

**SECOND QUARTER, 1998
GROUNDWATER MONITORING REPORT**

**USA STATION #57
10700 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA**

JULY, 1998

PREPARED FOR:

**USA GASOLINE CORPORATION
AND
ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY**

PREPARED BY:

**GHH ENGINEERING, INC.
8084 OLD AUBURN ROAD, SUITE E
CITRUS HEIGHTS, CALIFORNIA 95610**

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1.0 INTRODUCTION

GHH Engineering, Inc. (GHH) is currently providing USA Gasoline Corporation (USA) professional environmental services to conduct groundwater monitoring at their former station #57 located at 10700 MacArthur Boulevard, Oakland, California, as shown on Figure 1. Mr. Srikanth Dasappa of USA has authorized GHH to prepare this "Second Quarter, 1998, Groundwater Monitoring Report" (QMR) for the site. Investigations and ongoing monitoring and sampling activities conducted at the site are under the direction of the Alameda County Health Care Services Agency (County).

2.0 BACKGROUND AND SITE HISTORY

2.1 Site Description

The site was formerly a retail service station, which dispensed gasoline and diesel from four underground storage tanks (USTs) located on the southern portion of the site, as shown on Figures 2 and 3. The buildings have been demolished and the property restored to grade. The property is presently enclosed in a fenced compound within the Foothill Square Shopping Center parking lot.

The site is located at the southeast corner of the shopping center, which is bounded by 106th Avenue to the north, Foothill Boulevard to the east, 108th Avenue to the south, and MacArthur Boulevard to the west within the City of Oakland. The property immediately surrounding the site is part of the asphalt parking area for the shopping center. Residential properties are present across 108th Avenue to the south of the site. East of the site beyond Foothill Boulevard is Highway 580, a multi-lane freeway.

On July 19, 1994, three 12,000-gallon gasoline tanks and one 8,000-gallon diesel tank were excavated and removed from the site. Assessment and remediation activities have occurred at the site from July, 1994 to the present. **Approximately 775 cubic yards of soil were excavated from the site during tank removal and over-excavation efforts in 1994.** This soil was removed from the vicinities of the former UST tanks and the fuel distribution lines.

Sixteen soil borings were drilled and sampled at the site, and eight were completed as groundwater monitoring wells. The following reports describe the assessment and remediation efforts at the site.

- Preliminary Site Assessment Investigation, dated March 13, 1987, Pacific Environmental Group
- UST's Removal Soil Sampling and Over-Excavation, dated October 6, 1994, Western Geo-Engineers
- Supplementary Site Assessment Report, dated April 24, 1995, Alton Geoscience
- Supplementary Site Assessment Report, dated February 26, 1996, Alton Geoscience

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2.2 Regional Geology

The site is located in the East Bay Plain in the eastern part of the San Francisco Bay area. Much of the East Bay Plain is underlain by the Temescal formation and the Alameda formation, which are of Pleistocene age (DWR, 1975). The Temescal formation consists of interfingering layers of clayey gravel, sandy silt clay, and various clay silt sand mixtures. The formation thickness varies with a maximum depth of approximately 60-feet. Underlying the Temescal formation is the Alameda formation, which consists of unconsolidated continental and marine gravels, sands, silts, and clays, with some shells and organic material in places (Radbruch, 1957). These formations thin to the east, where they pinch out against the Berkeley Hills in the vicinity of the site.

2.3 Local Geology

The site is located in Oakland, California, at an elevation of approximately 80-feet above mean sea level (National Geodetic Vertical Datum, 1929). The site is near the eastern edge of the East Bay Plain and the Berkeley Hills rise abruptly east of the site. The ground surface at the site slopes to the southwest. The underlying geologic formations thin to the east in the East Bay Plain and are very thin in the vicinity of the site. Bedrock, which makes up the Berkeley Hills is present at shallow depths beneath the site and outcrops can be seen to the east of the site. This bedrock was encountered during the prior site assessment and remediation activities.

2.4 Regional Hydrogeology

The site is located in the East Bay Plain Groundwater Area, a subarea of the Santa Clara Valley Basin. Groundwater occurs in unconsolidated Quaternary alluvium, including the Alameda formation (DWR, 1975). Most water used in the area is imported from other areas of the state by the East Bay Municipal Utilities District. Scattered wells supply individual dwellings and a few commercial and industrial developments (DWR, 1975). No water wells have been identified within 250-feet of the site. Groundwater flows in a generally westerly direction toward San Francisco Bay.

2.5 Local Hydrogeology

Groundwater is present in the bedrock beneath the site. The earlier assessment work documents that bedrock consisting of sandstone and silt stone was found as shallow as 13-feet beneath ground surface beneath the site. Groundwater was first encountered at 40-feet bgs while drilling MW-3, with the groundwater level stabilizing at about 13-feet bgs.

Soil was removed to a depth of approximately 20-feet bgs. During the over-excavation activities no groundwater was encountered. It is expected that the bedrock surface may control the presence and movement of the shallow groundwater in the alluvial deposits beneath the site.

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The earlier reports indicate that groundwater was present in both the alluvial deposits and bedrock. Groundwater monitoring wells have been perforated in only the bedrock and in both the alluvium and bedrock. There appear to be different water levels or piezometric surfaces in the two lithologies. Groundwater flow was reported in 1995 to be in a north-northeasterly direction at a gradient of 0.015-feet per foot. In 1996, there was a perceived piezometric low in the vicinity of S-1, S-2 and MW-7. At this time the flow is to the south.

3.0 SCOPE OF WORK

The following is a brief summary of the scope of work performed by GHH, which included groundwater monitoring on April 28, 1998.

- Locate and measure depths to groundwater in monitoring wells S-1, S-2 and MW-3 through MW-8.
- Purge a minimum of three equivalent well volumes of groundwater from each of the sampled wells, while monitoring pH, temperature and conductivity.
- Collect groundwater samples from the purged monitoring wells.
- Analyze water samples for TPH in the gasoline and diesel ranges (TPH G and TPH D), benzene, toluene, ethylbenzene and xylene (BTEX) and methyl-tert-butyl-ether (MTBE) using EPA Methods 8015 Modified and 8020, respectively.
- Prepare this QMR for submittal to USA and the County.

4.0 GROUNDWATER MONITORING

The following section discusses field protocol used during data collection for this QMR.

4.1 Groundwater Elevations

Prior to gauging depths to groundwater, the groundwater monitoring wells were checked for the presence of free phase floating hydrocarbon compounds using an interface probe. No free product was present. Depths to groundwater measurements were then taken from each well from surveyed marks on the casing using an electric water level sensor or interface probe.

Calculated groundwater elevations are summarized in Table 1. The field data sheets are included in Appendix A.

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4.2 Monitoring Well Purging

The monitoring wells were purged using an above ground Honda pump, until a minimum of three equivalent well volumes of water were removed from each well. Three well volumes could not be recovered from wells S-1, S-2, and MW-3 prior to sampling. These wells were purged dry and sampled after recharge. Groundwater purged from the wells was placed into Department of Transportation (DOT) approved 55-gallon drums and stored on-site prior to disposal by USA.

Prior to each use, all purging and sampling equipment was washed in a trisodium phosphate solution and rinsed in potable water to reduce the potential for cross-contamination between wells. During the groundwater purging operations pH, temperature and conductivity were monitored and recorded on field data sheets, which are included in Appendix A. Groundwater purging was discontinued when the physical parameters stabilized in the purged groundwater.

4.3 Groundwater Sampling

Prior to sampling, the wells were allowed to recharge to a minimum of 80 percent of their initial static water levels. Groundwater samples were then collected from each well using a new disposable bailer. The samples were placed into the appropriate laboratory prepared containers, using proper sample handling and chain-of-custody (COC) protocol established by the USEPA. The samples were labeled with the date, time, identifying well number, stored in a cooler at 4° Centigrade or less, and transported to a state certified laboratory under completed COC documentation.

4.4 Groundwater Analyses

Groundwater samples were analyzed for TPH G, TPH D, BTEX, and MTBE using EPA Methods 8015 Modified and 8020, respectively. The analyses were conducted by Sierra Laboratories (Sierra), a California State certified laboratory in accordance with state guidelines and EPA protocol.

5.0 SUMMARY AND CONCLUSIONS

The following sections discuss findings from the groundwater gauging and sampling activities conducted on April 28, 1998.

5.1 Groundwater Conditions

Groundwater data collected at the site on April 28, 1998 indicate that the depths to groundwater ranged from 5.88 to 10.78-feet bgs. The groundwater elevations ranged from 69.16 to 71.07-feet above mean sea level (MSL).

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JULY, 1998**

The groundwater elevations across the site have increased between 1.17-feet in MW-4 and 8.89-feet in MW-7. The groundwater is flowing in a southerly direction at an approximate gradient of 0.004-feet/feet. Groundwater elevations are shown on Figure 4.

Monitoring wells S-1, MW-6 and MW-7 are completed in the underlying bedrock, while wells MW-4 and MW-5 are in the overburden above the bedrock. Complicating the site hydrology further is the presence of a gravel zone in well MW-4, which is not present in the other shallower well. The variable water levels shown on the hydrograph (Figure 5) measured in the wells may be the result of different well responses to the changing water levels in the aquifer. Continued monitoring of these wells may provide some clarification of the site hydrology.

5.2 Results of Groundwater Laboratory Analyses

The April 28, 1998 analytical results reported TPH G in three of the eight monitoring wells sampled (S-1, S-2 and MW-3). Concentrations of TPH G for this sampling event ranged from 130 micrograms per liter ($\mu\text{g/l}$) in S-1 to 22,000 $\mu\text{g/l}$ in S-2. TPH G was non-detect (ND) at the method detection limit in monitoring wells MW-4, MW-5, MW-6, MW-7, and MW-8. TPH D was ND at the method detection limit in monitoring wells S-2 and MW-4 through MW-8. TPH D was present in S-1 and MW-3 at 7,300 $\mu\text{g/l}$, and 1,000 $\mu\text{g/l}$, respectively. Benzene was ND in all wells, except S-1, S-2 and MW-3 where it was reported at 1.9, 980 and 82 $\mu\text{g/l}$, respectively. MTBE ranged from ND in wells MW-4, MW-5, MW-6 and MW-8 to 570 $\mu\text{g/l}$ in S-2. Analytical results are summarized in Table 2, and shown on Figure 6. Copies of laboratory reports and COC documentation are included in Appendix B.

At this time, it is GHH's opinion that monitoring should be continued at this site.

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GROUNDWATER MONITORING REPORT
USA STATION #57, OAKLAND
JULY, 1998

6.0 PREPARATION OF REPORT

Firm Preparing Report

GHH Engineering, Inc.
8084 Old Auburn Road, Suite E
Citrus Heights, California 95610


Report Prepared by:


This report was prepared by GHH Engineering, Inc. Mr. Richard J. Zipp, Hydrogeologist, is the qualified person responsible for overseeing this project. This report was written by Ms. Kathleen A. Waldo, Staff Engineer, and reviewed for technical content by Mr. Vern A. Bennett, Project Manager, and Mr. Zipp.

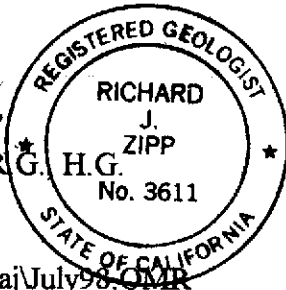
The analyses, conclusions and recommendations submitted in this report are based upon the best available information obtained from the field investigation, persons knowledgeable about the site, and local government agencies. However, the regulatory agencies may have additional recommendations after they have reviewed and evaluated the data. This report was prepared to assist USA in the evaluation of the site.

This report has been reviewed by the client and they are responsible for the findings herein. If you have any questions or need additional information please call the undersigned at (916) 723-1776.

Thank You,

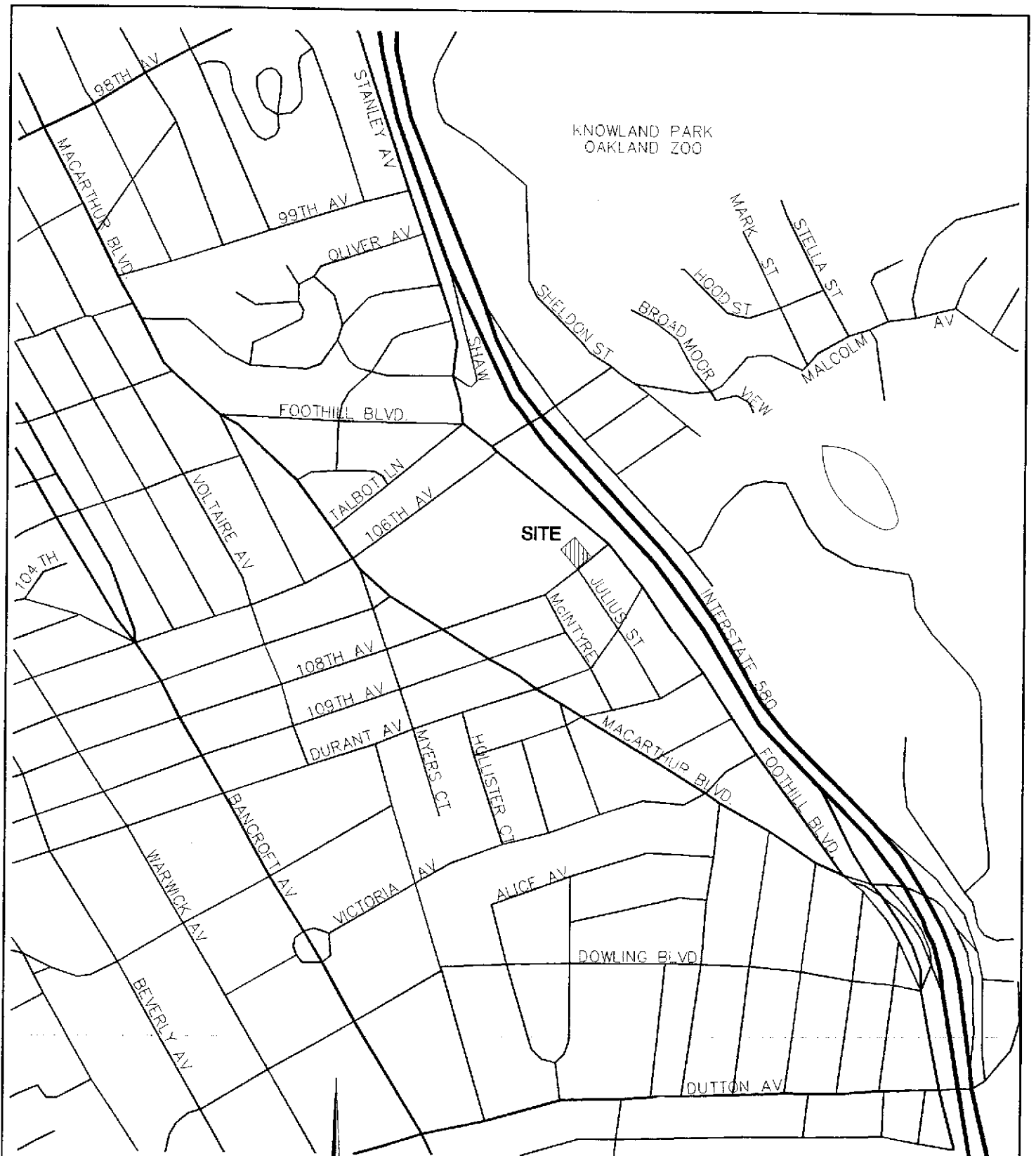

Vern A. Bennett
Project Manager


Richard J. Zipp, R.G.
Hydrogeologist



Srikanth Dasappa Date
USA Gasoline Corporation

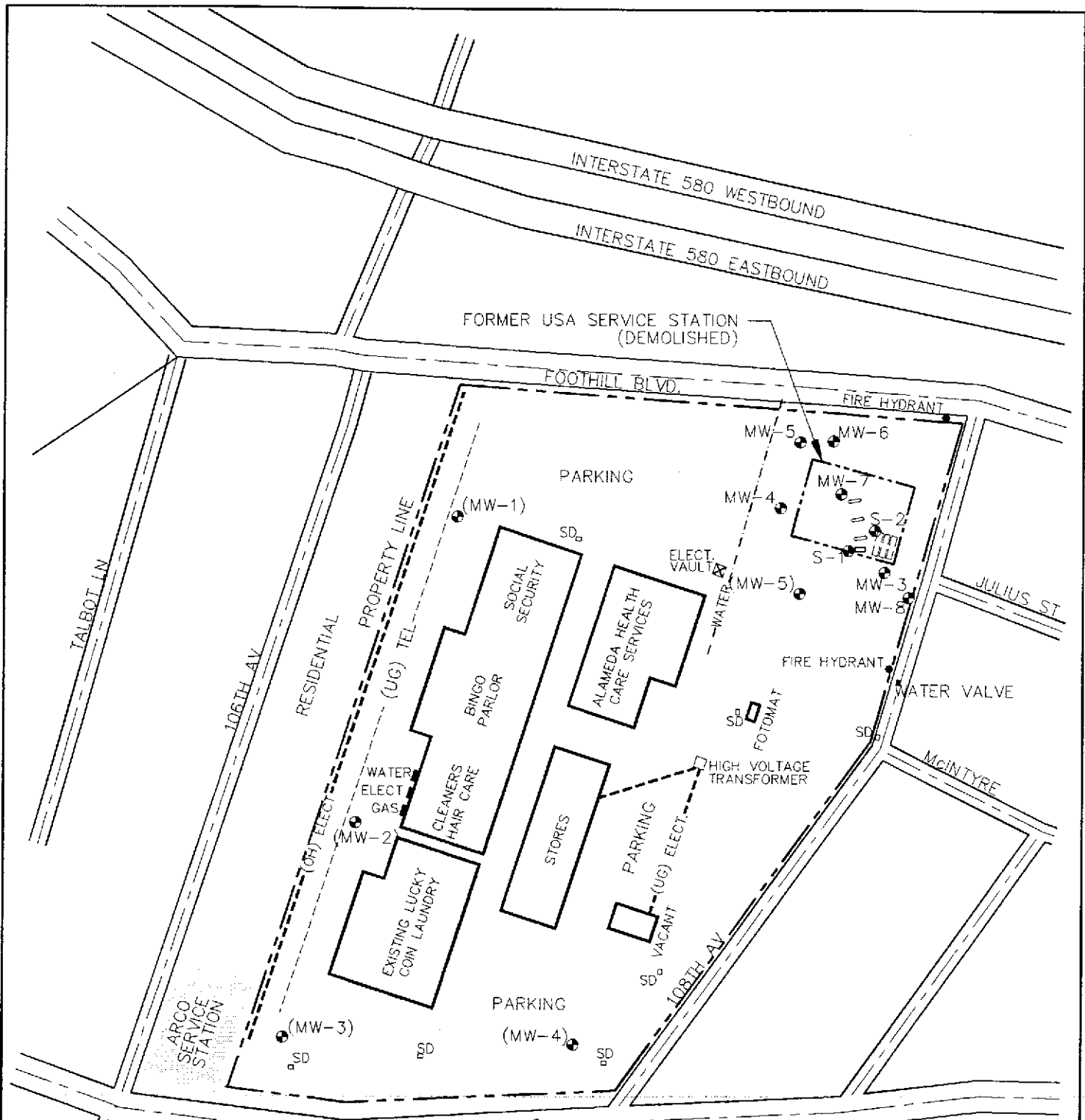
F:\5090.11\KW\naj\July98.QMR



APPROX. SCALE: 1" = 800'

USA GASOLINE STATION #57
 10700 MACARTHUR BLVD.
 OAKLAND, CALIFORNIA
 SITE LOCATION MAP

GHH ENGINEERING, INC. 8084 Old Auburn Rd. Citrus Heights, CA 95610 (916) 723-7645	INITIAL
	M.A.R.
	DATE
	5/26/98
JOB #	
5090	
FIG. #	
1	



FORMER USA SERVICE STATION
(DEMOLISHED)

APPROXIMATE
SCALE: 1" = 200'

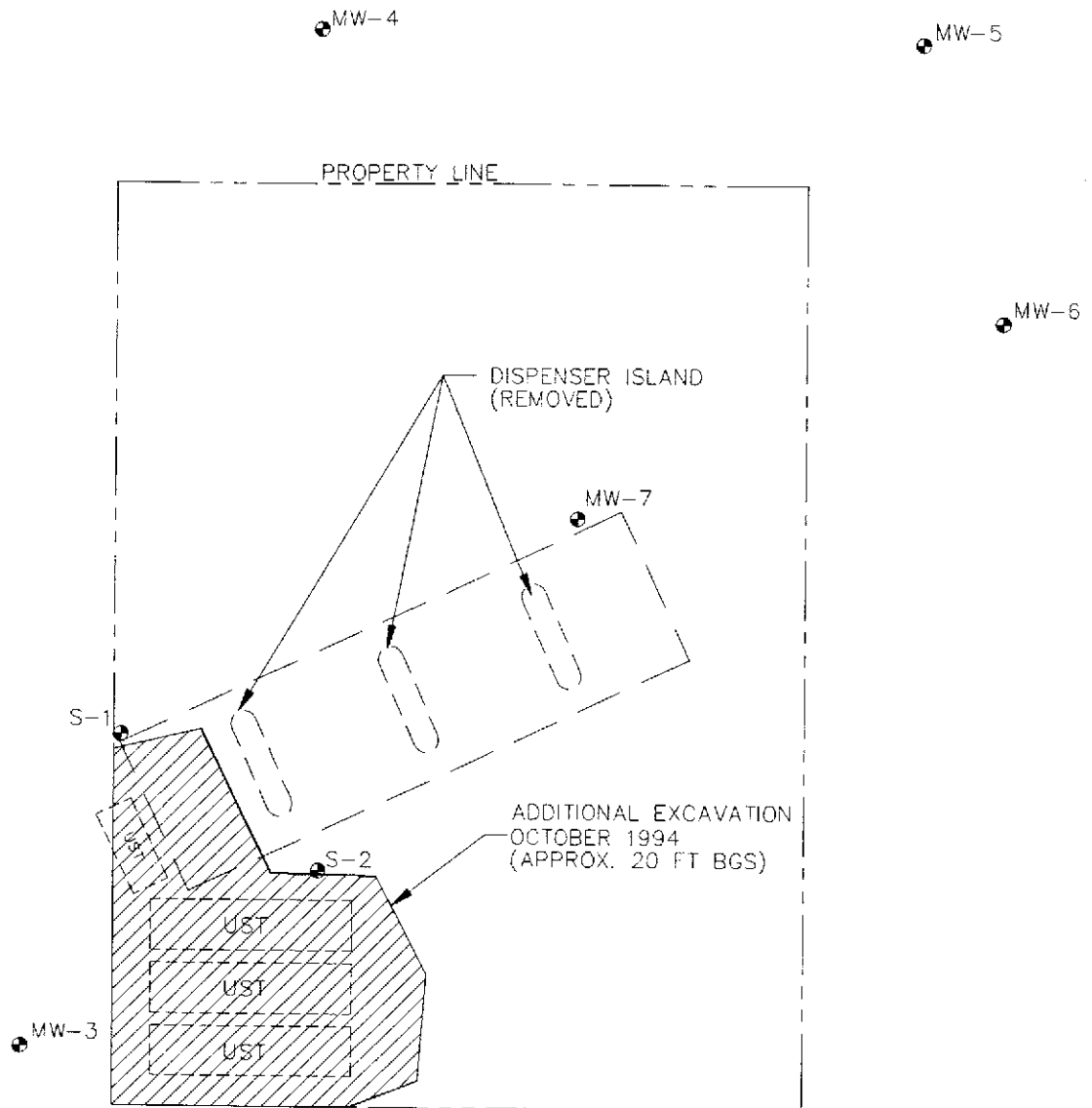
- MONITORING WELL LOCATION
- () PROBABLE ARCO INVESTIGATION, KALDVEER ASSOCIATES
- SD - STORM DRAIN INLET

USA GASOLINE STATION #57
OAKLAND, CALIFORNIA
AREA MAP

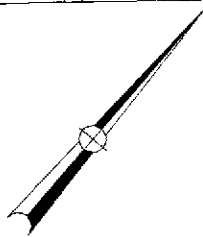
GHH

ENGINEERING, INC.
8084 Old Auburn Rd.
Citrus Heights, CA 95610
(916) 723-7645

INITIAL	M.A.R.
DATE	5/26/98
JOB #	5090
FIG. #	2



108TH AVENUE



SCALE: 1" = 30'

● MONITORING WELL LOCATION

USA GASOLINE STATION #57
 OAKLAND, CALIFORNIA
 SITE PLAN

GHH

ENGINEERING, INC.
 8084 Old Auburn Rd.
 Citrus Heights, CA 95610
 (916) 723-7645

INITIAL	M. A. R.
DATE	5/26/98
JOB #	5090
FIG. #	3

MW-4
70.54'

MW-5
71.07'

PROPERTY LINE

MW-6
70.86'

70.64'
MW-7

S-1
70.31'

S-2
70.46'

MW-3
69.81'

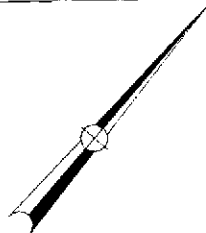
70.50'

MW-8
69.16'

69.50'

70.00'

108TH AVENUE



SCALE: 1" = 30'

● MONITORING WELL LOCATION

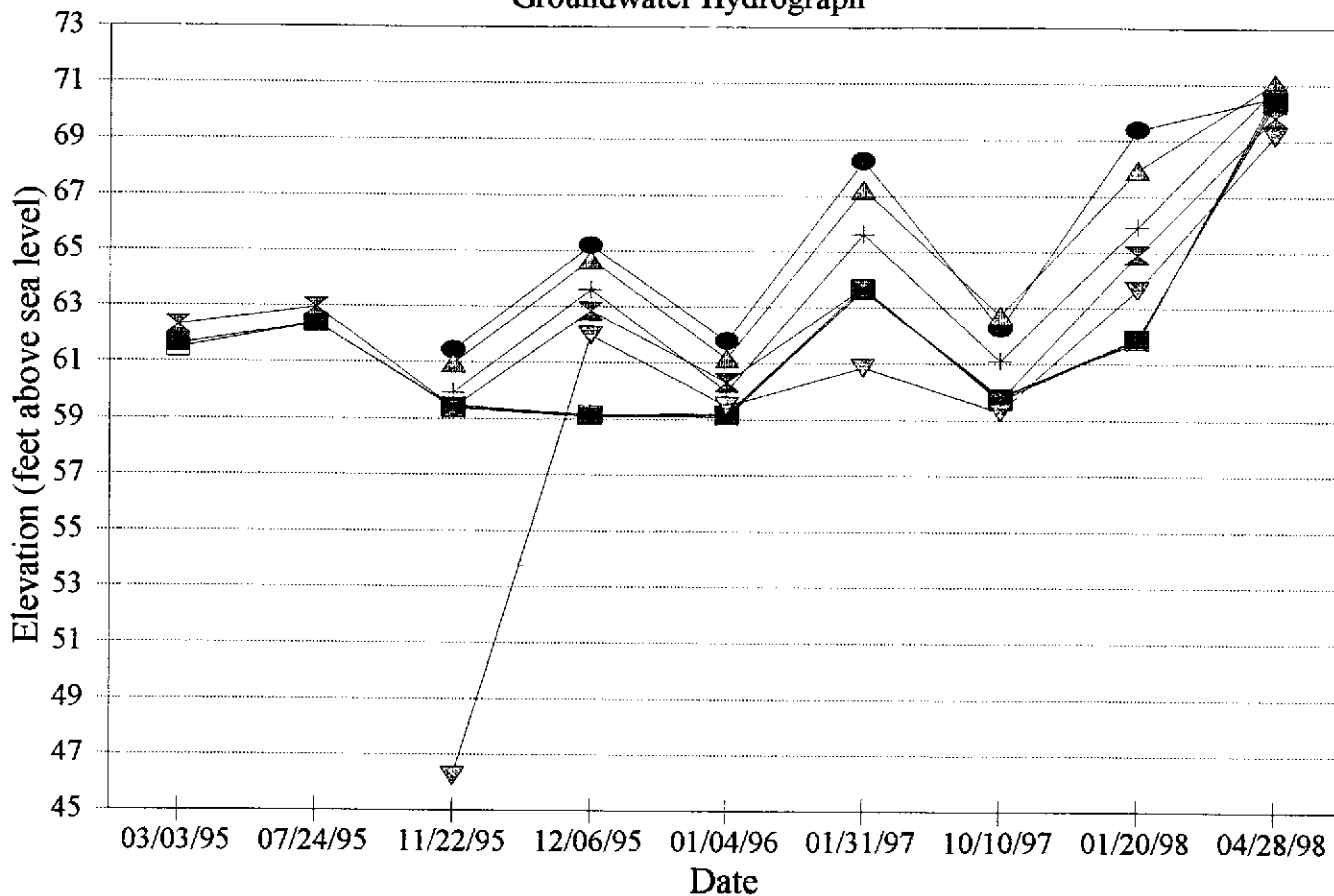
USA GASOLINE STATION #57
OAKLAND, CALIFORNIA
GROUNDWATER ELEVATION MAP
APRIL 28, 1995

GWH

ENGINEERING, INC.
8084 Old Auburn Rd.
Citrus Heights, CA 95610
(916) 723-7645

INITIAL	M.A.R.
DATE	7/14/98
JOB #	5090
FIG. #	4

USA # 57 - OAKLAND Groundwater Hydrograph



S-1
 S-2
 MW-3
 MW-4
 MW-5
 MW-6
 MW-7
 MW-8

USA GASOLINE STATION #57
 OAKLAND, CALIFORNIA
 GROUNDWATER HYDROGRAPH



ENGINEERING, INC.
 8084 Old Auburn Rd.
 Citrus Heights, CA 95610
 (916) 723-7645

INITIAL	M.A.R.
DATE	5/26/98
JOB #	5090
FIG. #	5

TPHG	ND
TPHD	ND
BENZENE	ND
TOLUENE	ND
ETHYLBENZENE	ND
XYLENE	ND
MTBE	ND

TPHG	ND
TPHD	ND
BENZENE	ND
TOLUENE	ND
ETHYLBENZENE	ND
XYLENE	ND
MTBE	ND

MW-4

MW-5

PROPERTY LINE

TPHG	ND
TPHD	ND
BENZENE	ND
TOLUENE	ND
ETHYLBENZENE	ND
XYLENE	ND
MTBE	9.3ug/l

MW-6

TPHG	ND
TPHD	ND
BENZENE	ND
TOLUENE	ND
ETHYLBENZENE	ND
XYLENE	ND
MTBE	ND

TPHG	130ug/l
TPHD	7,300ug/l
BENZENE	1.9ug/l
TOLUENE	3.2ug/l
ETHYLBENZENE	ND
XYLENE	ND
MTBE	310ug/l

MW-7

S-1

TPHG	800ug/L
TPHD	1,000ug/L
BENZENE	82ug/l
TOLUENE	5.2ug/l
ETHYLBENZENE	5.7ug/l
XYLENE	5.4ug/l
MTBE	240ug/l

MW-3

TPHG	22,000ug/l
TPHD	ND
BENZENE	980ug/l
TOLUENE	160ug/l
ETHYLBENZENE	320ug/l
XYLENE	680ug/l
MTBE	570ug/l

S-2

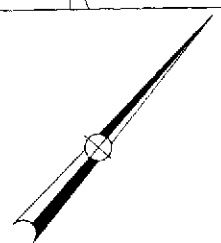
MW-8

TPHG	ND
TPHD	ND
BENZENE	ND
TOLUENE	ND
ETHYLBENZENE	ND
XYLENE	ND
MTBE	ND

108TH AVENUE

SAMPLING LEGEND

SAMPLED: OCTOBER 10, 1997
 ND -NOT DETECTED AT THE
 METHOD DETECTION LIMIT



SCALE: 1" = 30'

● MONITORING WELL LOCATION

USA GASOLINE STATION #57
 OAKLAND, CALIFORNIA
 TPHG, TPHD, BTEX & MTBE
 CONCENTRATIONS IN GROUNDWATER



ENGINEERING, INC.
 8084 Old Auburn Rd.
 Citrus Heights, CA 95610
 (916) 723-7645

INITIAL	M.A.R.
DATE	5/26/98
JOB #	5090
FIG. #	6

TABLE 1

**GROUNDWATER ELEVATION DATA
FORMER USA STATION #57
10700 MacARTHUR BOULEVARD
OAKLAND, CALIFORNIA**

Well ID	Date of Measurement	Elevation Top of Casing (feet)	Depth to Groundwater	Elevation of Groundwater (feet MSL)	Product Thickness (feet)
S-1	03/03/95	74.74	13.10	61.64	0.00
	07/24/95		12.35	62.39	0.00
	11/22/95	78.68	19.30	59.38	0.00
	12/06/95		19.59	59.09	0.00
	01/04/96		19.52	59.16	0.00
	01/31/97		15.07	63.61	0.00
	10/10/97		18.90	59.78	0.00
	01/20/98		16.79	61.89	0.00
	04/28/98		8.37	70.31	0.00
S-2	03/03/95	76.86	15.39	61.47	0.00
	07/24/95		14.47	62.39	0.00
	11/22/95	80.93	21.52	59.41	trace
	12/06/95		21.78	59.15	0.00
	01/04/96		21.75	59.18	0.00
	01/31/97		17.25	63.68	trace
	10/10/97		21.21	59.72	trace
	01/20/98		19.07	61.86	0.00
	04/28/98		10.47	70.46	0.00
MW-3	03/03/95	76.30	13.99	62.31	0.00
	07/24/95		13.33	62.97	0.00
	11/22/95	80.32	20.94	59.38	0.00
	12/06/95		17.48	62.84	0.00
	01/04/96		20.01	60.31	0.00
	01/31/97		16.63	63.69	0.00
	10/10/97		20.62	59.70	0.00
	01/20/98		15.40	64.92	0.00
	04/28/98		10.51	69.81	0.00
MW-4	11/22/95	76.42	14.99	61.43	0.00
	12/06/95		11.21	65.21	0.00
	01/04/96		14.62	61.80	0.00
	01/31/97		8.18	68.24	0.00
	10/10/97		14.14	62.28	0.00
	01/20/98		7.05	69.37	0.00
	04/28/98		5.88	70.54	0.00

MSL

Mean sea level

TABLE 1 (Continued)

**GROUNDWATER ELEVATION DATA
FORMER USA STATION #57
10700 MacARTHUR BOULEVARD
OAKLAND, CALIFORNIA**

Well ID	Date of Measurement	Elevation Top of Casing (feet)	Depth to Groundwater	Elevation of Groundwater (feet MSL)	Product Thickness (feet)
MW-5	11/22/95	80.52	19.56	60.96	0.00
	12/06/95		15.84	64.68	0.00
	01/04/96		19.36	61.16	0.00
	01/31/97		13.31	67.21	0.00
	10/10/97		17.80	62.72	0.00
	01/20/98		12.58	67.94	0.00
	04/28/98		9.45	71.07	0.00
MW-6	11/22/95	81.64	21.73	59.91	0.00
	12/06/95		18.03	63.61	0.00
	01/04/96		21.67	59.97	0.00
	01/31/97		16.01	65.63	0.00
	10/10/97		20.55	61.09	0.00
	01/20/98		15.74	65.90	0.00
	04/28/98		10.78	70.86	0.00
MW-7	11/22/95	78.86	19.38	59.48	0.00
	12/06/95		19.72	59.14	0.00
	01/04/96		19.76	59.10	0.00
	01/31/97		15.25	63.61	0.00
	10/10/97		19.03	59.83	0.00
	01/20/98		17.11	61.75	0.00
	04/28/98		8.22	70.64	0.00
MW-8	11/22/95	79.55	33.33	46.22	0.00
	12/06/95		17.57	61.98	0.00
	01/04/96		20.08	59.47	0.00
	01/31/97		18.72	60.83	0.00
	10/10/97		20.26	59.29	0.00
	01/20/98		15.91	63.64	0.00
	04/28/98		10.39	69.16	0.00

MSL

Mean sea level

TABLE 2

**GROUNDWATER ANALYTICAL DATA
FORMER USA STATION #57
10700 MacARTHUR BOULEVARD
OAKLAND, CALIFORNIA**

Well ID	Date Sampled	TPH G (ug/l)	TPH D (ug/l)	Benzene (ug/l)	Toluene (ug/l)	Ethyl- benzene (ug/l)	Total Xylene (ug/l)	MEBE 8020 (ug/l)
S-1	12/17/87	-	-	630	4.4	3.5	37	-
	01/27/94	6,900	ND(50)	880	ND(15)	ND(15)	ND(15)	-
	03/03/95	910	5,900	260	7.6	16	14	-
	07/24/95	-	-	-	-	-	-	-
	11/22/95	460	6,100	13	0.69	0.99	1.1	460
	12/06/95	-	-	-	-	-	-	-
	01/04/96	-	-	-	-	-	-	-
	01/31/97	1,100	200*	11	6	3	6	200
	10/10/97	530	2,000	ND(0.5)	2.1	ND(0.5)	ND(2)	230
	01/20/98	1,800	200	ND(0.5)	ND(0.5)	1.5	10	87
04/28/98	130	7,300	1.9	3.2	ND(0.5)	ND(0.5)	310	
S-2	12/17/87	-	-	3,400	3,800	1,300	11,000	-
	01/27/94	15,000	ND(50)	660	230	470	1,600	-
	03/03/95	24,000	6,000	1,900	440	600	2,500	-
	07/24/95	-	-	-	-	-	-	-
	11/22/95	-	-	-	-	-	-	-
	12/06/95	-	-	-	-	-	-	-
	01/04/96	-	-	-	-	-	-	-
	01/31/97	-	-	-	-	-	-	-
	10/10/97	13,000	ND(50)	260	38	190	280	600
	01/20/98	1,900	2,300	4.6	6.3	ND(0.5)	4.6	190
04/28/98	22,000	ND(100)	980	160	320	680	570	
MW-3	03/03/95	2,500	1,600	540	92	36	200	-
	07/24/95	-	-	-	-	-	-	-
	11/22/95	14,000	5,400	5,700	230	430	650	820
	12/06/95	-	-	-	-	-	-	-
	01/04/96	-	-	-	-	-	-	-
	01/31/97	1,100	ND(50)	130	8	5	5	-
	10/10/97	3,400	1,100	830	4	100	ND(10)	160
	01/20/98	3,900	550	7.9	4.1	ND(0.5)	3.7	ND(5.0)
04/28/98	800	1,000	82	5.2	5.7	5.4	240	
MW-4	11/22/95	ND(50)	200	ND(0.5)	1.5	ND(0.5)	1.7	6.4
	12/06/95	-	-	-	-	-	-	-
	01/04/96	-	-	-	-	-	-	-
	01/31/97	ND(50)	ND(50)	ND(0.5)	2	ND(0.5)	2	11
	10/10/97	ND(50)	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(2)	ND(5.0)
	01/20/98	ND(50)	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5.0)
	04/28/98	ND(50)	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5.0)

TABLE 2 (Continued)

**GROUNDWATER ANALYTICAL DATA
FORMER USA STATION #57
10700 MacARTHUR BOULEVARD
OAKLAND, CALIFORNIA**

Well ID	Date Sampled	TPH G (ug/l)	TPH D (ug/l)	Benzene (ug/l)	Toluene (ug/l)	Ethyl- benzene (ug/l)	Total Xylene (ug/l)	MTBE 8020 (ug/l)
MW-5	11/22/95	ND(50)	280	ND(0.5)	1.8	ND(0.5)	3	2.2
	12/06/95	-	-	-	-	-	-	-
	01/04/96	-	-	-	-	-	-	-
	01/31/97	80	ND(50)	ND(0.5)	0.6	ND(0.5)	2	6
	10/10/97	ND(50)	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(2)	ND(5)
	01/20/98	ND(50)	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5.0)
	04/28/98	ND(50)	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5.0)
MW-6	11/22/95	ND(50)	140	ND(0.5)	1.2	ND(0.5)	1.5	5.3
	12/06/95	-	-	-	-	-	-	-
	01/04/96	-	-	-	-	-	-	-
	01/31/97	70	ND(50)	ND(0.5)	2	ND(0.5)	ND(1)	5
	10/10/97	80	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(2)	ND(5)
	01/20/98	ND(50)	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5.0)
	04/28/98	ND(50)	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5.0)
MW-7	11/22/95	ND(50)	180	ND(0.5)	0.57	ND(0.5)	0.62	0.73
	12/06/95	-	-	-	-	-	-	-
	01/04/96	-	-	-	-	-	-	-
	01/31/97	70	ND(50)	0.7	1	ND(0.5)	ND(1)	8
	10/10/97	ND(50)	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(2)	15
	01/20/98	ND(50)	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5.0)
	04/28/98	ND(50)	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	9.3
MW-8	11/22/95	ND(50)	360	ND(0.5)	1.3	ND(0.5)	2.1	2.1
	12/06/95	-	-	-	-	-	-	-
	01/04/96	-	-	-	-	-	-	-
	01/31/97	80	ND(50)	0.6	1	ND(0.5)	1	8
	10/10/97	50	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(2)	ND(5)
	01/20/98	ND(50)	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5.0)
	04/28/98	ND(50)	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5.0)

TPH G Total petroleum hydrocarbons in the gasoline range
 TPH D Total petroleum hydrocarbons in the diesel range
 ug/l Micrograms per liter
 MTBE Methyl-tert-butyl-ether
 ND Not detected at the method detection limit
 - Not measured/not analyzed
 * Laboratory indicates the chromatogram does not match the diesel hydrocarbon range pattern

Note: MTBE was confirmed on 01/31/97 with EPA Method 8260 in MW-3 at a concentration of 180 ug/l

APPENDIX A
FIELD DATA SHEETS

HYDRODATA

DATE: 4/28/98

PROJECT: USA - OAKLAND EVENT: ORTLY SAMPLER: CL

NO	WELL OR LOCATION	DATE			TIME		MEASUREMENT PROD/H2O	CODE	COMMENTS
		MO	DA	YR	HR	MIN			
1	NW-4	4	28	98			5.88	SWL	
2	NW-5						9.45		
3	NW-6						10.78		
4	NW-7						8.22		
5	NW-8						10.39		
6	NW-3						10.51		
7	S-1						8.37		
8	S-2						10.47	✓	
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									

CODE

- | | | |
|------|--|----------------------|
| *SWL | - Static water level (feet) | HRS - Total (Hours) |
| *IWL | - Instant Water Level; Non Static (feet) | PSI - Pressure (psi) |
| *OIL | - Oil Level (feet) | VAC - Vacuum |
| *OWI | - Oil/Water Interface (feet) | pH - 1 to 14 |
| *MTD | - Measured Total Depth (feet) | Ec - Conductivity |
| FLO | - Flow Rate (Gallons/Minutes) | TMP - Temperature |
| CUM | - Cumulative (Gallons) | TRB - Turbidity |

* All levels are depth from inner casing - describe any other reference points in comments column
 Note in comments column if well is not: properly labeled, locked, or able to be locked. Describe corrective action.
 Note flooding of vault box, odor, access problems.



WELL DEVELOPMENT/SAMPLING DOCUMENTATION FORM

Project Name USA-OWLAND Job # 6090,09 Well # MW-4
 Date 4/28/98 Sample ID MW-4

Sampling Team CE
 Purpose of Sampling: Initial Quarterly Verification Other: _____
 Weather Conditions _____

GROUNDWATER LEVEL/CASING VOLUME

Description	Time	Depth (TOC to GW)	Total Depth	Feet of Water	Conversion Factor (ft to gals)	Casing Volume (gallons)
Initial		5.88	42.45	36.57	.65	23
After Development/ Purging	1117	30.99				
At Time of Sampling	1426	6.32	13.1 → 80%			
						Three Casing Volumes <u>69</u> Gals
						Ten Casing Volumes _____ Gals

WELL DEVELOPMENT/PURGING

Equipment: Submersible Pump Bailer Sandpiper Other: _____
 Method: 2" Redflo
 Decontamination Method: TOP RINSE
 Water Containment: Drums Baker Tank Treatment System Other: _____
 Labeled: PURGE WATER

Start Time	Volume Water Extracted	Temperature (°F/C)	EC (umhos)	pH	Observations (Color, Turbidity, Oils, Odor)
1045	0	22.4	2.7	6.69	
1055	23	22.8	-3.2	7.00	
1105	46	23.0	-8.8	7.13	
1115	69	23.1	-9.6	7.13	

MW - is this Eh

SAMPLE INFORMATION

Lab: SIERRA
 Sampling Containers/No. of Containers: 1FH-D
 1 Liter Amber 40 ml VOA Other: _____
 Preservation: Ice Other: _____
 Ice Other: HCL
 Ice Other: _____
 Device: Bailer, Disposable Other: _____
 Pertinent Field Observations: _____
 Deviations From Standard Sampling Protocol: _____



8084 Old Auburn Rd., Suite E, Citrus Heights, CA 95610

WELL DEVELOPMENT/SAMPLING DOCUMENTATION FORM

Project Name: USA OAKLAND Job #: 5090.09 Well #: NW-5

Date: 4/28/98 Sample ID: NW-5

Sampling Team: _____

Purpose of Sampling: Initial Quarterly Verification Other: _____

Weather Conditions: _____

GROUNDWATER LEVEL/CASING VOLUME

Description	Time	Depth (TOC to GW)	Total Depth	Feet of Water	Conversion Factor (ft to gals)	Casing Volume (gallons)
Initial		9.45	37.60	28.15	1.65	18.5
After Development/Purging	1145	29.90				
At Time of Sampling	1428	9.46				
80% → 15,000						Three Casing Volumes: <u>56.5</u> Gals
						Ten Casing Volumes: _____ Gals

WELL DEVELOPMENT/PURGING

Equipment: Submersible Pump Bailer Sandpiper Other: _____

Method: 2" Bore Ho Description: _____

Decontamination Method: TSP / DIASEK Description: _____

Water Containment: Drums Baker Tank Treatment System Other: _____

Labeled: PURGE WATER

Start Time	Volume Water Extracted	Temperature °F/C	MW		Observations (Color, Turbidity, Oils, Odor)
			EC (umhos)	pH	
1122	0	21.9	-250.6	10.44	* Heavy PAH
1129	18.5	21.9	-216.5	10.55	
1136	37	21.9	-252.7	10.43	
1143	55.5	22.1	-225.6	10.01	

SAMPLE INFORMATION

Lab: S. 622A

Sampling Containers/No. of Containers: _____ Preservation: Ice Other Ice Other HU

Device: Bailer, Disposable Other _____

Pertinent Field Observations: _____

Deviations From Standard Sampling Protocol: _____



WELL DEVELOPMENT/SAMPLING DOCUMENTATION FORM

Project Name USA OAKLAND
Date 4/20/98

Job # 5090.09 Well # NW-6
Sample ID NW-6

Sampling Team _____

Purpose of Sampling: Initial Quarterly Verification Other: _____

Weather Conditions _____

GROUNDWATER LEVEL/CASING VOLUME

Description	Time	Depth (TOC to GW)	Total Depth	Feet of Water	Conversion Factor (ft to gals)	Casing Volume (gallons)
Initial		10.78	42.00	31.22	.65	20.5
After Development/ Purging	1235	3.17				
At Time of Sampling	1430	10.79				

Three Casing Volumes 66.5 Gals
Ten Casing Volumes _____ Gals

77.0 → 80%

WELL DEVELOPMENT/PURGING

Equipment: Submersible Pump Bailer Sandpiper Other: _____

Method: 2" Bore Ho Description _____

Decontamination Method: ISP Rinse Description _____

Water Containment: Drums Baker Tank Treatment System Other: _____

Labeled: PURGE WATER

Start Time	Volume Water Extracted	Temperature °F/C	EC (umhos)	pH	Observations (Color, Turbidity, Oils, Odor)
1211	0	29.9	-131.1	8.80	
1216	20.5	20.4	-56.8	7.84	
1223	40.	20.1	-50.2	7.69	
1230	66.5	20.5	-31.4	7.45	

SAMPLE INFORMATION

Lab: 1522A

Sampling Containers/No. of Containers
 1 Liter Amber 1 pH - 1
 40 ml VOA 1 pH - 1 + 1 PEX, 1 MIX
 Other _____

Preservation
 Ice Other
 Ice Other FL
 Ice Other

Device: Bailer, Disposable Other _____

Pertinent Field Observations: _____

Deviations From Standard Sampling Protocol: _____



WELL DEVELOPMENT/SAMPLING DOCUMENTATION FORM

Project Name USA-DALLAND Job # S090,09 Well # NW-7
 Date 4/28/98 Sample ID NW-7
 Sampling Team CL
 Purpose of Sampling: Initial Quarterly Verification Other: _____
 Weather Conditions _____

GROUNDWATER LEVEL/CASING VOLUME

Description	Time	Depth (TOC to GW)	Total Depth	Feet of Water	Conversion Factor (ft to gals)	Casing Volume (gallons)
Initial		8.22	41.85	33.63	1.65	22
After Development/ Purging	1311	28.72				
Start Time of Sampling	1510	8.28		14.90 → 80%		

Three Casing Volumes 660 Gals
 Ten Casing Volumes _____ Gals

WELL DEVELOPMENT/PURGING

Equipment: Submersible Pump Bailer Sandpiper Other: _____
 Method: 2" RED FLO Description _____
 Decontamination Method: TSP/RINSE Description _____
 Water Containment: Drums Baker Tank Treatment System Other: _____
 Labeled: PURGE WATER

Start Time	Volume Water Extracted	Temperature °F/C	MV/EC (umhos)	pH	Observations (Color, Turbidity, Oils, Odor)
1245	0	20.9	30.6	7.42	
1253	22	20.6	27.7	7.37	
1301	44	20.7	27.0	7.37	
1309	66	21.0	23.2	7.32	

SAMPLE INFORMATION

Lab: SIERRA
 Sampling Containers/No. of Containers: 1PA-D
 1 Liter Amber 1PA-G + BTEX, NITR
 40 ml VOA _____
 Other _____
 Preservation: Ice Other _____
 Ice Other ALL
 Ice Other _____
 Device: Bailer, Disposable Other _____
 Pertinent Field Observations: _____
 Deviations From Standard Sampling Protocol: _____



WELL DEVELOPMENT/SAMPLING DOCUMENTATION FORM

Project Name: USA-CALIND Job #: 1090.09 Well #: MW-8
 Date: 4/28/98 Sample ID: MW-8

Sampling Team: _____

Purpose of Sampling: Initial Quarterly Verification Other: _____

Weather Conditions: _____

GROUNDWATER LEVEL/CASING VOLUME

Description	Time	Depth (TOC to GW)	Total Depth	Feet of Water	Conversion Factor (ft to gals)	Casing Volume (gallons)
Initial		10.99	37.70	27.91	1.65	18
After Development/ Purging	1348	30.23				
At Time of Sampling	1504	27.96		15.00 \leftrightarrow 80%		
Three Casing Volumes						54 Gals
Ten Casing Volumes						_____ Gals

WELL DEVELOPMENT/PURGING

Equipment: Submersible Pump Bailer Sandpiper Other: _____

Method: 2" Pipe to Description: _____

Decontamination Method: FP/DWSE Description: _____

Water Containment: Drums Baker Tank Treatment System Other: _____

Labeled: used water

Start Time	Volume Water Extracted	Temperature °C	EC (umhos)	pH	Observations (Color, Turbidity, Oils, Odor)
1329	0	22.9	2.2	6.69	
1333	18	20.7	-1.7	7.03	
1339	36	20.4	-1.8	7.02	
1346	54	22.2	-0.1	7.02	

SAMPLE INFORMATION

Lab: Subera

Sampling Containers/No. of Containers: 1 Ltr Amber
 1 Liter Amber 40 ml VOA Other: _____
 Preservation: Ice Other: None
 Ice Other: _____
 Ice Other: _____

Device: Bailer, Disposable Other: _____

Pertinent Field Observations: _____

Deviations From Standard Sampling Protocol: _____

WELL DEVELOPMENT/SAMPLING DOCUMENTATION FORM

Project Name USA-OKLAND Job # 5090.09 Well # MW-3
4/28/98 Sample ID MW-3
 Sampling Team CL
 Purpose of Sampling: Initial Quarterly Verification Other: _____
 Weather Conditions _____

GROUNDWATER LEVEL/CASING VOLUME

Description	Time	Depth (TOC to GW)	Total Depth	Feet of Water	Conversion Factor (ft to gals)	Casing Volume (gallons)
Initial		10.51	47.75	37.24	1.65	24.5
After Development/Purging	1419	43.12				
Time of Sampling	1518	39.42				

Three Casing Volumes 73.5 Gals
 Ten Casing Volumes _____ Gals

WELL DEVELOPMENT/PURGING

Equipment: Submersible Pump Bailor Sandpiper Other: _____
 Method: 2 Ratio Description _____
 Decontamination Method: TSP / RINSE Description _____
 Water Containment: Drums Baker Tank Treatment System Other: _____
 Collected: PURE WATER

Start Time	Volume Water Extracted	Temperature °F (C)	^{MW} EC (umhos)	pH	Observations (Color, Turbidity, Oils, Odor)
1401	0	22.2	3.5	6.99	
1413	24.5	21.5	3.9	6.99	
	49.				
	73.5				

SAMPLE INFORMATION

Lab: SIEBBA
 Sampling Containers/No. of Containers: TPH-D
 1 Liter Amber TPH-D Preservation: Ice Other HCL
 40 ml VOA TPH-D + BTEX, NITRE Ice Other _____
 Other _____ Ice Other _____
 Device: Bailor, Disposable Other _____
 Significant Field Observations: * Dry AFTER 3A GAL. PURED, SAMPLED PRIOR TO 2 RECOVERY
 Deviations From Standard Sampling Protocol: _____

WELL DEVELOPMENT/SAMPLING DOCUMENTATION FORM

Project Name: USA - OAKLAND Job # 5090.09 Well # S-1
4/28/98
 Sampling Team: _____
 Purpose of Sampling: Initial Quarterly Verification Other: _____
 Weather Conditions: _____

GROUNDWATER LEVEL/CASING VOLUME

Description	Time	Depth (TOC to GW)	Total Depth	Feet of Water	Conversion Factor (ft to gals)	Casing Volume (gallons)
Initial		8.37	40.80	32.43	.36	12
After Development/Purging	1447	33.34				
Time of Sampling	1553	12.84				

14.85 → 80%
 Three Casing Volumes 36 Gals
 Ten Casing Volumes _____ Gals

WELL DEVELOPMENT/PURGING

Equipment: Submersible Pump Bailer Sandpiper Other: _____
 Description: 2" Dia Flo
 Decontamination Method: TSP/ Rinse
 Description: _____
 Containment: Drums Baker Tank Treatment System Other: _____
 Labeled: PURGE WATER

Start Time	Volume Water Extracted	Temperature °F/C	^{LW} EC (umhos)	pH	Observations (Color, Turbidity, Oils, Odor)
1435	0	23.1	5.3	7.07	
1439	12	21.3	-8.9	7.13	
1443	24	22.0	-3.2	7.04	
	36				

SAMPLE INFORMATION

Lab: SIERRA
 Sampling Containers/No. of Containers: TPH-D
TPH-G + BTEX, MTBE
 Preservation: Ice Other HCL
 Ice Other
 Ice Other
 Device: Bailer, Disposable Other
 Significant Field Observations: DRY AFTER 30 GAL. PURGED

Deviations From Standard Sampling Protocol: _____



WELL DEVELOPMENT/SAMPLING DOCUMENTATION FORM

Project Name USA - OAKLAND
4/28/98
Sampling Team CL

Job # 5090.09 Well # 52
Sample ID 52

Frequency of Sampling: Initial Quarterly Verification Other: _____
Weather Conditions _____

GROUNDWATER LEVEL/CASING VOLUME

Description	Time	Depth (TOC to GW)	Total Depth	Feet of Water	Conversion Factor (ft to gals)	Casing Volume (gallons)
Initial		10.47	42.85	32.38	1.36	12
After Development/Purging	1510	39.64				
Time of Sampling	1600	13.36				

Three Casing Volumes 36 Gals
Ten Casing Volumes _____ Gals

WELL DEVELOPMENT/PURGING

Equipment: Submersible Pump Bailer Sandpiper Other: _____
Description: 2" Red Fluo
Decontamination Method: ISP RINSE Description: _____
Containment: Drums Baker Tank Treatment System Other: _____
Labeled: PURGE WATER

Start Time	Volume Water Extracted	Temperature °F/C	EC EC (umhos)	pH	Observations (Color, Turbidity, Oils, Odor)
1500	0	20.9	-1.6	7.02	
1506	12	21.3	1.4	6.98	
	24				
	36				

SIERRA

SAMPLE INFORMATION

Sampling Containers/No. of Containers
1 Liter Amber TPH-D
240 ml VOA TPH-G + BTEX, MTBE
Other: _____
Preservation: Ice Other all
 Ice Other
 Ice Other

Device: Bailer, Disposable Other
Recent Field Observations: DRY AFTER 20 GAL. PURGED

Deviations From Standard Sampling Protocol: _____

APPENDIX B

LABORATORY REPORTS WITH CHAIN-OF-CUSTODY DOCUMENTS



Date: 5/11/98

GHH Engineering, Inc.
8084 Old Auburn Road, Suite E
Citrus Heights, CA 95610
Attention: Mr. Vern Bennett

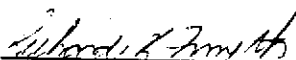
Client Project Number: 5090.10/USA-Oakland
Date Sampled: 4/28/98
Date Samples Received: 5/1/98
Sierra Project No.: 9805-016


Attached are the results of the chemo-physical analysis of the sample(s) from the project identified above.

The samples were received by Sierra Laboratories, Inc. with a chain of custody record attached or completed at the submittal of the samples.

The analysis were performed according to the prescribed method as outlined by EPA, Standard Methods, and A.S.T.M.

The remaining portions of the samples will be disposed of within 30 days from the date of this report. If you require additional retaining time, please advise us.


Richard K. Forsyth
Laboratory Director


Reviewed

This report is applicable only to the sample received by the laboratory. The liability of the laboratory is limited to the amount paid for this report. This report is for the exclusive use of the client to whom it is addressed and upon the condition that the client assumes all liability for the further distribution of the report or its contents.

GHH Engineering, Inc.		Date Sampled: 4/28/98
8084 Old Auburn Road, Suite E		Date Received: 5/1/98
Citrus Heights, CA 95610		Date Prepared: 5/4/98
Sierra Project No.:	9805-016	Date Analyzed: 5/5/98
Client Project ID:	5090.10 / USA-Oakland	Analyst: LT
Sample Matrix:	Water	Report Date: 5/6/98

TOTAL PETROLEUM HYDROCARBONS
EPA 8015 MODIFIED - Diesel Range Hydrocarbons (C10-C23)

SIERRA Sample No.	Client Sample No.	Concentration (mg/l)	Dilution Factor	% Surrogate Recovery	MDL (mg/l)
5994	MW-4	ND	1	63	0.05
5995	MW-5	ND	1	80	0.05
5996	MW-6	ND	1	52	0.05
5997	MW-7	ND	1	87	0.05
5998	MW-8	ND	1	98	0.05
5999	MW-3	1.0	2	96	0.05
6000	S-1	7.3	2	90	0.05
6001	S-2	ND	2*	112	0.05

Quality Assurance/Quality Control Data

QC Sample ID:	9804-168	Blank					
Compound	LCS % Rec.	QC Limits	Spike % Rec.	Spike Dup % Rec.	QC Limits	RPD	QC Limits
TPH as Diesel	89	80-120	110	102	50-150	8	0-30

ND means Not Detected

Reporting Limit (RL) = Method Detection Limit (MDL) x Dilution Factor

* - Sample diluted due to high levels of Gasoline Range Hydrocarbons.

GHH Engineering, Inc.		Date Sampled:	4/28/98
8084 Old Auburn Road, Suite E		Date Received:	5/1/98
Citrus Heights, CA 95610		Date Prepared:	5/4/98
Sierra Project No.: 9805-016		Date Analyzed:	5/4/98
Client Project ID: 5090.10/USA-Oakland		Analyst:	SM
Sample Matrix: Water		Report Date:	5/5/98

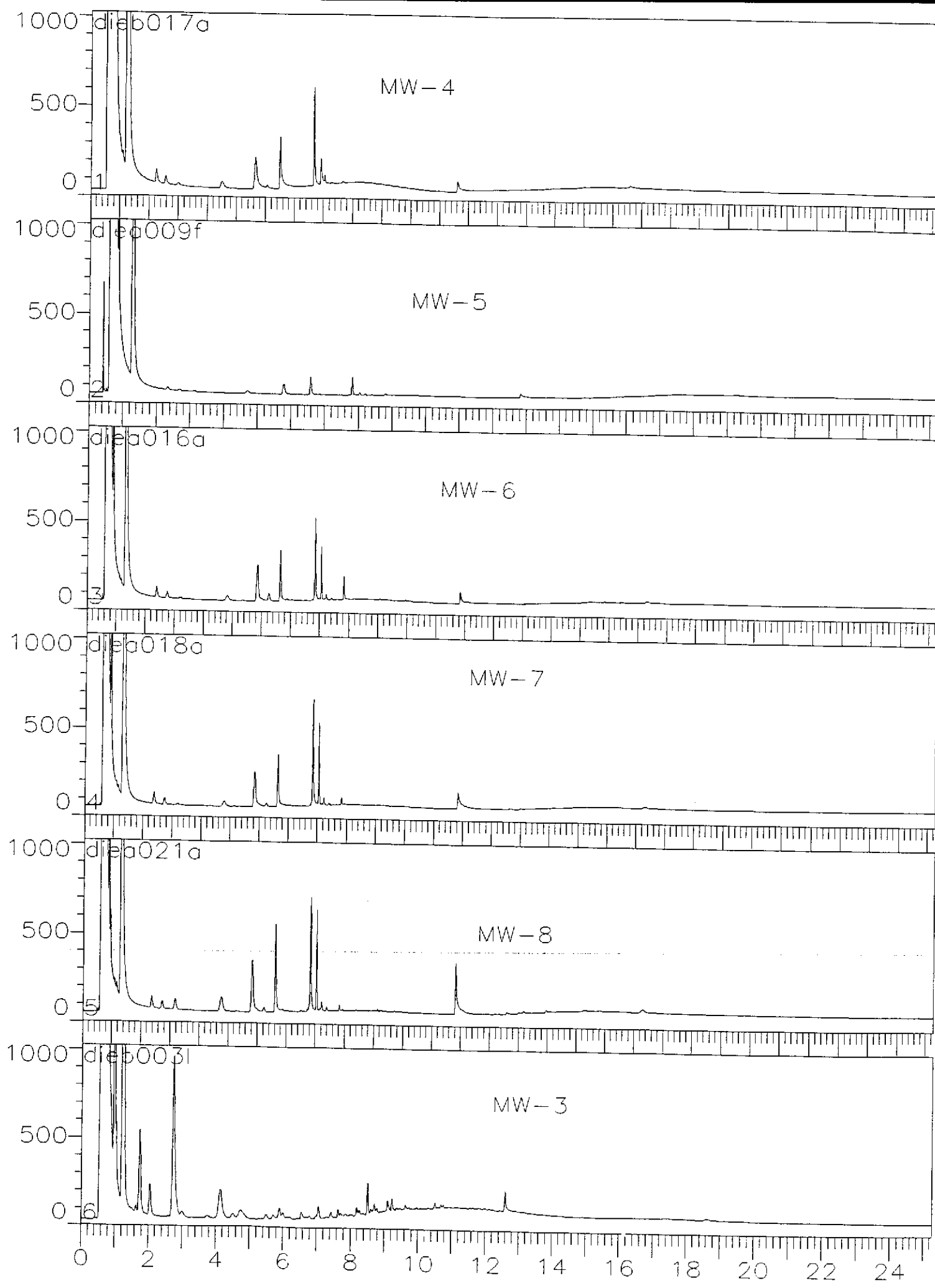
**EPA METHOD 8020-BTEX/EPA METHOD 8015-Gasoline Range Hydrocarbons (C4-C12)
(Purge & Trap)**

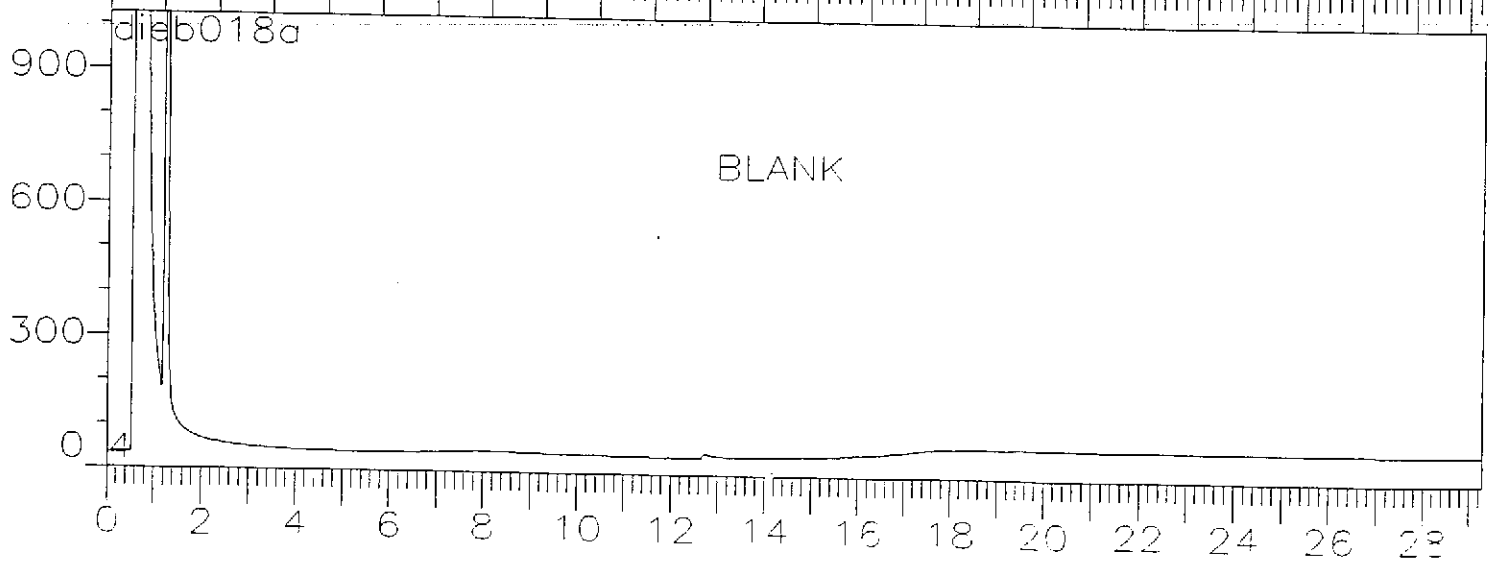
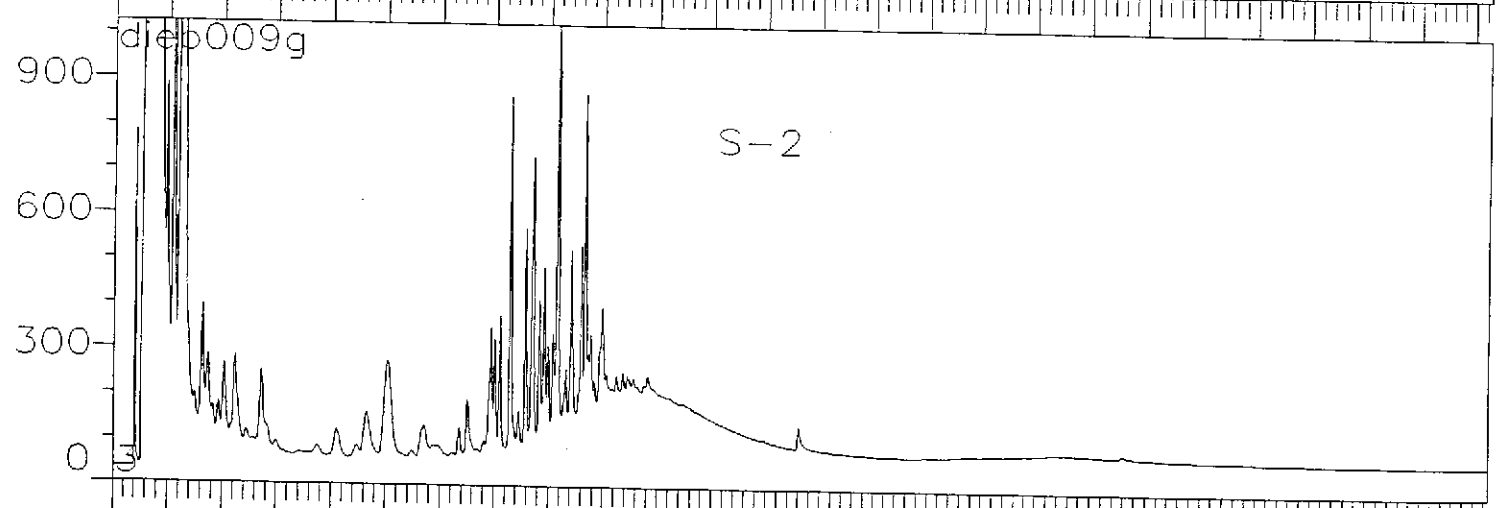
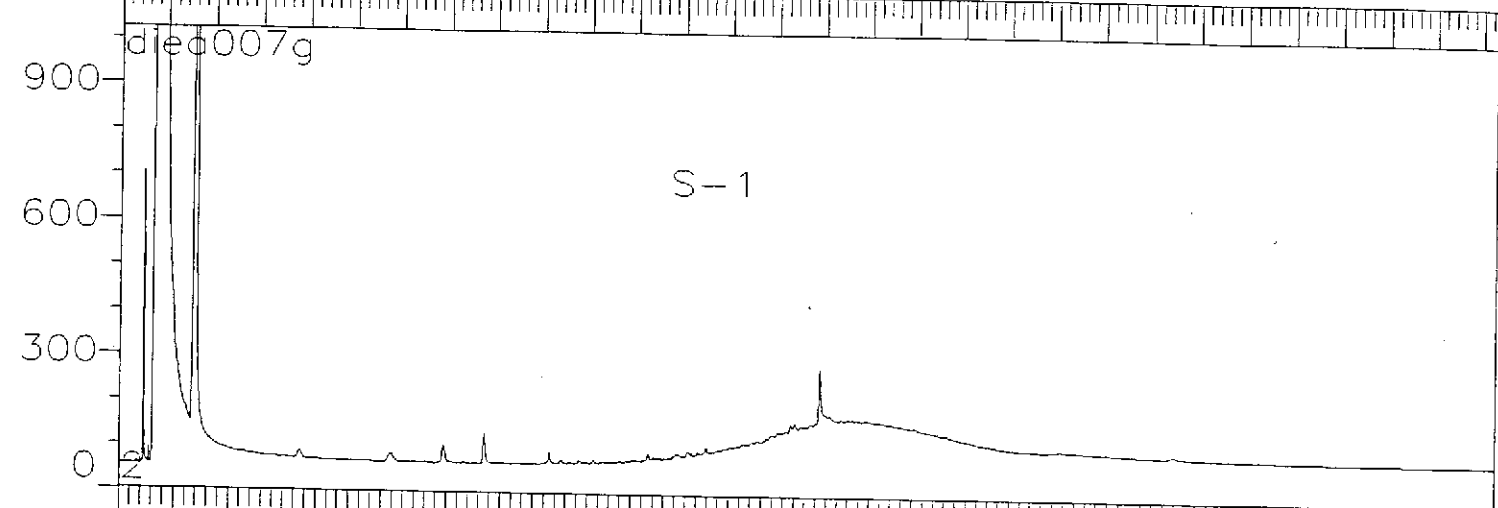
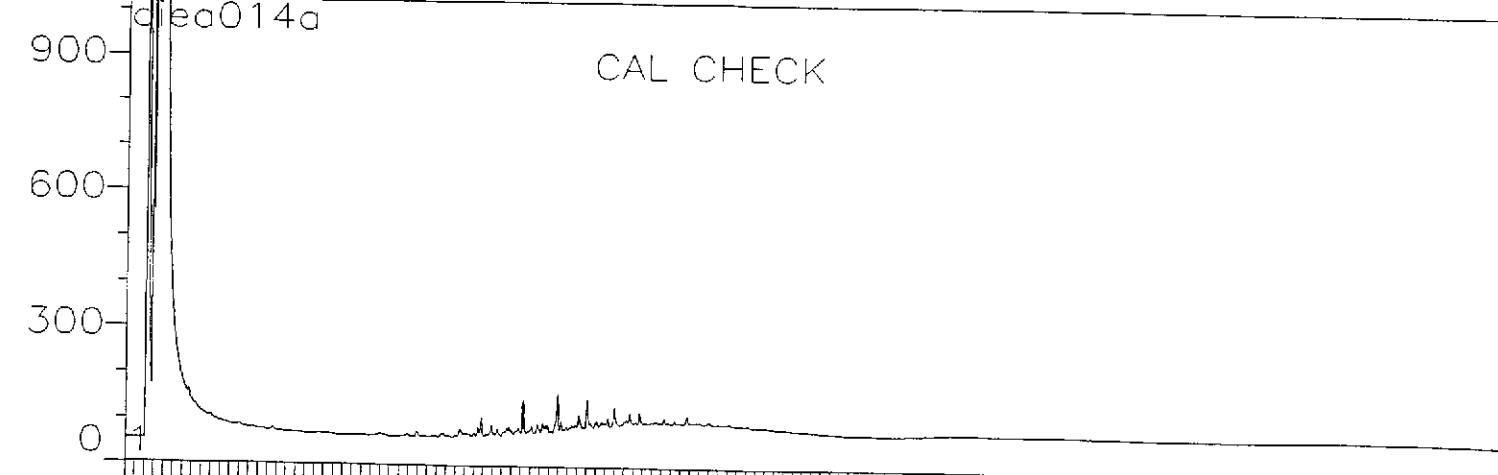
Client Sample No.:	Concentration, ug/L								Method Detection Limit, ug/L
	MW-4	MW-5	MW-6	MW-7	MW-8	MW-3	S-1	S-2	
Sierra Sample No.:	5994	5995	5996	5997	5998	5999	6000	6001	
COMPOUNDS:									
Benzene	ND	ND	ND	ND	ND	82	1.9	980	0.5
Toluene	ND	ND	ND	ND	ND	5.2	3.2	160	0.5
Ethylbenzene	ND	ND	ND	ND	ND	5.7	ND	320	0.5
Total Xylenes	ND	ND	ND	ND	ND	5.4	ND	680	0.5
MTBE	ND	ND	ND	9.3	ND	240	310	570	5.0
Gasoline	ND	ND	ND	ND	ND	800	130	22000	50
Dilution Factor	1	1	1	1	1	1	1	10	QC Limits
% Surrogate Recovery:									
4-Bromofluorobenzene	97	100	100	105	105	105	110	98	70-125

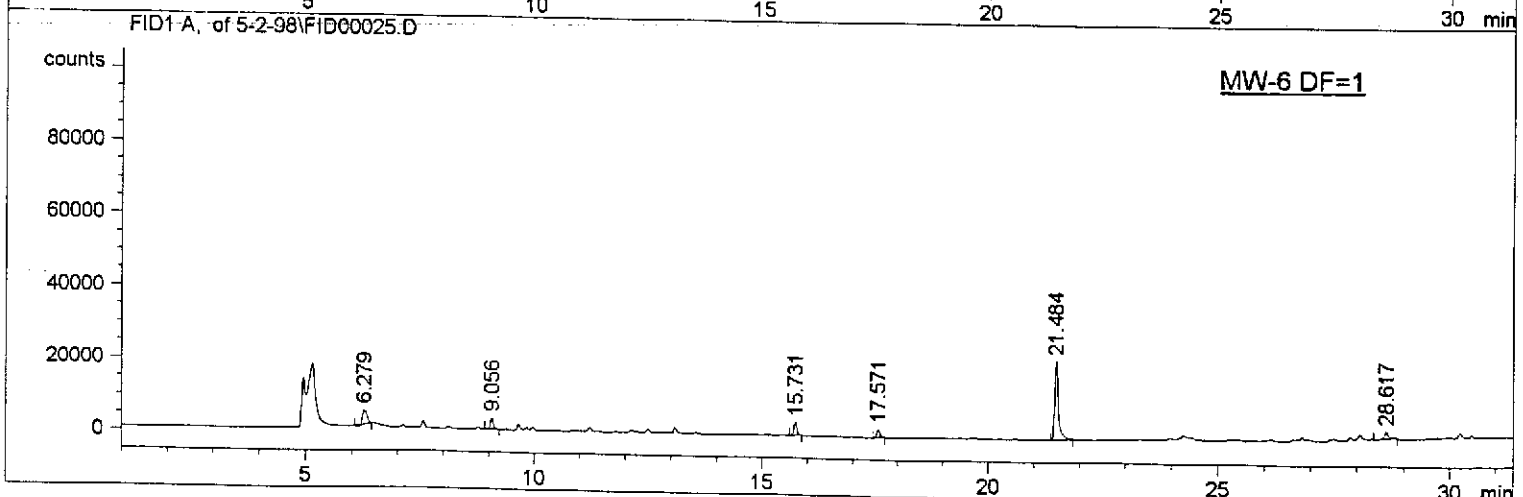
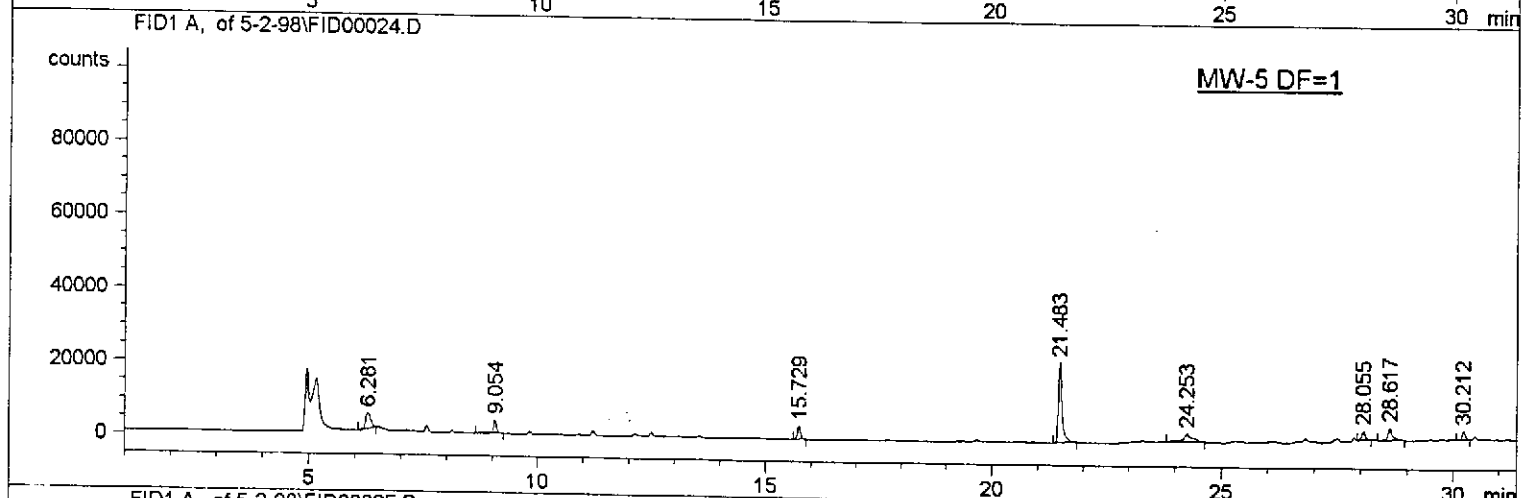
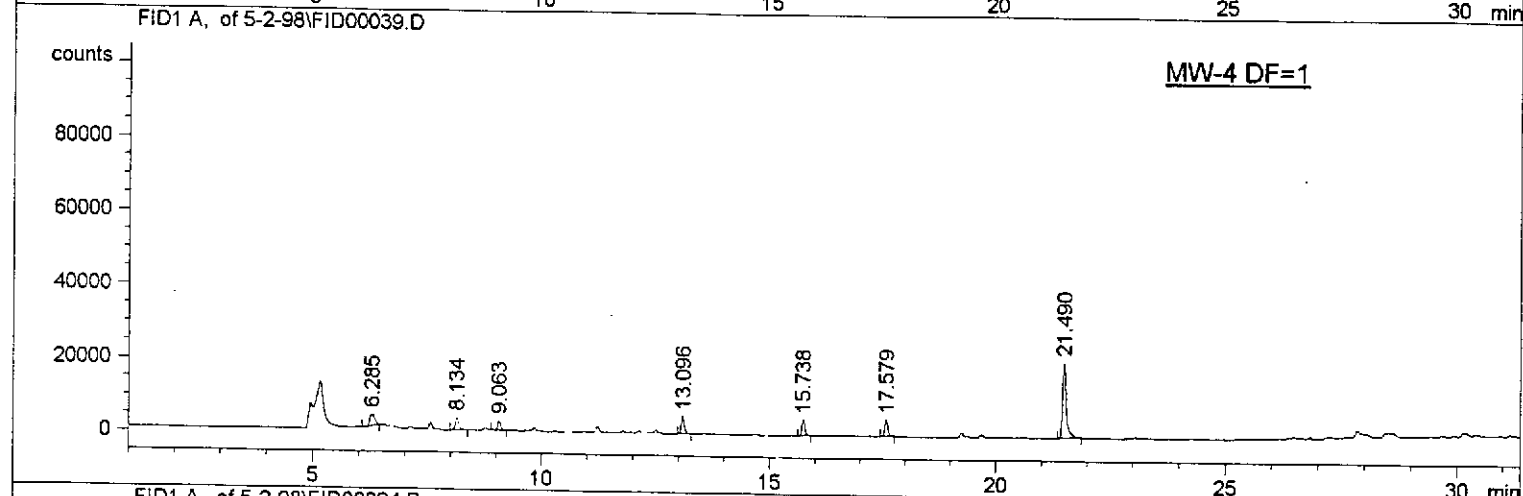
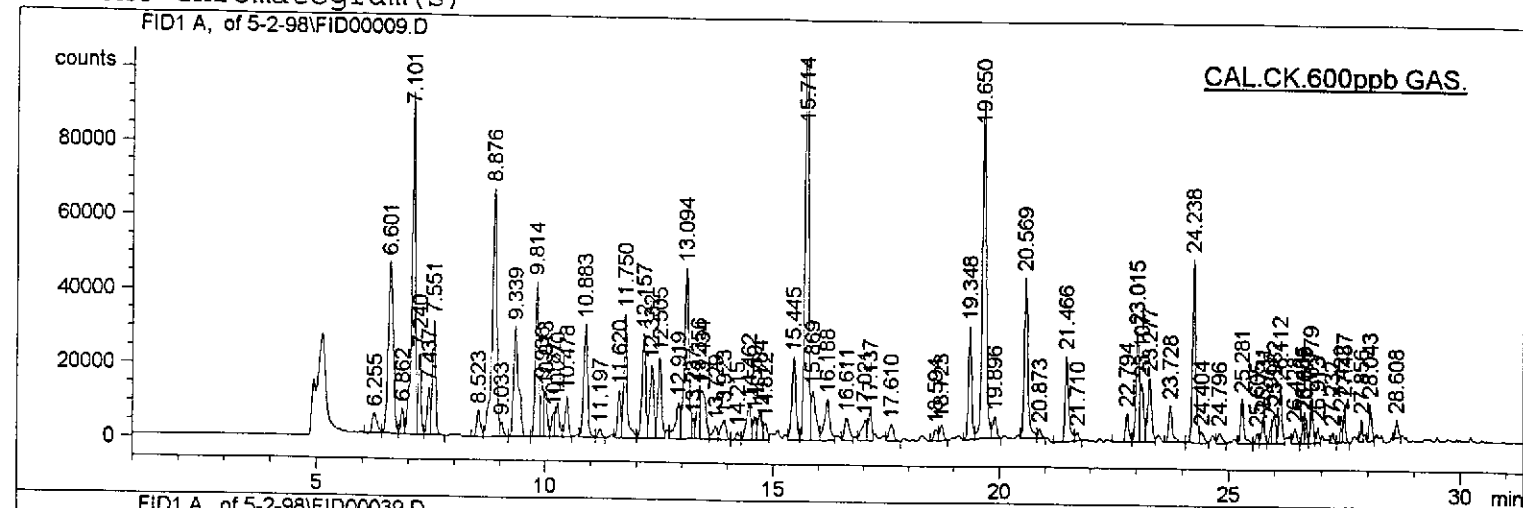
Quality Assurance/Quality Control Data						
QC Sample ID:	9805-16-5994					
Compounds	LCS % Rec.	Spike % Rec.	Spike Dup % Rec.	QC Limits	RPD	QC Limits
Benzene	100	88	99	39-150	12	0-30
Toluene	102	91	103	46-148	12	0-30
Ethylbenzene	102	91	100	32-160	9.7	0-30
Gasoline	104	93	94	50-150	0.89	0-30

ND means Not Detected

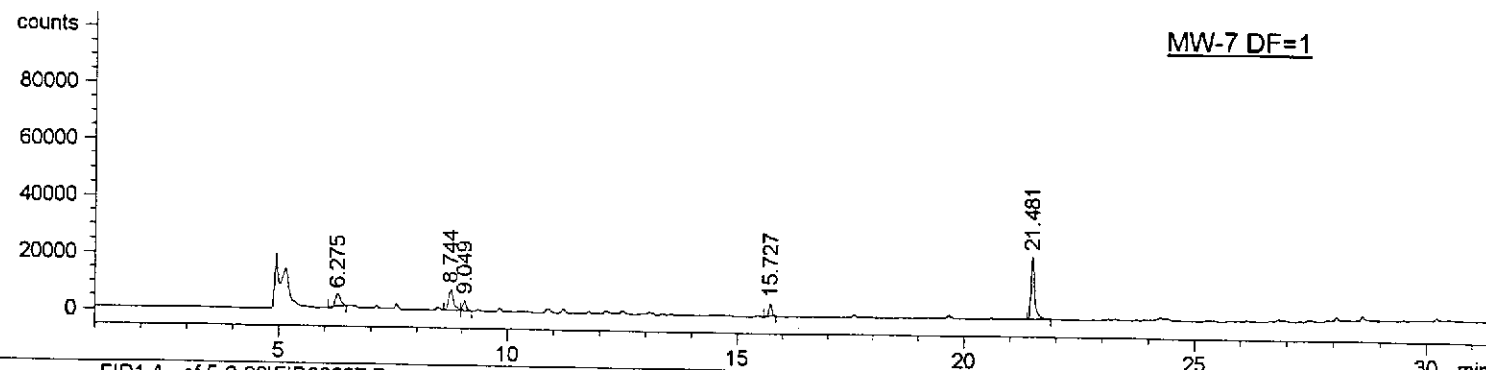
Reporting Limit (RL) = Method Detection Limit (MDL) x Dilution Factor



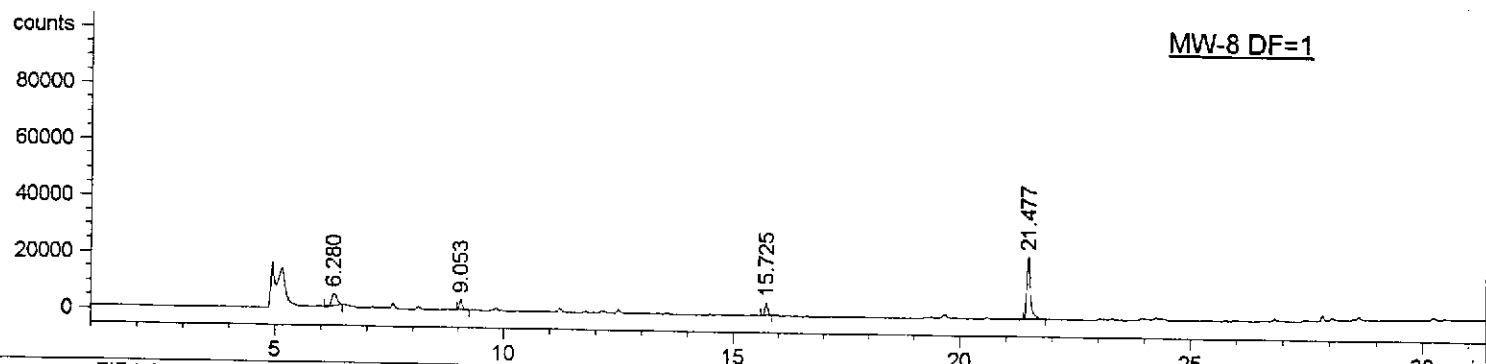




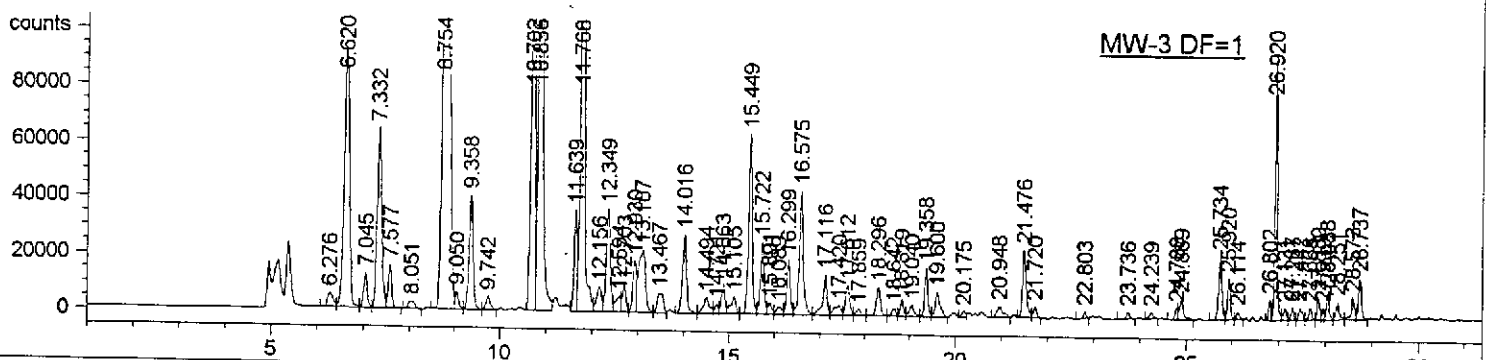
FID1 A, of 5-2-98\FID00026.D



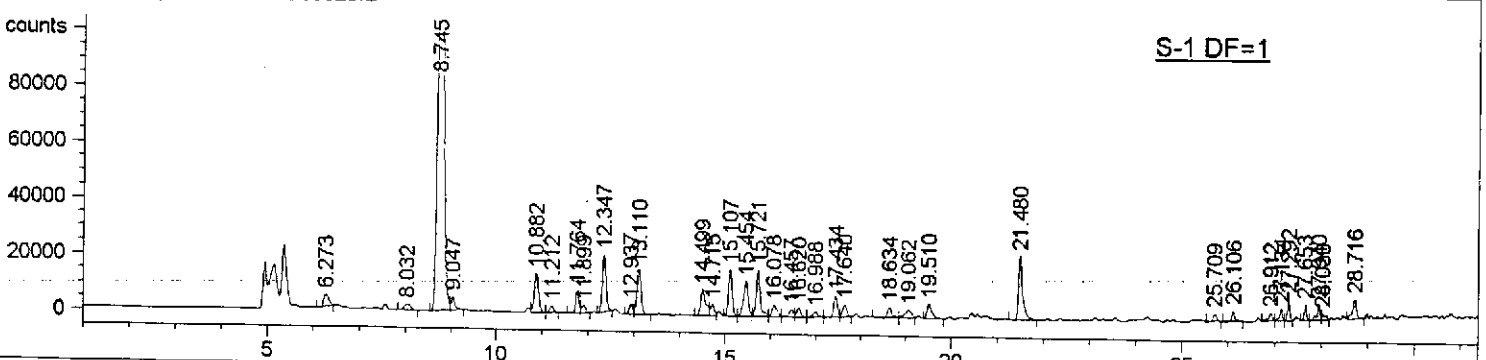
FID1 A, of 5-2-98\FID00027.D



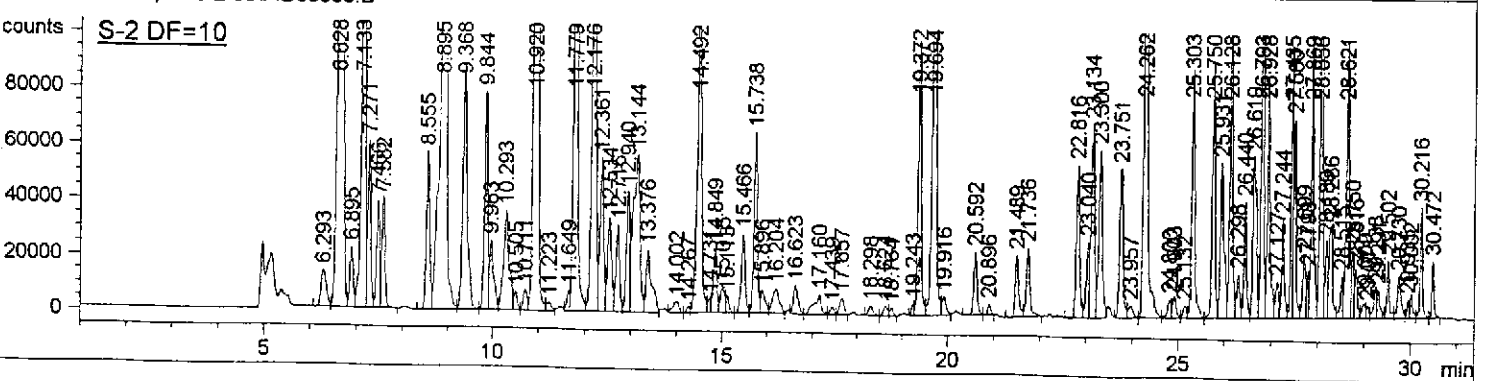
FID1 A, of 5-2-98\FID00028.D



FID1 A, of 5-2-98\FID00029.D



FID1 A, of 5-2-98\FID00038.D





Sample Receipt / Client Notification Form

Client Name: GHH

Sierra Project Number: 9805-016

Sierra Project Manager: Bill Hudson

Date / Time Samples Received: 5/1/98 09:40

Method of Shipment: UPS Next Day Air

Custody Seals? N/A Intact Broken

Samples Intact? Yes

Properly Labelled? Yes

Appropriate Containers? Yes

Headspace in VOA vials? None

Samples Chilled? (Cooler Temp. °C): Yes 5.9°C

Properly Preserved? (pH) Yes

Preservatives added (after receipt by Sierra): N/A

* Sample Disposal Instructions: Lab Disposal

** Turn Around Time Requested: 2 weeks (Normal)

Subcontractor Laboratories to be utilized: N/A

Special Instructions: Bill USA Petroleum
Please Provide Chromatograms
& Check In Sheet

Other Anomalies: None

Date/Time Faxed to Client: N/A

Samples Logged in by:

Printed Name: ANDREW KIM

If you have any questions, please refer to the Sierra Project Number referenced above.

- * - Samples are only retained for 30 days if marked for Lab Disposal. Other charges may apply for other disposal options.
- ** - Rush surcharges will be applied to Turn Around Times other than Normal, except by prior arrangement with Sierra Labs.



ENGINEERING, INC.

RCE #27011 Lic. #537901

8084 OLD AUBURN ROAD
CITRUS HEIGHTS, CA 95610
(916) 723-7645
LIC. # 537901

I.D.# 15216

JOB # 5090,10

P.O.#

* Please provide Chain of Custody
\$ Check in Sheet

CHAIN OF CUSTODY

JOB NAME: MSA - OAKLAND

LAB: SJDDA

PROJECT MANAGER: VERN BENNETT

SAMPLES COLLECTED BY: CHRIS W POST

COMP.	GRAB	SAMPLE LOCATION	DATE	TIME	SAMPLE TYPE			SAMPLE NO.	TYPE CONTAINER(S)	ANALYSIS REQUIRED
					SOIL	AIR	WATER			
5494	X	Monitor Well	4/28/98	1426			X	MW-4	1 NUMBER	(Pdt)
5495	X	[Large handwritten arrow pointing down]	[Large handwritten arrow pointing down]	1428			X	MW-5	[Large handwritten arrow pointing down]	[Large handwritten arrow pointing down]
5496	X			1438			X	MW-6		
5497	X			1510			X	MW-7		
5498	X			1504			X	MW-8		
5499	X			1518			X	MW-3		
5500	X			1553			X	S1		
5501	X			1600			X	S2		

PRINT NAME AFTER SIGNATURE

RELINQUISHED BY: <u>[Signature]</u>	RECEIVED BY:	DATE/TIME
RELINQUISHED BY:	RECEIVED BY:	DATE/TIME
RELINQUISHED BY:	RECEIVED BY:	DATE/TIME
RECEIVED FOR LABORATORY BY:	<u>[Signature]</u>	DATE/TIME
METHOD OF SHIPMENT	<u>[Signature]</u>	5/1/98 0940

DISPOSITION:

STORAGE REFRIGERATOR FREEZER

TURN AROUND TIME

24 HOURS 3 DAYS 1 WEEK 2 WEEKS

NOTE: PLEASE HAVE EACH DATA SHEET SIGNED BY CHEMIST.

9805-016
RBY

SECURED	
<input type="checkbox"/> YES	<input type="checkbox"/> NO

GHH

ENGINEERING, INC.
RCE #27011 Lic. #537901

* Bill To → USA PETROLEUM

8084 OLD AUBURN ROAD
CITRUS HEIGHTS, CA 95610
(916) 723-7645
LIC. # 537901

I.D.# 15215

JOB # 5090.10

P.O.#

* PLEASE PROVIDE CHROMA PROGRAMS
* CHECK IN SHEET

CHAIN OF CUSTODY

JOB NAME: USA - OAKLAND

LAB: SUBRA

PROJECT MANAGER: UBORN BENNETT

SAMPLES COLLECTED BY: CHRIS W. POSE

COMP.	GRAB	SAMPLE LOCATION	DATE	TIME	SAMPLE TYPE			SAMPLE NO.	TYPE CONTAINER(S)	ANALYSIS REQUIRED
					SOIL	AIR	WATER			
5944	X	Monitor Well	4/28/98	1426			X	MW-4	3x Va (HCL)	PAH + BTEX, NITR
5945	X	↓	↓	1428			X	MW-5	↓	↓
5946	X			1438			X	MW-6		
5947	X			1510			X	MW-7		
5948	X			1504			X	MW-8		
5949	X			1518			X	MW-3		
6000	X			1553			X	S-1		
6001	X			↓	↓	1600				

PRINT NAME AFTER SIGNATURE

RELINQUISHED BY: CHRIS W. POSE RECEIVED BY: _____ DATE/TIME: _____

RELINQUISHED BY: _____ RECEIVED BY: _____ DATE/TIME: _____

RELINQUISHED BY: _____ RECEIVED BY: _____ DATE/TIME: _____

RECEIVED FOR LABORATORY BY: Andrew Kim DATE/TIME: 5/1/98 0940

METHOD OF SHIPMENT

DISPOSITION:

STORAGE REFRIGERATOR FREEZER

TURN AROUND TIME

24 HOURS 3 DAYS 1 WEEK 2 WEEKS

NOTE: PLEASE HAVE EACH DATA SHEET SIGNED BY CHEMIST.

9805-016
230

SECURED

YES NO