocarbons

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

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: EPA 5030

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: MW-13
Lab ID: 128257-003
Matrix: Water
Batch#: 32296
Units: ug/L
Diln Fac: 1

Sample Date: 02/06/97
Received Date: 02/06/97
Prep Date: 02/10/97
Analysis Date: 02/10/97

MS Lab ID: QC39800

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Gasoline	2000	<50	2162	108	75-125
Surrogate	**%Rec**	**Limits**			
Trifluorotoluene	93	65-135			
Bromobenzene	94	65-135			

MSD Lab ID: QC39801

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Gasoline	2000	2106	105	75-125	3	35
Surrogate	**%Rec**	**Limits**				
Trifluorotoluene	92	65-135				
Bromobenzene	92	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

12825T

PAGE 1 OF 1

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

LABORATORY I.D. NUMBER	SCI SAMPLE NUMBER	MATRIX: WATER	SOIL	WASTE	AIR	CONTAINERS: VOA	LITER	PINT	TUBE	METHOD PRESERVED: HCL	H_2SO_4	HNO_3	ICE	NONE	SAMPLING DATE: MONTH	DAY	YEAR	TIME	NOTES	ANALYSIS REQUESTED: TVH/BTXE+MTBE	TEH	DCA
-1	MW-7	X				6	1			X			X		02	06	97	1245		X	X	X
-2	MW-8	X				6	1			X			X		02	06	97	1515		X	X	X
-3	MW-13	X				6	1			X			X		02	06	97	0915		X	X	X

CHAIN OF CUSTODY RECORD

RELEASED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
Dennis Alexander	2/6/97 3:50 p.m.		2/6/97 15:51
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

COMMENTS & NOTES:

Subsurface Consultants, Inc.

171 12TH STREET, SUITE 201, OAKLAND, CALIFORNIA 94607

(510) 268-0461 • FAX: 510-268-0137

GROUNDWATER DEPTHS

Project Name: Connell Olds

Job No.: 447,055

Measured by: DWA

Well	Date	Time	Groundwater Depth (feet)	Comments
MW-1	2/6/97	1040	22' 5 9/16"	Top of Product = 22' 2" Product thickness = 3 9/16" " Bailed = 1 VOA
MW-2	"	1030	24.68	
MW-3	"	1020	19.98	
MW-4	"	1145	18' 1 1/2"	Top of Product = 18' 1/2" Product thickness = 1" " Bailed = 1/2 VOA
MW-5	"	1205	26.26	
MW-6	"	1105	25' 1"	Top of Product = 24' 10 1/2" Product thickness = 2 1/2"
MW-7	"	1155	17.44	
MW-8	"	1200	25.84	
MW-9	"	1210	19.72	
MW-10	"	1140	17.76	
MW-11	"	1010	29.38	
MW-13	"	0830	23.24	
				From T.O.C. which has not been surveyed ~ 14 1/8" higher than previous

WELL SAMPLING FORM

Project Name: Connell olds | Well Number: MW-7

Job No.: 447,055 | Well Casing Diameter: 2 inch

Sampled By: DWA | Date: 2/6/97

TOC Elevation: | Weather: Sunny

Depth to Casing Bottom (below TOC) 30.50 feet

Depth to Groundwater (below TOC) 17.44 feet

Feet of Water in Well 13.06 feet

Depth to Groundwater When 80% Recovered 20.05 feet

Casing Volume (feet of water x Casing DIA ² x 0.0408) 2.1 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
1	6.55	21.0	465		Semi clear no odor
3	6.55	21.5	500		
5	6.57	21.5	750		
7	6.60	21.5	875		

Total Gallons Purged 7 gallons

Depth to Groundwater Before Sampling (below TOC) 20.00 feet

Sampling Method disposable bailer

Containers Used 6 (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: 2/6/97
TOC Elevation:
Weather: Sunny

Depth to Casing Bottom (below TOC) 40.00 feet
Depth to Groundwater (below TOC) 25.84 feet
Feet of Water in Well 14.16 feet
Depth to Groundwater When 80% Recovered 28.67 feet
Casing Volume (feet of water x Casing DIA ² x 0.0408) 18.9 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
20	6.47	22.5	1000		clear/slight odor
30	6.49	22.5	1050		↓
40	6.47	22.5	1100		decreasing odor
50	6.54	22.0	1100		↓
60	6.55	22.0	1100		

Total Gallons Purged 60 gallons
Depth to Groundwater Before Sampling (below TOC) 28.67 feet
Sampling Method disposable bailer
Containers Used 6 (40 ml) 1 (liter) (pint)

Subsurface Consultants

JOB NUMBER DATE APPROVED

PLATE

WELL SAMPLING FORM

Project Name: Connell Oils Well Number: MW-13

Job No.: 447.055 Well Casing Diameter: 2 inch

Sampled By: DWA Date: 2/6/97

TOC Elevation: _____ Weather: foggy

Depth to Casing Bottom (below TOC) 40.00 feet

Depth to Groundwater (below TOC) 23.24 feet

Feet of Water in Well 16.76 feet

Depth to Groundwater When 80% Recovered 26.59 feet

Casing Volume (feet of water x Casing DIA ² x 0.0408) 2.7 gallons

Depth Measurement Method Tape & Paste / (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
1	5.84	17.5	600		clear/no odor
3	6.70	18.0	675		"
5	6.66	17.5	625		"
7	6.67	18.0	625		"
9	6.65	18.5	625		semi-clear/no odor

Total Gallons Purged 9 gallons

Depth to Groundwater Before Sampling (below TOC) 26.03 feet

Sampling Method disposable bailer

Containers Used 6 (40 ml) 1 (liter) _____ (pint)

Subsurface Consultants

JOB NUMBER DATE APPROVED PLATE