

Al Co / Eva Ch

**DECEMBER, 1999  
GROUND WATER SAMPLING REPORT  
FOR  
STID 553 - GRIMIT AUTO AND REPAIR  
1970 SEMINARY AVENUE  
OAKLAND, CALIFORNIA**

**December 29, 1999**

**Prepared by**

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ENVIRONMENTAL  
PROTECTION

00 JAN 12 PM 3: 54

**TRANSMITTAL**

TO Alameda Co. Health Care Serv.  
1131 Harbor Bay Pkwy Suite 250  
Alameda CA 94502-6577

DATE 1/11/00  
VIA US Mail  
FAX NO. \_\_\_\_\_

ATTENTION ~~Chil~~ Chil

PROJECT 1970 Seminary, Oakland  
Grimit SSD 553

JOB NO. E-10-10-261C

**DESCRIPTION**

12/29/99 Ground Water Monitoring report

Number of pages, including cover page, if FAX \_\_\_\_\_

**COMMENTS**

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**ACTION**

- As requested
- For your use
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COPY TO \_\_\_\_\_  
D. Grimit

BY David F. Hoexter  
David F. Hoexter

If enclosures are not as noted, kindly notify us at once

Geology / Engineering Geology / Environmental Studies

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December 29, 1999

E-10-1C-261C  
HCQuartEnvrRpts:Sem.1970/12(12/99)

Mr. Doyle Gruit  
14366 Lark Street  
San Leandro, California 94578

RE: **DECEMBER, 1999**  
**GROUND WATER SAMPLING REPORT**  
**STID 553 - GRIMIT AUTO AND REPAIR**  
**1970 SEMINARY AVENUE**  
**OAKLAND, CALIFORNIA**

Dear Mr. Gruit:

Enclosed is our December, 1999 ground water sampling report for the property located at 1970 Seminary Avenue, corner of Harmon, in Oakland, California. This sampling round is the eighteenth round performed by Hoexter Consulting and others at the site, dating 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 on-site 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 decline in contaminant levels since initiation of sampling, particularly in wells more distant from the source area.

Ground water levels declined appreciably from the previous April, 1999 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 June, 2000. Please note that in the body of this report, we recommend that consideration be made for conditional site closure, requiring biannual ground water sampling to verify that conditions improve or remain essentially unchanged. Conversely, if closure

cannot be provided, we recommend that regulatory authorities concur with previous recommendations to conduct limited site remediation.

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. F. Hoexter". The signature is stylized with a large, bold "H" and "E" at the end.

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

Copies: Addressee (2)  
Alameda County Health Care Services Agency (1)  
Attention: Eva Chu, Hazardous Materials Specialist

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DECEMBER, 1999  
GROUND WATER SAMPLING REPORT

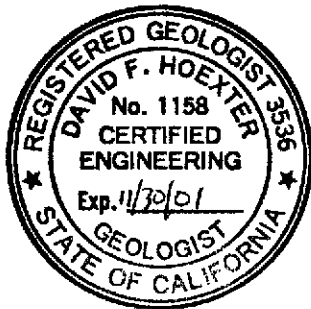
For

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

To

Mr. Doyle Gritit  
14366 Lark Street  
San Leandro, California 94578

December 29, 1999



*David F. Hoexter*

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

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**DECEMBER, 1999**  
**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 December, 1999 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 nine on-site monitoring wells. 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 December 18, 1999 by representatives of Hoexter Consulting, Inc. Due to past, very slow equilibration of ground water levels, the well caps were loosened on December 16, 1999, two days prior to the planned purging and sampling. The wells were then secured with the caps sufficiently loose to allow venting, and left to equilibrate over the following approximately 44 hours. Following water level measurements on the morning of December 18, 1999, the wells were purged and sampled.

As noted, the well caps were loosened two days 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 one to four well-casing volumes of water were purged from the well (due to rapid draw-down of the water level, less than the customary four well volumes was withdrawn from various wells; see individual Groundwater Sampling Field Logs). 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, and following a period of two days for the wells to stabilize, ground water levels were measured in each well using the top of 2-inch PVC casing (north side) as reference point. The ground water elevation decreased notably in the five "deeper" wells, and decreased to a lesser extent in the four "shallow" wells, compared to the prior (April, 1999) sampling event. The five "deeper" wells averaged an elevation decrease of 4.84 feet, with all five wells decreasing in elevation; the four "shallow" wells decreased an average of 1.91 feet, with all four wells decreasing 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").

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 0.26 foot per foot in the source area. The approximate gradient direction is N 55° W. This gradient direction is similar to previous sampling events. The data for the five "deeper" wells indicate an opposing gradient direction away from Seminary towards the southeast. The apparent gradient varies across the site, but averages 0.07 foot per foot. The approximate gradient direction is South 44° East. Both the deeper gradient inclination and apparent direction are the same as the previous April, 1999 event.

The data appear to indicate a downward gradient from a relatively shallow (perched ?) zone represented by the four "shallow" wells, to the deeper zone represented by the five "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.

#### 3.2 Observations and Analytical Results

Free product was not observed in the initial sounding of the wells, although a sheen (floating film) of oil was observed in well MW-1, and shortly after purging began, in well MW-4. The purge water from well MW-1 contained globules of "oil", which were observed in earlier sampling rounds.

The results of the chemical analyses are presented on Tables 2, 3 and 4, 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. 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 only in well MW-1. Various



HVOCs were detected in each well. See Table 3 for the presence and concentrations of particular HVOCs.

#### 4.0 CONCLUSIONS AND RECOMMENDATIONS

ASTM Tier Two evaluation of the site, as discussed in the Hoexter Consulting September 3, 1998 addendum letter, resulted in the conclusion that contaminant levels at the site are less than the respective Tier Two SSTLs. Ground water gradient conditions, although variable, are essentially the same as previous sampling events. Overall, the site exhibits a variable but overall moderate decline in contaminant levels, particularly in the wells more distant from the source area. We have previously recommended that regulatory agencies consider granting conditional site closure, requiring biannual ground water sampling to verify that conditions improve or remain essentially unchanged. Conversely, if closure is not feasible (we understand the Regional Water Quality Control Board will not grant closure if elevated levels of HVOC compounds are present), then the regulatory agencies should consider accepting previous recommendations to conduct limited site remediation, to reduce contaminant levels near the source area.

#### 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 1**  
**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	36.97	11.82	25.18	
3/25-26/96		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
<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
<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

Table continued following page

Table 1 continued

Well Number and Date of Measurement	Reference Elevation (2)	Depth to Water	Relative Ground Water Elevation (2)
<b>MW-3 (cont')</b>			
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
<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	36.47	13.78	22.68
6/23/97		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
<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	36.77	17.33	19.44
6/23/97		21.91	14.86
10/6/97		24.26	12.51
12/12/98		20.66	16.11
4/24/99		17.19	19.58
12/18/99		22.71	14.06
<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	36.42	7.72	28.70
6/23/97		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
<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

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Well Number and Date of Measurement	Reference Elevation (2)	Depth to Water	Relative Ground Water Elevation (2)
<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
<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

**Notes to Table 1**

- (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 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)
<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)
<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)

Table continued following page

Table 2 continued

Well and Date	TPH Gasoline	MTBE	Benzene	Toluene	Ethyl-Benzene	Xylenes	Oil & Grease HVOC(7)
<b>MW-3 ("shallow") (continued)</b>							
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)
<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)
<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)
<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)
<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)
<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)

Table continued following page

Table 2 continued

Well and Date	TPH Gasoline	MTBE	Benzene	Toluene	Ethyl-Benzene	Xylenes	Oil & Grease HVOC (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)
<b>EB-4 ("grab" gw sample)</b>							
3/8/96	15,000	NA	780	840	1,300	590	7,500 (5) (7)
<b>MCL</b>	NA	35 (9)	1	150	700	1,750	NA

**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) MTBE concentration is **proposed**

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
<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
<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
<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
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	27	ND<10	390	13	ND<10	ND<10	39	ND<10
<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

Continued following page



Table 3 continued

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-5 ("deep") continued</b>									
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
<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
<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
<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
<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
<b>EB-4 (grab)</b>									
3/8/96	ND	ND	ND	42	ND	ND	130	340	ND
MCL	NA	600	0.5	6	10	5	7	5	0.5

Notes on following page

**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
- (8) 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

**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	<b>12</b>	<b>2200</b>
10/7/97	ND<100	<b>810</b>
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
<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
<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
<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
<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

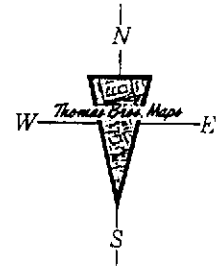
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Table 5 continued

Well and Date	Dissolved Oxygen	Ferrous Iron	Nitrate	Sulfate
<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
<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
<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
<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

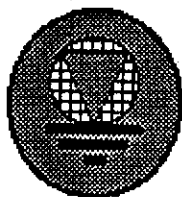
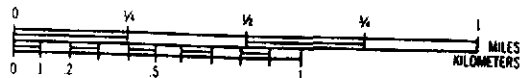
**Notes to Table 5**

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



# ALAMEDA COUNTY

1991 *Thomas Guide.*



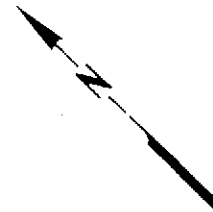
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**Engineering Geology**  
**Environmental Studies**

## LOCATION MAP

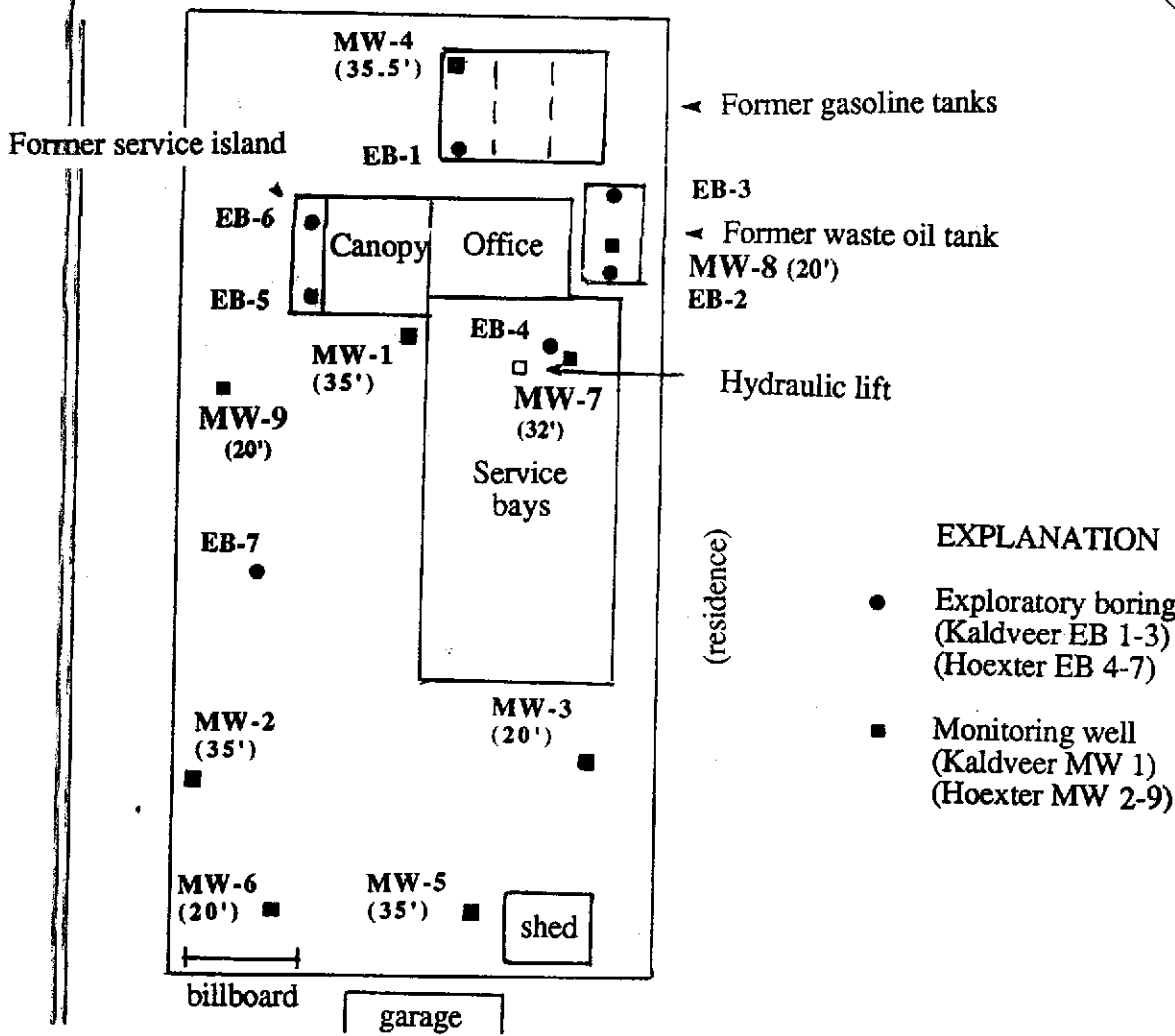
1970 Seminary Ave.  
 Oakland, California

Project No.	Date	Figure 1
E-10-1C-261C	December, 1999	

Harmon Ave.



Seminary Ave.

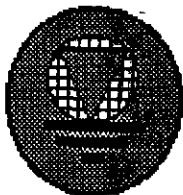


(residence)

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



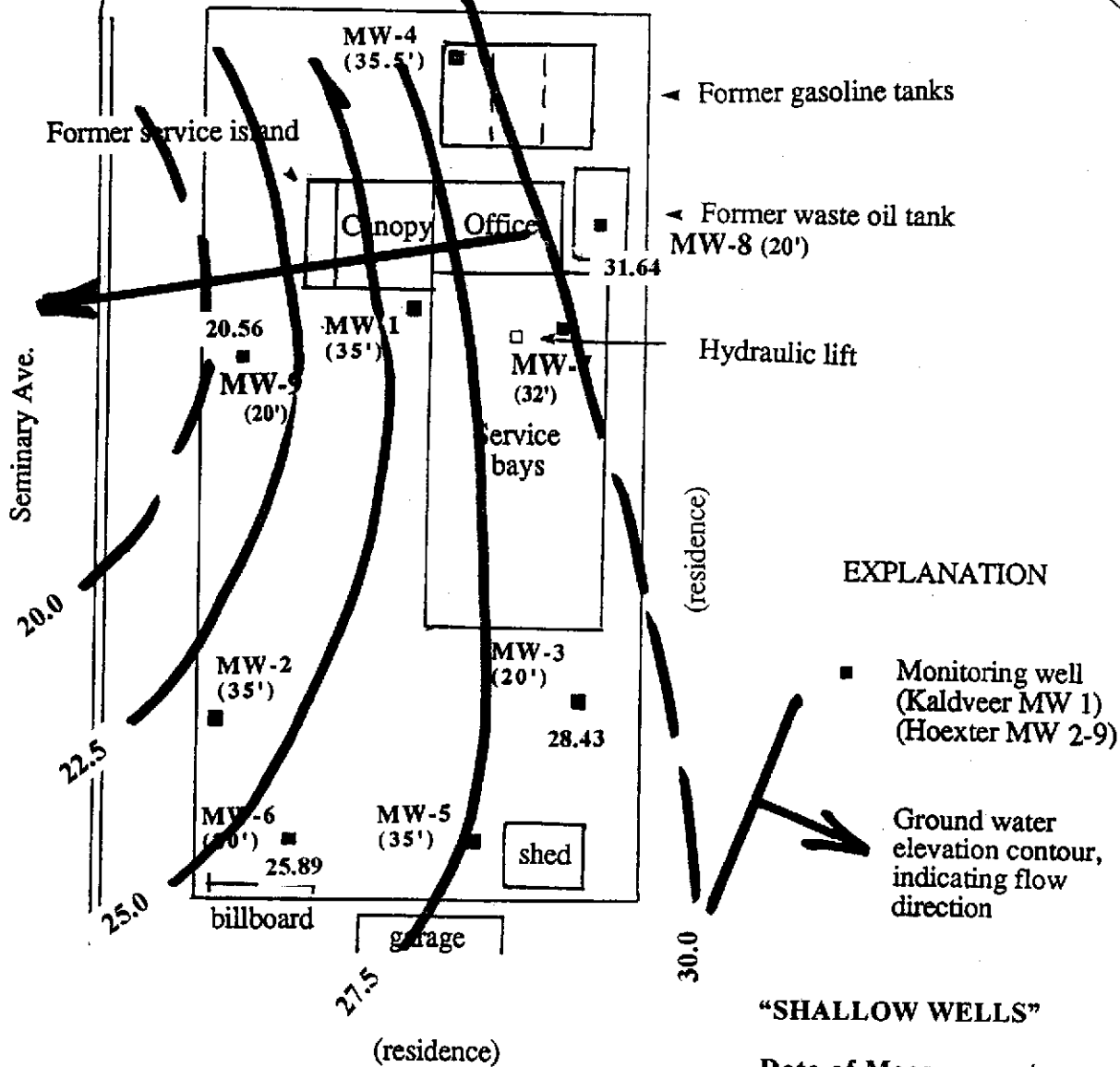
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**SITE PLAN**

1970 Seminary Ave.  
 Oakland, California

Project No.	Date	Figure 2
E-10-1C-261C	December, 1999	

Harmon Ave.



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



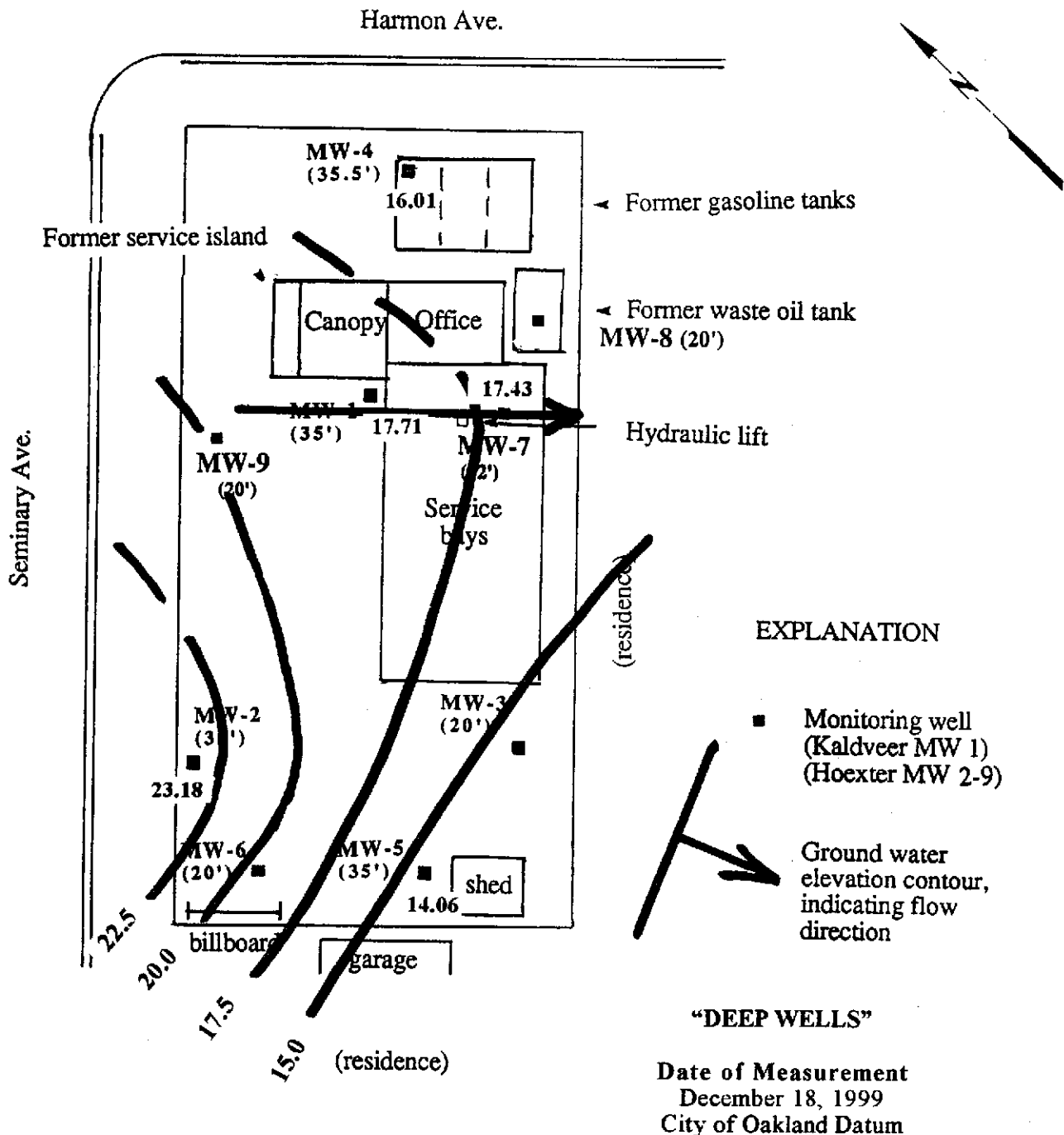
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**GROUND WATER CONTOUR  
AND GRADIENT DIRECTION MAP**

1970 Seminary Ave.  
Oakland, California

Project No.	Date	Figure 3A
E-10-1C-261C	December, 1999	

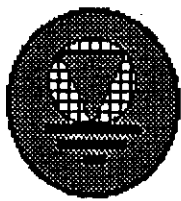




Base: A. Deak, Licensed Land Surveyor,  
3/21/96 (wells, streets & property  
line); Hoexter field sketch, 10/25/93  
(explor. borings, other features)



Approximate Scale in Feet



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Environmental Studies

**GROUND WATER CONTOUR  
AND GRADIENT DIRECTION MAP**

1970 Seminary Ave.  
Oakland, California

<b>Project No.</b>	<b>Date</b>	<b>Figure 3B</b>
E-10-1C-261C	December, 1999	

**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. Grimm  
 Project Manager: DF Hoexter  
 Sampler: D. Hoexter, J. Schultz  
 Casing Diameter: 2 inch  3 inch \_\_\_\_\_ 4 inch \_\_\_\_\_ 6 inch \_\_\_\_\_ Other: \_\_\_\_\_

Lab I.D.: 27760  
 Date: 12/18/99  
 Sample Location/I.D.: MW-1  
 Start Time: \_\_\_\_\_  
 6 inch \_\_\_\_\_ Other: \_\_\_\_\_

Depth of Well (feet): 35  
 Depth to Water (feet): 19.28  
 Sample Depth (feet): \_\_\_\_\_

Calculated Purged Volume: 10.24  
 Actual Purged Volume 5

$35 - 19.3 = 15.7$

### Field Measurements

→ 2.56 gal./vol

Time	Cum	Volume (gal.)	pH (units)	E.C. (umhos/cm)	Temperature Degrees F	Color (visual)	Other
1300	2.5	2.5	6.51	866	62.8		
1310	5	2.5	6.58	856	63.0		
	*	/					
	*	/					Produced oil in purge wtr.

### 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: Opened well 12/16/99 to vent - measured gw level 12/18/99 - odor, 2 1/6" prod. on initial bail volume. Sampled 1450.

Signature: D. Hoexter

*\*\* Excessive drawdown - well not purged to 4' w.l. Conversion Factors*

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

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

MW-1

# HOEXTER CONSULTING

## Groundwater Sampling Field Log

Project Name/No.: 1970 Seminary, Oakland CA  
 Client: D. Gimert  
 Project Manager: DF Hoexter  
 Sampler: D. Hoexter, J. Schultz  
 Casing Diameter: 2 inch  3 inch \_\_\_\_\_ 4 inch \_\_\_\_\_ 6 inch \_\_\_\_\_ Other: \_\_\_\_\_

Lab I.D.: 27761  
 Date: 12/18/99  
 Sample Location/I.D.: Mw-2  
 Start Time: \_\_\_\_\_

Depth of Well (feet): 35  
 Depth to Water (feet): 13-22  
 Sample Depth (feet): \_\_\_\_\_

Calculated Purged Volume: 14  
 Actual Purged Volume 12.5  
 $35 - 13 - 2 = 21.8'$   
 $\rightarrow 3.5 \text{ gal/ft.}$

### Field Measurements

Time	Cum	Volume (gal.)	pH (units)	E.C. (umhos/cm)	Temperature Degrees F	Color (visual)	Other
1046	3.5	3.5	6.46	869	61.6	clear	
1101	7	3.5	6.47	783	62.4		
1110	10.5	3.5	6.54	770	62.4		
	X	✓					

### 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: Opened well 12/16/99 to vent; measured gw level 12/18/99  
No prod or show on initial extraction; possible sl-color (?), Sample 133  
\* Excessive drawdown - well not purged to 4 volumes -

Signature: D. Hoexter

Volumes Per Unit Length Selected Well Casing Diameters

Well Casing I.D. (inches)	Volume Per Unit Length			
	Gal/ft	Cubic Ft/ft	LM	L/Ft
1.5	0.0918	0.0123	1.140	0.3475
2.0	0.1632	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

Mw-2

# HOEXTER CONSULTING

## Groundwater Sampling Field Log

Project Name/No.: 1970 Seminary, Oakland CA  
 Client: D. Grimmett  
 Project Manager: DF Hoexter  
 Sampler: D. Hoexter, J. Schultz  
 Casing Diameter: 2 inch ~~3 inch~~ 4 inch 6 inch Other: \_\_\_\_\_

Lab I.D.: 27762  
 Date: 12/18/99  
 Sample Location/I.D.: MW-3  
 Start Time: \_\_\_\_\_

Depth of Well (feet): 20  
 Depth to Water (feet): 8.51  
 Sample Depth (feet): \_\_\_\_\_

Calculated Purged Volume: 7.2  
 Actual Purged Volume 5.75  
 $20 - 8.51 = 11.49'$   
 $\rightarrow 1.8 \text{ gal/ft}$

### Field Measurements

Time	Cum	Volume (gal.)	pH (units)	E.C. (umhos/cm)	Temperature (Degrees F)	Color (visual)	Other
1045	2	2	6.32	511	58.3		
1052	4	2	6.36	570	60.8	sl. cloudy	
1058	5.75	1.75	6.39	569	60.8		
	*	/					

### 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: Opened well 12/16/99 to vent; measured gw level 12/18/99  
Sl. odor, sl. sheen on initial extraction. Sampled 1327.

\* Excessive drawdown - well not purged to 4 volumes.  
 Signature: D. Hoexter

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

MW-3

# HOEXTER CONSULTING

## Groundwater Sampling Field Log

Project Name/ No.: 1970 Seminary, Oakdale, Pa  
 Client: D. Grims  
 Project Manager: DF Hoexter  
 Sampler: D. Hoexter, J. Schultz  
 Casing Diameter: 2 inch  3 inch \_\_\_\_\_ 4 inch \_\_\_\_\_ 6 inch \_\_\_\_\_ Other: \_\_\_\_\_

Lab I.D.: 27763  
 Date: 12/18/99  
 Sample Location/I.D.: MW-4  
 Start Time: \_\_\_\_\_

Depth of Well (feet): 35.5  
 Depth to Water (feet): 20.46  
 Sample Depth (feet): \_\_\_\_\_

Calculated Purged Volume: 9.8  
 Actual Purged Volume 5

35.5 - 20.46 → 15.04'

→ 2.4 gal

### Field Measurements

Time	Cum	Volume (gal.)	pH (units)	E.C. (umhos/cm)	Temperature Degrees F	Color (visual)	Other
1158	25	25	6.50	883	62.6	clear	
1210	5	25	6.50	895	62.7	'	
	*	/					
	*	/					

### 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: Opened well 12/16/99 to vent - measured gw level 12/18/99  
Strong odor, seen on initial extraction. Sampled 1430.

\* Partial drawdown - well not purged to 4 vols.  
 Signature: D. Hoexter

### 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	0.1632	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

MW-4

# HOEXTER CONSULTING

## Groundwater Sampling Field Log

Project Name/No: 1970 Seminary, Oakland CA  
 Client: D. Grims  
 Project Manager: DF Hoexter  
 Sampler: D. Hoexter, J. Schultz  
 Casing Diameter: 2 inch ~~3 inch~~ 4 inch 6 inch Other: \_\_\_\_\_

Lab I.D.: 27764  
 Date: 12/18/99  
 Sample Location/I.D.: MW-5  
 Start Time: \_\_\_\_\_

Depth of Well (feet): 35  
 Depth to Water (feet): 22.71  
 Sample Depth (feet): \_\_\_\_\_

Calculated Purged Volume: 8  
 Actual Purged Volume 6  
 $35 - 22.71 = 12.29'$

### Field Measurements

→ 2.05 gal / vol.

Time	Cum	Volume (gal.)	pH (units)	E.C. (umhos/cm)	Temperature Degrees F	Color (visual)	Other
<u>1111</u>	<u>2</u>	<u>2</u>	<u>6.48</u>	<u>819</u>	<u>61.0</u>	<u>light brown / sl. cloudy</u>	
<u>1120</u>	<u>4</u>	<u>2</u>	<u>6.48</u>	<u>858</u>	<u>61.8</u>		
<u>1131</u>	<u>6</u>	<u>2</u>	<u>6.54</u>	<u>864</u>	<u>61.5</u>		
	<u>8</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: Opened well 12/16/99 to vent - measured gw level 12/18/99  
odor to be noted following initial purge volume.

\* Partial drawdown - well not purged to full 4 vols -  
 Signature: D-D F. [Signature]

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	0.3048
Inches	Centimeters	2.5400

MW-5

E-10-10-261C

# HOEXTER CONSULTING

## Groundwater Sampling Field Log

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

Lab I.D.: 27765  
Date: 12/18/99  
Sample Location/I.D.: MW-6  
Start Time: \_\_\_\_\_

Depth of Well (feet): 20  
Depth to Water (feet): 10.53  
Sample Depth (feet): \_\_\_\_\_

Calculated Purged Volume: 6.16  
Actual Purged Volume 5  
 $20 - 10.53 = 9.47'$

### Field Measurements

→ 1.54 gal./vol.

Time	Cum	Volume (gal.)	pH (units)	E.C. (umhos/cm)	Temperature (Degrees F)	Color (visual)	Other
<u>1120</u>	<u>1.5</u>	<u>1.5</u>	<u>6.41</u>	<u>863</u>	<u>62.7</u>	<u>clear</u>	
<u>1128</u>	<u>3</u>	<u>1.5</u>	<u>6.43</u>	<u>864</u>	<u>63.1</u>		
<u>1135</u>	<u>5</u>	<u>2</u>	<u>6.44</u>	<u>859</u>	<u>63.3</u>		
<u>*</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: Opened well 12/16/99 to vent; measured gw level 12/18/99  
No product, odor, shown on initial extraction.

\* Well drain down; net purged entire 4 volumes -  
Signature: D. Hoexter

### 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
pt. 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

MW-6



# HOEXTER CONSULTING

## Groundwater Sampling Field Log

Project Name/No: 1970 Seminary, Oakland CA  
 Client: D. Grimm  
 Project Manager: DF Hoexter  
 Sampler: D. Hoexter, J. Schultz  
 Casing Diameter: 2 inch  3 inch \_\_\_\_\_ 4 inch \_\_\_\_\_ 6 inch \_\_\_\_\_ Other: \_\_\_\_\_

Lab I.D.: 27706  
 Date: 12/18/99  
 Sample Location/I.D.: MW-7  
 Start Time: \_\_\_\_\_

Depth of Well (feet): 32  
 Depth to Water (feet): 19.40  
 Sample Depth (feet): \_\_\_\_\_

Calculated Purged Volume: 8.4  
 Actual Purged Volume 6.5  
 $32 - 19.40 = 12.6'$   
 $\rightarrow 2.1 \text{ gal.}$

### Field Measurements

Time	Cum	Volume (gal.)	pH (units)	E.C. (umhos/cm)	Temperature (Degrees F)	Color (visual)	Other
<u>1146</u>	<u>2</u>	<u>2</u>	<u>6.42</u>	<u>840</u>	<u>62.1</u>		
<u>1158</u>	<u>4</u>	<u>2</u>	<u>6.46</u>	<u>834</u>	<u>62.9</u>	<u>sl. chunky / tan</u>	
<u>1206</u>	<u>6.5</u>	<u>2.5</u>	<u>6.50</u>	<u>828</u>	<u>62.3</u>		
_____	<u>*</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: Opened well 12/16/99 to vent; measured gw level 12/18/99  
No product, sl. sheen (possible), sl. odor on initial extraction.

Signature: D. Hoexter \* Partial drawdown; well not purged entire 4 vols -

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	0.3048
Inches	Centimeters	2.5400

MW-7

# HOEXTER CONSULTING

## Groundwater Sampling Field Log

Project Name/No.: 1970 Seminary, Oakland, CA  
 Client: D. Griffin  
 Project Manager: DF Hoexter  
 Sampler: D. Hoexter, J. Schultz  
 Casing Diameter: 2 inch ~~3 inch~~ 4 inch 6 inch Other: \_\_\_\_\_

Lab I.D.: 27767  
 Date: 12/18/99  
 Sample Location/I.D.: MW-8  
 Start Time: \_\_\_\_\_

Depth of Well (feet): 20  
 Depth to Water (feet): 4.91  
 Sample Depth (feet): \_\_\_\_\_

Calculated Purged Volume: 9.84  
 Actual Purged Volume: 10  
 $20 - 4.91 = 15.09'$   
 $\rightarrow 2.55 \text{ gal}$

### Field Measurements

Time	Cum	Volume (gal.)	pH (units)	E.C. (umhos/cm)	Temperature (Degrees F)	Color (visual)	Other
<u>1250</u>	<u>2.5</u>	<u>2.5</u>	<u>6.81</u>	<u>472</u>	<u>59.3</u>	<u>Light brown / cloudy</u>	_____
<u>1300</u>	<u>5</u>	<u>2.5</u>	<u>6.84</u>	<u>430</u>	<u>59.8</u>	_____	_____
<u>1305</u>	<u>7.5</u>	<u>2.5</u>	<u>6.84</u>	<u>432</u>	<u>61.0</u>	_____	_____
<u>1310</u>	<u>10</u>	<u>2.5</u>	<u>7.51</u>	<u>411</u>	<u>60.9</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: Opened well 12/16/99 to vent; measured gw level 12/18/99  
No odor, product, shown on initial extraction - Sampled 12/18-

Signature: \_\_\_\_\_

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

MW-8

# HOEXTER CONSULTING

## Groundwater Sampling Field Log

Project Name/No: 1970 Seminary, Oakland CA  
 Client: D. Grimm  
 Project Manager: DF Hoexter  
 Sampler: D. Hoexter, J. Schultz  
 Casing Diameter: 2 inch  3 inch \_\_\_\_\_ 4 inch \_\_\_\_\_

Lab I.D.: 27768  
 Date: 12/18/99  
 Sample Location/I.D.: MW-9  
 Start Time: \_\_\_\_\_  
 6 inch \_\_\_\_\_ Other: \_\_\_\_\_

Depth of Well (feet): 20  
 Depth to Water (feet): 16.14  
 Sample Depth (feet): \_\_\_\_\_

Calculated Purged Volume: 2.5  
 Actual Purged Volume 1

$20 - 16.14 = 3.86'$

$\rightarrow 0.63 \text{ gal./vol}$

### Field Measurements

Time	Cum	Volume (gal.)	pH (units)	E.C. (umhos/cm)	Temperature (Degrees F)	Color (visual)	Other
1041	1	1	6.55	1023	63.7	clear	
	*	/					
	*	/					
	*	/					

### 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: Opened well 12/16/99 to vent - measured gw level 12/18/99  
Strong odor, no prod. or steam initial extraction.

\* Well drawn down to 3'; net purged to complete 4 volumes.  
 Signature: David F. Hoexter

Volumes Per Unit Length Selected Well Casing Diameters

Well Casing I.D. (inches)	Volume Per Unit Length		L/M	L/Ft
	Gal/ft	Cubic Ft/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



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-10-1C-261C; 1970 Seminary Ave Oakland, CA	Date Sampled: 12/18/99
		Date Received: 12/20/99
	Client Contact: David Hoexter	Date Extracted: 12/20/99
	Client P.O:	Date Analyzed: 12/20/99

12/27/99

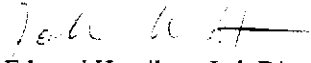
Dear David:

Enclosed are:

- 1). the results of 9 samples from your #E-10-1C-261C; 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



Hoexter Consulting Engineering Geology 734 Torrey Court Palo Alto, CA 94303	Client Project ID: #E-10-1C-261C; 1970 Seminary Ave Oakland, CA	Date Sampled: 12/18/99
		Date Received: 12/20/99
	Client Contact: David Hoexter	Date Extracted: 12/20-12/27/99
	Client P.O:	Date Analyzed: 12/20-12/27/99

**Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline\*, with Methyl tert-Butyl Ether\* & BTEX\***  
 EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g) <sup>+</sup>	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	% Recovery Surrogate
27760	MW-1	W	43,000,a,h	ND<200	2600	3800	1400	5800	100
27761	MW-2	W	210,a	ND<200	13	ND	2.9	7.7	109
27762	MW-3	W	330,b,j	ND	0.51	ND	ND	ND	103
27763	MW-4	W	2600,a	33	1000	12	32	10	101
27764	MW-5	W	7000,a	ND<100	250	52	500	300	99
27765	MW-6	W	2300,a	ND<200	170	6.6	56	63	--- <sup>#</sup>
27766	MW-7	W	5500,a	ND<10	570	27	91	31	100
27767	MW-8	W	ND	ND	ND	ND	ND	ND	107
27768	MW-9	W	7500,a	100	220	44	440	650	--- <sup>#</sup>

Reporting Limit unless otherwise stated; ND means not detected above the reporting limit	W	50 ug/L	5.0	0.5	0.5	0.5	0.5	
	S	1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

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

# cluttered chromatogram; sample peak coelutes with surrogate peak

\*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 gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) no recognizable pattern.



McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560  
 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-10-1C-261C; 1970 Seminary Ave Oakland, CA	Date Sampled: 12/18/99
		Date Received: 12/20/99
	Client Contact: David Hoexter	Date Extracted: 12/20/99
	Client P.O:	Date Analyzed: 12/20-12/23/99

**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*
27760	MW-1	W	110,h
27761	MW-2	W	ND
27762	MW-3	W	ND
27763	MW-4	W	ND
27764	MW-5	W	ND
27765	MW-6	W	ND
27766	MW-7	W	ND
27767	MW-8	W	ND
27768	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.



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	Client Contact: David Hoexter	Date Received: 12/20/99
	Client P.O:	Date Extracted: 12/20-12/21/99
		Date Analyzed: 12/20-12/21/99

**Volatile Halocarbons**

EPA method 601 or 8010

Lab ID	27760	27761	27762	27763	27764
Client ID	MW-1	MW-2	MW-3	MW-4	MW-5
Matrix	W	W	W	W	W
Compound	Concentration				
Bromodichloromethane	ND	ND	ND	ND<10	ND
Bromoform <sup>(b)</sup>	ND	ND	ND	ND<10	ND
Bromomethane	ND	ND	ND	ND<10	ND
Carbon Tetrachloride <sup>(c)</sup>	ND	ND	ND	ND<10	ND
Chlorobenzene	ND	ND	ND	ND<10	ND
Chloroethane	3.3	ND	ND	ND<10	1.6
2-Chloroethyl Vinyl Ether <sup>(d)</sup>	ND	ND	ND	ND<10	ND
Chloroform <sup>(e)</sup>	ND	ND	ND	ND<10	ND
Chloromethane	ND	ND	ND	ND<10	ND
Dibromochloromethane	1.3	ND	ND	ND<10	ND
1,2-Dichlorobenzene	8.0	ND	ND	27	1.7
1,3-Dichlorobenzene	1.2	ND	ND	ND<10	ND
1,4-Dichlorobenzene	2.2	ND	ND	ND<10	ND
Dichlorodifluoromethane	ND	ND	ND	ND<10	ND
1,1-Dichloroethane	ND	ND	ND	ND<10	ND
1,2-Dichloroethane	1.2	15	0.72	ND<10	1.8
1,1-Dichloroethene	ND	ND	ND	ND<10	ND
cis 1,2-Dichloroethene	12	9.0	ND	390	1.9
trans 1,2-Dichloroethene	2.8	ND	ND	13	ND
1,2-Dichloropropane	1.2	1.5	ND	ND<10	ND
cis 1,3-Dichloropropene	ND	ND	ND	ND<10	ND
trans 1,3-Dichloropropene	ND	ND	ND	ND<10	ND
Methylene Chloride <sup>(f)</sup>	ND	ND	ND	ND<10	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND<10	ND
Tetrachloroethene	ND	ND	ND	ND<10	ND
1,1,1-Trichloroethane	ND	ND	ND	ND<10	ND
1,1,2-Trichloroethane	ND	ND	ND	ND<10	ND
Trichloroethene	ND	10	ND	39	ND
Trichlorofluoromethane	ND	ND	ND	ND<10	ND
Vinyl Chloride <sup>(g)</sup>	7.2	ND	ND	100	2.9
% Recovery Surrogate	116	107	105	103	110
Comments	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.



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Hoexter Consulting Engineering Geology 734 Torrey Court Palo Alto, CA 94303	Client Project ID: #E-10-1C-261C; 1970 Seminary Ave Oakland, CA	Date Sampled: 12/18/99
	Client Contact: David Hoexter	Date Received: 12/20/99
	Client P.O:	Date Extracted: 12/20-12/21/99
		Date Analyzed: 12/20-12/21/99

**Volatile Halocarbons**

EPA method 601 or 8010

Lab ID	27765	27766	27767	27768	
Client ID	MW-6	MW-7	MW-8	MW-9	
Matrix	W	W	W	W	
Compound	Concentration				
Bromodichloromethane	ND	ND<3	ND	ND	
Bromoform <sup>(b)</sup>	ND	ND<3	ND	ND	
Bromomethane	ND	ND<3	ND	ND	
Carbon Tetrachloride <sup>(c)</sup>	ND	ND<3	ND	ND	
Chlorobenzene	ND	ND<3	ND	ND	
Chloroethane	ND	ND<3	ND	ND	
2-Chloroethyl Vinyl Ether <sup>(d)</sup>	ND	ND<3	ND	ND	
Chloroform <sup>(e)</sup>	ND	ND<3	ND	ND	
Chloromethane	ND	ND<3	ND	ND	
Dibromochloromethane	ND	ND<3	ND	ND	
1,2-Dichlorobenzene	ND	5.7	ND	1.1	
1,3-Dichlorobenzene	ND	ND<3	ND	ND	
1,4-Dichlorobenzene	ND	9.9	ND	ND	
Dichlorodifluoromethane	ND	ND<3	ND	ND	
1,1-Dichloroethane	ND	ND<3	ND	ND	
1,2-Dichloroethane	2.2	ND<3	ND	0.67	
1,1-Dichloroethene	ND	ND<3	ND	ND	
cis 1,2-Dichloroethene	8.3	120	5.3	3.7	
trans 1,2-Dichloroethene	ND	ND<3	ND	ND	
1,2-Dichloropropane	ND	ND<3	ND	ND	
cis 1,3-Dichloropropene	ND	ND<3	ND	ND	
trans 1,3-Dichloropropene	ND	ND<3	ND	ND	
Methylene Chloride <sup>(f)</sup>	ND	ND<3	ND	ND	
1,1,2,2-Tetrachloroethane	ND	ND<3	ND	ND	
Tetrachloroethene	ND	ND<3	5.9	ND	
1,1,1-Trichloroethane	ND	ND<3	ND	ND	
1,1,2-Trichloroethane	ND	ND<3	ND	ND	
Trichloroethene	ND	12	6.4	ND	
Trichlorofluoromethane	ND	ND<3	ND	ND	
Vinyl Chloride <sup>(g)</sup>	0.62	ND<3	ND	0.63	
% Recovery Surrogate	110	109	108	109	
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

*James* Edward Hamilton, Lab Director





### QC REPORT

Date: 12/19/99-12/20/99 Matrix: Water

Extraction: N/A

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

SampleID: 25438

Instrument: GC-7

Xylenes	0.000	337.0	335.0	300.00	112	112	0.6
Ethyl Benzene	0.000	107.0	106.0	100.00	107	106	0.9
Toluene	0.000	105.0	103.0	100.00	105	103	1.9
Benzene	0.000	103.0	100.0	100.00	103	100	3.0
MTBE	0.000	93.0	89.0	100.00	93	89	4.4
GAS	0.000	1115.8	1145.0	1000.00	112	115	2.6

SampleID: 122099

Instrument: GC-11 A

TPH (diesel)	0.000	274.0	279.0	300.00	91	93	1.8
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$$\% \text{ Recovery} = \frac{(MS - \text{Sample})}{\text{Amount Spiked}} \cdot 100$$

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

RPD means Relative Percent Deviation



### QC REPORT

### TRPH

Date: 12/20/99

Matrix: Water

Extraction: N/A

Compound	Concentration: ug/L			%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS MSD	
SampleID: 121499		Instrument: IR-1				
TRPH	0.000	27.4	26.5	23.70	116 112	3.3

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

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

RPD means Relative Percent Deviation

**QC REPORT****EPA 8010/8020/EDB**

Date: 12/20/99-12/21/99 Matrix: Water

Extraction: N/A

Compound	Concentration: ug/L			%Recovery		RPD	
	Sample	MS	MSD	Amount Spiked	MS		MSD
SampleID: 122099		Instrument: GC-1					
Chlorobenzene	0.000	104.0	104.0	100.00	104	104	0.0
EDB	0.000	97.0	97.0	100.00	97	97	0.0
Trichloroethane	0.000	90.0	92.0	100.00	90	92	2.2
1,1-DCE	0.000	117.0	118.0	100.00	117	118	0.9

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

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

RPD means Relative Percent Deviation

CHAIN-OF-CUSTODY RECORD

Project Number		Project Name					Number / Type of Containers	Analytical Tests					Remarks		
E-10-1C-261C		1970 Seminary Ave Oakland CA						TPH-G	PAHs	MTBE	HYD	8010		SYN	5520
Sampler's Name (printed)		Date	Time	Soil	Water	Sample Location or Depth	Sample Number								
D. Hoexter, J. Schultz															
(+)	MW-1	12/18/99	1450				2-VOA	X	X				X		27760
			"				1-L			X					27761
(+)	MW-2		1337				2-VOA	X	X				X		27762
			"				1-L			X					27763
(+)	MW-3		1327				2-VOA	X	X				X		27764
			"				1-L			X					27765
(+)	MW-4		1430				2-VOA	X	X				X		27766
			"				1-L			X					
(+)	MW-5		1347				2-VOA	X	X				X		
			"				1-L			X					
(+)	MW-6		1400				2-VOA	X	X				X		
			"				1-L			X					
(+)	MW-7		1409				2-VOA	X	X				X		
			"				1-L			X					

Relinquished by: (Signature) D. Hoexter	Date/Time 12/20/99 9:40	Received by: (Signature) B. Butts
Relinquished by: (Signature) B. Butts	Date/Time 12/20/99 12:20	Received by: (Signature) Lina A. Butler
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)

Ship To: McCoyball Anal.  
Pacifica CA

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

Requested Turnaround Time: Normal

Remarks: All VOA's preserved HCL X

Contact: David F. Hoexter Phone: 650-454-2505

ICE/GOOD CONDITION  HEAD SPACE ABSENT

PRESERVATION APPROPRIATE  CONTAINERS

LOG METALS OTHER

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

18152

CHAIN-OF-CUSTODY RECORD

Project Number <b>E-10-1C-26C</b>	Project Name <b>1970 Seminary Ave - Oakland CA</b>
--------------------------------------	---

Sampler's Name (printed)  
**D. Hoexter, J. Schultz**

Number/Type of Containers

Analytical Tests  
 TPH-G/13TEX/MTBE  
 HVOC-8010  
 SIM 5520B/E  
 Preserved X

Pg 2 of 2

Remarks

Boring Number	Date	Time	Soil	Water	Sample Location or Depth	Sample Number	Analytical Tests				Remarks	
+ Mw-8	12/15/77	1418		↓		24A	X	X			X	27767
		"				1-L			X		X	
+ Mw-9	↓	1442		↓		24A	X	X			X	27768
		"				1-L			X		X	

ICE  PRESERVATION APPROPRIATE CONTAINERS   
 GOOD CONDITION   
 HEAD SPACE ABSENT   
 VOAS  O&G METALS  OTHER

Relinquished by: (Signature) <b>D. Hoexter</b>	Date/Time <b>12/20 9:40</b>	Received by: (Signature) <b>B. B. [Signature]</b>
Relinquished by: (Signature) <b>B. B. [Signature]</b>	Date/Time <b>12/20 12:30</b>	Received by: (Signature) <b>J. [Signature]</b>
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)

Ship To: **McCampbell Ave**  
**Pacheco CA**  
 Attention: \_\_\_\_\_  
 Phone No: \_\_\_\_\_

Requested Turnaround Time: **Abnuel** Contact: **David F. Hoexter**

Remarks: **\* All VOAS preserved HCL**

Phone: **650-494-2505**  
**fax**

Hoexter Consulting  
 Engineering Geology  
 734 Torrey Court  
 Palo Alto, CA 94303