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**FEBRUARY, 2002  
GROUND WATER SAMPLING REPORT  
FOR  
STID 553 - GRIMIT AUTO AND REPAIR  
1970 SEMINARY AVENUE  
OAKLAND, CALIFORNIA**

**February 26, 2002**

**Prepared by**

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February 26, 2002

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HCQuartEnvrRpts:Sem.1970/16(2/02)

Mr. Doyle Gruit  
c/o Angel La Marca  
945 S. Lehigh St.  
Anaheim, California 92807

**RE: FEBRUARY, 2002  
GROUND WATER SAMPLING REPORT  
STID 553 - GRIMIT AUTO AND REPAIR  
1970 SEMINARY AVENUE  
OAKLAND, CALIFORNIA**

Dear Mr. Gruit:

Enclosed is our February, 2002 ground water sampling report for the property located at 1970 Seminary Avenue, corner of Harmon Avenue, in Oakland, California. Sampling at the site dates from August, 1990. The results of previous sampling events are included in the analytical results summary tables.

The results of this investigation indicate that the water samples from the nine wells continue to range from relatively low to elevated levels of total petroleum hydrocarbons as gasoline (TPH-G); purgeable aromatic compounds (BTEX) and MTBE; oil (total recoverable petroleum hydrocarbons, TRPH); and halogenated volatile compounds (HVOC). The analyses indicate that all analyzed compounds remain at levels of the same order-of-magnitude as previous results, with an overall, averaged moderate although highly variable decline in contaminant levels since initiation of sampling.

A "Fuel Fingerprint" analysis was conducted on the nine water samples. This is the initial utilization of this analysis at the site. The results are included in the attached report.

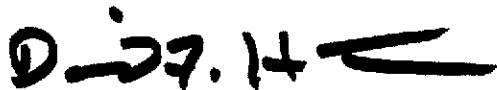
Ground water levels increased from the previous July, 2001 sampling event. Ground water gradient directions, which differ between the "shallow" and "deep" wells, were similar to previous sampling events.

We recommend that copies of the enclosed report be submitted to the Alameda County Health Care Services Agency. The next round of sampling is currently scheduled to be conducted during July, 2002. We understand that a corrective action work plan to conduct site remediation is currently being prepared by others.

We appreciate the opportunity to provide services to you on this project and trust this report meets your needs at this time. If you have any questions, or require additional information, please do not hesitate to call.

Very truly yours,

HOEXTER CONSULTING, INC.

A handwritten signature in black ink, appearing to read "D. Hoexter", with a long horizontal stroke extending to the right.

David F. Hoexter, RG/CEG/REA (Geology registrations expire 11/30/03)  
Principal Geologist

Copies: Addressee (4)

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FEBRUARY, 2002  
GROUND WATER SAMPLING REPORT

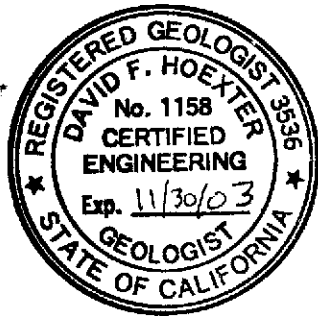
For

STID 553 - Gritmit Auto and Repair  
1970 Seminary Avenue  
Oakland, California

To

Mr. Doyle Gritmit  
c/o Angel La Marca  
945 S. Lehigh St.  
Anaheim, California 92807

February 26, 2002



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David F. Hoexter, RG/CEG/REA  
Principal Geologist

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**FEBRUARY, 2002  
GROUND WATER SAMPLING REPORT  
FOR  
STID 553 - GRIMIT AUTO AND REPAIR  
1970 SEMINARY  
OAKLAND, CALIFORNIA**

## **1.0 INTRODUCTION**

This report presents the results of the February, 2002 ground water sampling at 1970 Seminary Avenue, Oakland, California. The project location is shown on the Location Map, Figure 1. The scope of services provided during this investigation consisted primarily of collecting and analyzing ground water samples from each of the nine monitoring wells installed at the site. Ground water samples were analyzed for petroleum hydrocarbons and halogenated volatile organic compounds. Well locations are shown on Figure 2, Site Plan.

## **2.0 FIELD INVESTIGATION**

The ground water monitoring wells were sampled by representatives of Hoexter Consulting, Inc. Due to past, very slow equilibration of ground water levels, the well caps were loosened on February 1, 2002 (approximately 48 hours prior to the planned water level measurement, purging and sampling). The wells were then secured with the caps sufficiently loose to allow venting, and left to equilibrate until they were sampled. The wells were purged and sampled following water level measurements on February 3, 2002.

As noted, the well caps were loosened prior to the water level measurement, to allow the water level in the wells to equilibrate. Following ground water level measurement (Table 1) at the time of purging, each well was checked for free-product with the bailer, and then three to four well-casing volumes of water were purged from the well. A dedicated polyethylene bailer was employed for each well. Ground water parameters, including temperature, pH and specific conductivity, were measured prior to and following each purge volume removal.

The samples were collected using the dedicated bailer, placed in appropriate sample containers supplied by the analytical laboratory, labeled, and placed in refrigerated storage for transport to the laboratory under chain-of-custody control. All sampling equipment was thoroughly cleaned with "Alconox" detergent and rinsed with distilled water prior to sampling the well. Monitoring well sampling logs and the chain of custody are attached to this report as a part of Appendix A.

Prior to purging, ground water levels were measured in each well using the top of 2-inch PVC casing (generally the north side) as reference point. The average ground water elevation increased in all wells compared to the prior (July, 2001) sampling event (MW-6 was measured, but was not measured during the previous sampling event). The "deeper" wells averaged an elevation increase of 4.39 feet, with each of the wells increasing in elevation; the "shallow" wells increased an average of 1.49 feet, with all three measured wells increasing in elevation.

Well-top elevations, depth to water, and calculated water-surface elevations are presented in Table 1. These data have been used to generate the Ground Water Contour and Gradient Direction Maps, Figures 3A ("shallow wells") and 3B ("deep wells").

Table 1B summarizes the ground water gradient direction and inclination data for the site, including previous measurements. The ground water gradient direction and inclination are essentially consistent with the previous data. The data for the four "shallow" wells indicate a gradient direction towards Seminary Avenue. The apparent gradient varies across the site, but averages 0.23 foot per foot in the source area. The approximate gradient direction is N 50° W. The data for the five "deeper" wells indicate an opposing gradient direction away from Seminary Avenue towards the southeast, on the west side of the site; and to the northeast at the northeast corner of the site. The apparent gradient varies across the site, but averages 0.05 foot per foot. The approximate gradient direction is S 65° E.

The data appear to indicate a downward gradient from a relatively shallow (perched ?) zone represented by the "shallow" wells, to the deeper zone represented by the "deeper" wells, particularly in the source area. Based on the slow equilibration and recovery time following purging, we infer a relatively slow ground water flow rate, despite the unusually steep gradient.

### 3.0 ANALYTICAL RESULTS

#### 3.1 Laboratory Procedures

The ground water samples were analyzed by McCampbell Analytical, Inc. of Pacheco, California. McCampbell Analytical is certified by the State of California EPA/DTSC for the conducted analyses. The samples were analyzed as follows:

- Total petroleum hydrocarbons as gasoline (TPH-G) using EPA Method 5030/8015.
- Purgeable aromatic compounds (BTEX) and MTBE using EPA Method 8020.
- Oil and grease (total recoverable petroleum, TRPH) using SM 5520B/F, gravimetric with cleanup.
- Halogenated volatile organic compounds (HVOC) by EPA Method 8010.
- "Fuel Fingerprint" with silica gel cleanup by EPA Method 8015.

Fuel Fingerprint was requested by the consultant preparing a work plan for site remediation. This is the initial sampling event for this analysis.

#### 3.2 Observations and Analytical Results

A measurable thickness of free product (approximately 1/8 inch) was observed in the initial sounding of well MW-1. A sheen (floating film) of oil was not observed in other wells following the initial sounding. A light to moderate sheen was observed in subsequent purging of wells MW-1, 4, 5, 7 and 8. The purge water from well MW-1 contained globules of "oil"; this condition was observed in previous sampling rounds.

The results of the chemical analyses are summarized on Tables 2, 3, 4, and 6 and are attached to this report as a part of Appendix A. Analytical results of all previous testing are also included. The current analytical results indicate that TRPH, TPH-G, and BTEX compounds, as well as HVOCs, are present at elevated levels which are generally on the same order of magnitude as the most recent, previous analyses.

TPH-G, MTBE and BTEX levels variably rose and declined in all nine wells, although a generally downward trend over the life of the wells continues to be apparent. Detected levels

in wells MW-2 through 9, as during previous sampling events, are generally one to two orders of magnitude less than in MW-1. Oil/grease were detected in wells MW-1 and 4. Various HVOCs were detected in each well; BTEX compounds were also present at varying concentrations. See Table 3 for the presence and concentrations of particular HVOCs.

The Fuel Fingerprint analysis indicated the presence of petroleum hydrocarbons in six of nine wells. Silica gel cleanup was utilized, to remove non-petroleum oil from the sample. Petroleum hydrocarbons in wells which are indicated to be non-detect (MW-2, 3, and 8) may be present, but at levels less than the reporting limit, 50 ppb. The fuel fingerprint narratives indicate that the identified petroleum hydrocarbons in each well are as follows (see also Table 6 and the laboratory report in Appendix A for more detailed information, including chromatograms of detected petroleum hydrocarbons):

Well	Fingerprint
MW-1	Gasoline and oil
MW-2	ND < 50 ppb
MW-3	ND < 50 ppb
MW-4	Stoddard solvent and oil
MW-5	Fresh gasoline
MW-6	Fresh gasoline
MW-7	Fresh gasoline
MW-8	ND < 50 ppb
MW-9	Fresh gasoline

#### 4.0 CONCLUSIONS AND RECOMMENDATIONS

All nine wells were available for sampling.

Overall contaminant levels remain elevated, with moderate average declines over the life of the wells. The Alameda County Health Care Services Agency has concurred with our previous recommendation that a corrective action plan (CAP) be prepared to address this condition. We understand that a CAP is currently being prepared by others.

#### 5.0 LIMITATIONS

This report has been prepared according to generally accepted geologic and environmental practices. No other warranty, either expressed or implied as to the methods, results, conclusions or professional advice provided is made. It should be recognized that certain limitations are inherent in the evaluation of subsurface conditions, and that certain conditions may not be detected during an investigation of this type. If you wish to reduce the level of uncertainty associated with this study, we should be contacted for additional consultation.

The analysis, conclusions and recommendations contained in this report are based on site conditions as they existed at the time of our investigation; review of previous reports relevant to the site conditions; and laboratory results from an outside analytical laboratory. Changes in the information or data gained from any of these sources could result in changes in our conclusions or recommendations. If such changes do occur, we should be advised so that we can review our report in light of those changes.

\* \* \* \* \*



**TABLE 1A**  
**GROUND WATER ELEVATION DATA**  
 (All Measurements in Feet)

Well Number and Date of Measurement	Reference Elevation (2)	Depth To Water	Relative Ground Water Elevation (2)
<b>MW-1 ("deep")</b>			
8/6/90	37.0	21.5	15.5
1/28/92		21.0	16.0
4/27/92		20.95	16.05
8/10/92		22.20	14.8
2/11/94		15.93 (3)	21.07 (3)
2/28/94		13.85 (4)	23.15 (4)
9/9/94		20.19	16.81
12/28/94		14.91	22.09
4/13/95		14.18	22.82
11/1/95		20.90	16.10
3/8/96		11.82	25.18
3/25-26/96	36.97	13.54	23.43
10/7/96		21.41	15.59
1/15/97		13.34	23.63
6/23/97	36.99	19.91	17.08
10/6/97		21.55	15.44
12/12/98		16.24	20.75
4/24/99		14.21	22.78
12/18/99		19.28	17.71
7/22/00		21.93	15.93
1/29/01		19.49	17.50
7/28/01		19.84	17.15
2/3/02		16.03	20.96
<b>MW-2 ("deep")</b>			
2/11/94	36.40	14.16 (3)	22.24 (3)
2/28/94		16.01 (4)	20.39 (4)
9/9/94		18.96	17.44
12/28/94		21.42	14.98
4/13/95		19.69	16.71
11/1/95		21.91	14.49
3/8/96		14.56 (6)	21.84 (6)
3/25-26/96	36.39	10.84	25.55
10/7/96		18.41	17.98
1/15/97		10.07	26.32
6/23/97	36.40	13.73	22.67
10/6/97		17.03	19.37
12/12/98		11.39	25.01
4/24/99		10.45	25.95
12/18/99		13.22	23.18
7/22/00		13.73	22.67
1/29/01		12.25	24.15

Well Number and Date of Measurement	Reference Elevation (2)	Depth To Water	Relative Ground Water Elevation (2)
<b>MW-2 ("deep") cont'</b>			
7/28/01		16.73 (6)	19.67 (6)
2/3/02		11.40	25.00
<b>MW-3 ("shallow")</b>			
2/11/94	36.94	6.97 (3)	29.97 (3)
2/28/94		7.74 (4)	29.20 (4)
9/9/94		9.68	27.26
12/28/94		8.15	28.79
4/13/95		8.05	28.89
11/1/95		7.82	29.12
3/8/96		5.69	31.25
3/25-26/96	36.94	6.91	30.03
10/7/96		9.51	27.43
1/15/97		6.23	30.71
6/23/97	36.94	9.65	27.29
10/6/97		10.53	26.41
12/12/98		7.12	29.82
4/24/99		7.17	29.77
12/18/99		8.51	28.43
7/22/00		9.41	27.53
1/29/01		7.23	29.71
7/28/01		8.63	28.31
2/3/02		7.99	28.95
<b>MW-4 ("deep")</b>			
3/25-26/96	36.46	14.14	22.32
10/7/96		22.31	14.15
1/15/97		13.78	22.68
6/23/97	36.47	20.90	15.57
10/6/97		22.77	13.60
12/12/98		17.16	19.31
4/24/99		14.55	21.92
12/18/99		20.46	16.01
7/22/00		20.67	15.80
1/29/01		18.06	18.41
7/28/01		20.80	15.67
2/3/02		15.53	20.94
<b>MW-5 ("deep")</b>			
3/25-26/96	36.77	15.63	21.14
10/7/96		22.86	13.91
1/15/97		17.33	19.44
6/23/97	36.77	21.91	14.86
10/6/97		24.26	12.51

<b>Well Number and Date of Measurement</b>	<b>Reference Elevation (2)</b>	<b>Depth To Water</b>	<b>Relative Ground Water Elevation (2)</b>
<b>MW-5 ("deep") cont'</b>			
12/12/98		20.66	16.11
4/24/99		17.19	19.58
12/18/99		22.71	14.06
7/22/00		21.42	15.35
1/29/01		20.79	15.98
7/28/01		21.07	15.70
2/3/02		17.67	19.10
<b>MW-6 ("shallow")</b>			
3/25-26/96	36.42	8.52	27.90
10/7/96		12.82	23.60
1/15/97		7.72	28.70
6/23/97	36.42	11.42	25.00
10/6/97		12.67	23.75
12/12/98		9.15	27.27
4/24/99		8.56	27.86
12/18/99		10.53	25.89
7/22/00		11.50	24.92
1/29/01		9.34	27.08
7/28/01		N/A	N/A
2/3/02		9.32	27.10
<b>MW-7 ("deep")</b>			
6/23/97	36.83	19.93	16.90
10/6/97		21.43	15.40
12/12/98		16.56	20.27
4/24/99		14.48	22.35
12/18/99		19.40	17.43
7/22/00		19.85	16.98
1/29/01		17.59	19.24
7/28/01		20.05	16.78
2/3/02		15.89	20.94
<b>MW-8 ("shallow")</b>			
6/23/97	36.55	5.74	30.81
10/6/97		5.69	30.86
12/12/98		4.01	32.54
4/24/99		4.40	32.15
12/18/99		4.91	31.64
7/22/00		5.47	31.08
1/29/01		3.01	33.54
7/28/01		4.92	31.63
2/3/02		3.82	32.73

Well Number and Date of Measurement	Reference Elevation (2)	Depth To Water	Relative Ground Water Elevation (2)
<b>MW-9 ("shallow")</b>			
6/23/97	36.70	17.04	19.66
10/6/97		19.17	20.53
12/12/98		14.18	22.52
4/24/99		12.33	24.37
12/18/99		16.14	20.56
7/22/00		15.78	20.92
1/29/01		14.65	22.05
7/28/01		15.33	21.37
2/3/02		12.59	24.11

**Notes to Table 1A**

- (1) N/A = not applicable.
- (2) Elevations from a survey conducted by Andreas Deak, California Licensed Land Surveyor, March 21, 1996, City of Oakland datum.
- (3) Well under pressure when locking cap removed; water level may not have been stabilized.
- (4) Depth to water was measured over a 120 minute period; indicated depths appear to be stabilized readings.
- (5) Surveyed elevations of wells MW 1 and MW-2 varied to 0.02 foot on March 21, 1996 survey as compared to February 11, 1994 survey; previously calculated measurements of elevation have not been modified to reflect the new survey data. Similar slight survey differences on June 20, 1997 have not been corrected.
- (6) Well not stabilized (water level rising).

**TABLE 1B**  
**SUMMARY OF GROUND WATER GRADIENT INFORMATION**

Date	Shallow Wells		Deep Wells	
	Direction	Inclination	Direction	Inclination
8/6/90	N/A	N/A	N/A	N/A
1/28/92	N/A	N/A	N/A	N/A
4/27/92	N/A	N/A	N/A	N/A
8/10/92	N/A	N/A	N/A	N/A
2/11/94	N/A	N/A	N/A	N/A
2/28/94	N/A	N/A	N/A	N/A
9/9/94	N/A	N/A	N/A	N/A
12/28/94	N/A	N/A	N/A	N/A
4/13/95	N/A	N/A	N/A	N/A
11/1/95	N/A	N/A	N/A	N/A
3/8/96	N/A	N/A	N/A	N/A
3/25-26/96 (2)	N/A	N/A	N/A	0.01
10/7/96 (2)	N/A	N/A	N/A	0.02
1/15/97 (2)	N/A	N/A	S 33 E	0.13
6/23/97 (3)	N44 W	0.24	S 68 E	0.07
10/6/97 (3)	N47 W	0.29	S 55 E	0.11
12/12/98 (3)	N33 W	0.32	S 47 E	0.05
4/24/99 (3)	N59 W	0.17	S 44 E	0.07
12/18/99 (3)	N55 W	0.26	S 44 E	0.07
7/22/00 (3)	N56 W	0.24	S 65 E	0.19
1/29/01 (3)	N47 W	0.30	S 65 E	0.20
7/28/01 (3)	N51 W	0.24	S 65 E	0.05
2/3/02 (3)	N50 W	0.23	S 65 E	0.05

**Notes to Table 1B**

- (1) N/A = not applicable.
- (2) Six wells.
- (3) Nine wells.

**TABLE 2**  
**GROUND WATER**  
**SUMMARY OF ANALYTICAL TEST RESULTS -**  
**PETROLEUM HYDROCARBONS**  
(Results reported in parts per billion, ppb/ug/l) (1)

Well and Date	TPH Gasoline	MTBE	Benzene	Toluene	Ethyl-Benzene	Xylenes	Oil & Grease HVOC (7)
<b>MW-1 ("deep")</b>							
8/6/90 (2)	54,000	NA	3,500	3,200	1,900	9,400	7,600
1/28/92	2,000,000	NA	7,400	17,000	28,000	120,000	7,500 (5)
4/27/92 (3)	500,000	NA	3,400	6,400	10,000	45,000	440,000 (6)
4/27/92 (4)	175,000	NA	4,200	4,400	3,200	14,600	N/A
8/10/92	170,000	NA	4,200	4,200	3,300	15,900	120,000 (6)
2/11/94	1,800,000	NA	ND	5,100	5,200	23,900	16,000 (6)
9/9/94	23,000,000	NA	56,000	61,000	9,100	137,000	880,000 (6)
12/28/94	55,000	NA	3,700	5,300	1,400	5,800	83,000 (6)
4/13/95	45,000	NA	2,800	3,400	1,200	5,100	50,000 (5)
11/1/95	44,000	NA	2,600	3,400	1,400	5,900	52,000 (5)
3/25/96	45,000	NA	3,000	4,100	1,600	6,800	46,000 (5) (7)
10/8/96	55,000	490	3,300	4,500	1,700	7,100	11,000 (5) (7)
1/16/97	48,000	310	2,600	3,200	1,300	5,300	110,000 (5) (7)
6/23/97	40,000	ND<100	2,300	3,500	1,500	6,300	190,000 (5) (7)
10/7/97	45,000	ND<680	2,500	3,600	1,700	6,800	150,000 (5) (7)
12/12/98	39,000	ND<1,500	3,000	100	1,400	5,800	67,000 (5) (7)
4/24/99	33,000	ND<200	2,300	3,300	1,100	4,100	140,000 (5) (7)
4/24/99 (8)	41,000	1,100	2,500	3,700	1,500	5,700	N/A
12/18/99	43,000	ND<200	2,600	3,800	1,400	5,800	110,000 (5) (7)
7/22/00	37,000	ND<200	2,200	2,600	1,300	5,200	320,000 (5) (7)
1/29/01	36,000	ND<200	2,100	2,300	1,200	4,500	76,000 (5) (7)
7/28/01	99,000	ND<250	1,500	2,300	1,700	6,600	86,000 (5) (7)
2/3/02	42,000	ND<500	1,200	1,300	1,100	3,900	42,000 (5) (7)
<b>MW-2 ("deep")</b>							
2/11/94	130	NA	22	1.1	5.2	7.3	ND (6)
9/9/94	1,000	NA	89	ND	ND	6.9	ND (6)
12/28/94	330	NA	100	3.8	5.4	4.7	5100 (6)
4/13/95	1,300	NA	280	6.9	33	23	ND (5)
11/1/95	100	NA	9.9	ND	ND	ND	ND (5)
3/25/96	4,500	NA	470	57	220	280	ND (5) (7)
10/8/96	710	41	1.9	0.54	1.0	1.0	ND (5) (7)
1/16/97	330	12	41	2.4	1.3	9.9	ND (5) (7)
6/23/97	280	10	12	0.69	ND	13	NA (7)
10/7/97	320	ND<35	4.5	ND	ND	ND	NA (7)
12/12/98	290	ND<11	21	0.76	10	19	ND (5) (7)
4/24/99	360	21	36	1.3	9.2	19	ND<5000 (5) (7)
12/18/99	210	ND<200	13	ND	2.9	7.7	ND<5000 (5) (7)
7/22/00	180	ND<3	10	ND	4.5	6.0	ND<5000 (5) (7)
1/29/01	130	ND<3	16	ND	1.9	3.8	ND<5000 (5) (7)
7/28/01	ND<50	ND<3	2.7	ND	0.64	0.69	ND<5000 (5) (7)
2/3/02	140	ND<3	5.5	ND	9.0	12	ND<5000 (5) (7)

Well and Date	TPH Gasoline	MTBE	Benzene	Toluene	Ethyl-Benzene	Xylenes	Oil & Grease HVOC (7)
<b>MW-3 ("shallow")</b>							
2/11/94	ND	NA	ND	ND	ND	ND	ND (6)
9/9/94	710	NA	10	ND	ND	3.5	ND (6)
12/28/94	2,300	NA	7.8	ND	130	73	ND (6)
4/13/95	1,700	NA	2.9	ND	61	24	ND (5)
11/1/95	1,100	NA	4.4	ND	27	22	ND (5)
3/25/96	2,300	NA	4.0	0.96	120	65	ND (5) (7)
10/8/96	160	ND	ND	0.5	1.2	0.77	ND (5) (7)
1/16/97	1,800	7.1	2.8	0.68	48	66	ND<5000 (5) (7)
6/23/97	ND	ND	ND	ND	ND	ND	NA (7)
10/7/97	ND	ND	ND	ND	ND	ND	NA (7)
12/12/98	1,900	ND	1.8	0.78	78	42	ND (5) (7)
4/24/99	2,100	ND	1.5	0.85	79	43	ND<5000 (5) (7)
12/18/99	330	ND	0.51	ND	ND	ND	ND<5000 (5) (7)
7/22/00	230	ND	0.89	2.4	ND	ND	ND<5000 (5) (7)
1/29/01	450	ND<5	1.1	1.6	11	3.6	ND<5000 (5)
7/28/01	ND<50	ND<5	ND<0.5	ND	ND	ND	ND<5000 (5)
2/3/02	98	ND<5	ND<0.5	ND	ND	ND	ND<5000 (5)
<b>MW-4 ("deep")</b>							
3/26/96	9,900	NA	4,000	40	71	100	ND (5) (7)
10/8/96	7,800	140	3,900	33	31	40	ND (5) (7)
1/16/97	4,800	84	1,900	21	2.5	27	5,200 (5) (7)
6/23/97	6,200	160	2,800	20	20	23	ND (5) (7)
10/7/97	4,400	85	1,800	14	18	14	ND (5) (7)
12/12/98	3,500	110	1,500	13	39	14	ND (5) (7)
4/24/99	3,100	ND<10	1,700	22	67	21	7,500 (5) (7)
12/18/99	2,600	33	1,000	12	32	10	ND<5000 (5) (7)
7/22/00	2,700	60	940	14	31	12	7,000 (5) (7)
1/29/01	2,500	ND<5	980	11	35	5	ND<5000 (5) (7)
7/28/01	1,100	27	250	6.3	19	4.8	90,000 (5) (7)
2/3/02	2,100	ND<25	890	23	41	20	7,400 (5) (7)
<b>MW-5 ("deep")</b>							
3/26/96	1,200	NA	43	8.2	83	95	ND (5) (7)
10/8/96	6,700	190	260	92	410	370	ND (5) (7)
1/16/97	3,000	90	150	68	190	180	ND (5) (7)
6/23/97	12,000	150	410	170	920	800	NA (7)
10/7/97	10,000	ND<480	310	62	530	500	NA (7)
12/12/98	11,000	ND<660	400	120	740	480	ND (5) (7)
4/24/99	9,300	ND<100	390	290	820	770	ND<5000 (5) (7)
12/18/99	7,000	ND<100	250	52	500	300	ND<5000 (5) (7)
7/22/00	14,000	ND<100	290	140	770	630	12,000 (5) (7)
1/29/01	8,200	ND<5	180	42	420	250	11,000 (5) (7)
7/28/01	9,100	ND<70	190	67	540	430	ND<5000 (5) (7)
2/3/02	11,000	ND<100	250	160	730	540	ND<5000 (5) (7)
<b>MW-6 ("shallow")</b>							
3/26/96	9,900	NA	1,000	150	470	720	ND (5) (7)
10/8/96	1,300	57	120	2.3	1.4	4.0	ND (5) (7)
1/15/97	6,500	220	570	65	170	630	ND (5) (7)
6/23/97	3,100	100	410	16	110	140	NA (7)
10/7/97	960	ND<74	78	3.4	1.8	5.8	NA (7)
12/12/98	2,500	ND<160	230	10	92	110	ND (5) (7)
4/24/99	2,900	ND<10	430	33	160	200	ND<5000 (5) (7)
12/18/99	2,300	ND<200	170	6.6	56	63	ND<5000 (5) (7)

Well and Date	TPH Gasoline	MTBE	Benzene	Toluene	Ethyl-Benzene	Xylenes	Oil & Grease HVOC (7)
<b>MW-6 ("shallow") (continued)</b>							
7/22/00	2,200	ND<10	290	9.6	80	43	ND<5000 (5) (7)
1/29/01	2,500	ND<10	220	11	150	230	ND<5000 (5) (7)
7/28/01	NA	NA	NA	NA	NA	NA	NA
2/3/02	2,500	ND<50	290	18	88	330	ND<5000 (5) (7)
<b>MW-7 (deep")</b>							
6/23/97	8,700	ND<20	950	260	520	380	ND (5) (7)
10/7/97	7,500	ND<310	1,100	86	280	150	ND (5) (7)
12/12/98	5,000	ND<190	640	43	200	55	ND (5) (7)
4/24/99	5,500	ND<10	640	180	290	210	ND<5000 (5) (7)
12/18/99	5,500	ND<10	570	27	91	31	ND<5000 (5) (7)
7/22/00	7,400	ND<80	620	180	240	180	10,000 (5) (7)
1/29/01	4,000	ND<10	410	21	22	21	7,000 (5) (7)
7/28/01	4,200	ND<70	540	120	110	110	ND<5000 (5) (7)
2/3/02	6,300	ND<25	560	110	190	140	ND<5000 (5) (7)
<b>MW-8 ("shallow")</b>							
6/23/97	610	5.9	25	1.4	4.3	2.4	ND (5) (7)
10/7/97	120	ND	6.9	ND	ND	ND	ND (5) (7)
12/12/98	ND	ND	ND	ND	ND	ND	ND (5) (7)
4/24/99	ND	ND	ND	ND	ND	ND	ND<5000 (5) (7)
12/18/99	ND	ND	ND	ND	ND	ND	ND<5000 (5) (7)
7/22/00	ND	ND	ND	ND	ND	ND	ND<5000 (5) (7)
1/29/01	ND	ND<5	0.87	ND	ND	ND	ND<5000 (5) (7)
7/28/01	ND	ND<5	ND	ND	ND	ND	ND<5000 (5) (7)
2/3/02	ND	16	ND	ND	ND	ND	ND<5000 (5) (7)
<b>MW-9 ("shallow")</b>							
6/23/97	32,000	250	340	280	1,500	4,300	ND (5) (7)
10/7/97	33,000	ND<690	880	350	1900	4,700	ND (5) (7)
12/12/98	3,400	ND<78	160	14	220	210	ND (5) (7)
4/24/99	3,100	22	130	18	220	190	ND (5) (7)
12/18/99	7,500	100	220	44	440	650	ND<5000 (5) (7)
7/22/00	4,900	ND<10	93	15	240	250	71,000 (5) (7)
1/29/01	3,800	ND<10	160	35	260	310	5,000
7/28/01	5,700	ND<20	43	27	210	420	ND<5000 (5) (7)
2/3/02	7,800	ND<50	98	51	450	640	ND<5000 (5) (7)
<b>EB-4 ("grab" gw sample)</b>							
3/8/96	15,000	NA	780	840	1,300	590	7,500 (5) (7)
MCL	NA	13/5 (9)	1	150	700	1,750	NA

Notes on following page



**Notes to Table 2**

- (1) ND - non-detect; N/A - not applicable
- (2) Kaldveer Associates report, September, 1990
- (3) Sequoia Analytical Laboratory
- (4) Applied Remediation Laboratory
- (5) Gravimetric Method
- (6) Infrared Method
- (7) **HVOC detected:** see Table 3
- (8) Free-phase product observed in bailer (additional sample)
- (9) Primary and secondary MCL, respectively.

TABLE 3

## GROUND WATER

SUMMARY OF ANALYTICAL TEST RESULTS -  
HALOGENATED VOLATILE ORGANIC COMPOUNDS (HVOC)  
(Results reported in parts per billion, ppb/ug/l) (1) (2)

Well and Date	CA	1,2 DCB	1,2 DCA	cis 1,2 DCE	trans 1,2 DCE	1,2 DCP	PCE	TCE	VCL
<b>MW-1 ("deep")</b>									
3/25/96	ND<5	7.2	5.3	82	ND<5	ND<5	ND<5	7.8	25
10/8/96	ND<20	ND<20	ND<20	45	ND<20	ND<20	ND<20	ND<20	26
1/16/97	NA	NA	NA	NA	NA	NA	NA	NA	NA
6/23/97	ND<2	10	4.1	130	3.7	ND<2	5.0	23	54
10/7/97	3.5	7.4	2.2	82	3.8	ND<2	ND<3	9.5	68
12/12/98	ND<2.5	7.4	ND<2.5	26	ND<2.5	ND<2.5	ND<2.7	ND<2.5	7.3
4/24/99 (8)	2.1	9.9	3.5	61	2.8	2.0	ND<4.2	ND<1.5	22
12/18/99 (9)	3.3	8.0	1.2	12	2.8	1.2	ND<0.5	ND<0.5	7.2
7/22/00 (10)	ND<2.5	16.0	ND<2.5	15	ND<2.5	ND<2.5	ND<5.0	ND<2.5	8.2
1/29/01 (11)	ND<10.0	23.0	ND<10.0	23	ND<10.0	ND<10.0	ND<10.0	ND<10.0	ND<10.0
7/28/01 (12)	7.4	9.0	0.97	14	6.4	0.95	ND<0.5	ND<0.5	15
2/3/02 (13)	5.5	10.0	1.4	23	5.5	0.59	ND<0.5	ND<0.5	7.4
<b>MW-2 ("deep")</b>									
3/25/96	ND<0.5	ND<0.5	8.7	11	ND<0.5	1.0	ND<0.5	3.2	0.92
10/8/96	ND<0.5	ND<0.5	15	9.6	ND<0.5	1.1	ND<0.5	6.6	ND<0.5
1/16/97	NA	NA	NA	NA	NA	NA	NA	NA	NA
6/23/97	ND<0.5	ND<0.5	9.7	8.0	ND<0.5	0.86	ND<0.5	9.6	ND<0.5
10/7/97	ND<0.5	ND<0.5	18	11	ND<0.5	1.2	ND<0.5	15	ND<0.5
12/12/98	ND<0.5	ND<0.5	16	9.4	ND<0.5	1.1	ND<1	7.5	ND<0.5
4/24/99	ND<0.5	ND<0.5	13	7.8	ND<0.5	0.92	ND<0.5	8.4	ND<0.5
12/18/99	ND<0.5	ND<0.5	15	9.0	ND<0.5	1.5	ND<0.5	ND<0.5	ND<0.5
7/22/00	ND<0.5	ND<0.5	17	10	ND<0.5	1.2	ND<1.0	12.0	ND<0.5
1/29/01	ND<0.5	ND<0.5	12	9.1	ND<0.5	0.9	ND<5.0	12.0	ND<0.5
7/28/01	ND<0.5	ND<0.5	9.7	7.8	ND<0.5	0.95	ND<5.0	12.0	ND<0.5
2/3/02	ND<0.5	ND<0.5	7.1	6.7	ND<0.5	0.72	ND<0.5	9.0	ND<0.5
<b>MW-3 ("shallow")</b>									
3/25/96	ND<0.5	ND<0.5	0.56	1.2	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
10/8/96	ND<0.5	ND<0.5	1.1	0.87	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1/16/97	NA	NA	NA	NA	NA	NA	NA	NA	NA
6/23/97	ND<0.5	ND<0.5	0.54	0.76	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
10/7/97	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
12/12/98	ND<0.5	ND<0.5	0.51	0.82	ND<0.5	ND<0.5	ND<1	ND<0.5	ND<0.5
4/24/99	ND<0.5	ND<0.5	ND<0.5	0.65	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
12/18/99	ND<0.5	ND<0.5	0.72	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
7/22/00	ND<0.5	ND<0.5	0.52	ND<0.5	ND<0.5	ND<0.5	ND<1.0	ND<0.5	ND<0.5
1/29/01	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	ND<0.5	ND<0.5
7/28/01	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
2/3/02	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
<b>MW-4 ("deep")</b>									
3/26/96	ND<8	22	ND<8	300	9.2	ND<8	38	150	44
10/8/96	ND<15	22	4.9	320	ND<15	ND<15	52	130	60
1/16/97	NA	NA	NA	NA	NA	NA	NA	NA	NA
6/23/97 (5)	3.6	21	5.3	340	10	ND<3	11	110	83
10/7/97	ND<8	20	ND<8	380	9.9	ND<8	ND<12	56	56

Well and Date	CA	1,2 DCB	1,2 DCA	cis 1,2 DCE	trans 1,2 DCE	1,2 DCP	PCE	TCE	VCL
<b>MW-4 ("deep")(continued)</b>									
12/12/98 (7)	ND<3.5	18	ND<3.5	150	12	ND<8	ND<4.5	12	57
4/24/99	ND<8.5	20	ND<8.5	390	12	ND<8.5	33	240	43
12/18/99	ND<10.0	27	ND<10.0	390	13	ND<10.0	ND<10.0	39	ND<10.0
7/22/00	ND<10.0	38	ND<10.0	620	ND<10.0	ND<10.0	ND<10.0	19	97
1/29/01	ND<5.0	35	ND<5.0	380	15	ND<5.0	ND<5.0	19	97
7/28/01	ND<7.5	29	ND<5.0	310	18	ND<5.0	ND<5.0	8.4	150
2/3/02 (13)	ND<7.0	22	ND<7.0	310	16	ND<7.0	ND<7.0	20	120
<b>MW-5 ("deep")</b>									
3/26/96	1.4	ND<0.5	2.1	6.2	ND<0.5	ND<0.5	ND<0.5	ND<0.5	10
10/8/96	ND<2.5	ND<2.5	4.9	4.4	ND<2.5	ND<2.5	ND<2.5	ND<2.5	9.4
1/16/97	NA	NA	NA	NA	NA	NA	NA	NA	NA
6/23/97 (5)	2.0	2.1	2.0	7.2	0.71	ND<0.5	ND<0.5	ND<0.5	13
10/7/97	1.9	1.4	2.8	3.4	ND<0.5	ND<0.5	ND<0.5	ND<0.5	10
12/12/98	1.4	2.0	1.1	3.7	ND<1	ND<1	ND<1.5	ND<1	5.8
4/24/99	ND<1	1.9	1.9	4.8	ND<1	ND<1	ND<1	ND<1	6.3
12/18/99	1.6	1.7	1.8	1.9	ND<0.5	ND<0.5	ND<0.5	ND<0.5	2.9
7/22/00	1.8	2.4	1.4	2.6	ND<1.0	ND<1.0	ND<1.0	ND<1.0	5.0
1/29/01	ND<1.0	2.2	2.6	2.2	ND<1.0	ND<1.0	ND<1.0	ND<1.0	2.2
7/28/01	1.4	1.3	1.7	1.4	ND<1.0	ND<1.0	ND<1.0	ND<1.0	2.6
2/3/02 (13)	1.8	2.0	2.1	3.9	0.95	ND<0.5	ND<0.5	ND<0.5	4.6
<b>MW-6 ("shallow")</b>									
3/26/96	ND<0.5	ND<0.5	3.9	15	ND<0.5	1.9	0.77	2	ND<0.5
10/8/96	ND<0.5	ND<0.5	2.3	9.9	ND<0.5	ND<0.5	ND<0.5	0.57	ND<0.5
1/16/97	NA	NA	NA	NA	NA	NA	NA	NA	NA
6/23/97	ND<0.5	ND<0.5	1.6	10	ND<0.5	ND<0.5	ND<0.5	0.63	0.50
10/7/97	ND<0.5	ND<0.5	3.4	7.9	ND<0.5	ND<0.5	ND<0.5	0.82	ND<0.5
12/12/98 (7)	ND<0.5	ND<0.5	1.5	8.4	ND<0.5	ND<0.5	ND<1	ND<0.5	ND<0.5
4/24/99	ND<0.5	ND<0.5	2.3	17	ND<0.5	0.89	ND<1	0.73	0.59
12/18/99	ND<0.5	ND<0.5	2.2	8.3	ND<0.5	ND<0.5	ND<0.5	ND<0.5	0.62
7/22/00	ND<0.5	ND<0.5	1.2	9.3	ND<0.5	ND<0.5	ND<1.0	ND<0.5	0.97
1/29/01	ND<0.5	ND<0.5	1.1	11	ND<0.5	ND<0.5	ND<5.0	ND<0.5	0.77
7/28/01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2/3/02	ND<0.5	ND<0.5	1.5	13	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
<b>MW-7 ("deep")</b>									
6/23/97	0.93	1.6	ND<0.5	2.4	1.2	ND<0.5	9.8	17	1.5
10/7/97	ND<2	ND<2	ND<2	8.5	2.4	ND<2	38	110	ND<2
12/12/98	ND<2	2.2	ND<2	97	ND<2	ND<2	ND<3.5	ND<2	ND<2
4/24/99	ND<2	2.4	ND<2	31	ND<2	ND<2	9.3	82	ND<2
12/18/99 (9)	ND<3	5.7	ND<3	120	ND<3	ND<3	ND<3	12	ND<3
7/22/00 (10)	ND<5	18	ND<5	170	ND<5	ND<5	ND<5	8	ND<5
1/29/01 (11)	ND<5	18	ND<5	170	ND<5	ND<5	ND<5	8	ND<5
7/28/01 (12)	ND<5	11	ND<5	170	ND<5	ND<5	ND<5	6.9	6.1
2/3/02	ND<5.0	ND<5.0	ND<5.0	94	ND<5.0	ND<5.0	ND<5.0	30	ND<5.0
<b>MW-8 ("shallow")</b>									
6/23/97	ND<1	5.4	ND<1	64	ND<1	ND<1	97	100	ND<1
10/7/97	ND<0.5	1.1	ND<0.5	16	ND<0.5	ND<0.5	30	27	ND<0.5
12/12/98	ND<0.5	ND<0.5	ND<0.5	3.4	ND<0.5	ND<0.5	4.8	4.7	ND<0.5
4/24/99	ND<0.5	ND<0.5	ND<0.5	1.9	ND<0.5	ND<0.5	3.4	3.4	ND<0.5
12/18/99	ND<0.5	ND<0.5	ND<0.5	5.3	ND<0.5	ND<0.5	5.9	6.4	ND<0.5
7/22/00	ND<0.5	ND<0.5	ND<0.5	1.7	ND<0.5	ND<0.5	2.4	1.6	ND<0.5
1/29/01	ND<0.5	ND<0.5	ND<0.5	10	ND<0.5	ND<0.5	ND<5.0	8.8	ND<0.5

Well and Date	CA	1,2 DCB	1,2 DCA	cis 1,2 DCE	trans 1,2 DCE	1,2 DCP	PCE	TCE	VCL
<b>MW-8 ("shallow") (continued)</b>									
7/28/01	ND<0.5	ND<0.5	ND<0.5	2.6	ND<0.5	ND<0.5	ND<1.5	2.1	ND<0.5
2/3/02	ND<0.5	ND<0.5	ND<0.5	6.6	ND<0.5	ND<0.5	3.3	4.6	ND<0.5
<b>MW-9 (shallow")</b>									
6/23/97 (5)	ND<1	2.1	ND<1	7.4	ND<1	ND<1	3.5	1.4	ND<1
10/7/97 (6)	ND<0.5	1.6	2.1	21	ND<0.5	0.7	ND<2	0.53	2.7
12/12/98	ND<0.5	0.7	0.53	1.9	ND<0.5	ND<0.5	ND<1	ND<0.5	ND<0.5
4/24/99	ND<0.5	0.81	0.52	3.1	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
12/18/99	ND<0.5	1.1	0.67	3.7	ND<0.5	ND<0.5	ND<0.5	ND<0.5	0.63
7/22/00	ND<1	1.4	ND<1	1.6	ND<1	ND<1	ND<1	ND<1	ND<1
1/29/01	ND<0.5	1.2	0.71	ND<0.5	8.2	ND<0.5	ND<5.0	ND<0.5	0.53
7/28/01	ND<0.5	0.87	ND<0.5	0.92	ND<0.5	ND<0.5	ND<5.0	2.5	ND<0.5
2/3/02	ND<0.5	1.2	ND<0.5	2.4	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
<b>EB-4 (grab)</b>									
3/8/96	ND	ND	ND	42	ND	ND	130	340	ND
<b>MCL</b>	NA	<b>600</b>	<b>0.5</b>	<b>6</b>	<b>10</b>	<b>5</b>	<b>7</b>	<b>5</b>	<b>0.5</b>

**Notes to Table 3**

(1) ND = non-detect; reporting limit 0.5 ug/l (ppb) unless otherwise stated

(2) N/A = not applicable

(3) Composite

(4) Abbreviations as follows:

CA	Chloroethane	1,2 DCP	1,2 Dichloropropane
1,2 DCB	1,2 Dichlorobenzene	PCE	Tetrachloroethene (perchloroethen
1,2 DCA	1,2 Dichloroethane	TCE	trichloroethene
cis 1,2 DCE	cis 1,2 Dichloroethene	VCL	vinyl chloride
trans 1,2 DCE	trans 1,2 Dichloroethene		

(5) 6/23/97 additional detections:

MW-4: 4.8 ppb 1,4-Dichlorobenzene

MW-5: 0.53 ppb 1,4-Dichlorobenzene

MW-9: 2.1 ppb chloroform (tetrachloromethane)

(6) 10/7/97 additional detections:

MW-9: 0.65 chloroform (tetrachloromethane)

(7) 12/12/98 additional detections:

MW-4: 6.2 ppb 1,3-Dichlorobenzene

MW-4: 4.8 ppb 1,4-Dichlorobenzene

MW-6: 8.9 ppb 1,1,1-Trichloroethane

• 4/24/99 additional detections:

MW-1: 1.6 ppb Chloroform

MW-1: 2.5 ppb 1,4-Dichlorobenzene

(9) 12/18/99 additional detections:

MW-1: 1.3 ppb Dibromochloromethane

MW-1: 1.2 ppb 1,3-Dichlorobenzene

MW-1: 2.2 ppb 1,4-Dichlorobenzene

MW-1: 9.9 ppb 1,4-Dichlorobenzene

(10) 7/22/00 additional detections:

MW-1: 5.0 ppb 1,4 Dichlorobenzene

MW-7: 6.1 ppb 1,4 Dichlorobenzene

(11) 1/29/01 additional detections:

MW-1: 23.0 ppb 1,3 Dichlorobenzene

MW-4: 6.3 ppb 1,3 Dichlorobenzene

MW-4: 9.0 ppb 1,4 Dichlorobenzene

**Notes to Table 3 continued**

**(12) 7/28/01 additional detections:**

MW-1: 0.60 ppb 2-Chloroethyl Vinyl Ether  
MW-1: 1.2 ppb 1,3 Dichlorobenzene  
MW-1: 3.0 ppb 1,4 Dichlorobenzene  
MW-4: 26 ppb 1,4 Dichlorobenzene  
MW-7: 5.9 ppb 1,4 Dichlorobenzene

**(13) 2/3/02 additional detections:**

MW-1: 0.73 ppb 2-Chloroethyl Vinyl Ether  
MW-1: 1.8 ppb 1,3 Dichlorobenzene  
MW-1: 3.8 ppb 1,4 Dichlorobenzene  
MW-4: 9.8 ppb 1,4 Dichlorobenzene  
MW-5: 0.59 ppb 1,4 Dichlorobenzene

**TABLE 4**

**GROUND WATER**

**SUMMARY OF ANALYTICAL TEST RESULTS -  
POLYNUCLEAR AROMATIC HYDROCARBONS (PNA, PAH)  
(Results reported in parts per billion, ppb/ug/l) (1)(2)(3)**

<b>Well and Date</b>	<b>Phenanthrene</b>	<b>Naphthalene</b>
<b>MW-1 ("deep")</b>		
6/23/97	12	2200
10/7/97	ND<100	810
12/12/98	N/A	N/A
<b>MCL</b>	N/A	N/A

**Notes to Table 4**

- (1) ND = non-detect
- (2) N/A = not applicable
- (3) Detected compounds only

TABLE 5

## GROUND WATER

SUMMARY OF ANALYTICAL TEST RESULTS -  
ADDITIONAL CHEMICAL PARAMETERS  
(Results reported in parts per million, mg/l) (1)

Well and Date	Dissolved Oxygen	Ferrous Iron	Nitrate	Sulfate
<b>MW-1 ("deep")</b>				
10/8/96	1.5	ND	ND	ND
1/16/97	1.4	3.6	ND	ND
6/23/97	N/A	N/A	N/A	N/A
10/7/97	N/A	N/A	N/A	N/A
12/12/98	N/A	N/A	N/A	N/A
4/24/99	N/A	N/A	N/A	N/A
12/18/99	N/A	N/A	N/A	N/A
7/22/00	N/A	N/A	N/A	N/A
1/29/01	N/A	N/A	N/A	N/A
7/28/01	N/A	N/A	N/A	N/A
2/3/01	N/A	N/A	N/A	N/A
<b>MW-2 ("deep")</b>				
10/8/96	3.7	ND	3	25
1/16/97	5.4	0.28	3	25
6/23/97	N/A	N/A	N/A	N/A
10/7/97	N/A	N/A	N/A	N/A
12/12/98	N/A	N/A	N/A	N/A
4/24/99	N/A	N/A	N/A	N/A
12/18/99	N/A	N/A	N/A	N/A
7/22/00	N/A	N/A	N/A	N/A
1/29/01	N/A	N/A	N/A	N/A
7/28/01	N/A	N/A	N/A	N/A
2/3/01	N/A	N/A	N/A	N/A
<b>MW-3 ("shallow")</b>				
10/8/96	3.8	ND	ND	5
1/16/97	5.2	ND	ND	5
6/23/97	N/A	N/A	N/A	N/A
10/7/97	N/A	N/A	N/A	N/A
12/12/98	N/A	N/A	N/A	N/A
4/24/99	N/A	N/A	N/A	N/A
12/18/99	N/A	N/A	N/A	N/A
7/22/00	N/A	N/A	N/A	N/A
1/29/01	N/A	N/A	N/A	N/A
7/28/01	N/A	N/A	N/A	N/A
2/3/01	N/A	N/A	N/A	N/A
<b>MW-4 ("deep")</b>				
10/8/96	3.0	ND	ND	ND
1/16/97	4.7	0.75	ND	5
6/23/97	N/A	N/A	N/A	N/A
10/7/97	N/A	N/A	N/A	N/A
12/12/98	N/A	N/A	N/A	N/A
4/24/99	N/A	N/A	N/A	N/A
12/18/99	N/A	N/A	N/A	N/A
7/22/00	N/A	N/A	N/A	N/A

Well and Date	Dissolved Oxygen	Ferrous Iron	Nitrate	Sulfate
<b>MW-4 ("deep") continued</b>				
1/29/01	N/A	N/A	N/A	N/A
7/28/01	N/A	N/A	N/A	N/A
2/3/01	N/A	N/A	N/A	N/A
<b>MW-5 ("deep")</b>				
10/8/96	2.8	ND	ND	8
1/16/97	3.4	0.38	ND	9
6/23/97	N/A	N/A	N/A	N/A
10/7/97	N/A	N/A	N/A	N/A
12/12/98	N/A	N/A	N/A	N/A
4/24/99	N/A	N/A	N/A	N/A
12/18/99	N/A	N/A	N/A	N/A
7/22/00	N/A	N/A	N/A	N/A
1/29/01	N/A	N/A	N/A	N/A
7/28/01	N/A	N/A	N/A	N/A
2/3/01	N/A	N/A	N/A	N/A
<b>MW-6 ("shallow")</b>				
10/8/96	2.7	ND	ND	6
1/16/97	2.7	0.28	ND	8
6/23/97	N/A	N/A	N/A	N/A
10/7/97	N/A	N/A	N/A	N/A
12/12/98	N/A	N/A	N/A	N/A
4/24/99	N/A	N/A	N/A	N/A
12/18/99	N/A	N/A	N/A	N/A
7/22/00	N/A	N/A	N/A	N/A
1/29/01	N/A	N/A	N/A	N/A
7/28/01	N/A	N/A	N/A	N/A
2/3/01	N/A	N/A	N/A	N/A
<b>MW-7 ("deep")</b>				
6/23/97	N/A	N/A	N/A	N/A
10/7/97	N/A	N/A	N/A	N/A
12/12/98	N/A	N/A	N/A	N/A
4/24/99	N/A	N/A	N/A	N/A
12/18/99	N/A	N/A	N/A	N/A
7/22/00	N/A	N/A	N/A	N/A
1/29/01	N/A	N/A	N/A	N/A
7/28/01	N/A	N/A	N/A	N/A
2/3/01	N/A	N/A	N/A	N/A
<b>MW-8 ("shallow")</b>				
6/23/97	N/A	N/A	N/A	N/A
10/7/97	N/A	N/A	N/A	N/A
12/12/98	N/A	N/A	N/A	N/A
4/24/99	N/A	N/A	N/A	N/A
12/18/99	N/A	N/A	N/A	N/A
7/22/00	N/A	N/A	N/A	N/A
1/29/01	N/A	N/A	N/A	N/A
7/28/01	N/A	N/A	N/A	N/A
2/3/01	N/A	N/A	N/A	N/A



<b>Well and Date</b>	<b>Dissolved Oxygen</b>	<b>Ferrous Iron</b>	<b>Nitrate</b>	<b>Sulfate</b>
<b>MW-9 ("shallow")</b>				
6/23/97	N/A	N/A	N/A	N/A
10/7/97	N/A	N/A	N/A	N/A
12/12/98	N/A	N/A	N/A	N/A
4/24/99	N/A	N/A	N/A	N/A
12/18/99	N/A	N/A	N/A	N/A
7/22/00	N/A	N/A	N/A	N/A
1/29/01	N/A	N/A	N/A	N/A
7/28/01	N/A	N/A	N/A	N/A
2/3/01	N/A	N/A	N/A	N/A

**Notes to Table 5**

- (1) ND = non-detect
- (2) N/A = not applicable

**TABLE 6**  
**GROUND WATER**  
**SUMMARY OF ANALYTICAL TEST RESULTS -**  
**FUEL FINGERPRINT WITH SILICA GEL CLEAN UP**

<b>Well and Date</b>	<b>Fuel Fingerprint (2)</b>
<b>MW-1 ("deep")</b>	
2/3/01	Significant hydrocarbon pattern between C6 and C12 that resembles <b>gasoline</b> . Also shows a hydrocarbon pattern between C18 and C30 that resembles <b>oil</b> .
<b>MW-2 ("deep")</b>	
2/3/01	ND < 50 ug/L
<b>MW-3 ("shallow")</b>	
2/3/01	ND < 50 ug/L
<b>MW-4 ("deep")</b>	
2/3/01	Significant hydrocarbon pattern between C9 and C12 that resembles <b>stoddard solvent</b> . Also shows a hydrocarbon pattern between C18 and C30 that resembles <b>oil</b> .
<b>MW-5 ("deep")</b>	
2/3/01	Significant hydrocarbon pattern between C6 and C12 that resembles <b>fresh gasoline</b> .
<b>MW-6 ("shallow")</b>	
2/3/01	Significant hydrocarbon pattern between C6 and C12 that resembles <b>fresh gasoline</b> .
<b>MW-7 ("deep")</b>	
2/3/01	Significant hydrocarbon pattern between C6 and C12 that resembles <b>fresh gasoline</b> .
<b>MW-8 ("shallow")</b>	
2/3/01	ND < 50 ug/L
<b>MW-9 ("shallow")</b>	
2/3/01	Significant hydrocarbon pattern between C6 and C12 that resembles <b>fresh gasoline</b> .

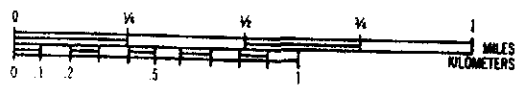
**Notes to Table 5**

- (1) ND = non-detect
- (2) See laboratory report for chromatograms.



# ALAMEDA COUNTY

1991 *Thomas Guide*.

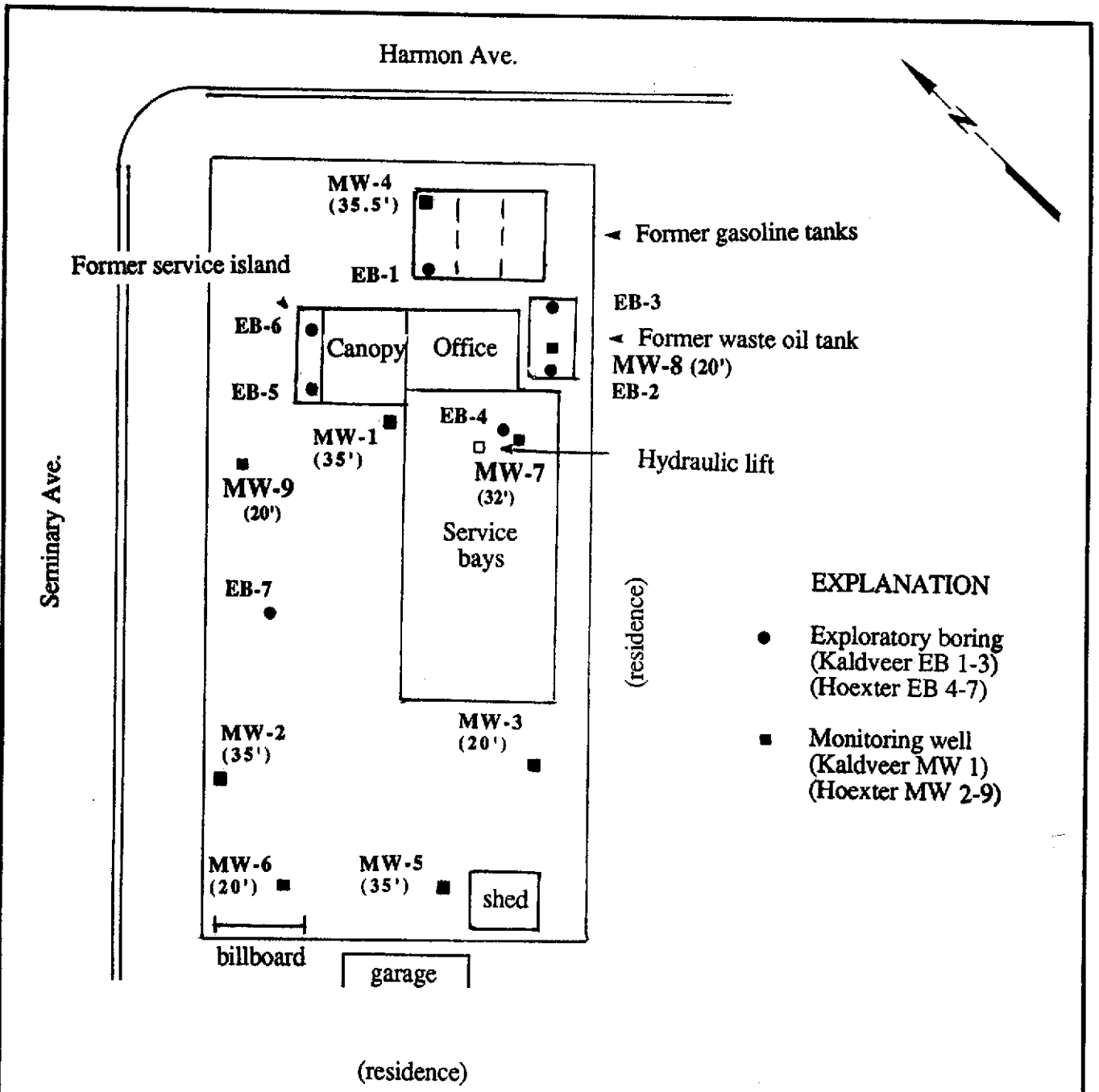


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## LOCATION MAP

1970 Seminary Ave.  
 Oakland, California

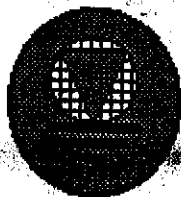
<b>Project No.</b>	<b>Date</b>	<b>Figure 1</b>
E-10-1E-391E	February, 2002	



Base: A. Deak, Licensed Land Surveyor, 3/21/96 (wells, streets & property line); Hoexter field sketch, 10/25/93 (explor. borings, other features)



Approximate Scale in Feet



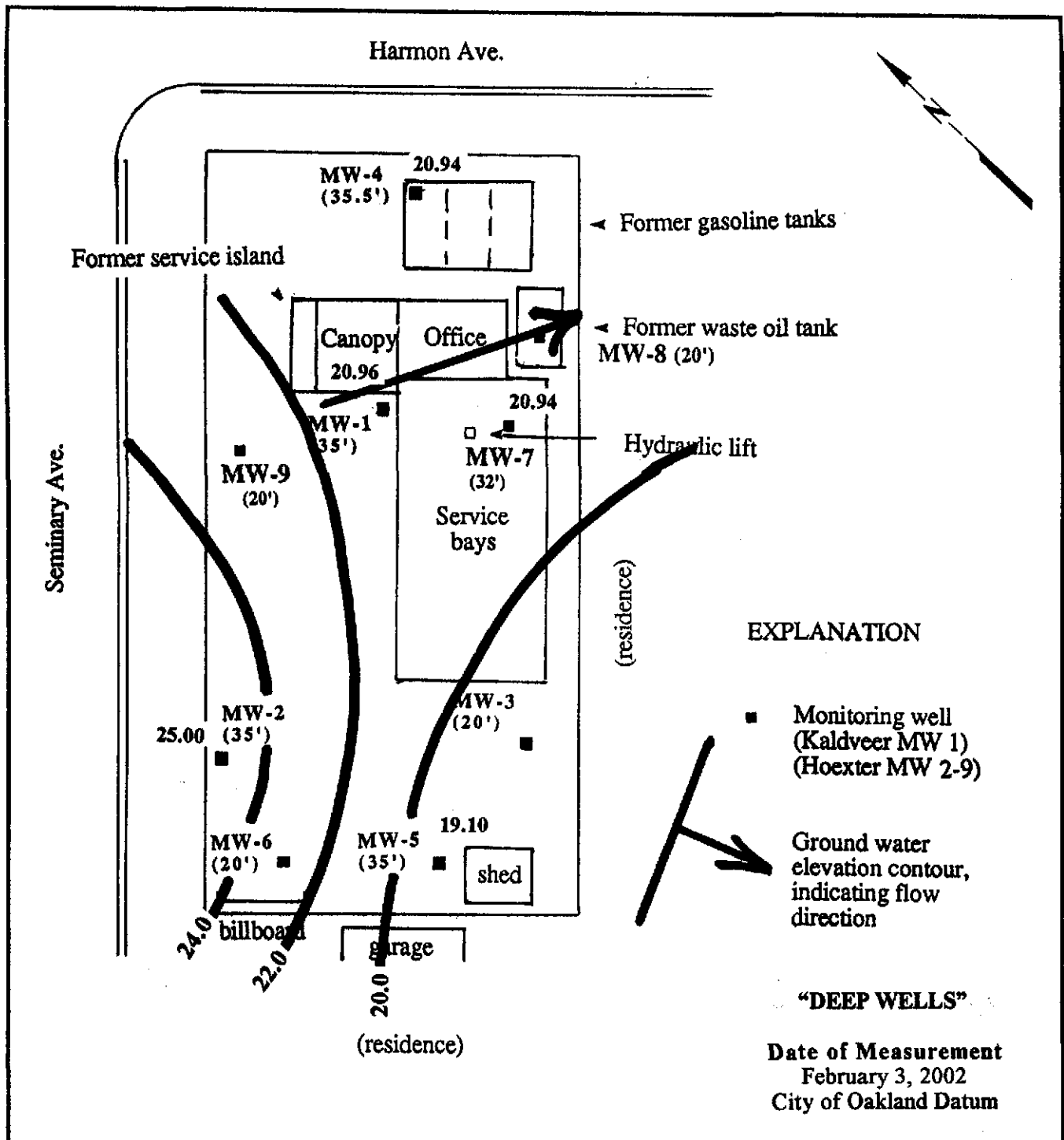
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**SITE PLAN**

1970 Seminary Ave.  
 Oakland, California

Project No.	Date	Figure
E-10-1E-391E	February, 2002	2

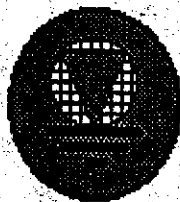




Base: A. Deak, Licensed Land Surveyor,  
3/21/96 (wells, streets & property  
line); Hoexter field sketch, 10/25/93  
(explor. borings, other features)



Approximate Scale in Feet



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**GROUND WATER CONTOUR  
AND GRADIENT DIRECTION MAP**

1970 Seminary Ave.  
Oakland, California

Project No.	Date	Figure 3B
E-10-1E-391E	February, 2002	

**APPENDIX A**

**WATER SAMPLE LOGS  
CHAIN OF CUSTODY  
ANALYTICAL TEST RESULTS**

# HOEXTER CONSULTING

## Groundwater Sampling Field Log

Project Name/No: 1970 Seminary, Oakland, CA  
 Client: D. Grunit  
 Project Manager: DPH+  
 Sampler: JP / DPH+  
 Casing Diameter: 2 inch  3 inch \_\_\_\_\_ 4 inch \_\_\_\_\_ 6 inch \_\_\_\_\_ Other: \_\_\_\_\_

Lab I.D.: \_\_\_\_\_  
 Date: 2/3/02  
 Sample Location/I.D.: HW-1  
 Start Time: \_\_\_\_\_

Depth of Well (feet): 35  
 Depth to Water (feet): 16.03  
 Sample Depth (feet): \_\_\_\_\_

Calculated Purged Volume: 12.4  
 Actual Purged Volume: 14  
 $35 - 16 = 19' \rightarrow 3.1 \text{ gal / foot}$

### Field Measurements

Time	Cum	Volume (gal.)	pH (units)	E.C. (umhos/cm)	Temperature (Degrees F)	Color (visual)	Other
<u>1451</u>	<u>3.5</u>	<u>3.5</u>	<u>6.26</u>	<u>1822</u>	<u>60.7</u>	<u>Oil globules in water,</u>	
<u>1504</u>	<u>7</u>	<u>↓</u>	<u>6.45</u>	<u>1156</u>	<u>63.1</u>	<u>Other wise sl. cloudy</u>	
<u>1515</u>	<u>10.5</u>	<u>↓</u>	<u>6.46</u>	<u>1178</u>	<u>63.1</u>	<u>To clear</u>	
<u>1527</u>	<u>14</u>	<u>↓</u>	<u>6.44</u>	<u>1245</u>	<u>62.9</u>		

### Purge Method

2" Bladder Pump     Bailer     Well Wizard     Dedicated  
 Submersible Pump     Centrifugal Pump     Dipper     Other  
 Pneumatic Displacement Pump

### Sample Method

2" Bladder Pump     Bailer     Well Wizard     Dedicated  
 Surface Sampler     Dipper     Fultz Pump     Other

Well Integrity: OK

Remarks: Strong petrol. odor, ± 1/8" product, Sampled 2 vol.  
1 amber L @ 1632

Signature: D. D. F. W.

### Volumes Per Unit Length Selected Well Casing Diameters

Well Casing I.D. (inches)	Volume Per Unit Length			
	Gal/ft	Cubic Ft/ft	L/M	L/ft
1.5	0.0918	0.0123	1.140	0.3475
2.0	<u>0.1632</u>	0.0218	2.027	0.6178
3.0	0.3672	0.0491	4.560	1.3900
4.0	0.6528	0.0873	8.107	2.4710
6.0	1.4690	0.1963	18.240	5.5600

### Conversion Factors

To Convert	Into	Multiply
Ft. of Water	Lbs/sq.in.	0.4335
Lbs/Sq. inch	Ft. of Water	2.3070
Cubic feet	Gallons	7.4800
Gallons	Liters	3.7850
Feet	Meters	0.30048
Inches	Centimeters	2.5400



# HOEXTER CONSULTING

## Groundwater Sampling Field Log

Project Name/ No: 1570 Seminary, Oatcl. Ct  
 Client: D - Grimit  
 Project Manager: DPH+  
 Sampler: JP / DPH+  
 Casing Diameter: 2 inch  3 inch \_\_\_\_\_ 4 inch \_\_\_\_\_ 6 inch \_\_\_\_\_ Other: \_\_\_\_\_

Lab I.D.: \_\_\_\_\_  
 Date: 2/3/02  
 Sample Location/I.D.: MW-2  
 Start Time: \_\_\_\_\_

Depth of Well (feet): 35  
 Depth to Water (feet): 11.40  
 Sample Depth (feet): \_\_\_\_\_

Calculated Purged Volume: 15.2  
 Actual Purged Volume 16  
 $35 - 11.4 = 23.6 \rightarrow 3.8$

*gal / wt*

### Field Measurements

Time	Cum	Volume (gal.)	pH (units)	E.C. (umhos/cm)	Temperature Degrees F	Color (visual)	Other
1252	4	4	6.43	893	60.5	clear	
1303	8		6.45	816	60.8		
1319	12		6.49	813	59.7		
1335	16		6.48	856	59.8		

### Purge Method

2" Bladder Pump  Bailer  Well Wizard  Dedicated  
 Submersible Pump  Centrifugal Pump  Dipper  Other  
 Pneumatic Displacement Pump

### Sample Method

2" Bladder Pump  Bailer  Well Wizard  Dedicated  
 Surface Sampler  Dipper  Fultz Pump  Other

Well Integrity: OK

Remarks: No product seen, odor initial extraction, sampled 2V0A, 1 amber 1527.

Signature: D. J. H.

#### Volumes Per Unit Length Selected Well Casing Diameters

Well Casing I.D. (inches)	Volume Per Unit Length			
	Gal/ft	Cubic Ft/ft	L/M	L/Ft
1.5	0.0918	0.0123	1.140	0.3475
2.0	<u>0.1632</u>	0.0218	2.027	0.6178
3.0	0.3672	0.0491	4.560	1.3900
4.0	0.6528	0.0873	8.107	2.4710
6.0	1.4690	0.1963	18.240	5.5600

#### Conversion Factors

To Convert	Into	Multiply
Ft. of Water	Lbs/sq.in.	0.4335
Lbs/Sq. inch	Ft. of Water	2.3070
Cubic feet	Gallons	7.4800
Gallons	Liters	3.7850
Feet	Meters	0.30048
Inches	Centimeters	2.5400

# HOEXTER CONSULTING

## Groundwater Sampling Field Log

Project Name/ No: 1570 Seminary, Oakland, CA  
 Client: D. Grinit  
 Project Manager: DFH  
 Sampler: JP / DFH  
 Casing Diameter: 2 inch  3 inch \_\_\_\_\_ 4 inch \_\_\_\_\_ 6 inch \_\_\_\_\_ Other: \_\_\_\_\_

Lab I.D.: \_\_\_\_\_  
 Date: 2/13/02  
 Sample Location/I.D.: MW-3  
 Start Time: \_\_\_\_\_

Depth of Well (feet): 20  
 Depth to Water (feet): 7.99  
 Sample Depth (feet): \_\_\_\_\_

Calculated Purged Volume: 7.6  
 Actual Purged Volume: 7  
 $20 - 8 = 12 \rightarrow 1.9 \text{ gal/wal.}$

### Field Measurements

Time	Cum	Volume (gal.)	pH (units)	E.C. (umhos/cm)	Temperature (Degrees F)	Color (visual)	Other
<u>1130</u>	<u>2</u>	<u>2</u>	<u>6.37</u>	<u>586</u>	<u>57.7</u>	<u>clear</u>	_____
<u>1140</u>	<u>4</u>	<u>2</u>	<u>6.41</u>	<u>610</u>	<u>58.6</u>	<u>↓</u>	_____
<u>1150</u>	<u>7</u>	<u>3</u>	<u>6.50</u>	<u>602</u>	<u>58.8</u>	<u>↓ clear</u>	<u>&lt; 3' water</u>
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

### Purge Method

\_\_\_\_\_ 2" Bladder Pump  Bailer \_\_\_\_\_ Well Wizard  Dedicated  
 \_\_\_\_\_ Submersible Pump \_\_\_\_\_ Centrifugal Pump \_\_\_\_\_ Dipper \_\_\_\_\_ Other  
 \_\_\_\_\_ Pneumatic Displacement Pump \_\_\_\_\_

### Sample Method

\_\_\_\_\_ 2" Bladder Pump  Bailer \_\_\_\_\_ Well Wizard  Dedicated  
 \_\_\_\_\_ Surface Sampler \_\_\_\_\_ Dipper \_\_\_\_\_ Fultz Pump \_\_\_\_\_ Other

Well Integrity: OK

Remarks: No product or steam, v. sl. odor initial extraction, drew down to < 3' water, allowed to recover; sampled 2x/2A + 1 amber @ 1549.

Signature: D. J. W.

### Volumes Per Unit Length Selected Well Casing Diameters

Well Casing I.D. (inches)	Volumes Per Unit Length			
	Gal/ft	Cubic Ft/ft	LM	L/ft
1.5	0.0918	0.0123	1.140	0.3475
2.0	<u>0.1632</u>	0.0218	2.027	0.6178
3.0	0.3672	0.0491	4.560	1.3900
4.0	0.6528	0.0873	8.107	2.4710
6.0	1.4690	0.1963	18.240	5.5600

### Conversion Factors

To Convert	Into	Multiply
Ft. of Water	Lbs/sq.in.	0.4335
Lbs/Sq. inch	Ft. of Water	2.3070
Cubic feet	Gallons	7.4800
Gallons	Liters	3.7850
Feet	Meters	0.30048
Inches	Centimeters	2.5400

# HOEXTER CONSULTING

## Groundwater Sampling Field Log

Project Name/No: 1970 Seminary, Oakland, CA  
 Client: D - Gruit  
 Project Manager: DPH+  
 Sampler: JP / DPH+  
 Casing Diameter: 2 inch  3 inch \_\_\_\_\_ 4 inch \_\_\_\_\_ 6 inch \_\_\_\_\_ Other: \_\_\_\_\_

Lab I.D.: \_\_\_\_\_  
 Date: 2/13/02  
 Sample Location/I.D.: MW-4  
 Start Time: \_\_\_\_\_

Depth of Well (feet): 35.5  
 Depth to Water (feet): 15.53  
 Sample Depth (feet): \_\_\_\_\_

Calculated Purged Volume: 13.2  
 Actual Purged Volume 14  
 $35.5 - 15.5 = 20'$   
 $\rightarrow 3.3 \text{ gal/vol}$

### Field Measurements

Time	Cum	Volume (gal.)	pH (units)	E.C. (umhos/cm)	Temperature (Degrees F)	Color (visual)	Other
1409	3.5	3.5	6.48	830	61.0	sl. cloudy	no odor
1420	7	↓	6.47	839	62.5	cloudy	moderate
1430	10.5	↓	6.47	823	61.4	↓	↓
1440	14	↓	6.50	829	59.6	↓	↓

### Purge Method

2" Bladder Pump     Bailer    \_\_\_\_\_ Well Wizard     Dedicated  
 Submersible Pump    \_\_\_\_\_ Centrifugal Pump    \_\_\_\_\_ Dipper    \_\_\_\_\_ Other  
 Pneumatic Displacement Pump

### Sample Method

2" Bladder Pump     Bailer    \_\_\_\_\_ Well Wizard     Dedicated  
 Surface Sampler    \_\_\_\_\_ Dipper    \_\_\_\_\_ Fultz Pump    \_\_\_\_\_ Other

Well Integrity: OK

Remarks: No steam, product, slight odor initial extraction. Subsequent steam sampled 2 VOA 1 amber 1639.

Signature: D. J. H.

#### Volumes Per Unit Length Selected Well Casing Diameters

Well Casing I.D. (inches)	Volume Per Unit Length			
	Gal/ft	Cubic Ft/ft	L/M	L/Ft
1.5	0.0918	0.0123	1.140	0.3475
2.0	<u>0.1632</u>	0.0218	2.027	0.6178
3.0	0.3672	0.0491	4.560	1.3900
4.0	0.6528	0.0873	8.107	2.4710
6.0	1.4690	0.1963	18.240	5.5600

#### Conversion Factors

To Convert	Into	Multiply
Ft. of Water	Lbs/sq.in.	0.4335
Lbs/Sq. inch	Ft. of Water	2.3070
Cubic feet	Gallons	7.4800
Gallons	Liters	3.7850
Feet	Meters	0.30048
Inches	Centimeters	2.5400

# HOEXTER CONSULTING

## Groundwater Sampling Field Log

Project Name/No: 1970 Seminary, Oakl. CA

Client: D - Gruit

Project Manager: DPH+

Sampler: JP / DPH+

Casing Diameter: 2 inch  3 inch \_\_\_\_\_ 4 inch \_\_\_\_\_ 6 inch \_\_\_\_\_ Other: \_\_\_\_\_

Lab I.D.: \_\_\_\_\_

Date: 2/3/02

Sample Location/I.D.: MW-5

Start Time: \_\_\_\_\_

Depth of Well (feet): 35

Depth to Water (feet): 17.67

Sample Depth (feet): \_\_\_\_\_

Calculated Purged Volume: 11.2

Actual Purged Volume 12

$35 - 17.7 = 17.3'$

$\rightarrow 2.8 \text{ gal/wal}$

### Field Measurements

Time	Cum	Volume (gal.)	pH (units)	E.C. (umhos/cm)	Temperature (Degrees F)	Color (visual)	Other
<u>1155</u>	<u>3</u>	<u>3</u>	<u>6.46</u>	<u>723</u>	<u>59.8</u>		
<u>1205</u>	<u>6</u>	<u>↓</u>	<u>6.50</u>	<u>877</u>	<u>57.2</u>	<u>cloudy</u>	
<u>1217</u>	<u>9</u>	<u>↓</u>	<u>6.47</u>	<u>895</u>	<u>58.7</u>	<u>↓</u>	
<u>1228</u>	<u>12</u>	<u>↓</u>	<u>6.56</u>	<u>878</u>	<u>59.3</u>	<u>↓</u>	

### Purge Method

2" Bladder Pump     Bailer     Well Wizard     Dedicated  
 Submersible Pump     Centrifugal Pump     Dipper     Other  
 Pneumatic Displacement Pump

### Sample Method

2" Bladder Pump     Bailer     Well Wizard     Dedicated  
 Surface Sampler     Dipper     Fultz Pump     Other

Well Integrity: OK

Remarks: No product, steam or odor initial extraction, slight steam + odor @ 2nd volume of purge. Sample 2VQA Lambert @ 1535.

Signature: D. J. H.

#### Volumes Per Unit Length Selected Well Casing Diameters

Well Casing I.D. (inches)	Volume Per Unit Length			
	Gal/ft	Cubic Ft/ft	L/M	L/Ft
1.5	0.0918	0.0123	1.140	0.3475
2.0	<u>0.1632</u>	0.0218	2.027	0.6178
3.0	0.3672	0.0491	4.560	1.3900
4.0	0.6528	0.0873	8.107	2.4710
6.0	1.4690	0.1963	18.240	5.5600

#### Conversion Factors

To Convert	Into	Multiply
Ft. of Water	Lbs/sq.in.	0.4335
Lbs/Sq. inch	Ft. of Water	2.3070
Cubic feet	Gallons	7.4800
Gallons	Liters	3.7850
Feet	Meters	0.30048
Inches	Centimeters	2.5400

# HOEXTER CONSULTING

## Groundwater Sampling Field Log

Project Name/ No: 1970 Seminary, Oakl. CA  
 Client: D - Grinit  
 Project Manager: DPI+  
 Sampler: JP / DPI+  
 Casing Diameter: 2 inch  3 inch \_\_\_\_\_ 4 inch \_\_\_\_\_ 6 inch \_\_\_\_\_ Other: \_\_\_\_\_

Lab I.D.: \_\_\_\_\_  
 Date: 2/3/02  
 Sample Location/I.D.: MW-6  
 Start Time: \_\_\_\_\_

Depth of Well (feet): 20  
 Depth to Water (feet): 9.32  
 Sample Depth (feet): \_\_\_\_\_

Calculated Purged Volume: 6.68  
 Actual Purged Volume: 8  
 $20 - 9.3 = 10.7$   
 $\rightarrow 1.7 \text{ gal./vol.}$

### Field Measurements

Time	Cum	Volume (gal.)	pH (units)	E.C. (umhos/cm)	Temperature Degrees F	Color (visual)	Other
<u>1220</u>	<u>2</u>	<u>2</u>	<u>6.39</u>	<u>870</u>	<u>59.1</u>	<u>v-sl. cloudy</u>	
<u>1228</u>	<u>4</u>	<u>↓</u>	<u>6.39</u>	<u>896</u>	<u>60.5</u>	<u>↓</u>	
<u>1235</u>	<u>6</u>	<u>↓</u>	<u>6.42</u>	<u>882</u>	<u>60.3</u>	<u>↓</u>	
<u>1245</u>	<u>8</u>	<u>↓</u>	<u>6.43</u>	<u>886</u>	<u>60.3</u>	<u>↓</u>	

### Purge Method

\_\_\_\_\_ 2" Bladder Pump  Bailer \_\_\_\_\_ Well Wizard  Dedicated  
 \_\_\_\_\_ Submersible Pump \_\_\_\_\_ Centrifugal Pump \_\_\_\_\_ Dipper \_\_\_\_\_ Other  
 \_\_\_\_\_ Pneumatic Displacement Pump \_\_\_\_\_

### Sample Method

\_\_\_\_\_ 2" Bladder Pump  Bailer \_\_\_\_\_ Well Wizard  Dedicated  
 \_\_\_\_\_ Surface Sampler \_\_\_\_\_ Dipper \_\_\_\_\_ Fultz Pump \_\_\_\_\_ Other

Well Integrity: OK

Remarks: No product seen, slight H2S odor. Sampled 2 VOA 1 amber L. 1507

Signature: D. J. W.

Volumes Per Unit Length Selected Well Casing Diameters

Well Casing I.D. (inches)	Volume Per Unit Length			
	Gal/ft	Cubic Ft/ft	L/M	L/Ft
1.5	0.0918	0.0123	1.140	0.3475
2.0	<u>0.1632</u>	0.0218	2.027	0.6178
3.0	0.3672	0.0491	4.560	1.3900
4.0	0.6528	0.0873	8.107	2.4710
6.0	1.4690	0.1963	18.240	5.5600

Conversion Factors

To Convert	Into	Multiply
Ft. of Water	Lbs/sq.in.	0.4335
Lbs/Sq. inch	Ft. of Water	2.3070
Cubic feet	Gallons	7.4800
Gallons	Liters	3.7850
Feet	Meters	0.30048
Inches	Centimeters	2.5400

# HOEXTER CONSULTING

## Groundwater Sampling Field Log

Project Name/No: 1970 Seminary, Oakl. CA  
 Client: D. Grimit  
 Project Manager: DPH  
 Sampler: JP / DPH  
 Casing Diameter: 2 inch  3 inch \_\_\_\_\_ 4 inch \_\_\_\_\_ 6 inch \_\_\_\_\_ Other: \_\_\_\_\_

Lab I.D.: \_\_\_\_\_  
 Date: 2/3/02  
 Sample Location/I.D.: MW-7  
 Start Time: \_\_\_\_\_

Depth of Well (feet): 32  
 Depth to Water (feet): 15.89  
 Sample Depth (feet): \_\_\_\_\_

Calculated Purged Volume: 10.4  
 Actual Purged Volume 12  
 $32 - 15.9 = 16.1$   
 $\rightarrow 2.6 \text{ gal/vol.}$

### Field Measurements

Time	Cum	Volume (gal.)	pH (units)	E.C. (umhos/cm)	Temperature Degrees F	Color (visual)	Other
1347	3	3	6.58	907	58.3	sl. cloudy ↓	
1400	6		6.43	896	59.8		
1410	9		6.53	797	61.4		
1420	12		6.58	764	61.2		

### Purge Method

2" Bladder Pump  Bailer  Well Wizard  Dedicated  
 Submersible Pump  Centrifugal Pump  Dipper  Other  
 Pneumatic Displacement Pump

### Sample Method

2" Bladder Pump  Bailer  Well Wizard  Dedicated  
 Surface Sampler  Dipper  Fultz Pump  Other

Well Integrity: OK

Remarks: No product of steel, slight odor initial extraction, strong steel following one purge volume (3 gallons). Sampled

Signature: D. D. F. U. 2 VOA, 1 amber @ 1612.

Volumes Per Unit Length Selected Well Casing Diameters

Well Casing I.D. (inches)	Volume Per Unit Length			
	Gal/ft	Cubic Ft/ft	L/M	L/Fl
1.5	0.0918	0.0123	1.140	0.3475
2.0	<u>0.1632</u>	0.0218	2.027	0.6178
3.0	0.3672	0.0491	4.560	1.3900
4.0	0.6528	0.0873	8.107	2.4710
6.0	1.4690	0.1963	18.240	5.5600

Conversion Factors

To Convert	Into	Multiply
Ft. of Water	Lbs/sq.in.	0.4335
Lbs/Sq. inch	Fl. of Water	2.3070
Cubic feet	Gallons	7.4800
Gallons	Liters	3.7850
Feet	Meters	0.30048
Inches	Centimeters	2.5400

# HOEXTER CONSULTING

## Groundwater Sampling Field Log

Project Name/No.: 1970 Seminary, Oakl. CA  
 Client: D. Grinitt  
 Project Manager: DFH  
 Sampler: JP / DFH  
 Casing Diameter: 2 inch  3 inch \_\_\_\_\_ 4 inch \_\_\_\_\_ 6 inch \_\_\_\_\_ Other: \_\_\_\_\_

Lab I.D.: \_\_\_\_\_  
 Date: 2/3/02  
 Sample Location/I.D.: MW-8  
 Start Time: \_\_\_\_\_

Depth of Well (feet): 20  
 Depth to Water (feet): 3.82  
 Sample Depth (feet): \_\_\_\_\_

Calculated Purged Volume: 10.4  
 Actual Purged Volume: 12

$20 - 3.8 = 16.2'$   
 $\rightarrow 2.6 \text{ gal/ft.}$

### Field Measurements

Time	Cum	Volume (gal.)	pH (units)	E.C. (umhos/cm)	Temperature Degrees F	Color (visual)	Other
<u>1300</u>	<u>3</u>	<u>3</u>	<u>6.76</u>	<u>480</u>	<u>55.5</u>	<u>v. slightly cloudy</u>	
<u>1308</u>	<u>6</u>	<u>1</u>	<u>6.78</u>	<u>482</u>	<u>56.6</u>		
<u>1318</u>	<u>9</u>	<u>1</u>	<u>6.79</u>	<u>476</u>	<u>54.9</u>		
<u>1335</u>	<u>12</u>	<u>1</u>	<u>6.78</u>	<u>476</u>	<u>55.1</u>		

### Purge Method

2" Bladder Pump  Bailer  Well Wizard  Dedicated  
 Submersible Pump  Centrifugal Pump  Dipper  Other  
 Pneumatic Displacement Pump

### Sample Method

2" Bladder Pump  Bailer  Well Wizard  Dedicated  
 Surface Sampler  Dipper  Fultz Pump  Other

Well Integrity: OK

Remarks: No product seen, odor initial extraction + slight  
seen after 2 volumes (6 gal) withdrawn. Sampled

Signature: D. D. F. H. 2 VOA 1 amber 1608

#### Volume Per Unit Length Selected Well Casing Diameters

Well Casing I.D. (inches)	Volume Per Unit Length			
	Gal/ft	Cubic Ft/ft	L/M	L/Ft
1.5	0.0918	0.0123	1.140	0.3475
2.0	<u>0.1632</u>	0.0218	2.027	0.6178
3.0	0.3672	0.0491	4.560	1.3900
4.0	0.6528	0.0873	8.107	2.4710
6.0	1.4690	0.1963	18.240	5.5600

#### Conversion Factors

To Convert	Into	Multiply
Fl. of Water	Lbs/sq.in.	0.4335
Lbs/Sq. inch	Fl. of Water	2.3070
Cubic feet	Gallons	7.4800
Gallons	Liters	3.7850
Feet	Meters	0.30048
Inches	Centimeters	2.5400

# HOEXTER CONSULTING

## Groundwater Sampling Field Log

Project Name/No: 1970 Seminary, Oakland, CA  
 Client: D. Grimit  
 Project Manager: DFH  
 Sampler: JP / DFH  
 Casing Diameter: 2 inch  3 inch \_\_\_\_\_ 4 inch \_\_\_\_\_ 6 inch \_\_\_\_\_ Other: \_\_\_\_\_

Lab I.D.: \_\_\_\_\_  
 Date: 2/3/02  
 Sample Location/I.D.: MW-9  
 Start Time: \_\_\_\_\_

Depth of Well (feet): 20  
 Depth to Water (feet): 12.59  
 Sample Depth (feet): \_\_\_\_\_

Calculated Purged Volume: 4.8  
 Actual Purged Volume: 3.0

$20 - 12.6 = 7.4'$   
 $\rightarrow 1.2 \text{ gal/ft}$

### Field Measurements

Time	Cum	Volume (gal.)	pH (units)	E.C. (umhos/cm)	Temperature (Degrees F)	Color (visual)	Other
<u>1105</u>	<u>1.25</u>	<u>1.25</u>	<u>6.49</u>	<u>992</u>	<u>59.2</u>	<u>sl. cloudy</u>	<u>lgt. blk</u>
<u>1100</u>	<u>2.5</u>	<u>1.25</u>	<u>6.50</u>	<u>1026</u>	<u>60.5</u>	<u>"</u>	<u>"</u>
<u>1120</u>	<u>3</u>	<u>0.50</u>	<u>6.60</u>	<u>1033</u>	<u>60.4</u>	<u>2' water</u>	<u>"</u>
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

### Purge Method

\_\_\_\_\_ 2" Bladder Pump  Bailer \_\_\_\_\_ Well Wizard  Dedicated  
 \_\_\_\_\_ Submersible Pump \_\_\_\_\_ Centrifugal Pump \_\_\_\_\_ Dipper \_\_\_\_\_ Other  
 \_\_\_\_\_ Pneumatic Displacement Pump \_\_\_\_\_

### Sample Method

\_\_\_\_\_ 2" Bladder Pump  Bailer \_\_\_\_\_ Well Wizard  Dedicated  
 \_\_\_\_\_ Surface Sampler \_\_\_\_\_ Dipper \_\_\_\_\_ Fultz Pump \_\_\_\_\_ Other

Well Integrity: OK

Remarks: NO product of stone, slight H<sub>2</sub>S or petrol. odors  
< 2' water following 62% of purge. Allowed to recharge.

Signature: D. D. F. W.

sampled 2 VOA samples 1627.

### Volumes Per Unit Length Selected Well Casing Diameters

Well Casing I.D. (inches)	Volume Per Unit Length				
	Gal/ft	Cubic Ft/ft	L/M	L/ft	
1.5	0.0918	0.0123	1.140	0.3475	
2.0	<u>0.1632</u>	0.0218	2.027	0.6178	
3.0	0.3672	0.0491	4.560	1.3900	
4.0	0.6528	0.0873	8.107	2.4710	
6.0	1.4690	0.1963	18.240	5.5600	

### Conversion Factors

To Convert	Into	Multiply
Fl. of Water	Lbs/sq.in.	0.4335
Lbs/Sq. inch	Fl. of Water	2.3070
Cubic feet	Gallons	7.4800
Gallons	Liters	3.7850
Feet	Meters	0.30048
Inches	Centimeters	2.5400





McCAMPBELL ANALYTICAL INC.

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<http://www.mccampbell.com> E-mail: [main@mccampbell.com](mailto:main@mccampbell.com)

Hoexter Consulting Engineering Geology 734 Torrey Court Palo Alto, CA 94303	Client Project ID: #E-10-1E-391E; 1970 Seminary Ave. Oakland CA	Date Sampled: 02/03/2002
		Date Received: 02/05/2002
	Client Contact: David Hoexter	Date Extracted: 02/05/2002
	Client P.O:	Date Analyzed: 02/05/2002

02/12/2002

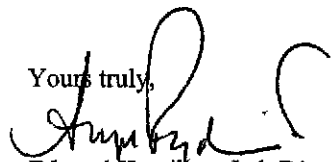
Dear David:

Enclosed are:

- 1). the results of 9 samples from your #E-10-1E-391E; 1970 Seminary Ave. Oakland CA project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,



Edward Hamilton, Lab Director





**McCAMPBELL ANALYTICAL INC.**

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Hoexter Consulting Engineering Geology 734 Torrey Court Palo Alto, CA 94303	Client Project ID: #E-10-1E-391E; 1970 Seminary Ave. Oakland CA	Date Sampled: 02/03/2002
	Client Contact: David Hoexter	Date Received: 02/05/2002
	Client P.O:	Date Extracted: 02/05/2002
		Date Analyzed: 02/05/2002

**Fuel Fingerprint with Silica Gel Clean Up\***

EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

Lab ID	Client ID	Matrix	Fuel Fingerprint
89634	MW-1	W	This sample contains a significant hydrocarbon pattern between C6 and C12 that resembles gasoline. It also shows a hydrocarbon pattern between C18 and C30 that resembles oil. Chromatogram enclosed.
89635	MW-2	W	ND
89636	MW-3	W	ND
89637	MW-4	W	This sample contains a significant hydrocarbon pattern between C9 and C12 that resembles stoddard solvent. It also shows a hydrocarbon pattern between C18 and C30 that resembles oil.
89638	MW-5	W	This sample contains a significant hydrocarbon pattern between C6 and C12 (gasoline range) that resembles fresh gasoline. Chromatogram enclosed.
89639	MW-6	W	This sample contains a significant hydrocarbon pattern between C6 and C12 (gasoline range) that resembles fresh gasoline. Chromatogram enclosed
89640	MW-7	W	This sample contains a significant hydrocarbon pattern between C6 and C12 (gasoline range) that resembles fresh gasoline. Chromatogram enclosed
89641	MW-8	W	ND
89642	MW-9	W	This sample contains a significant hydrocarbon pattern between C6 and C12 (gasoline range) that resembles fresh gasoline. Chromatogram enclosed
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L
		S	1.0 mg/kg

\* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP / STLC / SPLP extracts in ug/L

\* cluttered chromatogram resulting in coeluted surrogate and sample peaks, or, surrogate peak is on elevated baseline, or, surrogate has been diminished by dilution of original extract.

\*The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant; d) gasoline range compounds are significant; e) medium boiling point pattern that does not match diesel (?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment.

Edward Hamilton, Lab Director  
*see following page*



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Hoexter Consulting Engineering Geology 734 Torrey Court Palo Alto, CA 94303	Client Project ID: #E-10-1E-391E; 1970 Seminary Ave. Oakland CA	Date Sampled: 02/03/2002
	Client Contact: David Hoexter	Date Received: 02/05/2002
	Client P.O:	Date Extracted: 02/05/2002
		Date Analyzed: 02/05/2002

**Fuel Fingerprint with Silica Gel Clean Up\***

EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

Lab ID	Client ID	Matrix	Fuel Fingerprint
89634	MW-1	W	This sample contains a significant hydrocarbon pattern between C6 and C12 that resembles gasoline. It also shows a hydrocarbon pattern between C18 and C30 that resembles oil. Chromatogram enclosed.
89635	MW-2	W	ND
89636	MW-3	W	ND
89637	MW-4	W	This sample contains a significant hydrocarbon pattern between C9 and C12 that resembles stoddard solvent. It also shows a hydrocarbon pattern between C18 and C30 that resembles oil.
89638	MW-5	W	This sample contains a significant hydrocarbon pattern between C6 and C12 (gasoline range) that resembles fresh gasoline. Chromatogram enclosed.
89639	MW-6	W	This sample contains a significant hydrocarbon pattern between C6 and C12 (gasoline range) that resembles fresh gasoline. Chromatogram enclosed
89640	MW-7	W	This sample contains a significant hydrocarbon pattern between C6 and C12 (gasoline range) that resembles fresh gasoline. Chromatogram enclosed
89641	MW-8	W	ND
89642	MW-9	W	This sample contains a significant hydrocarbon pattern between C6 and C12 (gasoline range) that resembles fresh gasoline. Chromatogram enclosed

\* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP / STLC / SPLP extracts in ug/L

\* cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

\*The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant; d) gasoline range compounds are significant; e) medium boiling point pattern that does not match diesel (?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment.

DHS Certification No. 1644

 Edward Hamilton, Lab Director

Reporting limits presented on previous page. DTH 2/26/02



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Hoexter Consulting Engineering Geology 734 Torrey Court Palo Alto, CA 94303	Client Project ID: #E-10-1E-391E; 1970 Seminary Ave. Oakland CA	Date Sampled: 02/03/2002
	Client Contact: David Hoexter	Date Received: 02/05/2002
	Client P.O:	Date Extracted: 02/05/2002
		Date Analyzed: 02/06-02/07/2002

**Petroleum Oil & Grease (with Silica Gel Clean-up) \***

EPA methods 413.1, 9070 or 9071; Standard Methods 5520 D/E&F or 503 D&E for solids and 5520 B&F or 503 A&E for liquids

Lab ID	Client ID	Matrix	Oil & Grease*
89634	MW-1	W	42
89635	MW-2	W	ND
89636	MW-3	W	ND
89637	MW-4	W	7.4
89638	MW-5	W	ND
89639	MW-6	W	ND
89640	MW-7	W	ND
89641	MW-8	W	ND
89642	MW-9	W	ND
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit	W		5 mg/L
	S		50 mg/kg

\* water samples are reported in mg/L, wipe samples in mg/wipe, soil and sludge samples in mg/kg, and all TCLP / STLC / SPLP extracts in mg/L

h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5vol. % sediment.

DHS Certification No. 1644

 Edward Hamilton, Lab Director



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 Telephone : 925-798-1620 Fax : 925-798-1622  
<http://www.mccampbell.com> E-mail: main@mccampbell.com

Hoexter Consulting Engineering Geology 734 Torrey Court Palo Alto, CA 94303	Client Project ID: #E-10-1E-391E; 1970 Seminary Ave. Oakland CA	Date Sampled: 02/03/2002
	Client Contact: David Hoexter	Date Received: 02/05/2002
	Client P.O:	Date Extracted: 02/05-02/08/2002
		Date Analyzed: 02/05-02/08/2002

**Volatile Halocarbons**

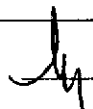
EPA method 601 or 8010

Lab ID	89634	89635	89636	89637
Client ID	MW-1	MW-2	MW-3	MW-4
Matrix	W	W	W	W
Compound	Concentration			
Bromodichloromethane	ND	ND	ND	ND<7.0
Bromoform <sup>(b)</sup>	ND	ND	ND	ND<7.0
Bromomethane	ND	ND	ND	ND<7.0
Carbon Tetrachloride <sup>(c)</sup>	ND	ND	ND	ND<7.0
Chlorobenzene	ND	ND	ND	ND<7.0
Chloroethane	5.5	ND	ND	ND<7.0
2-Chloroethyl Vinyl Ether <sup>(d)</sup>	0.73	ND	ND	ND<7.0
Chloroform <sup>(e)</sup>	ND	ND	ND	ND<7.0
Chloromethane	ND	ND	ND	ND<7.0
Dibromochloromethane	ND	ND	ND	ND<7.0
1,2-Dichlorobenzene	10	ND	ND	22
1,3-Dichlorobenzene	1.8	ND	ND	ND<7.0
1,4-Dichlorobenzene	3.8	ND	ND	9.8
Dichlorodifluoromethane	ND	ND	ND	ND<7.0
1,1-Dichloroethane	ND	ND	ND	ND<7.0
1,2-Dichloroethane	1.4	7.1	ND	ND<7.0
1,1-Dichloroethene	ND	ND	ND	ND<7.0
cis 1,2-Dichloroethene	23	6.7	ND	310
trans 1,2-Dichloroethene	5.5	ND	ND	16
1,2-Dichloropropane	0.59	0.72	ND	ND<7.0
cis 1,3-Dichloropropene	ND	ND	ND	ND<7.0
trans 1,3-Dichloropropene	ND	ND	ND	ND<7.0
Methylene Chloride <sup>(f)</sup>	ND	ND	ND	ND<7.0
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND<7.0
Tetrachloroethene	ND	ND	ND	ND<7.0
1,1,1-Trichloroethane	ND	ND	ND	ND<7.0
1,1,2-Trichloroethane	ND	ND	ND	ND<7.0
Trichloroethene	ND	9.0	ND	20
Trichlorofluoromethane	ND	ND	ND	ND<7.0
Vinyl Chloride <sup>(g)</sup>	7.4	ND	ND	120
% Recovery Surrogate	81	80	85	85
Comments	h			h

\* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil and sludge samples in ug/kg, wipe samples in ug/wipe  
 Reporting limit unless otherwise stated: water/TCLP/SPLP extracts, ND<0.5ug/L; soils and sludges, ND<5ug/kg; wipes, ND<0.2ug/wipe  
 ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis

(b) tribromomethane; (c) tetrachloromethane; (d) (2-chloroethoxy) ethene; (e) trichloromethane; (f) dichloromethane; (g) chloroethene; (h) a lighter than water immiscible sheen is present; (i) liquid sample that contains greater than ~5 vol. % sediment; (j) sample diluted due to high organic content.

DHS Certification No. 1644

 Edward Hamilton, Lab Director



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Hoexter Consulting Engineering Geology 734 Torreya Court Palo Alto, CA 94303	Client Project ID: #E-10-1E-391E; 1970 Seminary Ave. Oakland CA	Date Sampled: 02/03/2002
	Client Contact: David Hoexter	Date Received: 02/05/2002
	Client P.O:	Date Extracted: 02/05-02/08/2002
		Date Analyzed: 02/05-02/08/2002

**Volatile Halocarbons**

EPA method 601 or 8010

Lab ID	89638	89639	89640	89641
Client ID	MW-5	MW-6	MW-7	MW-8
Matrix	W	W	W	W
Compound	Concentration			
Bromodichloromethane	ND	ND	ND<5.0	ND
Bromoform <sup>(b)</sup>	ND	ND	ND<5.0	ND
Bromomethane	ND	ND	ND<5.0	ND
Carbon Tetrachloride <sup>(b)</sup>	ND	ND	ND<5.0	ND
Chlorobenzene	ND	ND	ND<5.0	ND
Chloroethane	1.8	ND	ND<5.0	ND
2-Chloroethyl Vinyl Ether <sup>(d)</sup>	ND	ND	ND<5.0	ND
Chloroform <sup>(b)</sup>	ND	ND	ND<5.0	ND
Chloromethane	ND	ND	ND<5.0	ND
Dibromochloromethane	ND	ND	ND<5.0	ND
1,2-Dichlorobenzene	2.0	ND	ND<5.0	ND
1,3-Dichlorobenzene	ND	ND	ND<5.0	ND
1,4-Dichlorobenzene	0.59	ND	ND<5.0	ND
Dichlorodifluoromethane	ND	ND	ND<5.0	ND
1,1-Dichloroethane	ND	ND	ND<5.0	ND
1,2-Dichloroethane	2.1	1.5	ND<5.0	ND
1,1-Dichloroethene	ND	ND	ND<5.0	ND
cis 1,2-Dichloroethene	3.9	13	94	6.6
trans 1,2-Dichloroethene	0.95	ND	ND<5.0	ND
1,2-Dichloropropane	ND	ND	ND<5.0	ND
cis 1,3-Dichloropropene	ND	ND	ND<5.0	ND
trans 1,3-Dichloropropene	ND	ND	ND<5.0	ND
Methylene Chloride <sup>(b)</sup>	ND	ND	ND<5.0	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND<5.0	ND
Tetrachloroethene	ND	ND	ND<5.0	3.3
1,1,1-Trichloroethane	ND	ND	ND<5.0	ND
1,1,2-Trichloroethane	ND	ND	ND<5.0	ND
Trichloroethene	ND	ND	30	4.6
Trichlorofluoromethane	ND	ND	ND<5.0	ND
Vinyl Chloride <sup>(b)</sup>	4.6	ND	ND<5.0	ND
% Recovery Surrogate	81	73	117	108
Comments				

\* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil and sludge samples in ug/kg, wipe samples in ug/wipe  
 Reporting limit unless otherwise stated: water/TCLP/SPLP extracts, ND<0.5ug/L; soils and sludges, ND<5ug/kg; wipes, ND<0.2ug/wipe  
 ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis

(b) tribromomethane; (c) tetrachloromethane; (d) (2-chloroethoxy) ethene; (e) trichloromethane; (f) dichloromethane; (g) chloroethene; (h) a lighter than water immiscible sheen is present; (i) liquid sample that contains greater than ~5 vol. % sediment; (j) sample diluted due to high organic content.

DHS Certification No. 1644

 Edward Hamilton, Lab Director



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Hoexter Consulting Engineering Geology 734 Torrey Court Palo Alto, CA 94303	Client Project ID: #E-10-1E-391E; 1970 Seminary Ave. Oakland CA	Date Sampled: 02/03/2002
	Client Contact: David Hoexter	Date Received: 02/05/2002
	Client P.O:	Date Extracted: 02/05-02/08/2002
		Date Analyzed: 02/05-02/08/2002

**Volatile Halocarbons**


EPA method 601 or 8010

Lab ID	89642			
Client ID	MW-9			
Matrix	W			
Compound	Concentration			
Bromodichloromethane	ND			
Bromoform <sup>(b)</sup>	ND			
Bromomethane	ND			
Carbon Tetrachloride <sup>(c)</sup>	ND			
Chlorobenzene	ND			
Chloroethane	ND			
2-Chloroethyl Vinyl Ether <sup>(d)</sup>	ND			
Chloroform <sup>(e)</sup>	ND			
Chloromethane	ND			
Dibromochloromethane	ND			
1,2-Dichlorobenzene	1.2			
1,3-Dichlorobenzene	ND			
1,4-Dichlorobenzene	ND			
Dichlorodifluoromethane	ND			
1,1-Dichloroethane	ND			
1,2-Dichloroethane	ND			
1,1-Dichloroethene	ND			
cis 1,2-Dichloroethene	2.4			
trans 1,2-Dichloroethene	ND			
1,2-Dichloropropane	ND			
cis 1,3-Dichloropropene	ND			
trans 1,3-Dichloropropene	ND			
Methylene Chloride <sup>(f)</sup>	ND			
1,1,2,2-Tetrachloroethane	ND			
Tetrachloroethene	ND			
1,1,1-Trichloroethane	ND			
1,1,2-Trichloroethane	ND			
Trichloroethene	ND			
Trichlorofluoromethane	ND			
Vinyl Chloride <sup>(g)</sup>	ND			
% Recovery Surrogate	110			
Comments				

\* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil and sludge samples in ug/kg, wipe samples in ug/wipe  
Reporting limit unless otherwise stated: water/TCLP/SPLP extracts, ND<0.5ug/L; soils and sludges, ND<5ug/kg; wipes, ND<0.2ug/wipe  
ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis

(b) tribromomethane; (c) tetrachloromethane; (d) (2-chloroethoxy) ethene; (e) trichloromethane; (f) dichloromethane; (g) chloroethene; (h) a lighter than water immiscible sheen is present; (i) liquid sample that contains greater than ~5 vol. % sediment; (j) sample diluted due to high organic content.

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# QC REPORT

## EPA 8015m + 8020

Date: 02/06/02

Matrix: Water

Compound	Concentration: mg/L			%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	

SampleID: 20702

Extraction: EPA 5030

Instrument: GC-7

Surrogate1	ND	112.0	109.0	100.00	112	109	2.7
Xylenes	ND	25.7	28.0	30.00	86	93	8.6
Ethylbenzene	ND	8.6	8.4	10.00	86	84	2.4
Toluene	ND	9.0	9.7	10.00	90	97	7.5
Benzene	ND	8.5	9.2	10.00	85	92	7.9
MTBE	ND	7.9	8.7	10.00	79	87	9.6
TPH (gas)	ND	93.3	90.2	100.00	93	90	3.3

SampleID: 20802

Extraction: TTLC

Instrument: MB-1

Oil & Grease	ND	26.7	24.9	23.70	113	105	7.0
--------------	----	------	------	-------	-----	-----	-----

$$\% \text{ Recovery} = \frac{(MS - \text{Sample})}{\text{Amount Spiked}} \cdot 100$$

$$RPD = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2 \cdot 100$$

RPD means Relative Percent Deviation



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# QC REPORT

## EPA 8015m + 8020

Date: 02/05/02

Extraction: EPA 5030

Matrix: Water

Compound	Concentration: ug/L			%Recovery		RPD	
	Sample	MS	MSD	Amount Spiked	MS		MSD
<u>SampleID:</u> 20802		<u>Instrument:</u> GC-2 A					
Surrogate1	ND	94.0	95.0	100.00	94	95	1.1
TPH (diesel)	ND	6775.0	6800.0	7500.00	90	91	0.4

$$\% \text{ Recovery} = \frac{(MS - \text{Sample})}{\text{Amount Spiked}} \cdot 100$$

$$RPD = \frac{(MS - MSD)}{(MS + MSD)} \cdot 100$$

RPD means Relative Percent Deviation



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# QC REPORT

## EPA 8010/8020

Date: 02/05/02

Extraction: EPA 5030

Matrix: Water

Compound	Concentration: ug/L			%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	

SampleID: 20202

Instrument: GC-1

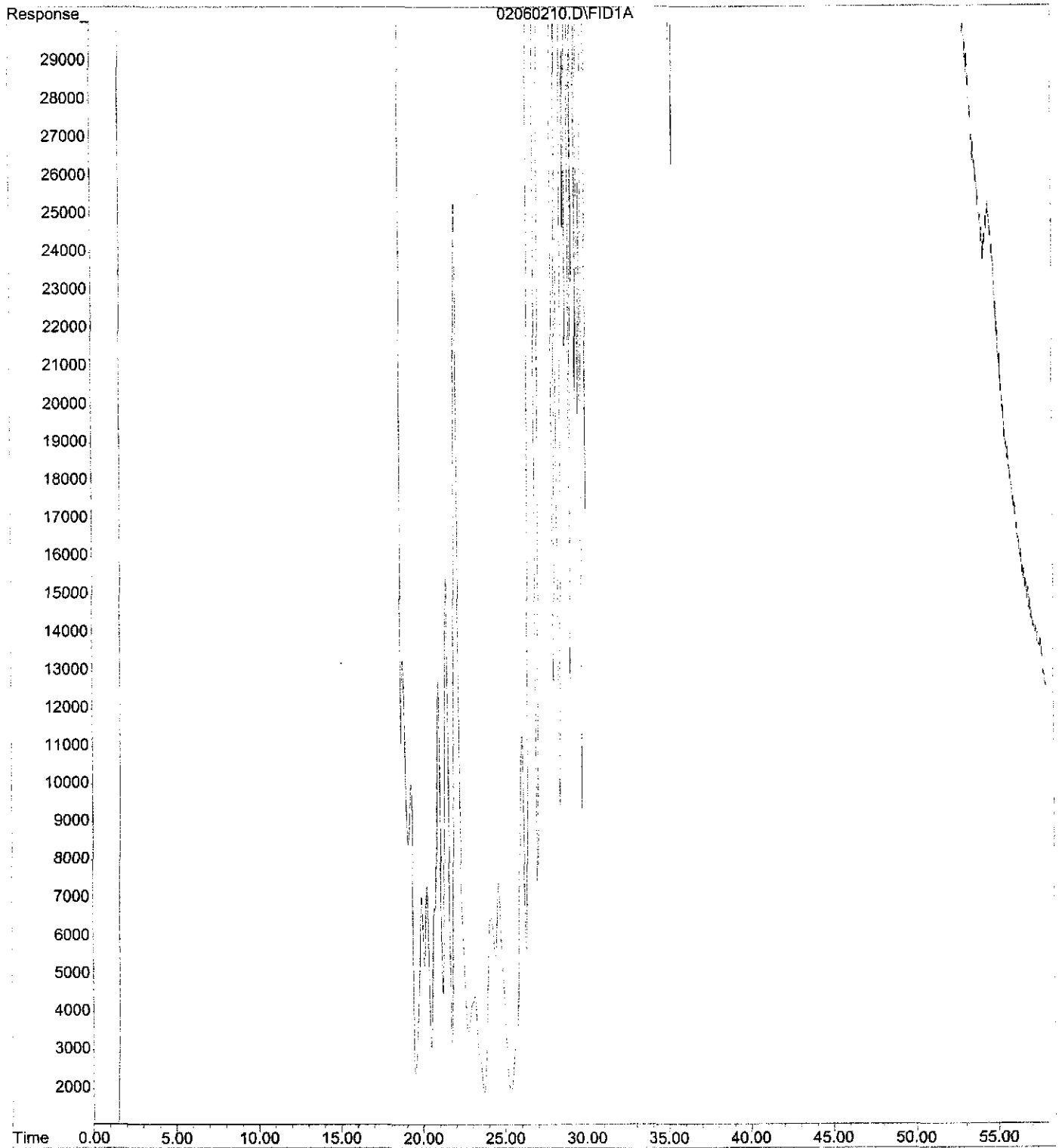
Surrogate1	ND	96.0	94.0	100.00	96	94	2.1
Chlorobenzene	ND	11.5	11.4	10.00	115	114	0.9
Trichloroethene	ND	11.7	11.6	10.00	117	116	0.9
1,1-DCE	ND	11.2	11.4	10.00	112	114	1.8

$$\% \text{ Recovery} = \frac{(MS - \text{Sample})}{\text{Amount Spiked}} \cdot 100$$

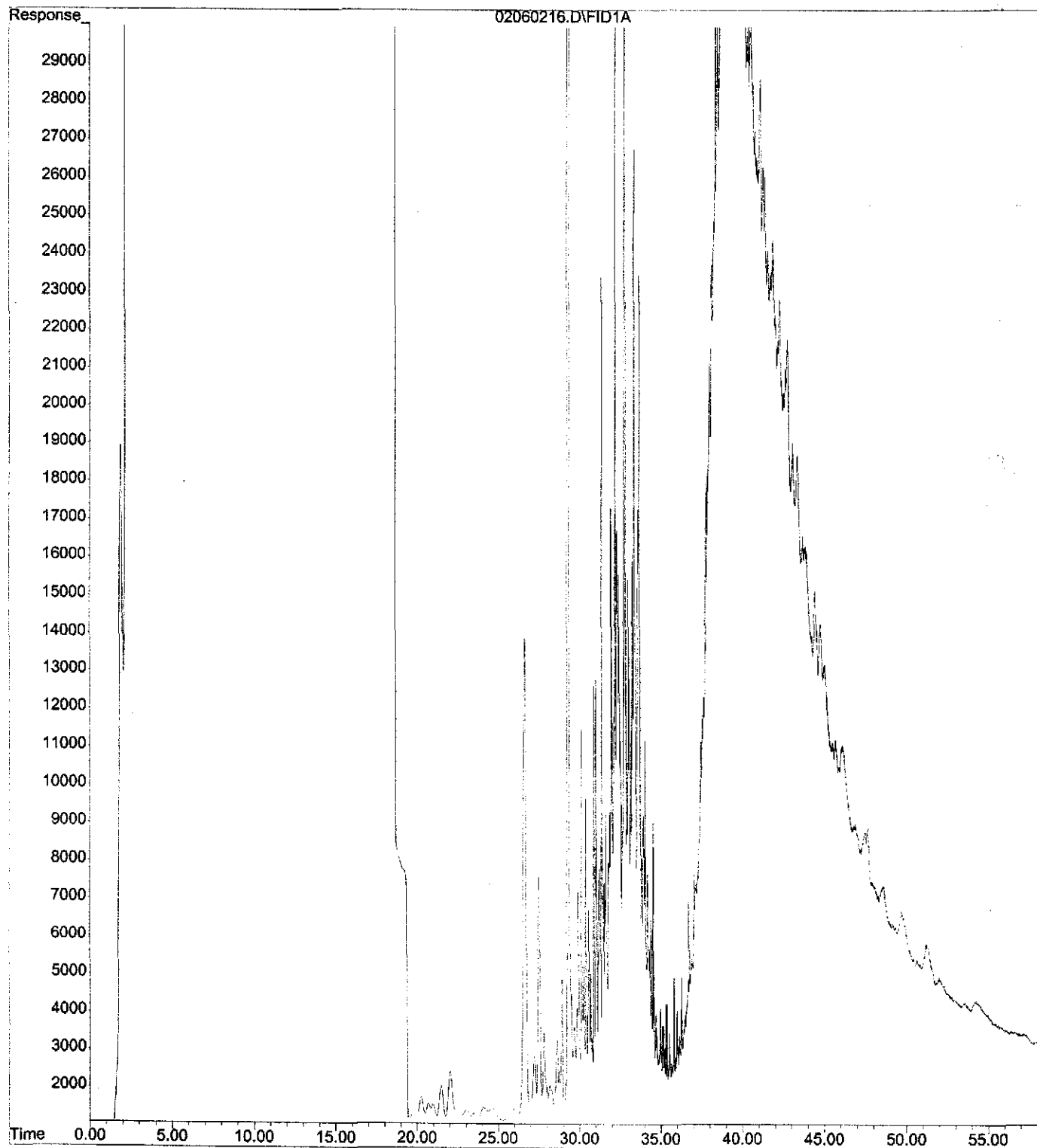
$$RPD = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2 \cdot 100$$

RPD means Relative Percent Deviation

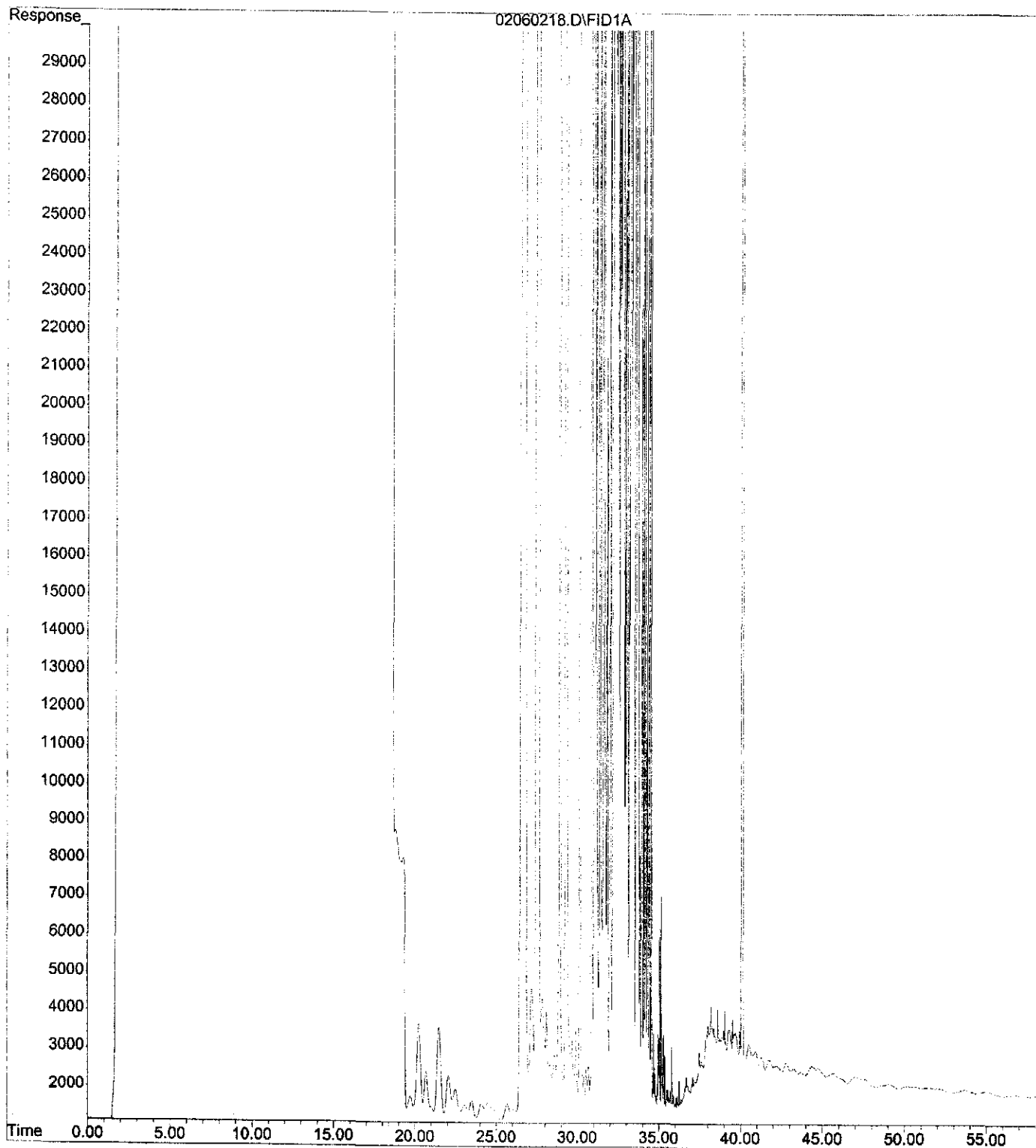
File : E:\HPCHEM\3\DATAA\02060210.D  
Operator : Thu  
Acquired : 6 Feb 2002 6:56 pm using AcqMethod GC2ANEWK.M  
Instrument : GC-2  
Sample Name: 89634W  
Misc Info : FUEL FINGER,WSG  
Vial Number: 5



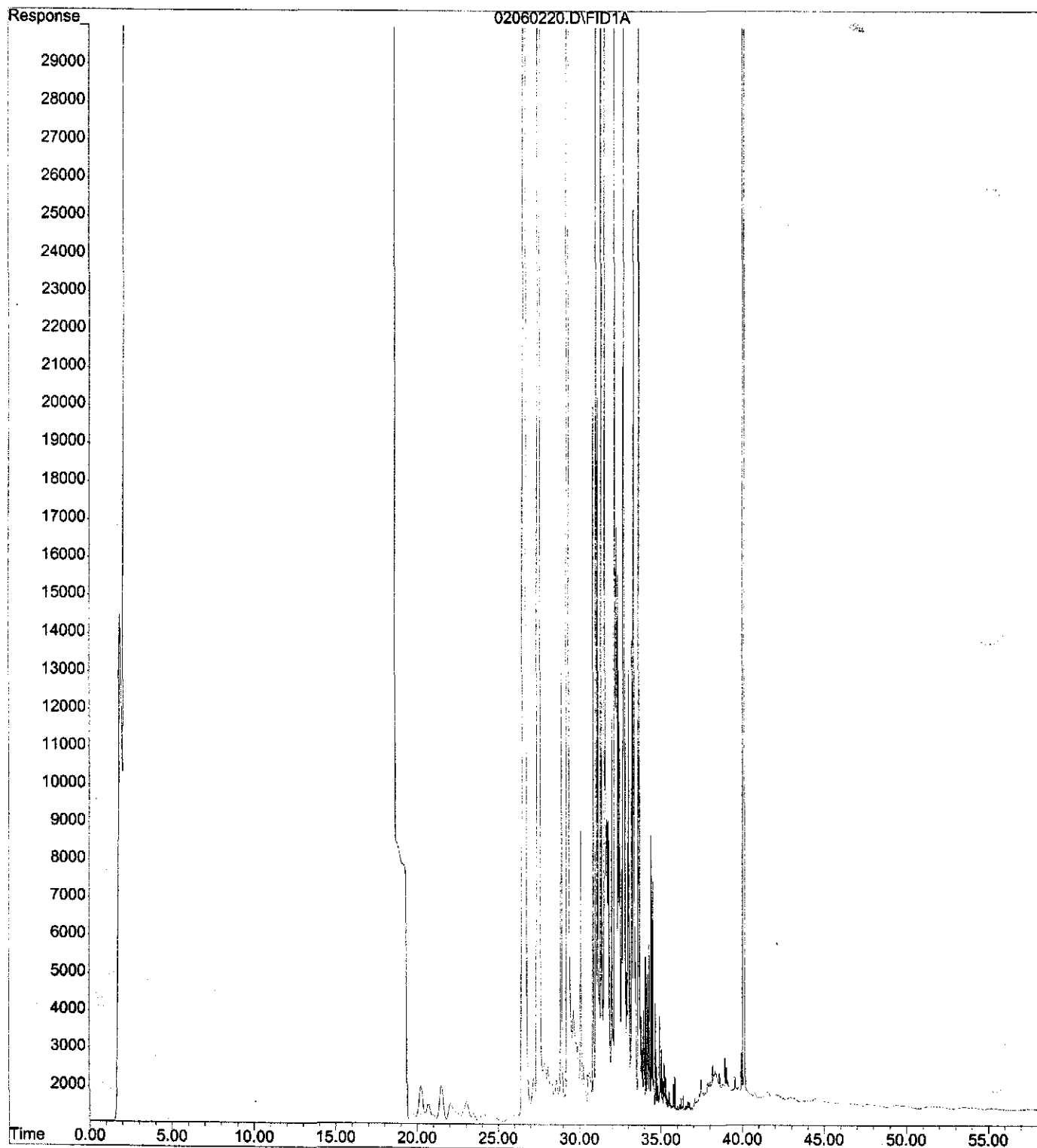
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Operator : Thu  
Acquired : 6 Feb 2002 11:03 pm using AcqMethod GC2ANEWK.M  
Instrument : GC-2  
Sample Name: 89637W  
Misc Info : FUEL FINGER, WSG  
Vial Number: 8



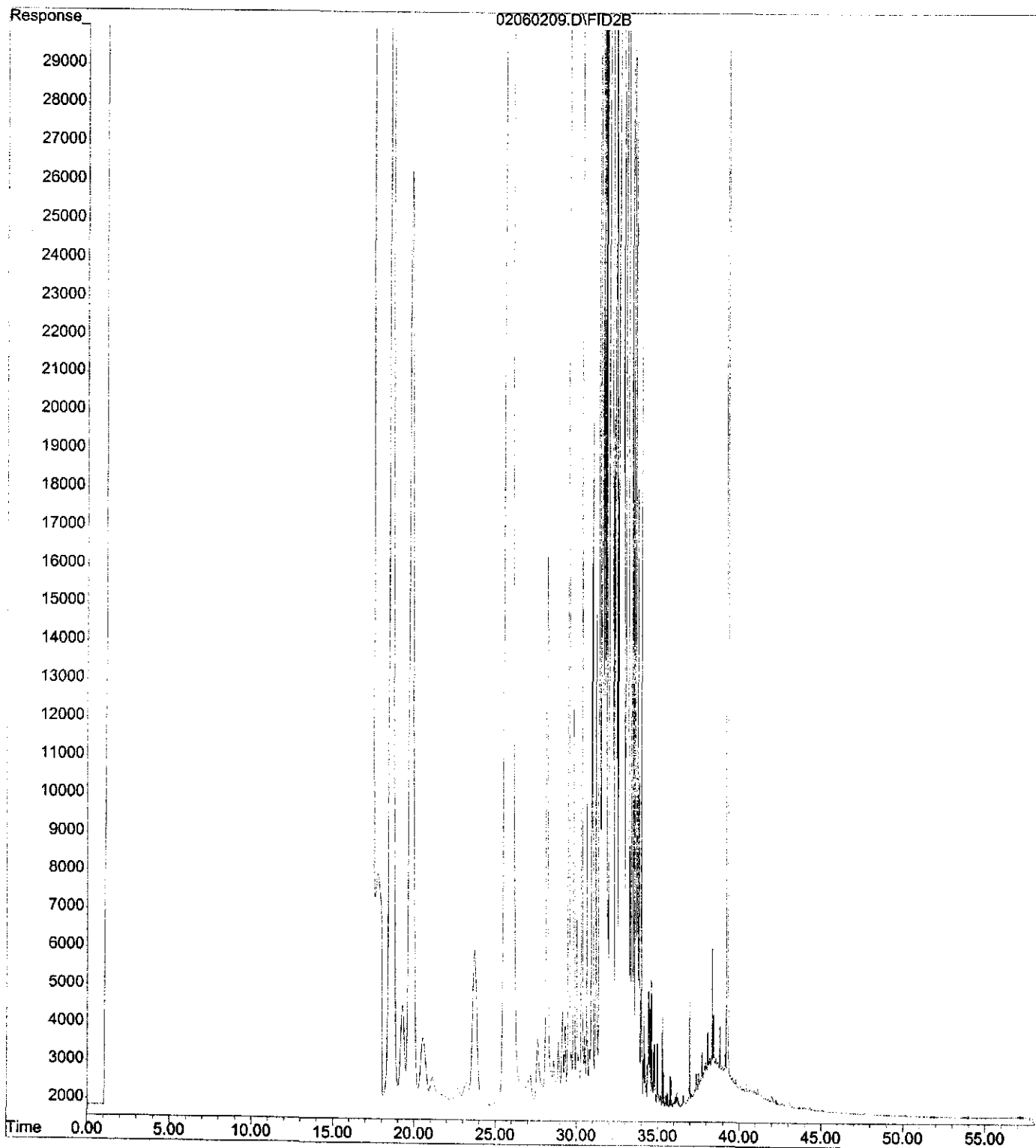
File : E:\HPCHEM\3\DATAA\02060218.D  
Operator : Thu  
Acquired : 7 Feb 2002 12:23 am using AcqMethod GC2ANEWK.M  
Instrument : GC-2  
Sample Name: 89638W  
Misc Info : FUEL FINGER, WSG  
Vial Number: 9



File : E:\HPCHEM\3\DATAA\02060220.D  
Operator : Thu  
Acquired : 7 Feb 2002 1:45 am using AcqMethod GC2ANEWK.M  
Instrument : GC-2  
Sample Name: 89639W  
Misc Info : FUEL FINGER, WSG  
Vial Number: 10

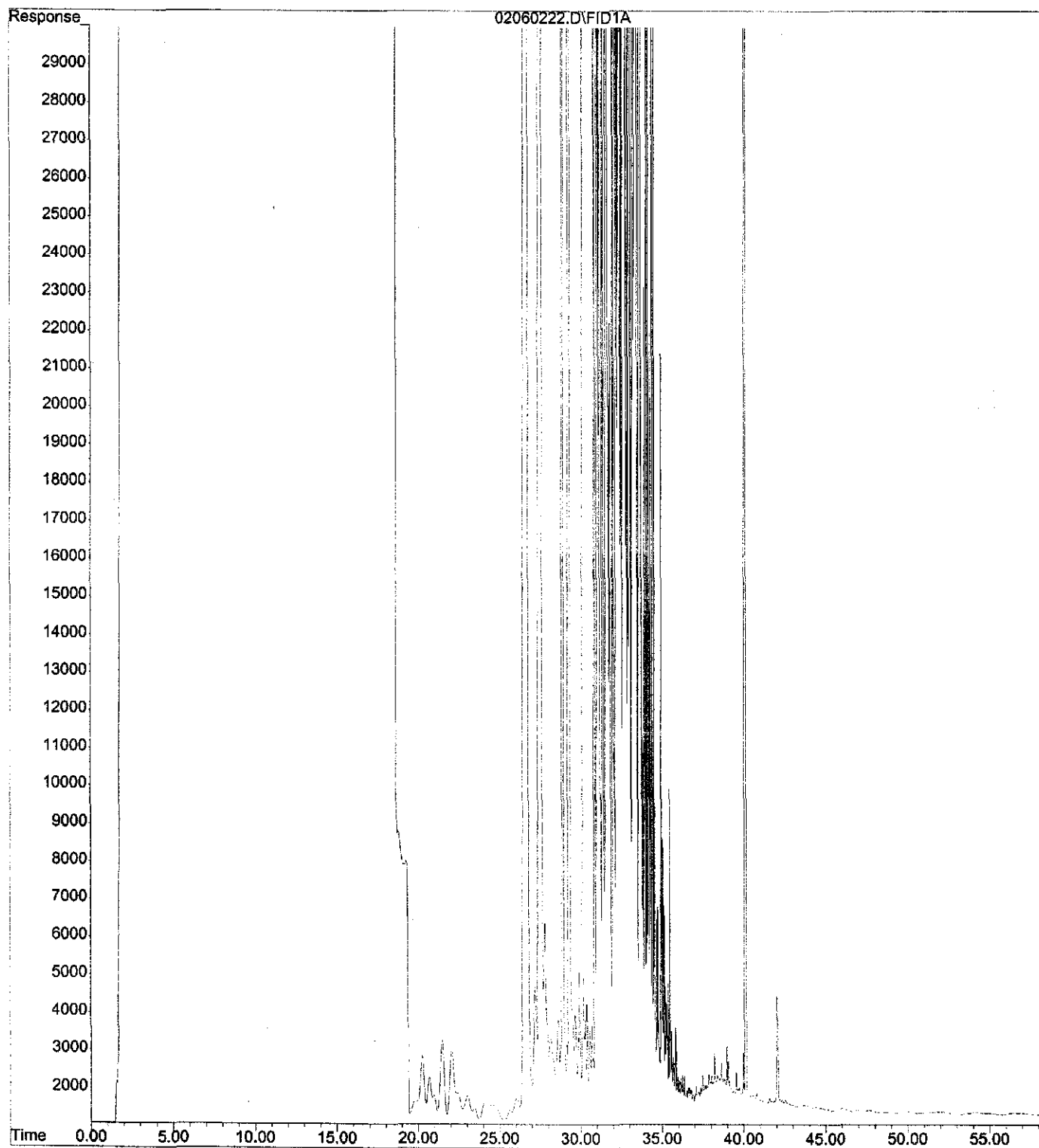


File : E:\HPCHEM\3\DATAB\02060209.D  
Operator : Thu  
Acquired : 6 Feb 2002 6:56 pm using AcqMethod GC2ANEWK.M  
Instrument : GC-2  
Sample Name: 89640W  
Misc Info : FUEL FINGER, WSG  
Vial Number: 55





File : E:\HPCHEM\3\DATAA\02060222.D  
Operator : Thu  
Acquired : 7 Feb 2002 3:06 am using AcqMethod GC2ANEWK.M  
Instrument : GC-2  
Sample Name: 89642W  
Misc Info : FUEL FINGER,WSG  
Vial Number: 11



CHAIN-OF-CUSTODY RECORD

Project Number <b>E-10-1E-391E</b>	Project Name <b>1970 Seminary Ave. Oakland CA</b>
---------------------------------------	--

Sampler's Name (printed) <b>J. Fong Ho, D. Hoexter</b>	Number/Type of Containers <b>2VOA</b>	Analytical Tests <b>TPH-GIBTEX/MTBE SOL HWOC SM 5520B/F OIL w/ Silica Gel Cleanup (Preceded HCL)</b>
---	--	---

Boring Number	Date	Time	Soil	Water	Sample Location or Depth	Sample Number	Remarks
MW-1	4/3/02	1632				2VOA	(+) 89634
						1L	(+) 89635
2		1527				2VOA	(+) 89636
						1L	(+) 89637
3		1549				2VOA	(+) 89638
						1L	(+) 89639
4		1639				2VOA	(+) 89640
						1L	
5		1535				2VOA	
						1L	
6		1507				2VOA	
						1L	
7		1612				2VOA	
						1L	

Relinquished by: (Signature) <b>D. Hoexter</b>	Date/Time <b>(Feb) 2/5/02 11:30</b>	Received by: (Signature) <b>B. Butts</b>	Ship To: <b>McCoybell Analytical Porteco CA</b>
Relinquished by: (Signature) <b>B. Butts</b>	Date/Time <b>2/5/02</b>	Received by: (Signature) <b>Shirley Hamlin</b>	
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	

Requested Turnaround Time: **Normal** Contact: **David Hoexter** Phone: **650-494-2505**  
 Attention: \_\_\_\_\_ Fax: **650-494-2511**

Remarks: **Please call to discuss priorities if there are problems with insufficient sample volume!**

**Hoexter Consulting Engineering Geology**  
 734 Torreya Court  
 Palo Alto, CA 94303

09933

CHAIN-OF-CUSTODY RECORD

2 of 2

Project Number <b>E-10-1E-391E</b>	Project Name <b>1970 Seminary Ave. Oakland CA</b>	Number / Type of Containers	Analytical Tests <b>TPH-G / BTEX / MTBE SOLO HVOC SY SLOBAF SOIS Mod. Fuel Oil W/ Silice Sol Cleanup (per Env 17CL)</b>	Remarks
Sampler's Name (printed) <b>J. Forsyth, D. Hoexter</b>				

Boring Number	Date	Time	Soil	Water	Sample Location or Depth	Sample Number	Analytical Tests				Remarks	
8	2/3/02	1608		↓		2 vva	X	X				(+) 89641
9	↓	1627		↓		2 vva	X	X				(+) 89642
						1L		X	X			
						1L		X	X			

Relinquished by: (Signature) <b>D. Hoexter</b>	Date/Time <b>2/5/02 2/5 10:30</b>	Received by: (Signature) <b>B. Butts</b>
Relinquished by: (Signature) <b>B. Butts</b>	Date/Time <b>2/5</b>	Received by: (Signature) <b>Shim Hambr</b>
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)

Ship To: Mc Campbell

Attention: \_\_\_\_\_

Phone No: \_\_\_\_\_

Requested Turnaround Time: Normal Contact: David Hoexter Phone: \_\_\_\_\_

Remarks:

IDEAL  
 GOOD CONDITION  
 HEAD SPACE ABSENT  
 PRESERVATION APPROPRIATE  
 CONTAINERS

VOAS  | O&G  | METALS  | OTHER

See page 1

**Hoexter Consulting  
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Palo Alto, CA 94303**