



a subsidiary of environmental system company

7/5/89

ALAMEDA COUNTY  
DEPT. OF ENVIRONMENTAL HEALTH  
HAZARDOUS MATERIALS

June 29, 1989

Alameda County Health Care Services  
Department of Environmental Health  
Hazardous Materials Division  
80 Swan Way, Suite 200  
Oakland, CA 94621

Attention: Mr. Storm Goranson  
Hazardous Materials Specialist

Subject: June Quarterly Report, Groundwater Sampling and Analysis for  
Former Shell Station, 7194 Amador Valley Boulevard, Dublin, California  
EES Project No. 1826G

Dear Mr. Goranson:

Find enclosed a copy of our June Quarterly Report for the Former Shell Station, 7191 Amador Valley Boulevard, Dublin, California.

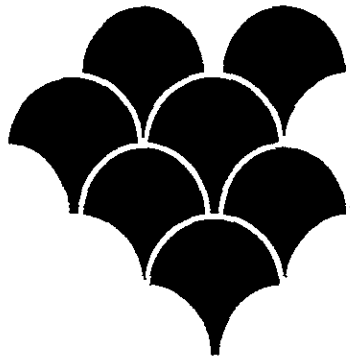
If you have any questions please feel free to call.

Sincerely,  
Ensco Environmental Services, Inc.

A handwritten signature in cursive script that reads "Richard A. Garlow".

Richard A. Garlow  
Project Geologist

RAG/sw  
Enclosures



**ensco  
environmental  
services, inc.**

**JUNE QUARTERLY REPORT  
GROUNDWATER SAMPLING  
AND ANALYSIS**

**FOR**

**FORMER SHELL STATION  
7194 AMADOR VALLEY BLVD.  
DUBLIN, CALIFORNIA**

**Project No. 1826G  
June 1989**



a subsidiary of environmental system company

June 12, 1989

Shell Oil Company  
1390 Willow Pass Road  
Suite 900  
Concord, CA 94520

Attention: Ms. Diane Lundquist

Subject: June Quarterly Report  
Groundwater Sampling and Analysis  
Former Shell Station, 7194 Amador Valley Boulevard, Dublin, California  
EES Project No. 1826G

Dear Ms. Lundquist:

This report presents the results of groundwater sampling and analyses performed at the subject site since the March 1989 quarterly report. It includes all current and past analytical data acquired during this ongoing investigation.

If you have any questions, please call.

Sincerely,  
Ensco Environmental Services, Inc.

A handwritten signature in cursive script, appearing to read "Richard A. Garlow".

Richard A. Garlow  
Project Geologist

A handwritten signature in cursive script, appearing to read "Lawrence D. Pavlak".

Lawrence D. Pavlak, C.E.G. 1187  
Senior Program Geologist

RAG/LDP/sw  
Enclosure

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**JUNE QUARTERLY REPORT  
GROUNDWATER SAMPLING AND ANALYSES**

**FOR**

**SHELL OIL COMPANY  
7194 AMADOR VALLEY BOULEVARD  
DUBLIN, CALIFORNIA**

**INTRODUCTION**

This report presents the results of groundwater monitoring by Ensco Environmental Services, Inc. (EES) at the former Shell Station located at 7194 Amador Valley Boulevard, in the City of Dublin, Alameda County, California (see Figure 1). EES has been collecting groundwater samples for laboratory analysis at this site since May 1988. This EES quarterly groundwater sampling report includes all data acquired at the site since the issuance of the March 1989 quarterly report. The program objectives are listed below.

- Plot the groundwater contour surface and inferred flow direction.
- Investigate for the presence of a petroleum hydrocarbon plume and its concentrations.
- Compare current and past data.

The existence and degree of hydrocarbon contamination is determined by (1) checking for the presence of free-floating petroleum product in the groundwater monitoring wells and measuring its thickness and (2) performing laboratory analyses on groundwater samples to determine concentrations of total petroleum hydrocarbons as gasoline (TPHG), and specific concentrations of benzene, toluene, ethyl benzene, and total xylenes (BTEX).

## **BACKGROUND**

EES, at the request of Shell Oil Company (Shell), is continuing the investigation of hydrocarbon contamination in the soil and groundwater beneath the former Shell Station located at 7194 Amador Valley Boulevard. EES completed a preliminary soil and groundwater investigation at this site in April 1988 which confirmed the presence of hydrocarbon contamination in the soil and groundwater beneath the site. This was followed by an EES supplemental soil and groundwater investigation completed in November 1988, which found soil and groundwater contamination beyond the site boundaries. In June 1988, a final assessment report was completed which determined limits of the contamination down groundwater gradient from the site.

This report details the results of the ongoing groundwater monitoring and sampling phase of this investigation. EES installed groundwater monitoring wells MW-1 through MW-4 within the site boundaries between May 4 and May 9, 1988. Groundwater monitoring wells MW-5, MW-6, and MW-7 were installed as part of the supplemental off-site field investigation conducted between July 19, and August 12, 1988. MW-5 is screened at a deeper interval than the other wells to monitor the lower depths of the affected aquifer. EES installed five additional off-site monitoring wells (MW-8 through MW-12) between February 21 and 23, 1989, and sampled the groundwater from these wells beginning in March 1989. The locations of these groundwater monitoring wells are shown on the Site Plan (Figure 2).

## **GROUNDWATER SAMPLING**

The aforementioned monitoring wells are sampled monthly by EES and analyzed for the presence of TPHG and BTEX by a Shell-approved, state-certified laboratory. Sampling of monitoring wells is performed in accordance with EES protocol (Appendix B). The results of these analyses are presented in Table 1. Purge water generated during the sampling of these wells is placed into properly labeled 55-gallon drums on site and then transported by a licensed hauler to a recycling facility. At Shell's request, EES performed additional inorganic analyses during the April

groundwater sampling to determine the value of these constituents prior to initiation of any groundwater remediation plan. The inorganic analyses included determination of: total alkalinity, hardness, total suspended solids, total dissolved solids, iron, and pH. The results of these analyses are presented in Table 2.

### SITE CONDITIONS

All monitoring wells are field-checked for petroleum odor, sheen, and the presence of floating product before sampling. EES sample technicians have noted no petroleum sheen or floating product in the wells during this investigation but did detect petroleum odor in groundwater purged from well MW-1. A slight, sporadic petroleum odor was also detected in wells MW-2, MW-3, MW-4, MW-5, MW-6, and RW-1.

Laboratory analyses revealed TPHG and most BTEX compounds in all of the groundwater samples from wells MW-1, MW-3, MW-4, and MW-6. Groundwater from MW-2 had low concentrations of TPHG and BTEX in the March and April analyses; however, only benzene was detected in the May analyses. In MW-5, no TPHG or BTEX were detected in the March or April groundwater analyses; however, a low concentration of benzene was detected in the May analyses. TPHG and BTEX were detected in all groundwater samples from MW-10, except in March when ethyl benzene was not detected. No TPHG or BTEX were detected in groundwater from MW-7, MW-8, MW-9, MW-11, and MW-12. Laboratory analyses of RW-1 revealed TPHG and benzene, with sporadic occurrences of toluene and ethyl benzene. No xylenes were detected in groundwater from this well.

Results of these chemical analyses are presented in Table 1, and copies of the chains-of-custody and laboratory reports are presented in Appendix B. EES has developed logarithmic graphical representations of current data to show the variations in concentrations of TPHG and BTEX with respect to time. These graphs are presented as Figures 3 through 10. (NOTE: There are no graphical representations for MW-8, MW-9, MW-11 and MW-12 due to the absence of detectable concentrations of TPHG or BTEX).



EES has prepared groundwater surface contour maps based upon water depth data collected from the monitoring wells (Figures 11 through 13). The apparent groundwater surface is inclined to the southeast, and the gradient has varied from approximately 0.0095 to 0.0021 feet per foot over the course of this study.

### LONG-TERM MONITORING

EES will continue monthly monitoring of these wells. This monitoring will include: (1) depth-to-water measurements; (2) field checks for odor, sheen, or floating petroleum product; and (3) collection of groundwater samples for analysis by a Shell-approved, state-certified laboratory. The samples will be tested for the presence of TPHG and BTEX. EES will issue the next quarterly groundwater sampling report in September 1989.

### CONCLUSIONS

1. Groundwater elevations at the site ranged from 328.49 to 325.59 feet above mean sea level during the last quarter.
2. Laboratory analyses revealed TPHG and BTEX in the groundwater samples from wells MW-1, MW-3, MW-4, and MW-6. TPHG and BTEX occurred sporadically in groundwater samples from MW-2, MW-5, MW-10 and RW-1. No TPHG or BTEX was detected in groundwater samples collected from MW-7, MW-8, MW-9, MW-11, or MW-12.
3. EES will continue with the current monitoring schedule. The next quarterly groundwater monitoring report, to be issued in September 1989, will include monthly depth, flow direction, gradient, and quality data derived from monitoring wells MW-1 through MW-12, and RW-1.

## REPORTING REQUIREMENTS

A copy of this report should be forwarded to the following agencies:

Alameda County Flood Control and  
Water Conservation District, (Zone 7)  
5997 Parkside Drive  
Pleasanton, California 94566  
Attention: Mr. Craig Mayfield  
Water Resources Engineer

Regional Water Quality Control Board  
San Francisco Bay Region  
1111 Jackson Street  
Oakland, California 94607  
Attention: Mr. Donald Dalke

Alameda County Health Care Services  
Department of Environmental Health  
Hazardous Materials Division  
80 Swan Way, Suite 200  
Oakland, California 94621  
Attention: Mr. Storm Goranson  
Hazardous Materials Specialist

## DISCLAIMER

This report has been prepared solely for the use of Shell and any reliance on this report by third parties shall be as such party's sole risk.

## LIMITATIONS

The discussions and recommendations presented in this report are based on the following:

1. The exploratory test borings drilled at the site.
2. The observations of field personnel.
3. The results of laboratory analyses performed by a state-certified laboratory.
4. Our understanding of the regulations of the State of California and Alameda County and/or the City of Dublin.

It is possible that variations in the soil or groundwater conditions could exist beyond the points explored in this investigation. Also, changes in the groundwater conditions could occur sometime in the future due to variations in rainfall, temperature, regional water usage or other factors.

The service performed by Ensco Environmental Services, Inc. has been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions in the Dublin Area. Please note that contamination of soil and groundwater must be reported to the appropriate agencies in a timely manner. No other warranty, expressed or implied, is made.

The chemical analytical data included in this report have been obtained from a state-certified laboratory. The analytical methods employed by the laboratory were in accordance with procedures suggested by the U.S. EPA and the State of California. EES is not responsible for laboratory errors in procedure or result reporting.

EnSCO Environmental Services, Inc.  
 Project No. 1826G  
 7194 Amador Valley Blvd., Dublin

**TABLE 1  
 GROUNDWATER ANALYSES DATA**

Well	Date	TPHG (ppm)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Xylenes (ppm)	Depth To Water (ft.)	Well Elev. (ft.)
MW-1	5/9/88	0.44	0.12	0.05	NA	0.12	8.72	334.83
	8/26/88	200	4.4	0.26	0.3	0.45	9.15	
	10/5/88	17	6.7	0.36	0.21	0.73	8.54	
	11/22/88	8	3.9	0.83	0.25	0.34	9.31	
	12/9/88	11	0.79	0.036	0.0073	0.068	9.33	
	1/13/89	8.8	3.8	0.11	0.33	0.09	NA	
	2/10/89	18	4.7	0.4	0.66	0.19	8.51	
	3/2/89	14	6.1	0.77	0.32	0.44	8.71	
	4/4/89	11	4.8	0.77	0.27	0.78	7.93	
5/1/89	11	2.8	0.88	0.41	0.78	8.43		
MW-2	5/9/88	BRL	BRL	BRL	NA	BRL	10.85	336.96
	8/26/88	1.7	0.23	0.016	0.087	0.12	11.29	
	10/5/88	0.2	0.02	0.0023	0.0083	0.012	10.83	
	11/22/88	0.8	0.093	0.0016	0.0043	0.06	11.42	
	12/9/88	0.27	0.045	0.0036	0.0072	0.014	11.45	
	1/13/89	0.18	0.026	0.0023	0.017	0.007	NA	
	2/10/89	0.32	0.043	0.0017	0.034	0.015	10.74	
	3/2/89	0.23	0.024	0.0009	0.0092	0.018	10.91	
	4/4/89	0.23	0.053	0.0023	0.0071	0.020	10.06	
5/1/89	ND	0.0027	ND	ND	ND	10.58		
MW-3	5/9/88	0.076	0.01	0.0044	NA	0.015	10.59	336.96
	8/26/88	5.2	0.17	0.006	0.032	0.054	11.1	
	10/5/88	0.26	0.1	0.0027	0.0058	0.007	10.43	
	11/22/88	0.18	0.075	0.0014	0.0081	0.004	11.16	
	12/9/88	0.16	0.005	0.0059	ND	ND	11.24	

TABLE 1 (continued)  
GROUNDWATER ANALYSES DATA

Well	Date	TPHG (ppm)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Xylenes (ppm)	Depth To Water (ft.)	Well Elev. (ft.)
MW-3 (cont.)	1/13/89	0.16	0.036	0.0012	0.003	0.002	NA	
	2/10/89	0.3	0.083	ND	0.0086	0.008	10.43	
	3/2/89	0.57	0.16	0.001	0.017	0.009	10.59	
	4/4/89	0.15	0.064	0.0008	0.0027	0.006	9.45	
	5/1/89	0.13	0.048	0.0012	0.0034	0.002	10.20	
MW-4	5/9/88	0.29	0.076	0.033	NA	0.15	10.88	337.14
	8/26/88	2.1	0.64	0.041	0.11	0.16	11.34	
	10/5/88	0.45	0.11	0.0063	0.016	0.02	10.87	
	11/22/88	0.5	0.11	0.004	0.02	0.027	11.41	
	12/9/88	0.26	0.92	0.0075	0.0059	0.011	11.46	
	1/13/89	0.99	0.2	0.0065	0.046	0.014	NA	
	2/10/89	0.29	0.09	0.0036	0.0088	0.009	10.78	
	3/2/89	0.63	0.21	0.0062	0.034	0.007	10.92	
	4/4/89	0.64	0.34	0.013	0.025	0.04	10.04	
5/1/89	0.1	0.065	0.002	0.003	0.004	10.52		
MW-5	8/26/88	0.21	0.006	0.004	0.009	0.019	9.1	334.96
	10/5/88	7.5	2.7	BRL	0.11	0.59	9.95	
	11/22/88	0.15	0.021	0.026	0.003	0.002	8.93	
	12/9/88	0.24	0.037	0.0022	0.0067	0.0077	10.48	
	1/13/89	0.08	0.0016	ND	0.0077	0.002	NA	
	2/10/89	0.06	ND	ND	ND	ND	10.35	
	3/2/89	ND	ND	ND	ND	ND	8.5	
	4/5/89	ND	ND	ND	ND	ND	7.72	
	5/1/89	ND	0.0013	ND	ND	ND	8.21	
MW-6	8/26/88	15	0.39	0.39	0.67	1.7	9.69	335.42
	10/5/88	2.7	0.13	0.038	0.96	0.22	9.27	
	11/22/88	NA	NA	NA	NA	NA	9.77	

TABLE 1 (continued)  
GROUNDWATER ANALYSES DATA

Well	Date	TPHG (ppm)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Xylenes (ppm)	Depth To Water (ft.)	Well Elev. (ft.)
MW-6 (cont.)	12/9/88	0.54	0.062	0.003	0.026	0.005	9.85	
	1/13/89	0.98	0.16	0.022	0.12	0.029	NA	
	2/10/89	1.9	0.29	0.024	0.093	0.048	9.1	
	3/2/89	1.4	0.16	0.020	0.13	0.033	9.29	
	4/4/89	1.2	0.22	0.027	0.074	0.069	8.48	
	5/1/89	0.79	0.12	0.011	0.025	0.017	8.90	
MW-7	8/26/88	ND	0.0008	ND	ND	ND	7.94	333.23
	10/5/88	ND	ND	ND	ND	ND	7.54	
	11/22/88	0.7	0.041	0.009	0.001	0.02	NA	
	12/9/88	ND	ND	ND	ND	0.00055	7.53	
	1/13/89	ND	ND	ND	ND	ND	NA	
	2/10/89	ND	ND	ND	ND	ND	6.62	
	3/2/89	ND	ND	ND	ND	ND	7.03	
	4/5/89	ND	ND	ND	ND	ND	6.80	
	5/1/89	ND	ND	ND	ND	ND	6.53	
MW-8	3/1/89	ND	ND	ND	ND	ND	8.28	335.80
	4/4/89	ND	ND	ND	ND	ND	7.31	
	5/1/89	ND	ND	ND	ND	ND	8.97	
MW-9	3/1/89	ND	ND	ND	ND	ND	8.48	334.57
	4/4/89	ND	ND	ND	ND	ND	7.69	
	5/1/89	ND	ND	ND	ND	ND	8.20	
MW-10	3/2/89	1	0.14	0.036	ND	0.077	8.95	335.37
	4/4/89	3.3	0.76	0.24	0.046	0.63	7.89	
	5/1/89	0.68	0.099	0.024	0.0081	0.032	9.07	

TABLE 1 (Continued)  
GROUNDWATER ANALYSES DATA

Well	Date	TPHG (ppm)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Xylenes (ppm)	Depth To Water (ft.)	Well Elev. (ft.)
MW-11	3/2/89	ND	ND	ND	ND	ND	8.30	334.20
	4/4/89	ND	ND	ND	ND	ND	7.52	
	5/1/89	ND	ND	ND	ND	ND	7.97	
MW-12	3/2/89	ND	ND	ND	ND	ND	6.94	332.53
	4/4/89	ND	ND	ND	ND	ND	6.33	
	5/1/89	ND	ND	ND	ND	ND	6.62	
RW-1	12/9/88	6.8	0.74	0.005	0.011	0.037	10.73	336.19
	1/13/89	10	3.2	0.027	0.06	ND	NA	
	2/10/89	6	2.8	ND	ND	ND	10.91	
	3/2/89	3.9	2.4	ND	ND	ND	10.15	
	4/5/89	1.7	1	ND	0.009	ND	9.34	
	5/1/89	0.9	0.39	0.005	0.01	ND	9.85	

TPHG = Total Petroleum Hydrocarbons as Gasoline  
 ppm = parts per million  
 NA = Not Analyzed  
 ND = Not Detected above laboratory reporting limit  
 Note: For detection limits, refer to laboratory reports

Enesco Environmental Services, Inc.  
 Project No. 1933G  
 7194 Amador Valley Blvd., Dublin

**TABLE 2**  
**ADDITIONAL GROUNDWATER ANALYSES DATA**

Well	Date	Alkalinity (ppm)	Hardness (ppm)	TSS (ppm)	TDS (ppm)	Iron (ppm)	pH
MW-1	4/4/89	830	262	370	1254	32.7	7.1
MW-2	3/2/89	NA	NA	NA	5956	NA	NA
	4/4/89	1072	1474	6	5072	0.937	6.6
MW-3	4/4/89	765	617	64	2278	2.98	6.8
MW-4	4/4/89	1150	1125	32	3862	2.22	6.7
MW-5	4/5/89	745	1070	9690	3286	1.95	NA
MW-6	4/4/89	1020	1740	872	4550	9.98	6.6
MW-7	4/4/89	956	913	496	3194	36.9	7.0
MW-8	4/4/89	984	1038	32	3928	12.3	6.8
MW-9	4/4/89	1180	1436	156	4514	11.1	6.7
MW-10	4/4/89	1130	922	340	3310	20.3	6.8
MW-11	4/4/89	998	1809	208	5756	47.5	6.6



TABLE 2 (Continued)  
 ADDITIONAL GROUNDWATER ANALYSES DATA

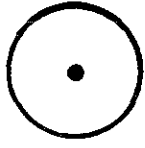
Well	Date	Alkalinity (ppm)	Hardness (ppm)	TSS (ppm)	TDS (ppm)	Iron (ppm)	pH
MW 12	4/4/89	575	454	390	1762	17.5	7.2
RW 1	4/5/89	1205	992	100	4044	88	

Note: For detection limits, refer to laboratory reports

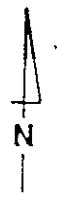


SOURCE: USGS 7.5' MAP, DUBLIN QUADRANGLE

**LEGEND**

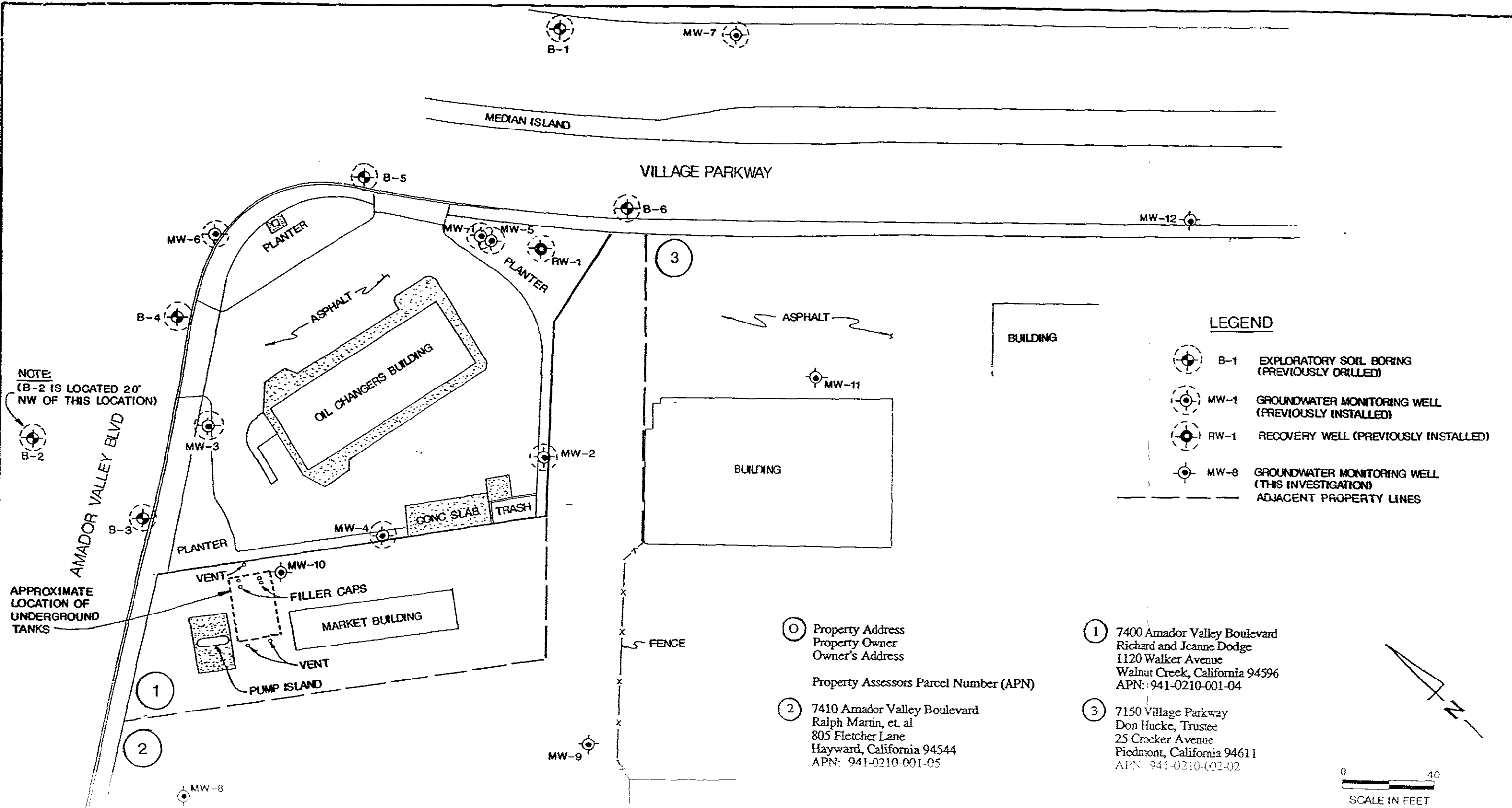


SITE LOCATION



**SITE LOCATION MAP**  
 FORMER SHELL STATION  
 7194 AMADOR VALLEY BLVD  
 DUBLIN, CALIFORNIA

REVIEWED BY	APPROVED BY
<i>RAS</i>	<i>LP</i>
JOB #	DRAWN BY
1826G	J.C.
DATE	DRAWING #
4-5-89	FIG. 1



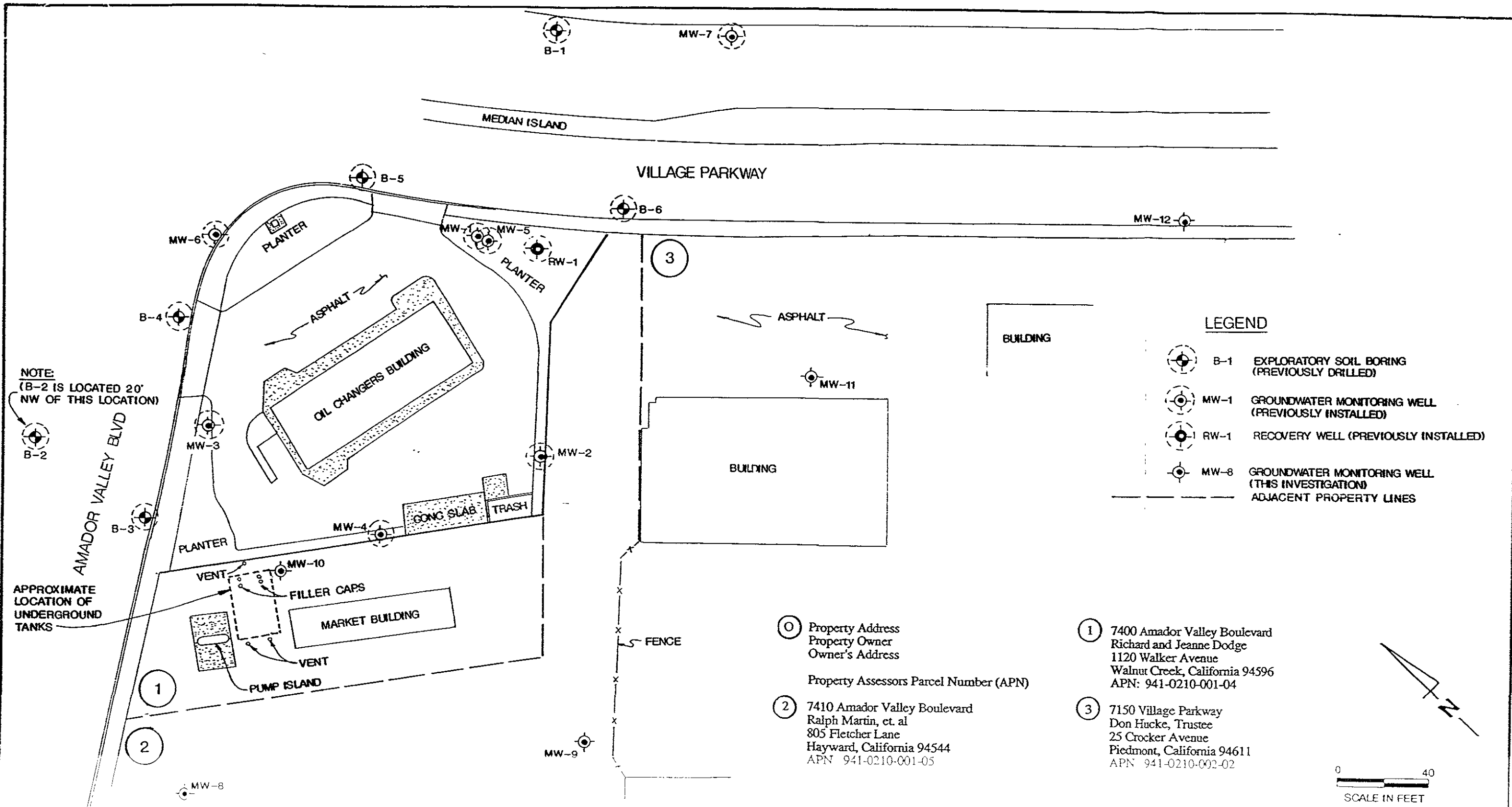
REV	DESCRIPTION	DATE	BY	APPD



**SITE PLAN**

FORMER SHELL STATION  
7104 AMADOR VALLEY BLVD  
DUBLIN, CALIFORNIA

REVIEWED BY:	APPROVED BY:
DESIGNED BY:	DATE:
JOB #: 1826G	DRAWN BY: SLS
DATE: 4/5/89	DRAWING #: FIG 2



REV	DESCRIPTION	DATE	BY	APPD



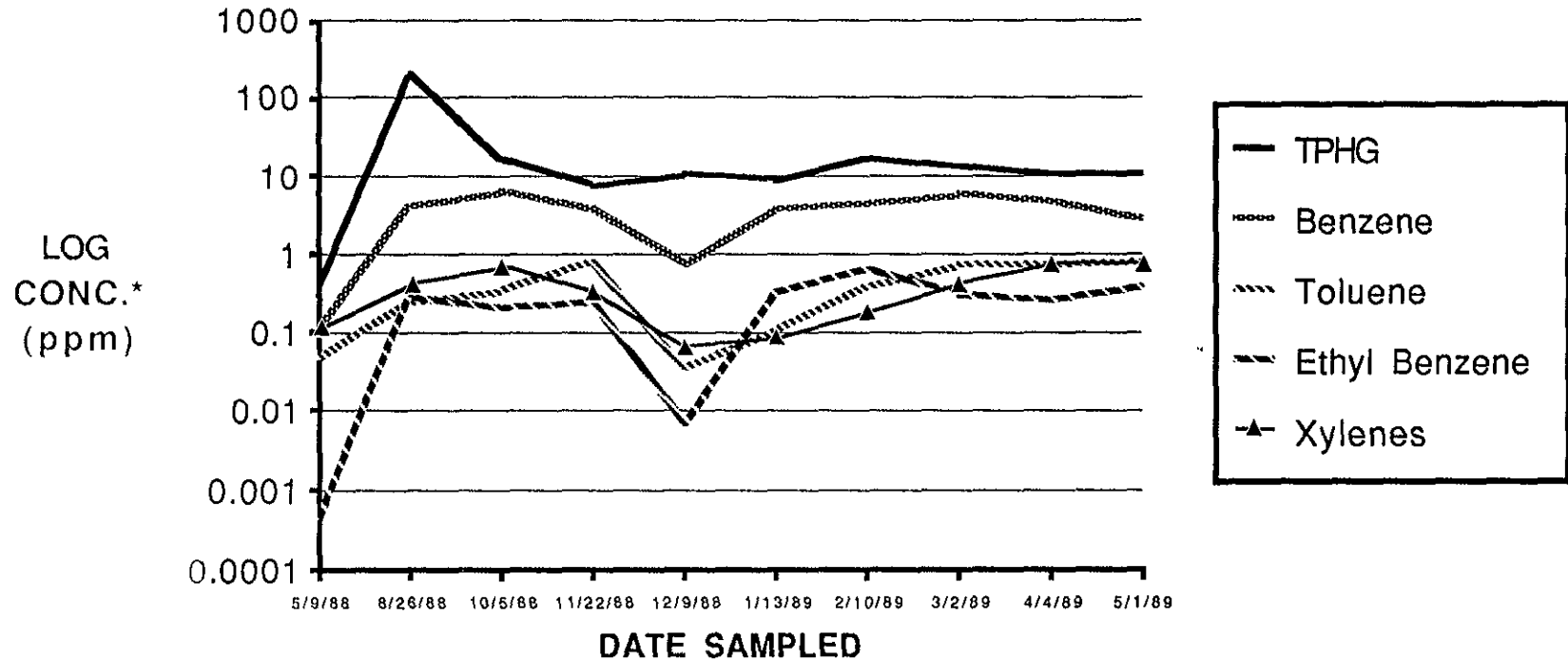
**SITE PLAN**

FORMER SHELL STATION  
7150 AMADOR VALLEY BLVD  
DURHAM, CALIFORNIA

REVIEWED BY:	APPROVED BY:
DESIGNED BY:	DATE:
JOB #:	DRAWN BY:
DATE:	DRAWING #:

1826G  
SLS  
4/5/89  
FIG. 2

### MW-1 GROUNDWATER ANALYSES DATA

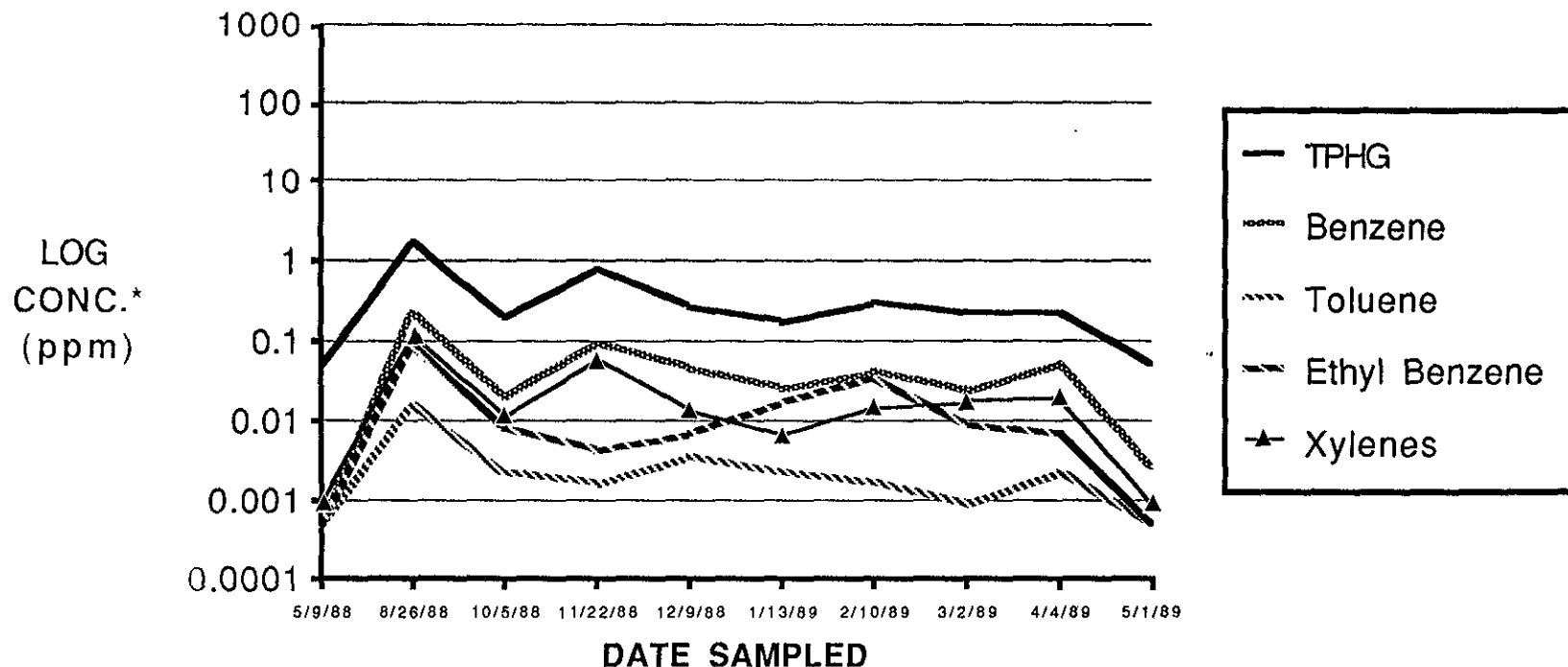


NOTE Graphed results may display higher laboratory equipment detection or reporting limits. For exact analytical results, refer to appended laboratory reports.

\* Logarithmic concentrations, parts per million

Figure # 3

### MW-2 GROUNDWATER ANALYSES DATA

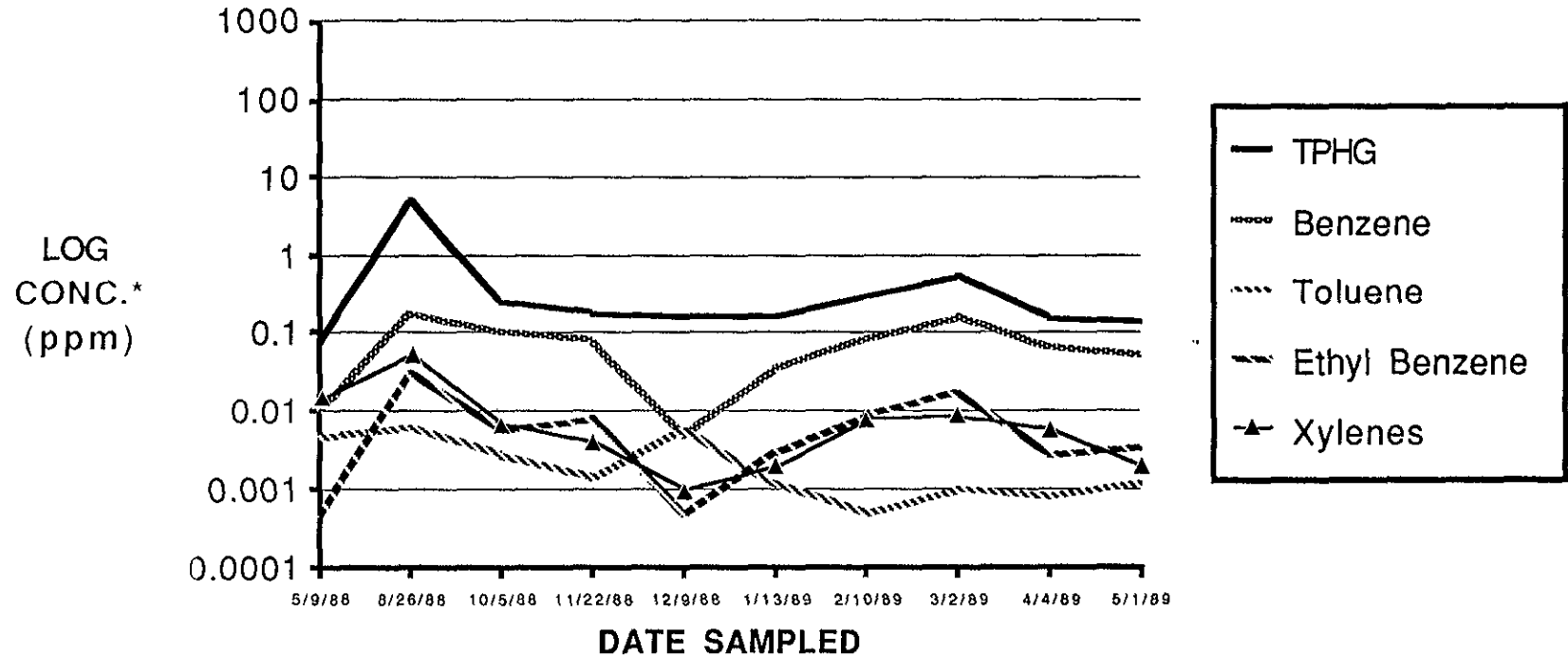


NOTE Graphed results may display higher laboratory equipment detection or reporting limits. For exact analytical results, refer to appended laboratory reports.

\* Logarithmic Concentration, parts per million

Figure # 4

### MW-3 GROUNDWATER ANALYSES DATA

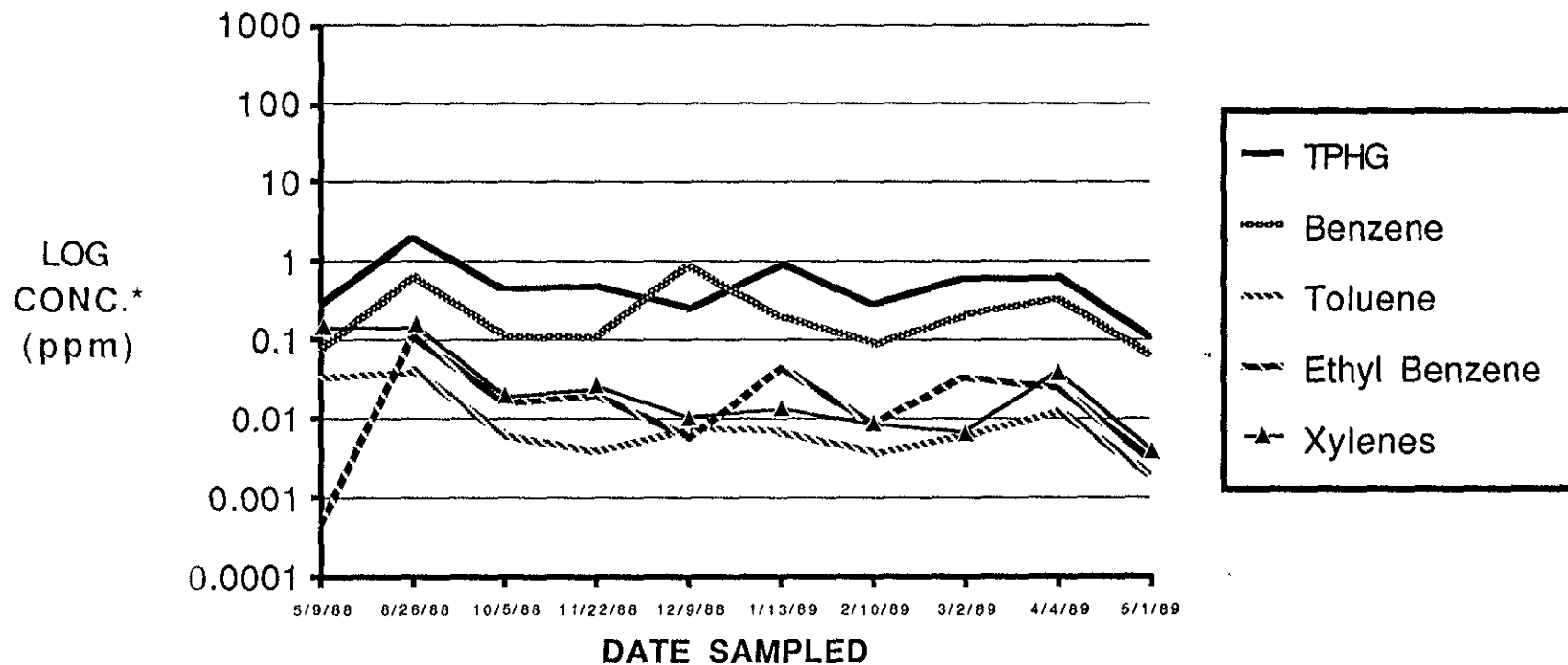


NOTE Graphed results may display higher laboratory equipment detection or reporting limits. For exact analytical results, refer to appended laboratory reports.

\* Logarithmic concentrations, parts per million

Figure # 5

### MW-4 GROUNDWATER ANALYSES DATA



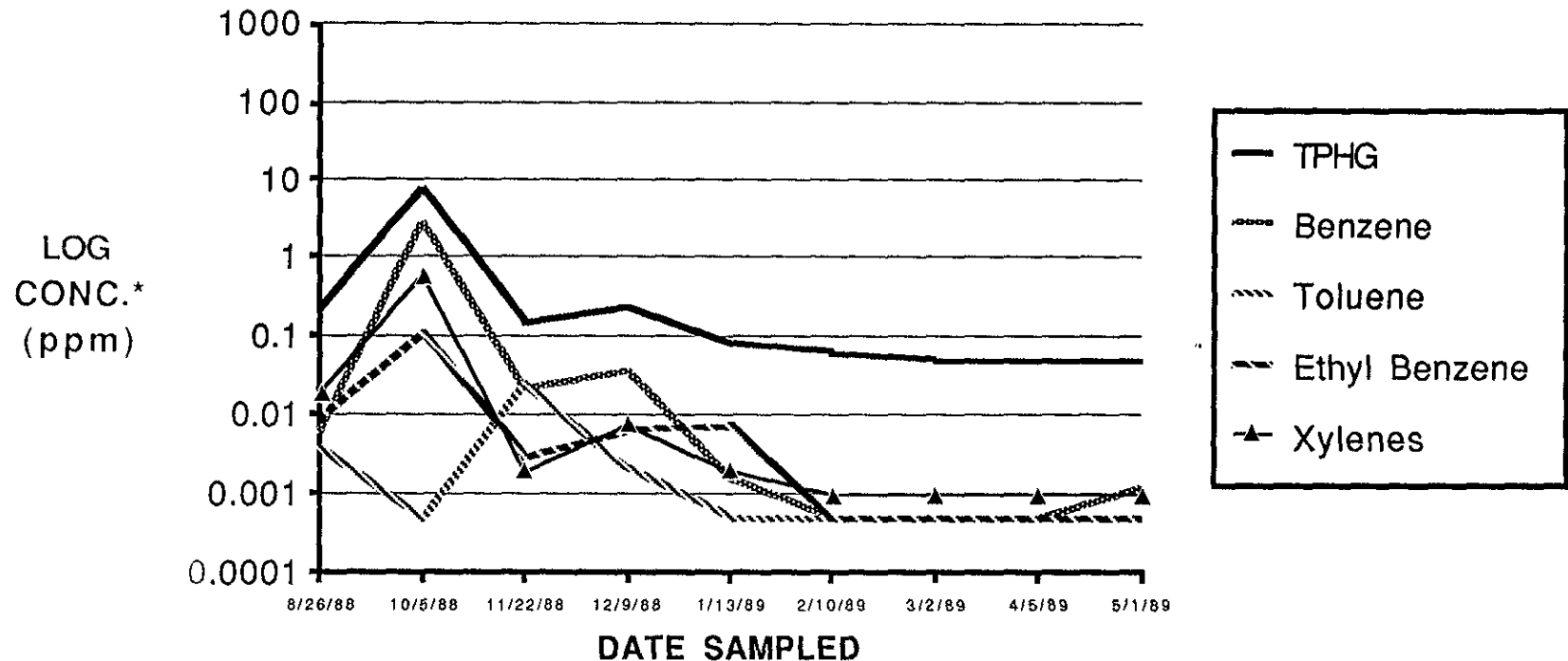
NOTE Graphed results may display higher laboratory equipment detection or reporting limits. For exact analytical results, refer to appended laboratory reports.

\* Logarithmic concentrations, parts per million

Figure # 6



### MW-5 GROUNDWATER ANALYSES DATA

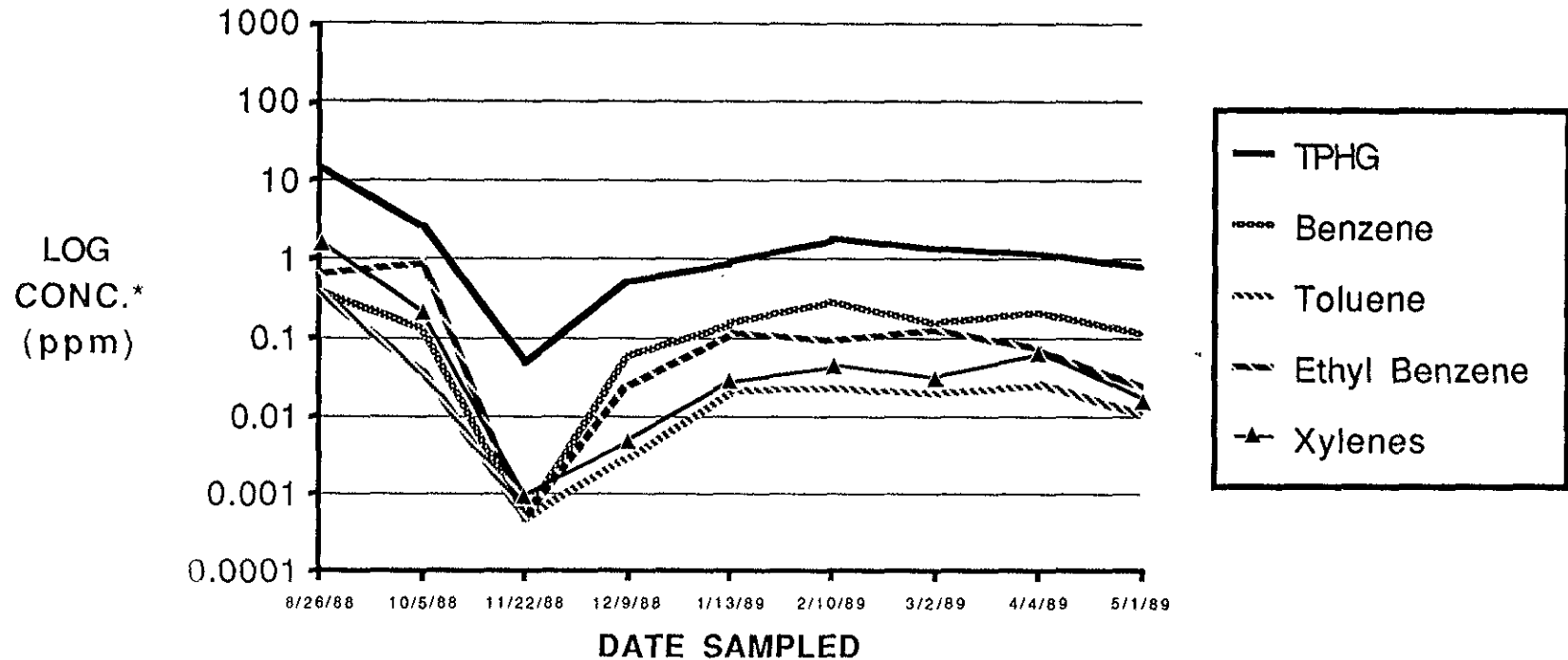


NOTE: Graphed results may display higher laboratory equipment detection or reporting limits. For exact analytical results, refer to appended laboratory reports.

\* Logarithmic concentrations, parts per million

Figure # 7

### MW-6 GROUNDWATER ANALYSES DATA

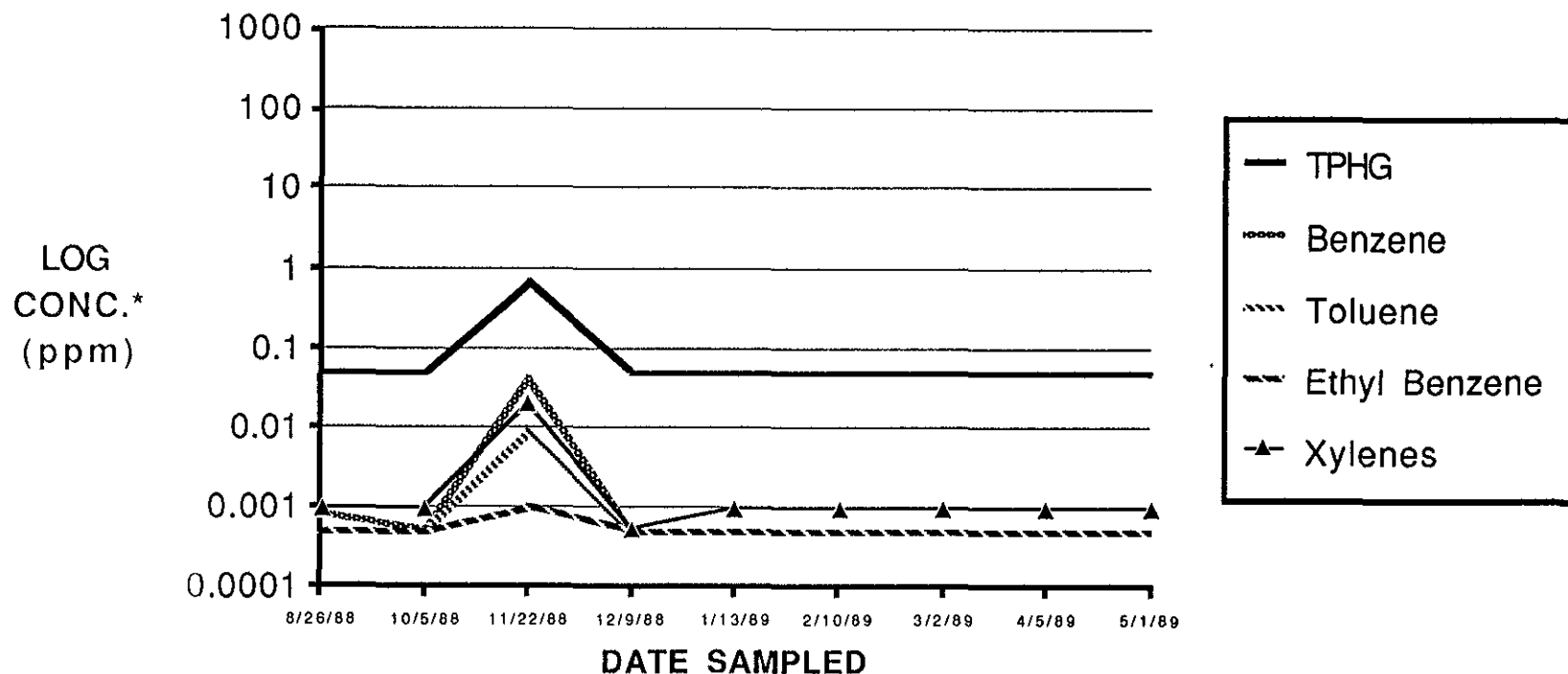


NOTE: Graphed results may display higher laboratory equipment detection or reporting limits. For exact analytical results, refer to appended laboratory reports.

\* Logarithmic concentrations, parts per million

Figure # 8

### MW-7 GROUNDWATER ANALYSES DATA

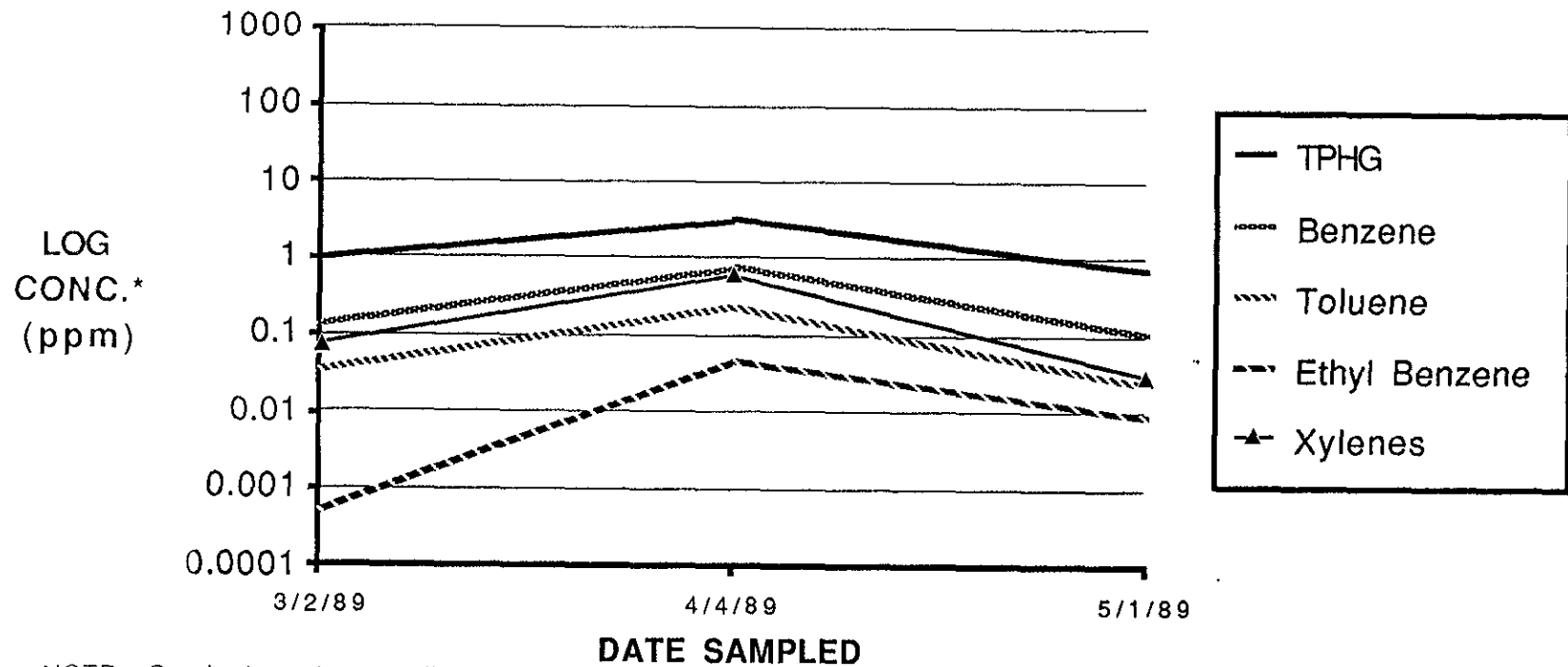


NOTE: Graphed results may display higher laboratory equipment detection or reporting limits. For exact analytical results, refer to appended laboratory reports.

\* Logarithmic concentrations, parts per million

Figure # 9

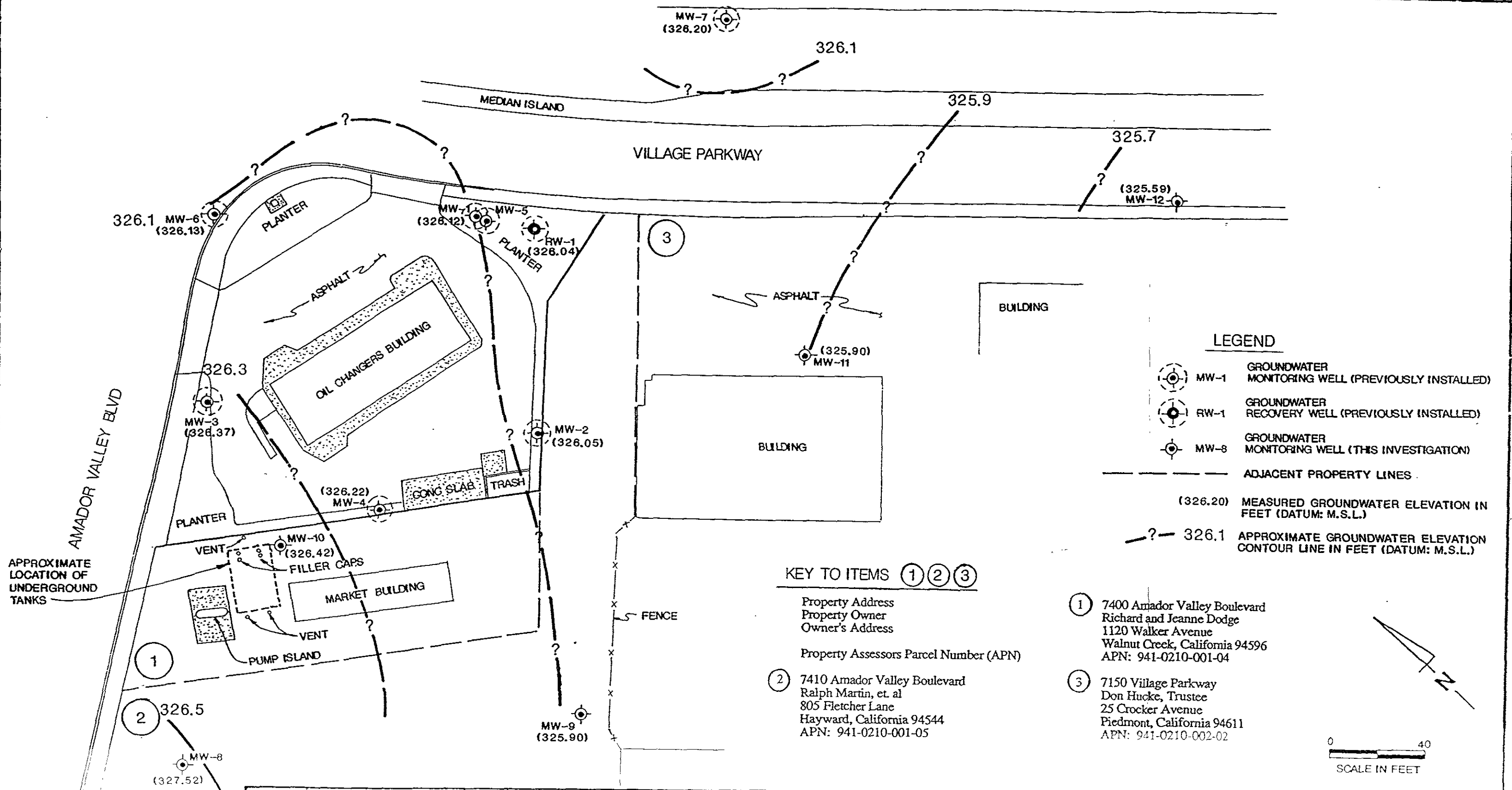
### MW-10 GROUNDWATER ANALYSES DATA



NOTE: Graphed results may display higher laboratory equipment detection or reporting limits. For exact analytical results, refer to appended laboratory reports.

\* Logarithmic concentrations, parts per million

Figure # 10



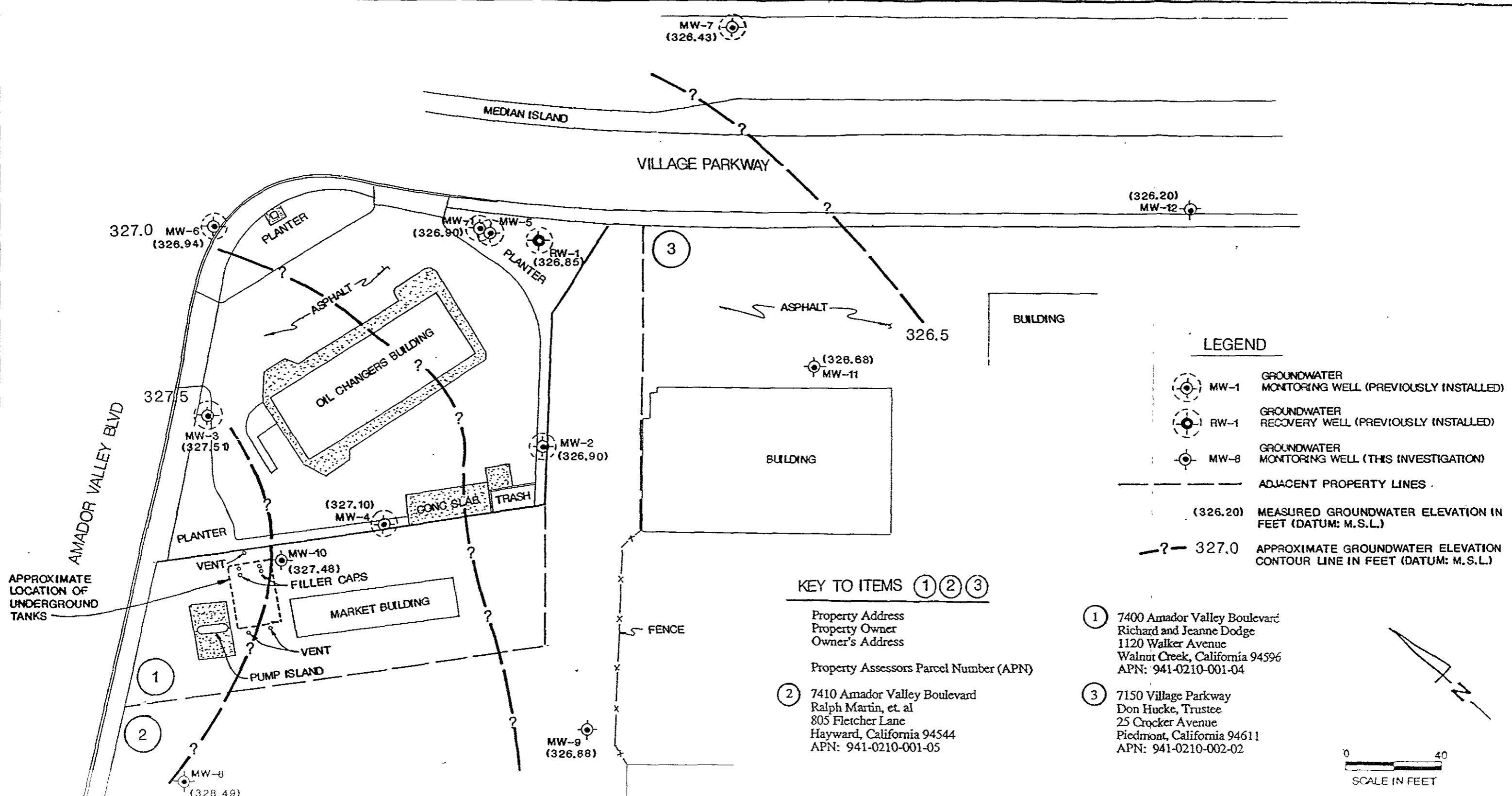
REV	DESCRIPTION	DATE	BY	APPD

**GROUNDWATER ELEVATION CONTOUR MAP (3/1/89)**

FORMER SHELL STATION  
7194 AMADOR VALLEY BLVD  
DUBLIN, CALIFORNIA

REVIEWED BY:	APPROVED BY:
DESIGNED BY:	DATE:
JOB #: 1826G	DRAWN BY: SLS
DATE: 5-9-89	DRAWING #: FIG. 11





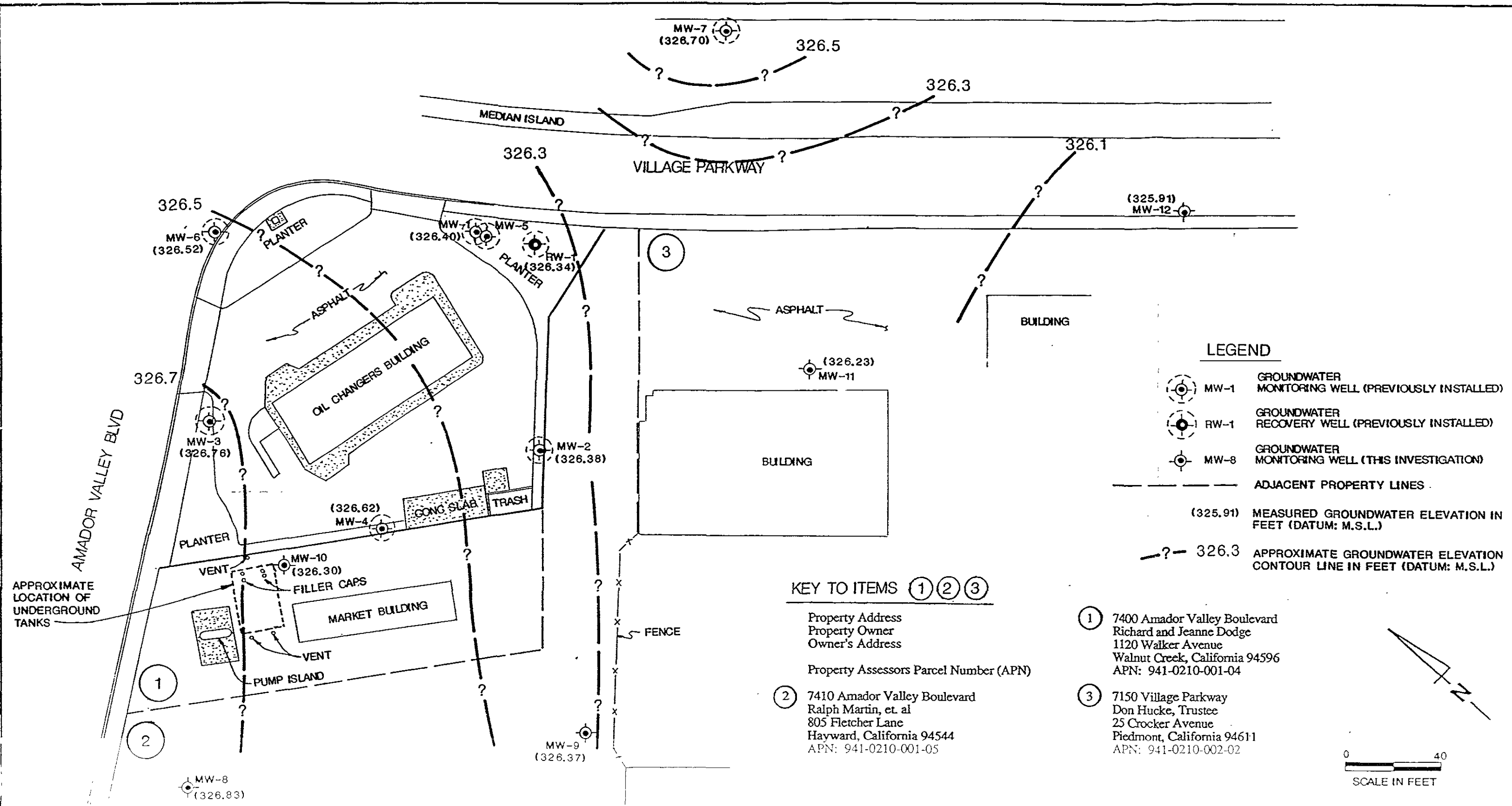
REV	DESCRIPTION	DATE	BY	APPD



**GROUNDWATER ELEVATION CONTOUR MAP (4/3/89)**

FORMER SHELL STATION  
7194 AMADOR VALLEY BLVD  
DUBLIN, CALIFORNIA

REVIEWED BY:	APPROVED BY:
DESIGNED BY:	DATE:
JOB #: 1826G	DRAWN BY: SLS
DATE: 5-9-89	DRAWING #: FIG. 12



**LEGEND**

- MW-1 GROUNDWATER MONITORING WELL (PREVIOUSLY INSTALLED)
- RW-1 GROUNDWATER RECOVERY WELL (PREVIOUSLY INSTALLED)
- MW-8 GROUNDWATER MONITORING WELL (THIS INVESTIGATION)
- ADJACENT PROPERTY LINES
- (325.91) MEASURED GROUNDWATER ELEVATION IN FEET (DATUM: M.S.L.)
- ? 326.3 APPROXIMATE GROUNDWATER ELEVATION CONTOUR LINE IN FEET (DATUM: M.S.L.)

**KEY TO ITEMS ① ② ③**

- Property Address  
Property Owner  
Owner's Address
- Property Assessors Parcel Number (APN)
- ① 7400 Amador Valley Boulevard  
Richard and Jeanne Dodge  
1120 Walker Avenue  
Walnut Creek, California 94596  
APN: 941-0210-001-04
- ② 7410 Amador Valley Boulevard  
Ralph Martin, et. al  
805 Fletcher Lane  
Hayward, California 94544  
APN: 941-0210-001-05
- ③ 7150 Village Parkway  
Don Hucke, Trustee  
25 Crocker Avenue  
Piedmont, California 94611  
APN: 941-0210-002-02



REV	DESCRIPTION	DATE	BY	APPD



**GROUNDWATER ELEVATION CONTOUR MAP (5/2/89)**

FORMER SHELL STATION  
7194 AMADOR VALLEY BLVD  
DUBLIN, CALIFORNIA

REVIEWED BY:	APPROVED BY:
DESIGNED BY:	DATE:
JOB #: 1826G	DRAWN BY: SLS
DATE: 5-9-89	DRAWING #: FIG. 13

**APPENDIX A**

**GROUNDWATER SAMPLING PROTOCOL  
AND  
LABORATORY PROCEDURES**



**ENSCO ENVIRONMENTAL SERVICES, INC.**

**GROUNDWATER SAMPLING PROTOCOL**

## **GROUNDWATER SAMPLING PROTOCOL**

Sampling of groundwater is performed by Ensco Environmental Services, Inc. (EES) sampling technicians. Summarized field sampling procedures are as follows:

1. Measurements of liquid surface in the well and depth of monitoring well.
2. Field check for presence of floating product.
3. Purge well prior to collecting samples.
4. Monitor groundwater for temperature, pH, and specific conductance during purging.
5. Collect samples using Environmental Protection Agency (EPA) approved sample collection devices, i.e., teflon or stainless steel bailers or pumps.
6. Transfer samples into laboratory-supplied EPA-approved containers.
7. Label samples and log onto chain-of-custody form.
8. Store samples in a chilled ice chest for shipment to a state-certified analytical laboratory.

# GROUNDWATER SAMPLING PROCEDURES

## Equipment Cleaning

All water samples are placed in precleaned laboratory-supplied bottles. Sample bottles and caps remain sealed until actual usage at the site. All equipment which comes in contact with the well or groundwater is thoroughly cleaned with a trisodium phosphate (TSP) solution and rinsed with deionized or distilled water before use at the site. This cleaning procedure is followed between each well sampled. Wells are sampled in approximate order of increasing contamination. If a teflon cord is used, the cord is cleaned. If a nylon or cotton cord is used, a new cord is used in each well. All equipment blanks are collected prior to sampling. The blanks are analyzed periodically to ensure proper cleaning.

## Water Level Measurements

Depth to groundwater is measured in each well using a sealed sampling tape or sealed electric sounder prior to purging or sampling. If the well is known or suspected of containing free-phase petroleum hydrocarbons, an optical interface probe is used to measure the hydrocarbon thickness and groundwater level. Measurements are collected and recorded to the nearest 0.01 foot.

## Bailer Sheen Check

If no measurable free-phase petroleum hydrocarbons are detected, a clear acrylic bailer is used to determine the presence of a sheen. Any observed film as well as odor and color of the water is recorded.

## Groundwater Sampling

Prior to groundwater sampling, each well is purged of "standing" groundwater. Either a bailer, hand pump, or submersible pump is used to purge the well. The amount of purging is dependent on the well yield. In a high yield formation, samples will be collected when normal field measurement, including temperature, pH, and specific conductance stabilize, provided a minimum of three well-casing volumes of water have been removed. Field measurements will be taken after purging each well volume. In low yield formations, the well is purged such that the "standing" water is removed and the well is allowed to recharge. (Normal field measurements will be periodically recorded during the purging process.) In situations where recovery to 80% of static water level is estimated, or observed to exceed a two hour duration, a sample will be collected when sufficient volume is available for a sample for each parameter. At no time will the well be purged dry so that the recharge rate causes the formation water to cascade into the well.

In wells where free-phase hydrocarbons are detected, the free-phase portion will be bailed from the well and the volume removed recorded. A groundwater sample will be collected if bailing reduces the amount of free-phase hydrocarbons to the point where they are not present in the well. Well sampling will be conducted using one of the aforementioned methods depending on the formation yield. However, if free-phase hydrocarbons persist throughout bailing, then a groundwater samples will not be collected.

Groundwater sample containers are labeled with a unique sample number, location, product name and number, and date of collection. All samples are logged into a chain-of-custody form and placed in a chilled ice chest for shipment to a laboratory certified by the State of California Department of Health Services.

**ENSCO ENVIRONMENTAL SERVICES, INC.**

**LABORATORY PROCEDURES**

# LABORATORY PROCEDURES

## Selection of the Laboratory

The laboratories selected to perform the analytical work are certified by the California State Department of Health Services as being qualified to perform the selected analyses. The selected laboratories are reviewed by Ensco Environmental Services, Inc. to ensure that they are certified by the State of California and maintain an adequate quality control program

## Chain-of-Custody Control

The following procedures are used during sampling and analytical activities to provide chain-of-custody control during transfer of samples from collection through delivery to the laboratories. Record keeping activities used to achieve chain-of-custody control are:

- Contact made by sampling organization with facility supervisor and laboratory prior to sampling to alert them of dates of sampling and sample delivery.
- Well location map with well identification number(s) prominently displayed.
- Field log book for documenting sampling activities in the field.
- Labels for identifying individual samples.
- Chain-of-custody record for documenting transfer and possession of samples.
- Laboratory analysis request sheet for documenting analyses to be performed.

## Field Filtration of Samples

Samplers will refrain from filtering TOC, TOX or other organic compound samples as the increased handling required may result in the loss of chemical constituents of interest. Allowing the samples to settle prior to analysis followed by decanting the sample is preferable to filtration of these substances. If filtration is necessary for the determination of extractable organic compounds, the filtration should be performed in the laboratory. It may be necessary to run parallel sets of filtered and unfiltered samples with standards to establish the recovery of hydrophobic compounds when sample must be filtered. All the materials' precautions used in the construction of the sampling train should be observed for filtration apparatus. Vacuum filtration of groundwater samples is not recommended.

Water samples for dissolved inorganic chemical constituents (e.g., metals, alkalinity and anionic species) will be filtered in the field.

## Sample Containers

Sample containers vary with each type of analytical parameter. Selected container types and materials are non-reactive with the sample and the particular analytical parameter being tested. Appropriate containers for volatile organics are glass bottles of at least 40 milliliters in size fitted with teflon-faced silicon septa. Sample containers are properly cleaned and sterilized by the certified laboratory according to the EPA protocol for the individual analysis.

## Sample Preservation and Shipment

Various preservatives are used by the certified laboratory to retard changes in samples. Sample shipment from Ensco Environmental Services to laboratories performing the selected analyses routinely occurs within 24 hours of sample collection.

## Analytical Procedures

The analysis of groundwater samples is conducted in accordance with accepted quantitative analytical procedures. The following four publications are considered the primary references for groundwater sample analysis, and the contracts with the laboratories analyzing the samples stipulate that the methods set out in these publications be used. Please note that procedures used are periodically updated by federal and state agencies, and the certified laboratories amend analysis as required by the update.

- Standard Methods for the Examination of Water and Wastewater, 16th Ed., American Public Health Association, et al., 1985.
- Methods for Chemical Analysis of Water and Wastes, U.S. EPA, 600/4-79-020, March 1979.
- Test Methods for Evaluation of Solid Waste: Physical/Chemical Methods, U.S. EPA SW-846, 1982.
- Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, EPA, 600/4-82-057, 1982.
- Practical Guide for Groundwater Sampling, EPA, 600/2-85/104, September 1985.
- RCRA Ground-Water Monitoring Technical Enforcement Guidance Document, EPA, September 1986.

## Analytical Methods

The analytical methods used by the selected laboratories are those required by the type of analysis (fuels, metals, etc.). These methods are those currently approved by the State Regional Water Quality Control Board.



**APPENDIX B**

**LABORATORY ANALYTICAL REPORTS  
AND  
CHAINS-OF-CUSTODY**

# ANAMETRIX INC

Environmental & Analytical Chemistry  
1961 Concourse Drive, Suite E, San Jose, CA 95131  
(408) 432-8192 • Fax (408) 432-8198



# REPORT

Kent Parrish  
Ensco Environmental Services  
41674 Christy Street  
Fremont, CA 94538-3114

March 02, 1989  
Anamatrix W.O.#: 8902157  
Date Received : 02/24/89  
Purchase Order#: 12495

Dear Mr. Parrish:

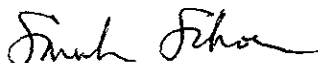
Your samples have been received for analysis. The REPORT SUMMARY lists your sample identifications and the analytical methods you requested. The following sections are included in this report: RESULTS and QUALITY ASSURANCE.

NOTE: Amounts reported are net values, i.e. corrected for method blank contamination.

If there is any more that we can do, please give us a call. Thank you for using ANAMETRIX, INC.

Sincerely,

ANAMETRIX, INC.



Sarah Schoen, Ph.D.  
GC Manager

SRS/lm

REPORT SUMMARY  
ANAMETRIX, INC. (408) 432-8192

Client : Ensco Environmental Services  
Address : 41674 Christy Street  
City : Fremont, CA 94538-3114  
Attn. : Kent Parrish

Anamatrix W.O.#: 0902157  
Date Received : 02/24/89  
Purchase Order#: 12495  
Project No. : 1826G  
Date Released : 03/03/89

Anamatrix I.D.	Sample I.D.	Matrix	Date Sampled	Method	Date Extract	Date Analyzed	Inst I.D.
RESULTS							
8902157-01	1826G DRUM 1/2/3	SOIL	02/21/89	ORGPB		02/24/89	AA1
8902157-02	1826G D-4/5/6/7	SOIL	02/22/89	ORGPB		02/24/89	AA1
8902157-06	1826G D-11/12/13	SOIL	02/23/89	ORGPB		02/24/89	AA1
8902157-07	1826G D-14/15/16	SOIL	02/23/89	ORGPB		02/24/89	AA1
8902157-08	1826G D-8/9/10	SOIL	02/22/89	ORGPB		02/24/89	AA1
8902157-01	1826G DRUM 1/2/3	SOIL	02/21/89	TTLPB		02/24/89	AA1
8902157-02	1826G D-4/5/6/7	SOIL	02/22/89	TTLPB		02/24/89	AA1
8902157-06	1826G D-11/12/13	SOIL	02/23/89	TTLPB		02/24/89	AA1
8902157-07	1826G D-14/15/16	SOIL	02/23/89	TTLPB		02/24/89	AA1
8902157-08	1826G D-8/9/10	SOIL	02/22/89	TTLPB		02/24/89	AA1
QUALITY ASSURANCE (QA)							
OMB022489	METHOD BLANK	SOIL	N/A	ORGPB		02/24/89	AA1
MB021389	METHOD BLANK	SOIL	N/A	TTLPB		02/24/89	AA1

ANALYSIS DATA SHEET - ORGANIC LEAD  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G DRUM 1/2/3  
Matrix : SOIL  
Date Sampled : 02/21/89  
Date Prepared: 02/24/89  
Date Analyzed: 02/24/89

Anametrix ID : 8902157-01  
Analyst : MN  
Supervisor : RA  
Date released: 03/03/89  
Instrument ID: AA1

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
LUFT	Organic Lead (Pb)	0.2	ND

ND : Not detected at or above the practical quantitation limit for the limit.

Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA

ANALYSIS DATA SHEET - ORGANIC LEAD  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G D-4/5/6/7  
Matrix : SOIL  
Date Sampled : 02/22/89  
Date Prepared: 02/24/89  
Date Analyzed: 02/24/89

Anamatrix ID : 8902157-02  
Analyst : MN  
Supervisor : RM  
Date released: 03/03/89  
Instrument ID: AA1

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
LUFT	Organic Lead (Pb)	0.2	ND

ND : Not detected at or above the practical quantitation limit for the limit.

Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA

ANALYSIS DATA SHEET - ORGANIC LEAD  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G D-8/9/10  
Matrix : SOIL  
Date Sampled : 02/22/89  
Date Prepared: 02/24/89  
Date Analyzed: 02/24/89

Anamatrix ID : 8902157-08  
Analyst : MN  
Supervisor : Rm  
Date released: 03/03/89  
Instrument ID: AA1

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
LUFT	Organic Lead (Pb)	0.2	ND

ND : Not detected at or above the practical quantitation limit for the limit.

Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA

ANALYSIS DATA SHEET - ORGANIC LEAD  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G D-11/12/13  
 Matrix : SOIL  
 Date Sampled : 02/23/89  
 Date Prepared: 02/24/89  
 Date Analyzed: 02/24/89

Anametrix ID : 8902157-06  
 Analyst : MN  
 Supervisor : R M  
 Date released: 03/03/89  
 Instrument ID: AA1

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
LUFT	Organic Lead (Pb)	0.2	ND

ND : Not detected at or above the practical quantitation limit for the limit.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - ORGANIC LEAD  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G D-14/15/16  
 Matrix : SOIL  
 Date Sampled : 02/23/89  
 Date Prepared: 02/24/89  
 Date Analyzed: 02/24/89

Anametrix ID : 8902157-07  
 Analyst : <sup>MIN</sup>  
 Supervisor : <sup>Rm</sup>  
 Date released: 03/03/89  
 Instrument ID: AA1

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
LUFT	Organic Lead (Pb)	0.2	ND

ND : Not detected at or above the practical quantitation limit for the limit.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA



ANALYSIS DATA SHEET - INORGANIC LEAD  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G DRUM 1/2/3  
Matrix : SOIL  
Date Sampled : 02/21/89  
Date Prepared: 02/24/89  
Date Analyzed: 02/24/89

Anamatrix ID : 8902157-01  
Analyst : *MA*  
Supervisor : *RM*  
Date released: 03/03/89  
Instrument ID: AA1

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
7420	Total Lead (Pb)	2.5	5.80

ND : Not detected at or above the practical quantitation limit for the limit.

Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA

ANALYSIS DATA SHEET - INORGANIC LEAD  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G D-4/5/6/7  
 Matrix : SOIL  
 Date Sampled : 02/22/89  
 Date Prepared: 02/24/89  
 Date Analyzed: 02/24/89

Anametrix ID : 8902157-02  
 Analyst : MM  
 Supervisor : Rm  
 Date released: 03/03/89  
 Instrument ID: AA1

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
7420	Total Lead (Pb)	2.5	5.70

ND : Not detected at or above the practical quantitation limit for the limit.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - INORGANIC LEAD  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G D-8/9/10  
Matrix : SOIL  
Date Sampled : 02/22/89  
Date Prepared: 02/24/89  
Date Analyzed: 02/24/89

Anamatrix ID : 8902157-08  
Analyst : MW  
Supervisor : RM  
Date released: 03/03/89  
Instrument ID: AA1

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
7420	Total Lead (Pb)	2.5	7.20

ND : Not detected at or above the practical quantitation limit for the limit.

Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA

ANALYSIS DATA SHEET - INORGANIC LEAD  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G D-11/12/13  
Matrix : SOIL  
Date Sampled : 02/23/89  
Date Prepared: 02/24/89  
Date Analyzed: 02/24/89

Anamatrix ID : 8902157-06  
Analyst : MM  
Supervisor : RM  
Date released: 03/03/89  
Instrument ID: AA1

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
7420	Total Lead (Pb)	2.5	5.55

ND : Not detected at or above the practical quantitation limit for the limit.

Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA

ANALYSIS DATA SHEET - INORGANIC LEAD  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G D-14/15/16  
Matrix : SOIL  
Date Sampled : 02/23/89  
Date Prepared: 02/24/89  
Date Analyzed: 02/24/89

Anametrix ID : 8902157-07  
Analyst : *MN*  
Supervisor : *R M*  
Date released: 03/03/89  
Instrument ID: AA1

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
7420	Total Lead (Pb)	2.5	5.80

ND : Not detected at or above the practical quantitation limit for the limit.

Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA

ANALYSIS DATA SHEET - ORGANIC LEAD  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : METHOD BLANK  
Matrix : SOIL  
Date Sampled : N/A  
Date Prepared: 02/24/89  
Date Analyzed: 02/24/89

Anamatrix ID : OMB022489  
Analyst : ~~MM~~  
Supervisor : R ^  
Date released: 03/03/89  
Instrument ID: AA1

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
LUFT	Organic Lead (Pb)	0.05	ND

ND : Not detected at or above the practical quantitation limit for the limit.

ANALYSIS DATA SHEET - INORGANIC LEAD  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : METHOD BLANK  
Matrix : SOIL  
Date Sampled : N/A  
Date Prepared: 02/13/89  
Date Analyzed: 02/24/89

Anamatrix ID : MB021389  
Analyst : *mn*  
Supervisor : *Ra*  
Date released: 03/03/89  
Instrument ID: AA1

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
7420	Total Lead (Pb)	0.05	ND

ND : Not detected at or above the practical quantitation limit for the limit.

REPORT SUMMARY  
ANAMETRIX, INC. (408) 432-8192

Client : EnSCO Environmental Services  
Address : 41674 Christy Street  
City : Fremont, CA 94538-3114  
Attn. : Kent Parrish

Anamatrix W.O.#: 8902157  
Date Received : 02/24/89  
Purchase Order#: 12495  
Project No. : 1826G  
Date Released : 03/02/89

Anamatrix I.D.	Sample I.D.	Matrix	Date Sampled	Method	Date Extract	Date Analyzed	Inst I.D.
RESULTS							
8902157-01	1826G DRUM 1/2/3	SOIL	02/21/89	TPH	02/24/89	02/28/89	N/A
8902157-02	1826G D-4/5/6/7	SOIL	02/22/89	TPH	02/24/89	02/28/89	N/A
8902157-03	1826G D-8	SOIL	02/22/89	TPH	02/24/89	02/28/89	N/A
8902157-04	1826G D-9	SOIL	02/22/89	TPH	02/24/89	02/28/89	N/A
8902157-05	1826G D-10	SOIL	02/22/89	TPH	02/24/89	02/28/89	N/A
8902157-06	1826G D-11/12/13	SOIL	02/23/89	TPH	02/24/89	02/28/89	N/A
8902157-07	1826G D-14/15/16	SOIL	02/23/89	TPH	02/24/89	02/28/89	N/A





ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G D-4/5/6/7  
 Matrix : SOIL  
 Date sampled : 02/22/89  
 Date anl.TPHg: 02/24/89  
 Date ext.TPHd: 02/24/89  
 Date anl.TPHd: 02/28/89

Anamatrix I.D. : 8902157-02  
 Analyst : *aw*  
 Supervisor : *SW*  
 Date released : 03/02/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.1	ND
108-88-3	Toluene	0.1	ND
100-41-4	Ethylbenzene	0.1	ND
1330-20-7	Total Xylenes	0.1	ND
	TPH as Gasoline	1	ND
	TPH as Diesel	10	ND

- ND - Not detected at or above the practical quantitation limit for the method.  
 TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.  
 TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following either EPA Method 3510 or 3550.  
 BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G D-8  
 Matrix : SOIL  
 Date sampled : 02/22/89  
 Date anl.TPHg: 02/24/89  
 Date ext.TPHd: 02/24/89  
 Date anl.TPHd: 02/28/89

Anametrix I.D. : 8902157-03  
 Analyst : *AN*  
 Supervisor : *SY*  
 Date released : 03/02/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	2	6
108-88-3	Toluene	2	33
100-41-4	Ethylbenzene	2	19
1330-20-7	Total Xylenes	2	28
	TPH as Gasoline	20	930
	TPH as Diesel	10	110

- ND - Not detected at or above the practical quantitation limit for the method.  
 TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.  
 TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following either EPA Method 3510 or 3550.  
 BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G D-9  
Matrix : SOIL  
Date sampled : 02/22/89  
Date anl.TPHg: 02/24/89  
Date ext.TPHd: 02/24/89  
Date anl.TPHd: 02/28/89

Anamatrix I.D. : 8902157-04  
Analyst : *AL*  
Supervisor : *MS*  
Date released : 03/02/89  
Date ext. TOG : N/A  
Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.8	12
108-88-3	Toluene	0.8	16
100-41-4	Ethylbenzene	0.8	17
1330-20-7	Total Xylenes	0.8	46
	TPH as Gasoline	8	570
	TPH as Diesel	10	140

- ND - Not detected at or above the practical quantitation limit for the method.
- TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
- TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following either EPA Method 3510 or 3550.
- BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G D-10  
 Matrix : SOIL  
 Date sampled : 02/22/89  
 Date anl.TPHg: 02/24/89  
 Date ext.TPHd: 02/24/89  
 Date anl.TPHd: 02/28/89

Anamatrix I.D. : 8902157-05  
 Analyst : *LM*  
 Supervisor : *DM*  
 Date released : 03/02/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	2	30
108-88-3	Toluene	2	50
100-41-4	Ethylbenzene	2	40
1330-20-7	Total Xylenes	2	120
	TPH as Gasoline	20	1400
	TPH as Diesel	10	100

- ND - Not detected at or above the practical quantitation limit for the method.  
 TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.  
 TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following either EPA Method 3510 or 3550.  
 BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G D-11/12/13  
 Matrix : SOIL  
 Date sampled : 02/23/89  
 Date anl.TPHg: 02/24/89  
 Date ext.TPHd: 02/24/89  
 Date anl.TPHd: 02/28/89

Anamatrix I.D. : 8902157-06  
 Analyst :  
 Supervisor : *[Signature]*  
 Date released : 03/02/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.1	ND
108-88-3	Toluene	0.1	ND
100-41-4	Ethylbenzene	0.1	ND
1330-20-7	Total Xylenes	0.1	ND
	TPH as Gasoline	1	ND
	TPH as Diesel	10	ND

- ND - Not detected at or above the practical quantitation limit for the method.
- TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
- TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following either EPA Method 3510 or 3550.
- BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G D-14/15/16  
 Matrix : SOIL  
 Date sampled : 02/23/89  
 Date anl.TPHg: 02/24/89  
 Date ext.TPHd: 02/24/89  
 Date anl.TPHd: 02/28/89

Anamatrix I.D. : 8902157-07  
 Analyst : *N*  
 Supervisor : *MS*  
 Date released : 03/02/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.1	ND
108-88-3	Toluene	0.1	ND
100-41-4	Ethylbenzene	0.1	ND
1330-20-7	Total Xylenes	0.1	ND
	TPH as Gasoline	1	ND
	TPH as Diesel	10	ND

- ND - Not detected at or above the practical quantitation limit for the method.  
 TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.  
 TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following either EPA Method 3510 or 3550.  
 BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

**ANAMETRIX INC**

Environmental & Analytical Chemistry  
1961 Concourse Drive, Suite E, San Jose, CA 95131  
(408) 432-8192 • Fax (408) 432-8198

**REPORT**

Kent Parrish  
Ensco Environmental Services  
41674 Christy Street  
Fremont, CA 94538

March 10, 1989  
Anamatrix W.O.#: 8902158  
Date Received : 02/24/89  
Purchase Order#: 12495  
Site: Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA

Dear Mr. Parrish:

Your samples have been received for analysis. The REPORT SUMMARY lists your sample identifications and the analytical methods you requested. The following sections are included in this report: RESULTS and QUALITY ASSURANCE.

NOTE: Amounts reported are net values, i.e. corrected for method blank contamination.

If there is any more that we can do, please give us a call. Thank you for using ANAMETRIX, INC.

Sincerely,

ANAMETRIX, INC.

A handwritten signature in cursive script, appearing to read "Sarah Schoen".

Sarah Schoen Ph.D.  
GC Manager

SRS/lm



REPORT SUMMARY  
ANAMETRIX, INC. (408) 432-8192

Client	: Ensco Environmental Services	Anamatrix W.O.#: 8902158
Address	: 41674 Christy Street	Date Received : 02/24/89
		Purchase Order#: 12495
City	: Fremont, CA 94538	Project No. : 1826G
Attn.	: Kent Parrish	Date Released : 03/10/89

Anamatrix I.D.	Sample I.D.	Matrix	Date Sampled	Method	Date Extract	Date Analyzed	Inst I.D.
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RESULTS

8902158-01	1826G MW-8-1/2/3/	SOIL	02/21/89	TPH	02/28/89	03/02/89	N/A
8902158-02	1826G MW-9-1/2/3/	SOIL	02/22/89	TPH	02/28/89	03/02/89	N/A
8902158-03	1826G MW-10-1	SOIL	02/22/89	TPH	02/28/89	03/02/89	N/A
8902158-04	1826G MW-10-2	SOIL	02/22/89	TPH	02/28/89	03/02/89	N/A
8902158-05	1826G MW-10-3	SOIL	02/22/89	TPH	02/28/89	03/02/89	N/A
8902158-06	1826G MW-11-1/2	SOIL	02/23/89	TPH	02/28/89	03/02/89	N/A
8902158-07	1826G MW-12-1/2/3	SOIL	02/23/89	TPH	02/28/89	03/02/89	N/A
8902158-01	1826G MW-8-1/2/3	SOIL	02/21/89	ORGPb		03/01/89	AA1
8902158-02	1826G MW-9-1/2/3/	SOIL	02/22/89	ORGPb		03/01/89	AA1
8902158-06	1826G MW-11-1/2	SOIL	02/23/89	ORGPb		03/01/89	AA1
8902158-07	1826G MW-12-1/2/3	SOIL	02/23/89	ORGPb		03/01/89	AA1
8902158-08	1826G MW-10-1/2/3	SOIL	02/22/89	ORGPb		03/01/89	AA1
8902158-01	1826G MW-8-1/2/3/	SOIL	02/21/89	TTLPb		03/01/89	AA1
8902158-02	1826G MW-9-1/2/3/	SOIL	02/22/89	TTLPb		03/01/89	AA1
8902158-06	1826G MW-11-1/2	SOIL	02/23/89	TTLPb		03/01/89	AA1
8902158-07	1826G MW-12-1/2/3	SOIL	02/23/89	TTLPb		03/01/89	AA1
8902158-08	1826G MW-10-1/2/3	SOIL	02/22/89	TTLPb		03/01/89	AA1

QUALITY ASSURANCE (QA)

OMB022889	METHOD BLANK	SOIL	N/A	ORGPb		03/01/89	AA1
MB022789	METHOD BLANK	SOIL	N/A	TTLPb		03/01/89	AA1

Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-8-1/2/3/4  
 Matrix : SOIL  
 Date sampled : 02/21/89  
 Date anl.TPHg: 02/27/89  
 Date ext.TPHd: 02/28/89  
 Date anl.TPHd: 03/02/89

Anamatrix I.D. : 8902158-01  
 Analyst : *TC*  
 Supervisor : *DJ*  
 Date released : 03/10/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
	TPH as Gasoline	1	ND
	TPH as Diesel	10	ND

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following either EPA Method 3510 or 3550.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-9-1/2/3/4  
Matrix : SOIL  
Date sampled : 02/22/89  
Date anl.TPHg: 02/27/89  
Date ext.TPHd: 02/28/89  
Date anl.TPHd: 03/02/89

Anamatrix I.D. : 8902158-02  
Analyst : JC  
Supervisor : JD  
Date released : 03/10/89  
Date ext. TOG : N/A  
Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.1	ND
108-88-3	Toluene	0.1	ND
100-41-4	Ethylbenzene	0.1	ND
1330-20-7	Total Xylenes	0.1	ND
	TPH as Gasoline	1	3
	TPH as Diesel	10	ND

- ND - Not detected at or above the practical quantitation limit for the method.
- TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
- TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following either EPA Method 3510 or 3550.
- BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-10-1  
 Matrix : SOIL  
 Date sampled : 02/22/89  
 Date anl.TPHg: 02/27/89  
 Date ext.TPHd: 02/28/89  
 Date anl.TPHd: 03/02/89

Anamatrix I.D. : 8902158-03  
 Analyst : JC  
 Supervisor : PJ  
 Date released : 03/10/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	2	7
108-88-3	Toluene	2	52
100-41-4	Ethylbenzene	2	44
1330-20-7	Total Xylenes	2	210
	TPH as Gasoline	20	2600
	TPH as Diesel	10	53

- ND - Not detected at or above the practical quantitation limit for the method.
- TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
- TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following either EPA Method 3510 or 3550.
- BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-10-2  
 Matrix : SOIL  
 Date sampled : 02/22/89  
 Date anl.TPHg: 02/27/89  
 Date ext.TPHd: 02/28/89  
 Date anl.TPHd: 03/02/89

Anamatrix I.D. : 8902158-04  
 Analyst : JC  
 Supervisor : JS  
 Date released : 03/10/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	2	4
108-88-3	Toluene	2	22
100-41-4	Ethylbenzene	2	20
1330-20-7	Total Xylenes	2	94
	TPH as Gasoline	20	1100
	TPH as Diesel	10	70

- ND - Not detected at or above the practical quantitation limit for the method.
- TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
- TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following either EPA Method 3510 or 3550.
- BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-10-3  
 Matrix : SOIL  
 Date sampled : 02/22/89  
 Date anl.TPHg: 02/27/89  
 Date ext.TPHd: 02/28/89  
 Date anl.TPHd: 03/02/89

Anametrix I.D. : 8902158-05  
 Analyst : TC  
 Supervisor : DS  
 Date released : 03/10/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.1	ND
108-88-3	Toluene	0.1	ND
100-41-4	Ethylbenzene	0.1	ND
1330-20-7	Total Xylenes	0.1	ND
	TPH as Gasoline	1	2
	TPH as Diesel	10	ND

- ND - Not detected at or above the practical quantitation limit for the method.
- TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
- TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following either EPA Method 3510 or 3550.
- BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-11-1/2  
 Matrix : SOIL  
 Date sampled : 02/23/89  
 Date anl.TPHg: 02/27/89  
 Date ext.TPHd: 02/28/89  
 Date anl.TPHd: 03/02/89

Anamatrix I.D. : 8902158-06  
 Analyst : TC  
 Supervisor : DJ  
 Date released : 03/10/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
	TPH as Gasoline	1	ND
	TPH as Diesel	10	ND

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following either EPA Method 3510 or 3550.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-12-1/2/3  
 Matrix : SOIL  
 Date sampled : 02/23/89  
 Date anl.TPHg: 02/27/89  
 Date ext.TPHd: 02/28/89  
 Date anl.TPHd: 03/02/89

Anamatrix I.D. : 8902158-07  
 Analyst : TC  
 Supervisor : RJ  
 Date released : 03/10/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
	TPH as Gasoline	1	ND
	TPH as Diesel	10	ND

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following either EPA Method 3510 or 3550.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA



ANALYSIS DATA SHEET - ORGANIC LEAD  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-8-1/2/3/4  
 Matrix : SOIL  
 Date Sampled : 02/21/89  
 Date Prepared: 03/01/89  
 Date Analyzed: 03/01/89

Anametrix ID : 8902158-01  
 Analyst : M.K.  
 Supervisor : *[Signature]*  
 Date released: 03/10/89  
 Instrument ID: AA1

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
LUFT	Organic Lead (Pb)	0.2	ND

ND : Not detected at or above the practical quantitation limit for the limit.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - ORGANIC LEAD  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-9-1/2/3/4  
 Matrix : SOIL  
 Date Sampled : 02/22/89  
 Date Prepared: 03/01/89  
 Date Analyzed: 03/01/89

Anamatrix ID : 8902158-02  
 Analyst : MK  
 Supervisor : P  
 Date released: 03/10/89  
 Instrument ID: AA1

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
LUFT	Organic Lead (Pb)	0.2	ND

ND : Not detected at or above the practical quantitation limit for the limit.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - ORGANIC LEAD  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-10-1/2/3  
 Matrix : SOIL  
 Date Sampled : 02/22/89  
 Date Prepared: 03/01/89  
 Date Analyzed: 03/01/89

Anamatrix ID : 8902158-08  
 Analyst : M.K.  
 Supervisor : R  
 Date released: 03/10/89  
 Instrument ID: AA1

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
LUFT	Organic Lead (Pb)	0.2	ND

ND : Not detected at or above the practical quantitation limit for the limit.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - ORGANIC LEAD  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-11-1/2  
Matrix : SOIL  
Date Sampled : 02/23/89  
Date Prepared: 03/01/89  
Date Analyzed: 03/01/89

Anamatrix ID : 8902158-06  
Analyst : M.K.  
Supervisor : R.  
Date released: 03/10/89  
Instrument ID: AA1

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
LUFT	Organic Lead (Pb)	0.2	ND

ND : Not detected at or above the practical quantitation limit for the limit.

Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA

ANALYSIS DATA SHEET - ORGANIC LEAD  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-12-1/2/3  
 Matrix : SOIL  
 Date Sampled : 02/23/89  
 Date Prepared: 03/01/89  
 Date Analyzed: 03/01/89

Anamatrix ID : 8902158-07  
 Analyst : *M.K.*  
 Supervisor : *B*  
 Date released: 03/10/89  
 Instrument ID: AA1

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
LUFT	Organic Lead (Pb)	0.2	ND

ND : Not detected at or above the practical quantitation limit for the limit.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - ORGANIC LEAD  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : METHOD BLANK  
Matrix : SOIL  
Date Sampled : N/A  
Date Prepared: 02/28/89  
Date Analyzed: 03/01/89

Anametrix ID : OMB022889  
Analyst : MJK  
Supervisor : 2A  
Date released: 03/10/89  
Instrument ID: AA1

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
LUFT	Organic Lead (Pb)	0.2	ND

ND : Not detected at or above the practical quantitation limit for the limit.

Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA

ANALYSIS DATA SHEET - INORGANIC LEAD  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-8-1/2/3/4  
Matrix : SOIL  
Date Sampled : 02/21/89  
Date Prepared: 02/27/89  
Date Analyzed: 03/01/89

Anametrix ID : 8902158-01  
Analyst : M.V.  
Supervisor : R  
Date released: 03/10/89  
Instrument ID: AA1

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
7420	Total Lead (Pb)	2.5	6.50

ND : Not detected at or above the practical quantitation limit for the limit.

Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA

ANALYSIS DATA SHEET - INORGANIC LEAD  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-9-1/2/3/4  
Matrix : SOIL  
Date Sampled : 02/22/89  
Date Prepared: 02/27/89  
Date Analyzed: 03/01/89

Anamatrix ID : 8902158-02  
Analyst : M.K  
Supervisor : *e*  
Date released: 03/10/89  
Instrument ID: AA1

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
7420	Total Lead (Pb)	2.5	6.25

ND : Not detected at or above the practical quantitation limit for the limit.

Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA



ANALYSIS DATA SHEET - INORGANIC LEAD  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-10-1/2/3/4  
Matrix : SOIL  
Date Sampled : 02/22/89  
Date Prepared: 02/27/89  
Date Analyzed: 03/01/89

Anamatrix ID : 8902158-08  
Analyst : *M.K.*  
Supervisor :  
Date released: 03/10/89  
Instrument ID: AA1

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
7420	Total Lead (Pb)	2.5	6.90

ND : Not detected at or above the practical quantitation limit for the limit.

Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA

ANALYSIS DATA SHEET - INORGANIC LEAD  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-11-1/2  
Matrix : SOIL  
Date Sampled : 02/23/89  
Date Prepared: 02/27/89  
Date Analyzed: 03/01/89

Anamatrix ID : 8902158-06  
Analyst : MK  
Supervisor : *lv*  
Date released: 03/10/89  
Instrument ID: AA1

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
7420	Total Lead (Pb)	2.5	9.50

ND : Not detected at or above the practical quantitation limit for the limit.

Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA

ANALYSIS DATA SHEET - INORGANIC LEAD  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-12-1/2/3  
Matrix : SOIL  
Date Sampled : 02/23/89  
Date Prepared: 02/27/89  
Date Analyzed: 03/01/89

Anamatrix ID : 8902158-07  
Analyst : M.K.  
Supervisor : *lu*  
Date released: 03/10/89  
Instrument ID: AA1

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
7420	Total Lead (Pb)	2.5	7.35

ND : Not detected at or above the practical quantitation limit for the limit.

Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA

ANALYSIS DATA SHEET - INORGANIC LEAD  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : METHOD BLANK  
Matrix : SOIL  
Date Sampled : N/A  
Date Prepared: 02/27/89  
Date Analyzed: 03/01/89

Anamatrix ID : MB022789  
Analyst : *mk*  
Supervisor : *R*  
Date released: 03/10/89  
Instrument ID: AA1

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
7420	Total Lead (Pb)	0.05	ND

ND : Not detected at or above the practical quantitation limit for the limit.

Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA

# ANAMETRIX INC

Environmental & Analytical Chemistry  
1961 Concourse Drive, Suite E, San Jose, CA 95131  
(408) 432-8192 • Fax (408) 432-8198



# REPORT

Kent Parrish  
Ensco Environmental Services  
41674 Christy Street  
Fremont, CA 94538-3114

March 13, 1989  
Anamatrix W.O.#: 8903025  
Date Received : 03/03/89  
Purchase Order#: 12538  
Site: Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA

Dear Mr. Parrish:

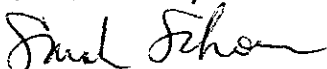
Your samples have been received for analysis. The REPORT SUMMARY lists your sample identifications and the analytical methods you requested. The following sections are included in this report: RESULTS.

NOTE: Amounts reported are net values, i.e. corrected for method blank contamination.

If there is any more that we can do, please give us a call. Thank you for using ANAMETRIX, INC.

Sincerely,

ANAMETRIX, INC.



Sarah Schoen, Ph.D.  
GC Manager

SRS/lm

REPORT SUMMARY  
ANAMETRIX, INC. (408) 432-8192

Client : Ensco Enviornmental Services	Anamatrix W.O.#: 8903025
Address : 41674 Christy Street	Date Received : 03/03/89
	Purchase Order#: 12538
City : Fremont, CA 94538-3114	Project No. : 1826G
Attn. : Kent Parrish	Date Released : 03/13/89

Anamatrix I.D.	Sample I.D.	Matrix	Date Sampled	Method	Date Extract	Date Analyzed	Inst I.D.
RESULTS							
8903025-01	1826G MW-2	WATER	03/02/89	TPH		03/03/89	N/A
8903025-02	1826G MW-7	WATER	03/02/89	TPH		03/03/89	N/A
8903025-03	1826G MW-4	WATER	03/02/89	TPH		03/03/89	N/A
8903025-04	1826G MW-3	WATER	03/02/89	TPH		03/03/89	N/A
8903025-05	1826G MW-6	WATER	03/02/89	TPH		03/03/89	N/A
8903025-06	1826G MW-1	WATER	03/02/89	TPH		03/07/89	N/A
8903025-07	1826G MW-5	WATER	03/02/89	TPH		03/03/89	N/A
8903025-08	1826G RW-1	WATER	03/02/89	TPH		03/07/89	N/A

Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-1  
 Matrix : WATER  
 Date sampled : 03/02/89  
 Date anl.TPHg: 03/07/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anamatrix I.D. : 8903025-06  
 Analyst : JC  
 Supervisor : MS  
 Date released : 03/13/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.01	6.1
108-88-3	Toluene	0.01	0.77
100-41-4	Ethylbenzene	0.01	0.32
1330-20-7	Total Xylenes	0.02	0.44
	TVH as Gasoline	1	14

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-2  
 Matrix : WATER  
 Date sampled : 03/02/89  
 Date anl.TPHg: 03/03/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anamatrix I.D. : 8903025-01  
 Analyst : *TC*  
 Supervisor : *MS*  
 Date released : 03/13/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.0005	0.024
108-88-3	Toluene	0.0005	0.0009
100-41-4	Ethylbenzene	0.0005	0.0092
1330-20-7	Total Xylenes	0.001	0.018
	TVH as Gasoline	0.05	0.23

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA



ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-3  
 Matrix : WATER  
 Date sampled : 03/02/89  
 Date anl.TPHg: 03/03/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anametrix I.D. : 8903025-04  
 Analyst : JC  
 Supervisor : DJF  
 Date released : 03/13/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.0005	0.16
108-88-3	Toluene	0.0005	0.0010
100-41-4	Ethylbenzene	0.0005	0.017
1330-20-7	Total Xylenes	0.001	0.009
	TVH as Gasoline	0.05	0.57

- ND - Not detected at or above the practical quantitation limit for the method.  
 TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.  
 BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-4  
 Matrix : WATER  
 Date sampled : 03/02/89  
 Date anl.TPHg: 03/03/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anamatrix I.D. : 8903025-03  
 Analyst : JC  
 Supervisor : JMS  
 Date released : 03/13/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.0005	0.21
108-88-3	Toluene	0.0005	0.0062
100-41-4	Ethylbenzene	0.0005	0.034
1330-20-7	Total Xylenes	0.001	0.007
	TVH as Gasoline	0.05	0.63

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-5  
 Matrix : WATER  
 Date sampled : 03/02/89  
 Date anl.TPHg: 03/03/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anametrix I.D. : 8903025-07  
 Analyst : *TC*  
 Supervisor : *SW*  
 Date released : 03/13/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.0005	ND
108-88-3	Toluene	0.0005	ND
100-41-4	Ethylbenzene	0.0005	ND
1330-20-7	Total Xylenes	0.001	ND
	TVH as Gasoline	0.05	ND

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-6  
 Matrix : WATER  
 Date sampled : 03/02/89  
 Date anl.TPHg: 03/03/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anamatrix I.D. : 8903025-05  
 Analyst : J.C.  
 Supervisor : D.S.  
 Date released : 03/13/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.0005	0.16
108-88-3	Toluene	0.0005	0.020
100-41-4	Ethylbenzene	0.0005	0.13
1330-20-7	Total Xylenes	0.001	0.033
	TVH as Gasoline	0.05	1.4

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-7  
 Matrix : WATER  
 Date sampled : 03/02/89  
 Date anl.TPHg: 03/03/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anamatrix I.D. : 8903025-02  
 Analyst : JC  
 Supervisor : MS  
 Date released : 03/13/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.0005	ND
108-88-3	Toluene	0.0005	ND
100-41-4	Ethylbenzene	0.0005	ND
1330-20-7	Total Xylenes	0.001	ND
	TVH as Gasoline	0.05	ND

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G RW-1  
 Matrix : WATER  
 Date sampled : 03/02/89  
 Date anl.TPHg: 03/07/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anamatrix I.D. : 8903025-08  
 Analyst : TC  
 Supervisor : DS  
 Date released : 03/13/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.005	2.4
108-88-3	Toluene	0.005	ND
100-41-4	Ethylbenzene	0.005	ND
1330-20-7	Total Xylenes	0.01	ND
	TVH as Gasoline	0.5	3.9

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

# ANAMETRIX INC

Environmental & Analytical Chemistry  
1961 Concourse Drive, Suite E, San Jose, CA 95131  
(408) 432-8192 • Fax (408) 432-8198



# REPORT

Kent Parrish  
Ensco Environmental Services  
41674 Christy Street  
Fremont, CA 94538-3114

March 09, 1989.  
Anamatrix W.O.#: 8903014  
Date Received : 03/02/89  
Purchase Order#: 12538  
Site: Shell Oil Company  
7194 Amador Valley Blvd.  
Dublin, CA  
Ensco Proj.# 1826G

Dear Mr. Parrish:

Your samples have been received for analysis. The REPORT SUMMARY lists your sample identifications and the analytical methods you requested. The following sections are included in this report: RESULTS.

NOTE: Amounts reported are net values, i.e. corrected for method blank contamination.

If there is any more that we can do, please give us a call. Thank you for using ANAMETRIX, INC.

Sincerely,

ANAMETRIX, INC.



Sarah Schoen, Ph.D.  
GC Manager

SRS/dg

REPORT SUMMARY  
ANAMETRIX, INC. (408) 432-8192

Client : Ensco Environmental Services	Anamatrix W.O.#: 8903014
Address : 41674 Christy Street	Date Received : 03/02/89
	Purchase Order#: 12538
City : Fremont, CA 94538-3114	Project No. : 1826G
Attn. : Kent Parrish	Date Released : 03/09/89

Anamatrix I.D.	Sample I.D.	Matrix	Date Sampled	Method	Date Extract	Date Analyzed	Inst I.D.
RESULTS							
8903014-01	1826G BB-1	WATER	03/01/89	TPHg		03/02/89	N/A
8903014-02	1826G BB-2	WATER	03/01/89	TPHg		03/02/89	N/A
8902014-03	1826G MW-11	WATER	03/01/89	TPHg		03/02/89	N/A
8903014-04	1826G MW-12	WATER	03/01/89	TPHg		03/02/89	N/A
8903014-05	1826G MW-10	WATER	03/01/89	TPHg		03/02/89	N/A
8903014-06	1826G MW-9	WATER	03/01/89	TPHg		03/02/89	N/A
8903014-07	1826G MW-8	WATER	03/01/89	TPHg		03/02/89	N/A

Shell Oil Company  
7194 Amador Valley Blvd.  
Dublin, CA



ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G BB-1  
 Matrix : WATER  
 Date sampled : 03/01/89  
 Date anl.TPHg: 03/02/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anamatrix I.D. : 8903014-01  
 Analyst : TC  
 Supervisor : MS  
 Date released : 03/09/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.0005	ND
108-88-3	Toluene	0.0005	ND
100-41-4	Ethylbenzene	0.0005	ND
1330-20-7	Total Xylenes	0.001	ND
	TPH as Gasoline	0.05	ND

- ND - Not detected at or above the practical quantitation limit for the method.
- TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
- BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil Company  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G BB-2  
 Matrix : WATER  
 Date sampled : 03/01/89  
 Date anl.TPHg: 03/02/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anamatrix I.D. : 8903014-02  
 Analyst : JC  
 Supervisor : SMJ  
 Date released : 03/09/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.0005	ND
108-88-3	Toluene	0.0005	ND
100-41-4	Ethylbenzene	0.0005	ND
1330-20-7	Total Xylenes	0.001	ND
	TPH as Gasoline	0.05	ND

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil Company  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-8  
 Matrix : WATER  
 Date sampled : 03/01/89  
 Date anl.TPHg: 03/02/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anamatrix I.D. : 8903014-07  
 Analyst : *TC*  
 Supervisor : *OW*  
 Date released : 03/09/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.0005	ND
108-88-3	Toluene	0.0005	ND
100-41-4	Ethylbenzene	0.0005	ND
1330-20-7	Total Xylenes	0.001	ND
	TPH as Gasoline	0.05	ND

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil Company  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-9  
Matrix : WATER  
Date sampled : 03/01/89  
Date anl.TPHg: 03/02/89  
Date ext.TPHd: N/A  
Date anl.TPHd: N/A

Anamatrix I.D. : 8903014-06  
Analyst : TC  
Supervisor : JS  
Date released : 03/09/89  
Date ext. TOG : N/A  
Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.0005	ND
108-88-3	Toluene	0.0005	ND
100-41-4	Ethylbenzene	0.0005	ND
1330-20-7	Total Xylenes	0.001	ND
	TPH as Gasoline	0.05	ND

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil Company  
7194 Amador Valley Blvd.  
Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-10  
 Matrix : WATER  
 Date sampled : 03/01/89  
 Date anl.TPHg: 03/02/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anamatrix I.D. : 8903014-05  
 Analyst : TC  
 Supervisor : MS  
 Date released : 03/09/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.0005	0.14
108-88-3	Toluene	0.0005	0.036
100-41-4	Ethylbenzene	0.0005	ND
1330-20-7	Total Xylenes	0.001	0.077
	TPH as Gasoline	0.05	1.0

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil Company  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-11  
 Matrix : WATER  
 Date sampled : 03/01/89  
 Date anl.TPHg: 03/02/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anamatrix I.D. : 8902014-03  
 Analyst : JC  
 Supervisor : JS  
 Date released : 03/09/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.0005	ND
108-88-3	Toluene	0.0005	ND
100-41-4	Ethylbenzene	0.0005	ND
1330-20-7	Total Xylenes	0.001	ND
	TPH as Gasoline	0.05	ND

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil Company  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-12  
 Matrix : WATER  
 Date sampled : 03/01/89  
 Date anl.TPHg: 03/02/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anamatrix I.D. : 8903014-04  
 Analyst : *TC*  
 Supervisor : *SW*  
 Date released : 03/09/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.0005	ND
108-88-3	Toluene	0.0005	ND
100-41-4	Ethylbenzene	0.0005	ND
1330-20-7	Total Xylenes	0.001	ND
	TPH as Gasoline	0.05	ND

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil Company  
 7194 Amador Valley Blvd.  
 Dublin, CA







# SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063  
(415) 364-9600 • FAX (415) 364-9233

RECEIVED

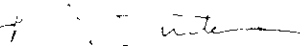
EnSCO Environmental Services	Client Project ID: #1826G, Shell Oil, Dublin, PO#13399	Sampled: Apr 26, 1989
41674 Christy Street	Sample Descript: Soil	Received: Apr 27, 1989
Fremont, CA 94538		Extracted: Apr 27, 1989
Attention: Steve Costello	Lab Number: 904-2948	Analyzed: Apr 27, 1989
		Reported: Apr 28, 1989

## LABORATORY ANALYSIS

Analyte	Detection Limit	Sample Results
Ignitability, Bunsen burner.....	N.A. ....	> 115°C

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

  
Arthur G. Burton  
Laboratory Director

P.O. # 1795  
**CHAIN OF CUSTODY RECORD**

2 day turn around

PROJECT NO		PROJECT NAME				TEST REQUESTED					REMARKS
1826 G		Shell Oil 7194 Amador Valley Blvd, Dublin				TPH Gasoline	BTEX *	Total Lead	Organic Lead	TPH Diesel	
SIGNATURES (Signature)											
Richard A. DeLo											
DATE	TIME	DRIVE	GRAB	STATION AND LOCATION		TPH Gasoline	BTEX *	Total Lead	Organic Lead	TPH Diesel	REMARKS
Jan 1	2/11/89			Soil Cuttings from Boring MW-8		COMP		COMP	COMP	COMP	[Composite] *
Jan 2											[" "] *
Jan 3											[" "] *
D-4	2/12/89			Soil Cuttings from Boring MW-9		COMP		COMP	COMP	COMP	[Composite] *
D-5											[" "] *
D-6											[" "] *
D-7											[" "] *
D-8	2/22/89			Soil Cuttings from Boring MW-10		X		COMP	COMP	X	Individual Sample *
D-9						X				X	Individual Sample *
D-10						X				X	Individual Sample *
D-11	2/23/89			Soil Cuttings from Boring MW-11		COMP		COMP	COMP	COMP	[Composite] *
D-12											[" "] *
D-13											[" "] *
D-14	2/23/89			Soil Cuttings from Boring MW-12		COMP		COMP	COMP	COMP	[Composite] *
D-15											[" "] *
D-16											[" "] *

RELINQUISHED BY: Richard A. DeLo	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED BY LABORATORY
					2/24/89	9:45	Tyhi Memaduh

Notes: Any composite with TPH G or D greater than 100ppm shall have each individual sample analyzed for TPH G and D. Any sample with TPH G or D greater than 100ppm analyze & BTEX. Analyze each composite for total and organic lead.

DISTRIBUTION: TPH G: TPH Gasoline, TPH D: TPH Diesel



**ensco environmental services, inc.**  
 41674 Christy Street  
 Fremont, CA 94538-3114  
 (415) 659-0404  
 Fax: (415) 651-4677  
 Contr. Lic. No. 464324

Data to: Richard Garlow

V.O.# 12475  
CHAIN OF CUSTODY RECORD

ANALYTICAL  
5 day turn around

PROJECT NO		PROJECT NAME				TEST REQUESTED					REMARKS
1826 G		Shell Oil, 7194 Amador Valley Blvd, Dublin				TPH Gasoline	BTEX*	Total Lead	Organic Lead	TPH Diesel	
SAMPLES (Signature)											
Richard A. Doolan											
NO	DATE	TIME	DRIVE	GRAB	STATION AND LOCATION	TPH Gasoline	BTEX*	Total Lead	Organic Lead	TPH Diesel	REMARKS
✓ MW-8-1	2/24/89		?		Soil 6'-6 1/2'	COMP.		COMP.	COMP.	COMP.	Composite #8*
✓ MW-8-2	?		?		Soil 11'-11 1/2'	?		?	?	?	Composite #8*
✓ MW-8-3	?		?		Soil 15'-15 1/2'	?		?	?	?	Composite #8*
✓ MW-8-4	?		?		Soil 16'-17'	?		?	?	?	Composite #8*
✓ MW-9-1	11/22/89		?		Soil 6'-6 1/2'	COMP.		COMP.	COMP.	COMP.	Composite #9*
✓ MW-9-2	?		?		Soil 10'-10 1/2'	?		?	?	?	Composite #9*
✓ MW-9-3	?		?		Soil 15'-15 1/2'	?		?	?	?	Composite #9*
✓ MW-9-4	?		?		Soil 17'-18'	?		?	?	?	Composite #9*
✓ MW-10-1	11/22/89		?		Soil 6'-6 1/2'	X		COMP.	COMP.	X	Individual Sample*
✓ MW-10-2	?		?		Soil 10'-10 1/2'	X		?	?	X	Individual Sample*
✓ MW-10-3	?		?		Soil 16'-16 1/2'	X		?	?	X	Individual Sample*
✓ MW-11-1	2/23/89		?		Soil 6'-6 1/2'	COMP.		COMP.	COMP.	COMP.	Composite #11*
✓ MW-11-2	?		?		Soil 16'-17'	?		?	?	?	Composite #11*
✓ MW-12-1	4/24/89		?		Soil 6'-6 1/2'	COMP.		COMP.	COMP.	COMP.	Composite #12*
✓ MW-12-2	?		?		Soil 10'-10 1/2'	?		?	?	?	Composite #12*
✓ MW-12-3	?		?		Soil 19'-15 1/2'	?		?	?	?	Composite #12*

RELINQUISHED BY Richard A. Doolan	DATE	TIME	RECEIVED BY	RELINQUISHED BY	DATE	TIME	RECEIVED BY
RELINQUISHED BY	DATE	TIME	RECEIVED BY TPH Gasoline	RELINQUISHED BY TPH Gasoline	DATE 2/24/89	TIME 9:45	RECEIVED BY Tyrill Munnick

\*Always Any composite with DETECTABLE TPHs shall have each individual sample analyzed for TPHs  
If any individual sample has DETECTABLE TPHs, analyze for BTEX  
Each business shall have a composite of samples tested for total and organic lead  
TPH G = TPH gasoline, TPH D = TPH diesel

**ensco environmental services, inc.**  
 (415) 659-0404  
 41674 Christy Street Fax: (415) 651-4677  
 Fremont, CA 94538-3114 Contr. Lic. No. 464324

Data to: Richard Garlow

Anamatrix

CHAIN OF CUSTODY RECORD

P.O.# 12538


PROJECT NO		PROJECT NAME		7194 Amador Valley Blvd		TEST REQUESTED																			
18266		Shell Dublin																							
SAMPLERS (Signature)												TPH/G/BTEX		TDS											
John Monroe + Borrego																									
NO	DATE	TIME	DRIVE	CRAB	STATION AND LOCATION																				
BB-1	3/1/89	11:26			2 pres VOA																				
BB-2		11:29			"																				
MW-11		12:45p			"																				
MW-12		1:02p			"																				
MW-10		1:30p			"																				
MW-9		2:17p			"																				
MW-8		3:22			"																				

48 hr  
TAT  
REMARKS

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
					7-2-89	12:15	Jgh: Memorandum

REMARKS Put station address on all pages of report, all reports in ppm  
For Kent Parrish

DISTRIBUTION



**ensco environmental services, inc.**  
 41674 Christy Street  
 Fremont, CA 94538-3114  
 (415) 659-0404  
 Fax: (415) 651-4677  
 Contr Lic No 464324

11/11/89

# CHAIN OF CUSTODY RECORD


P.O. # 12538

PROJECT NO		PROJECT NAME				TEST REQUESTED										REMARKS		
18256		Shell Dublin															48 TAT	
SAMPLERS (Signature)																		
John Monroe + Borregod																		
NO	DATE	TIME	DRIVE	GRAB	STATION AND LOCATION	TPHG/BTEX	TO5											
MW-2	3/2/89	10:02			2 pres VOA, amber filter	X	X											
MW-7		10:07			2 pres VOA's Each	X												
MW-4		10:58			"	X												
MW-3		11:09			"	X												
MW-6		12:07p			"	X												
MW-1		12:20p			"	X												
MW-5		2:15p			"	X												
RO-1		3:20p			"	X												

RELINQUISHED BY	DATE	TIME	RECEIVED BY	RELINQUISHED BY	DATE	TIME	RECEIVED BY
RELINQUISHED BY	DATE	TIME	RECEIVED BY	RELINQUISHED BY	DATE	TIME	RECEIVED BY

removes for station address on all pages of report, all reports in ppm  
 Report to Kent Parrish

3-3-89 11:00 Teyhi Memcedah



**ensco environmental services, inc.**  
 41674 Christy Street  
 Fremont, CA 94538-3114  
 (415) 659-0404  
 Fax (415) 651-4677  
 Contr Lic No 464324

# ANAMETRIX INC

Environmental & Analytical Chemistry  
1961 Concourse Drive, Suite E, San Jose, CA 95131  
(408) 432-8192 • Fax (408) 432-8198



# REPORT

Steve Costello  
Ensco Environmental Services  
41674 Christy Street  
Fremont, CA 94538-3114

April 11, 1989  
Anamatrix W.O.#: 8904031  
Date Received : 04/06/89  
Purchase Order#: 13194  
Project No. 1826G  
Site: Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA

Dear Mr. Costello:

Your samples have been received for analysis. The REPORT SUMMARY lists your sample identifications and the analytical methods you requested. The following sections are included in this report: RESULTS and QUALITY ASSURANCE.

NOTE: Amounts reported are net values, i.e. corrected for method blank contamination.

If there is any more that we can do, please give us a call. Thank you for using ANAMETRIX, INC.

Sincerely,

ANAMETRIX, INC.



Sarah Schoen, Ph.D.  
GC Manager

SRS/lm

REPORT SUMMARY  
ANAMETRIX, INC. (408) 432-8192

Client	: Ensco Environmental Services	Anamatrix W.O.#:	8904031
Address	: 41674 Christy Street	Date Received	: 04/06/89
City	: Fremont, CA 94538-3114	Purchase Order#:	13194
Attn.	: Steve Costello	Project No.	: 1826G
		Date Released	: 04/11/89

Anamatrix I.D.	Sample I.D.	Matrix	Date Sampled	Method	Date Extract	Date Analyzed	Inst I.D.
----------------	-------------	--------	--------------	--------	--------------	---------------	-----------

RESULTS

8904031-01	1826G BB-1	WATER	04/05/89	TPH		04/06/89	N/A
8904031-02	1826G MW-5	WATER	04/05/89	TPH		04/06/89	N/A
8904031-03	1826G RW-1	WATER	04/05/89	TPH		04/06/89	N/A
8904031-02	1826G MW-5	WATER	04/05/89	METALS		04/10/89	AA1
8904031-03	1826G RW-1	WATER	04/05/89	METALS		04/10/89	AA1

QUALITY ASSURANCE (QA)

MB040689	METHOD BLANK	WATER	N/A	METALS		04/10/89	AA1
8904031-01	METHOD BLANK	WATER	04/05/89	SPIKE		04/06/89	N/A

Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G BB-1  
 Matrix : WATER  
 Date sampled : 04/05/89  
 Date anl.TPHg: 04/06/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anamatrix I.D. : 8904031-01  
 Analyst : JK  
 Supervisor : SMJ  
 Date released : 04/11/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.0005	ND
108-88-3	Toluene	0.0005	ND
100-41-4	Ethylbenzene	0.0005	ND
1330-20-7	Total Xylenes	0.001	ND
	TPH as Gasoline	0.05	ND

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA



ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-5  
 Matrix : WATER  
 Date sampled : 04/05/89  
 Date anl.TPHg: 04/06/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anamatrix I.D. : 8904031-02  
 Analyst : *TC*  
 Supervisor : *DNJ*  
 Date released : 04/11/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.0005	ND
108-88-3	Toluene	0.0005	ND
100-41-4	Ethylbenzene	0.0005	ND
1330-20-7	Total Xylenes	0.001	ND
	TPH as Gasoline	0.05	ND

- ND - Not detected at or above the practical quantitation limit for the method.  
 TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.  
 BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G RW-1  
 Matrix : WATER  
 Date sampled : 04/05/89  
 Date anl.TPHg: 04/06/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anamatrix I.D. : 8904031-03  
 Analyst : JC  
 Supervisor : MS  
 Date released : 04/11/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.005	1.0
108-88-3	Toluene	0.005	ND
100-41-4	Ethylbenzene	0.005	0.009
1330-20-7	Total Xylenes	0.01	ND
	TPH as Gasoline	0.5	1.7

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - INORGANIC COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-5  
Matrix : WATER  
Date Sampled : 04/05/89  
Date Prepared: 04/06/89  
Date Analyzed: 04/10/89

Anamatrix ID : 8904031-02  
Analyst : MN  
Supervisor : R  
Date released: 04/11/89  
Instrument ID: AA1

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
7380	Iron (Fe)	0.05	1.95

ND : Not detected at or above the practical quantitation limit for the limit.

Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA

ANALYSIS DATA SHEET - INORGANIC COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G RW-1  
Matrix : WATER  
Date Sampled : 04/05/89  
Date Prepared: 04/06/89  
Date Analyzed: 04/10/89

Anamatrix ID : 8904031-03  
Analyst : *MN*  
Supervisor : *MN*  
Date released: 04/11/89  
Instrument ID: AA1

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
7380	Iron (Fe)	0.05	29.0

ND : Not detected at or above the practical quantitation limit for the limit.

Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA

ANALYSIS DATA SHEET - INORGANIC COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : METHOD BLANK  
Matrix : WATER  
Date Sampled : N/A  
Date Prepared: 04/06/89  
Date Analyzed: 04/10/89

Anamatrix ID : MB040689  
Analyst : MJ  
Supervisor : R  
Date released: 04/11/89  
Instrument ID: AA1

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
7380	Iron (Fe)	0.05	ND

ND : Not detected at or above the practical quantitation limit for the limit.

Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA

TOTAL VOLATILE HYDROCARBON MATRIX SPIKE REPORT  
EPA METHOD 5030 WITH GC/FID

Sample I.D. : 1826G BB-1  
Matrix : WATER  
Date sampled : 04-05-89  
Date analyzed : 04-06-89

Anamatrix I.D. : 8904031-01  
Analyst : *K*  
Supervisor : *MS*  
Date Released : 04-11-89

COMPOUND	SPIKE AMT. (PPM)	MS (PPM)	%REC MS	MSD (PPM)	%REC MSD	RPD	%REC LIMITS
Gasoline	0.50	0.40	80%	0.38	76%	-5%	50-150

\* Limits established by Anamatrix, Inc.

Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA

# ANAMETRIX INC

Environmental & Analytical Chemistry  
1961 Concourse Drive, Suite E, San Jose, CA 95131  
(408) 432-8192 • Fax (408) 432-8198



# REPORT

Steve Costello  
Ensco Environmental Services  
41674 Christy Street  
Fremont, CA 94538-3114

April 11, 1989  
Anamatrix W.O.#: 8904023  
Date Received : 04/05/89  
Purchase Order#: 13194  
Site: Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA

Dear Mr. Costello:

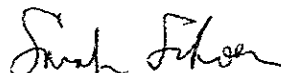
Your samples have been received for analysis. The REPORT SUMMARY lists your sample identifications and the analytical methods you requested. The following sections are included in this report: RESULTS and QUALITY ASSURANCE.

NOTE: Amounts reported are net values, i.e. corrected for method blank contamination.

If there is any more that we can do, please give us a call. Thank you for using ANAMETRIX, INC.

Sincerely,

ANAMETRIX, INC.



Sarah Schoen, Ph.D.  
GC Manager

SRS/lm

REPORT SUMMARY  
ANAMETRIX, INC. (408) 432-8192

Client : Ensco Environmental Services	Anamatrix W.O.#: 8904023
Address : 41674 Christy Street	Date Received : 04/05/89
	Purchase Order#: 13194
City : Fremont, CA 94538-3114	Project No. : 1826G
Attn. : Steve Costello	Date Released : 04/11/89

Anamatrix I.D.	Sample I.D.	Matrix	Date Sampled	Method	Date Extract	Date Analyzed	Inst I.D.
RESULTS							
8904023-01	1826G BB-1	WATER	04/04/89	TPH		04/05/89	N/A
8904023-02	1826G MW-11	WATER	04/04/89	TPH		04/05/89	N/A
8904023-03	1826G MW-12	WATER	04/04/89	TPH		04/05/89	N/A
8904023-04	1826G MW-9	WATER	04/04/89	TPH		04/05/89	N/A
8904023-05	1826G MW-8	WATER	04/04/89	TPH		04/05/89	N/A
8904023-06	1826G MW-2	WATER	04/04/89	TPH		04/05/89	N/A
8904023-07	1826G MW-7	WATER	04/04/89	TPH		04/05/89	N/A
8904023-08	1826G MW-10	WATER	04/04/89	TPH		04/06/89	N/A
8904023-09	1826G MW-3	WATER	04/04/89	TPH		04/05/89	N/A
8904023-10	1826G MW-4	WATER	04/04/89	TPH		04/05/89	N/A
8904023-11	1826G MW-1	WATER	04/04/89	TPH		04/06/89	N/A
8904023-12	1826G MW-6	WATER	04/04/89	TPH		04/05/89	N/A
8904023-13	1826G BB-2	WATER	04/04/89	TPH		04/05/89	N/A

QUALITY ASSURANCE (QA)							
8904023-02	1826G MW-11	WATER	04/04/89	SPIKE		04/05/89	N/A

Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA



ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G BB-1  
 Matrix : WATER  
 Date sampled : 04/04/89  
 Date anl.TPHg: 04/05/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anamatrix I.D. : 8904023-01  
 Analyst : JC  
 Supervisor : DW  
 Date released : 04/11/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.0005	ND
108-88-3	Toluene	0.0005	ND
100-41-4	Ethylbenzene	0.0005	ND
1330-20-7	Total Xylenes	0.001	ND
	TPH as Gasoline	0.05	ND

- ND - Not detected at or above the practical quantitation limit for the method.  
 TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.  
 BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-11  
 Matrix : WATER  
 Date sampled : 04/04/89  
 Date anl.TPHg: 04/05/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anamatrix I.D. : 8904023-02  
 Analyst : TC  
 Supervisor : MS  
 Date released : 04/11/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.0005	ND
108-88-3	Toluene	0.0005	ND
100-41-4	Ethylbenzene	0.0005	ND
1330-20-7	Total Xylenes	0.001	ND
	TPH as Gasoline	0.05	ND

- ND - Not detected at or above the practical quantitation limit for the method.
- TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
- TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following either EPA Method 3510 or 3550.
- TOG - Total Oil & Grease is determined by Standard Method 503E.
- BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-12  
 Matrix : WATER  
 Date sampled : 04/04/89  
 Date anl.TPHg: 04/05/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anamatrix I.D. : 8904023-03  
 Analyst : JC  
 Supervisor : DJ  
 Date released : 04/11/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.0005	ND
108-88-3	Toluene	0.0005	ND
100-41-4	Ethylbenzene	0.0005	ND
1330-20-7	Total Xylenes	0.001	ND
	TPH as Gasoline	0.05	ND

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-9  
 Matrix : WATER  
 Date sampled : 04/04/89  
 Date anl.TPHg: 04/05/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anamatrix I.D. : 8904023-04  
 Analyst : JC  
 Supervisor : JMS  
 Date released : 04/11/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.0005	ND
108-88-3	Toluene	0.0005	ND
100-41-4	Ethylbenzene	0.0005	ND
1330-20-7	Total Xylenes	0.001	ND
	TPH as Gasoline	0.05	ND

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-8  
 Matrix : WATER  
 Date sampled : 04/04/89  
 Date anl.TPHg: 04/05/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anamatrix I.D. : 8904023-05  
 Analyst : *TC*  
 Supervisor : *SM*  
 Date released : 04/11/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.0005	ND
108-88-3	Toluene	0.0005	ND
100-41-4	Ethylbenzene	0.0005	ND
1330-20-7	Total Xylenes	0.001	ND
	TPH as Gasoline	0.05	ND

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-2  
 Matrix : WATER  
 Date sampled : 04/04/89  
 Date anl.TPHg: 04/05/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anamatrix I.D. : 8904023-06  
 Analyst : JC  
 Supervisor : *orp*  
 Date released : 04/11/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.0005	0.053
108-88-3	Toluene	0.0005	0.0023
100-41-4	Ethylbenzene	0.0005	0.0071
1330-20-7	Total Xylenes	0.001	0.020
	TPH as Gasoline	0.05	0.23

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-7  
 Matrix : WATER  
 Date sampled : 04/04/89  
 Date anl.TPHg: 04/05/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anamatrix I.D. : 8904023-07  
 Analyst : JL  
 Supervisor : RJ  
 Date released : 04/11/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.0005	ND
108-88-3	Toluene	0.0005	ND
100-41-4	Ethylbenzene	0.0005	ND
1330-20-7	Total Xylenes	0.001	ND
	TPH as Gasoline	0.05	ND

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-10  
 Matrix : WATER  
 Date sampled : 04/04/89  
 Date anl.TPHg: 04/06/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anamatrix I.D. : 8904023-08  
 Analyst : JC  
 Supervisor : DW  
 Date released : 04/11/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.005	0.76
108-88-3	Toluene	0.005	0.24
100-41-4	Ethylbenzene	0.005	0.046
1330-20-7	Total Xylenes	0.01	0.63
	TPH as Gasoline	0.5	3.3

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA



ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-3  
 Matrix : WATER  
 Date sampled : 04/04/89  
 Date anl.TPHg: 04/05/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anamatrix I.D. : 8904023-09  
 Analyst : TC  
 Supervisor : RW  
 Date released : 04/11/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.0005	0.064
108-88-3	Toluene	0.0005	0.0008
100-41-4	Ethylbenzene	0.0005	0.0027
1330-20-7	Total Xylenes	0.001	0.006
	TPH as Gasoline	0.05	0.15

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-4  
Matrix : WATER  
Date sampled : 04/04/89  
Date anl.TPHg: 04/05/89  
Date ext.TPHd: N/A  
Date anl.TPHd: N/A

Anamatrix I.D. : 8904023-10  
Analyst : JC  
Supervisor : DJ  
Date released : 04/11/89  
Date ext. TOG : N/A  
Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.0005	0.34
108-88-3	Toluene	0.0005	0.013
100-41-4	Ethylbenzene	0.0005	0.025
1330-20-7	Total Xylenes	0.001	0.04
	TPH as Gasoline	0.05	0.64

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-1  
Matrix : WATER  
Date sampled : 04/04/89  
Date anl.TPHg: 04/06/89  
Date ext.TPHd: N/A  
Date anl.TPHd: N/A

Anametrix I.D. : 8904023-11  
Analyst : *TC*  
Supervisor : *MS*  
Date released : 04/11/89  
Date ext. TOG : N/A  
Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.025	4.8
108-88-3	Toluene	0.025	0.77
100-41-4	Ethylbenzene	0.025	0.27
1330-20-7	Total Xylenes	0.05	0.78
	TPH as Gasoline	2.5	11

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-6  
 Matrix : WATER  
 Date sampled : 04/04/89  
 Date anl.TPHg: 04/05/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anamatrix I.D. : 8904023-12  
 Analyst : TC  
 Supervisor : MS  
 Date released : 04/11/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.0005	0.22
108-88-3	Toluene	0.0005	0.027
100-41-4	Ethylbenzene	0.0005	0.074
1330-20-7	Total Xylenes	0.001	0.069
	TPH as Gasoline	0.05	1.2

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G BB-2  
 Matrix : WATER  
 Date sampled : 04/04/89  
 Date anl.TPHg: 04/05/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anamatrix I.D. : 8904023-13  
 Analyst : TC  
 Supervisor : DW  
 Date released : 04/11/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.0005	ND
108-88-3	Toluene	0.0005	ND
100-41-4	Ethylbenzene	0.0005	ND
1330-20-7	Total Xylenes	0.001	ND
	TPH as Gasoline	0.05	ND

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

TOTAL VOLATILE HYDROCARBON MATRIX SPIKE REPORT  
EPA METHOD 5030 WITH GC/FID

Sample I.D. : 1826G MW-11  
Matrix : WATER  
Date sampled : 04/04/89  
Date analyzed : 04/05/89

Anamatrix I.D. : 8904023-02  
Analyst : *TC*  
Supervisor : *RS*  
Date Released : 04/11/89

COMPOUND	SPIKE AMT. (PPM)	MS (PPM)	%REC MS	MSD (PPM)	%REC MSD	RPD	%REC LIMITS
Gasoline	0.50	0.34	68%	0.40	80%	16%	50-150

\* Limits established by Anamatrix, Inc.

SHELL OIL COMPANY.  
7194 AMADOR VALLEY BLVD.  
DUBLIN, CA

REPORT SUMMARY  
ANAMETRIX, INC. (408) 432-8192

Client : Ensco Environmental Services	Anamatrix W.O.#: 0904023
Address : 41674 Christy Street	Date Received : 04/05/89
	Purchase Order#: 13194
City : Fremont, CA 94538-3114	Project No. : 1826G
Attn. : Steve Costello	Date Released : 04/11/89

Anamatrix I.D.	Sample I.D.	Matrix	Date Sampled	Method	Date Extract	Date Analyzed	Inst I.D.
RESULTS							
8904023-02	1826G MW-11	WATER	04/04/89	METALS		04/07/89	ICP1
8904023-03	1826G MW-12	WATER	04/04/89	METALS		04/07/89	ICP1
8904023-04	1826G MW-9	WATER	04/04/89	METALS		04/07/89	ICP1
8904023-05	1826G MW-8	WATER	04/04/89	METALS		04/07/89	ICP1
8904023-06	1826G MW-2	WATER	04/04/89	METALS		04/07/89	ICP1
8904023-07	1826G MW-7	WATER	04/04/89	METALS		04/07/89	ICP1
8904023-08	1826G MW-10	WATER	04/04/89	METALS		04/07/89	ICP1
8904023-09	1826G MW-3	WATER	04/04/89	METALS		04/07/89	ICP1
8904023-10	1826G MW-4	WATER	04/04/89	METALS		04/07/89	ICP1
8904023-11	1826G MW-1	WATER	04/04/89	METALS		04/07/89	ICP1
8904023-12	1826G MW-6	WATER	04/04/89	METALS		04/07/89	ICP1
QUALITY ASSURANCE (QA)							
MB040689W	METHOD BLANK	WATER	N/A	METALS		04/07/89	ICP1

Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA

ANALYSIS DATA SHEET - INORGANIC COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-11  
 Matrix : WATER  
 Date Sampled : 04/04/89  
 Date Prepared: 04/06/89  
 Date Analyzed: 04/07/89

Anamatrix ID : 8904023-02  
 Analyst : MN  
 Supervisor : P  
 Date released: 04/11/89  
 Instrument ID: ICP1

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
6010	Iron (Fe)	0.01	47.5
9040	pH		6.6

ND : Not detected at or above the practical quantitation limit  
for the limit.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA



ANALYSIS DATA SHEET - INORGANIC COMPOUNDS  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-12  
 Matrix : WATER  
 Date Sampled : 04/04/89  
 Date Prepared: 04/06/89  
 Date Analyzed: 04/07/89

Anamatrix ID : 8904023-03  
 Analyst : <sup>MN</sup>  
 Supervisor : <sup>R</sup>  
 Date released: 04/11/89  
 Instrument ID: ICP1

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
6010	Iron (Fe)	0.01	17.5
9040	pH		7.2

ND : Not detected at or above the practical quantitation limit for the limit.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - INORGANIC COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-9  
Matrix : WATER  
Date Sampled : 04/04/89  
Date Prepared: 04/06/89  
Date Analyzed: 04/07/89

Anamatrix ID : 8904023-04  
Analyst : MN  
Supervisor : Rm  
Date released: 04/11/89  
Instrument ID: ICP1

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
6010	Iron (Fe)	0.01	11.1
9040	pH		6.7

ND : Not detected at or above the practical quantitation limit for the limit.

Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA

ANALYSIS DATA SHEET - INORGANIC COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-8  
 Matrix : WATER  
 Date Sampled : 04/04/89  
 Date Prepared: 04/06/89  
 Date Analyzed: 04/07/89

Anamatrix ID : 8904023-05  
 Analyst : MN  
 Supervisor : RM  
 Date released: 04/11/89  
 Instrument ID: ICPI

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
6010	Iron (Fe)	0.01	12.3
9040	pH		6.8

ND : Not detected at or above the practical quantitation limit  
for the limit.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - INORGANIC COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-2  
Matrix : WATER  
Date Sampled : 04/04/89  
Date Prepared: 04/06/89  
Date Analyzed: 04/07/89

Anamatrix ID : 8904023-06  
Analyst : MN  
Supervisor : RM  
Date released: 04/11/89  
Instrument ID: ICP1

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
6010	Iron (Fe)	0.01	0.937
9040	pH		6.6

ND : Not detected at or above the practical quantitation limit for the limit.

Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA

ANALYSIS DATA SHEET - INORGANIC COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-7  
 Matrix : WATER  
 Date Sampled : 04/04/89  
 Date Prepared: 04/06/89  
 Date Analyzed: 04/07/89

Anamatrix ID : 8904023-07  
 Analyst : MN  
 Supervisor : R M  
 Date released: 04/11/89  
 Instrument ID: ICP1

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
6010	Iron (Fe)	0.01	36.9
9040	pH		7.0

ND : Not detected at or above the practical quantitation limit  
for the limit.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - INORGANIC COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-10  
 Matrix : WATER  
 Date Sampled : 04/04/89  
 Date Prepared: 04/06/89  
 Date Analyzed: 04/07/89

Anamatrix ID : 8904023-08  
 Analyst : MN  
 Supervisor : Rm  
 Date released: 04/11/89  
 Instrument ID: ICP1

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
6010 9040	Iron (Fe) pH	0.01	20.3 6.8

ND : Not detected at or above the practical quantitation limit  
for the limit.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - INORGANIC COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-3  
 Matrix : WATER  
 Date Sampled : 04/04/89  
 Date Prepared: 04/06/89  
 Date Analyzed: 04/07/89

Anamatrix ID : 8904023-09  
 Analyst : <sup>MS</sup>  
 Supervisor : *Rm*  
 Date released: 04/11/89  
 Instrument ID: ICP1

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
6010	Iron (Fe)	0.01	2.98
9040	pH		6.8

ND : Not detected at or above the practical quantitation limit  
for the limit.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - INORGANIC COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-4  
 Matrix : WATER  
 Date Sampled : 04/04/89  
 Date Prepared: 04/06/89  
 Date Analyzed: 04/07/89

Anamatrix ID : 8904023-10  
 Analyst : MN  
 Supervisor : RN  
 Date released: 04/11/89  
 Instrument ID: ICP1

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
6010 9040	Iron (Fe) pH	0.01	2.22 6.7

ND : Not detected at or above the practical quantitation limit  
for the limit.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA



ANALYSIS DATA SHEET - INORGANIC COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-1  
 Matrix : WATER  
 Date Sampled : 04/04/89  
 Date Prepared: 04/06/89  
 Date Analyzed: 04/07/89

Anamatrix ID : 8904023-11  
 Analyst : MN  
 Supervisor : RM  
 Date released: 04/11/89  
 Instrument ID: ICPI

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
6010 9040	Iron (Fe) pH	0.01	32.7 7.1

ND : Not detected at or above the practical quantitation limit  
for the limit.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - INORGANIC COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-6  
Matrix : WATER  
Date Sampled : 04/04/89  
Date Prepared: 04/06/89  
Date Analyzed: 04/07/89

Anamatrix ID : 8904023-12  
Analyst : MN  
Supervisor : RM  
Date released: 04/11/89  
Instrument ID: ICP1

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
6010 9040	Iron (Fe) pH	0.01	9.98 6.6

ND : Not detected at or above the practical quantitation limit  
for the limit.

Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA

ANALYSIS DATA SHEET - INORGANIC COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : METHOD BLANK  
Matrix : WATER  
Date Sampled : N/A  
Date Prepared: 04/06/89  
Date Analyzed: 04/07/89

Anamatrix ID : MB040689W  
Analyst : MN  
Supervisor : R  
Date released: 04/11/89  
Instrument ID: ICP1

METHOD NO.	COMPOUNDS	Detection Limit (ppm)	Amount Found (ppm)
6010	Iron (Fe)	0.01	ND

ND : Not detected at or above the practical quantitation limit for the limit.

Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA

**ANAMETRIX, INC.**

LABORATORY SERVICES

ENVIRONMENTAL • ANALYTICAL CHEMISTRY

1961 CONCOURSE DR., SUITE E • SAN JOSE, CA 95131

TEL: (408) 432-8192 • FAX: (408) 432-8198

SUBCONTRACTED WORK REFERENCE GUIDE

Client: ENSCO

Date recvd from Subcontractor: 4-11-89

41674 Christy Street

Anamatrix Project #: 8904023

Fremont Ca 94538-3114

Client Project #: 1826 G

Subcontractor: Mc Intosh Labs

Attn: Steve Costello

Date project recvd : 4-5-89

ANAMETRIX SAMPLE I.D.	CLIENT SAMPLE I.D.	METHOD
02	mw-11	Alkalinity
02	mw-11	T.D.S.
02	mw-11	T.S.S.
02	mw-11	Hardness
03	mw-12	Alkalinity
03	mw-12	T.D.S.
03	mw-12	T.S.S.
03	mw-12	Hardness
04	mw-9	Alkalinity
04	mw-9	T.D.S.
04	mw-9	T.S.S.
04	mw-9	Hardness
05	mw-8	Alkalinity
05	mw-8	T.D.S.
05	mw-8	T.S.S.
05	mw-8	Hardness

**ANAMETRIX, INC.**

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1961 CONCOURSE DR., SUITE E • SAN JOSE, CA 95131

TEL: (408) 432-8192 • FAX: (408) 432-8198

SUBCONTRACTED WORK REFERENCE GUIDE

Client: ENSCO

41674 Christy Street

Fremont Ca 94538-3114

Attn: Kent Parrish

Date recvd from Subcontractor: \_\_\_\_\_

Anamatrix Project #: 8904023

Client Project #: 1826 G

Subcontractor: McIntosh Labs

Date project recvd : 4-5-89

ANAMETRIX SAMPLE I.D.	CLIENT SAMPLE I.D.	METHOD
06	mw-2	Alkalinity
06	mw-2	T.D.S.
06	mw-2	T.S.S.
06	mw-2	Hardness
07	mw-7	Alkalinity
07	mw-7	T.D.S.
07	mw-7	T.S.S.
07	mw-7	Hardness
08	mw-10	Alkalinity
08	mw-10	T.D.S.
08	mw-10	T.S.S.
08	mw-10	Hardness
09	mw-3	Alkalinity
09	mw-3	T.D.S.
09	mw-3	T.S.S.
09	mw-3	Hardness

**ANAMETRIX, INC.**

LABORATORY SERVICES

ENVIRONMENTAL • ANALYTICAL CHEMISTRY

1961 CONCOURSE DR. SUITE E • SAN JOSE, CA 95131

TEL: (408) 432-8192 • FAX: (408) 432-8198

SUBCONTRACTED WORK REFERENCE GUIDE

Client: ENSCO

Date recvd from Subcontractor: \_\_\_\_\_

41674 Christy Street

Anamatrix Project #: 8904023

Fremont Ca 94538-3114

Client Project #: 18266

Subcontractor: McTatosh Labs

Attn: Kent Parrish

Date project recvd : 4-5-89

ANAMETRIX SAMPLE I.D.	CLIENT SAMPLE I.D.	METHOD
10	mw-4	Alkalinity
10	mw-4	T.D.S.
10	mw-4	T.S.S.
10	mw-4	Hardness
11	mw-1	Alkalinity
11	mw-1	T.D.S.
11	mw-1	T.S.S.
11	mw-1	Hardness
12	mw-6	Alkalinity
12	mw-6	T.D.S.
12	mw-6	T.S.S.
12	mw-6	Hardness



# McINTOSH LABORATORIES

2292 TRADE ZONE BLVD. SAN JOSE, CALIFORNIA 95131 (408)946-3935

: April 11, 1989

: Anametrix, Inc.  
: 1961 Concourse Drive, Suite E  
: San Jose, Calif. 95131  
: Attn Narine Sylvia

Reference SML/No.: 42850-60

Following are results of analyses submitted to our laboratory  
: April 5, 1989.

If we can be of further assistance, please call.

McIntosh Laboratories

A handwritten signature in black ink, appearing to read 'Rex K. McIntosh', is written in a cursive style.

Rex K. McIntosh

Enclosures:

Date Reported: 4/11/89  
Date Received: 4/5/89  
Date sampled : 4/4/89  
Sampled by : Client

: Anametrix, Inc.  
: 1961 Concourse Drive, Suite E  
: San Jose, Calif. 95131  
: Attn: N. Sylvia

Sample Identification: SML/42850 - 8904023-02 MW-11 Shell Oil Co.,  
7194 Amador Valley Blvd., Dublin, Calif.

Parameter	Methodology Reference	Analytical Results
Alkalinity (CaCO <sub>3</sub> )		Milligrams/liter : 998
Aluminum (Al)	EPA 202.1/7020	:
Arsenic (As)	EPA 206.3/7061	:
Antimony (Sb)	EPA 204.1/7040	:
Barium (Ba)	EPA 208.1/7080	:
Boron (B)	EPA 212.3	:
Cadmium (Cd)	EPA 213.1/7130	:
Chromium (Cr+6)	EPA 7196	:
Chromium (Cr)	EPA 218.1/7190	:
Copper (Cu)	EPA 220.1/7210	:
Cyanide (CN)	EPA 335.1/9010	:
Fluoride (F)	EPA 340.2	:
Lead (Pb)	EPA 239.1/7420	:
Manganese (Mn)	EPA 243.1/7460	:
Mercury (Hg)	EPA 245.1/7470	:
Nickel (Ni)	EPA 249.1/7520	:
Ammonia (N)	EPA 350.2	:
Nitrogen (TKN)	EPA 351.3	:
Phenolics	EPA 420.1/9065	:
Selenium (Se)	EPA 270.3/7741	:
Silver (Ag)	EPA 272.1/7760	:
Zinc (Zn)	EPA 289.1/7950	:
Hardness (CaCO <sub>3</sub> )		: 1809
Demand (BOD)	EPA 405.1	:
Demand (COD)	EPA 410.1,2,3,4	:
Oil & Grease	EPA 413.1/9070	:
Carbon, Organic	EPA 415.1/9060	:
pH, Std. Units	EPA 150.1	:
Solids, Suspended	EPA 150.2	: 013
Solids, TSS	EPA 150.1	: 575

By: *[Signature]*



Date Reported: 4/11/89  
 Date Received: 4/5/89  
 Date sampled : 4/4/89  
 Sampled by : Client

: Anametrix, Inc.  
 : 1961 Concourse Drive, Suite E  
 : San Jose, Calif. 95131  
 : Attn: N. Sylvia

Sample Identification: SML/42851 - 8904023-03 MW-12 Shell Oil Co.,  
 7194 Amador Valley Blvd., Dublin, Calif.

Parameter	Methodology Reference	Analytical Results Milligrams/liter
Alkalinity, Total (CaCO <sub>3</sub> )		: 575
Aluminum (Al)	EPA 202.1/7020	:
Arsenic (As)	EPA 206.3/7061	:
Antimony (Sb)	EPA 204.1/7040	:
Barium (Ba)	EPA 208.1/7080	:
Boron (B)	EPA 212.3	:
Cadmium (Cd)	EPA 213.1/7130	:
Chromium (Cr+6)	EPA 7196	:
Chromium (Cr)	EPA 218.1/7190	:
Copper (Cu)	EPA 220.1/7210	:
Cyanide (CN)	EPA 335.1/9010	:
Fluoride (F)	EPA 340.2	:
Lead (Pb)	EPA 239.1/7420	:
Manganese (Mn)	EPA 243.1/7460	:
Mercury (Hg)	EPA 245.1/7470	:
Nickel (Ni)	EPA 249.1/7520	:
Ammonia (N)	EPA 350.2	:
Nitrogen (TKN)	EPA 351.3	:
Phenolics	EPA 420.1/9065	:
Selenium (Se)	EPA 270.3/7741	:
Silver (Ag)	EPA 272.1/7760	:
Zinc (Zn)	EPA 289.1/7950	:
Hardness (CaCO <sub>3</sub> )		: 454
Demand (BOD)	EPA 405.1	:
Demand (COD)	EPA 410.1,2,3,4	:
Oil & Grease	EPA 413.1/9070	:
Carbon, Organic	EPA 415.1/9060	:
pH (Std. Units)	EPA 150.1	:
Solids, Suspended	EPA 160.2	: 390
Solids, TDS	EPA 160.1	: 1762

By: [Signature]

Date Reported: 4/11/89  
 Date Received: 4/5/89  
 Date sampled : 4/4/89  
 Sampled by : Client

: Anamatrix, Inc.  
 : 1961 Concourse Drive, Suite E  
 : San Jose, Calif. 95131  
 : Attn: N. Sylvia

Sample Identification: SML/42852 - 8904023-04 MW-9 Shell Oil Co.,  
 7194 Amador Valley Blvd., Dublin, Calif.

Parameter	Methodology Reference	Analytical Results Milligrams/liter
Alkalinity (CaCO <sub>3</sub> )		: 1180
Aluminum (Al)	EPA 202.1/7020	:
Arsenic (As)	EPA 206.3/7061	:
Antimony (Sb)	EPA 204.1/7040	:
Barium (Ba)	EPA 208.1/7080	:
Boron (B)	EPA 212.3	:
Cadmium (Cd)	EPA 213.1/7130	:
Chromium (Cr+6)	EPA 7196	:
Chromium (Cr)	EPA 218.1/7190	:
Copper (Cu)	EPA 220.1/7210	:
Cyanide (CN)	EPA 335.1/9010	:
Fluoride (F)	EPA 340.2	:
Lead (Pb)	EPA 239.1/7420	:
Manganese (Mn)	EPA 243.1/7460	:
Mercury (Hg)	EPA 245.1/7470	:
Nickel (Ni)	EPA 249.1/7520	:
Ammonia (N)	EPA 350.2	:
Nitrogen (TKN)	EPA 351.3	:
Phenolics	EPA 420.1/9065	:
Selenium (Se)	EPA 270.3/7741	:
Silver (Ag)	EPA 272.1/7760	:
Zinc (Zn)	EPA 289.1/7950	:
Hardness (CaCO <sub>3</sub> )		: 1436
Demand (BOD)	EPA 405.1	:
Demand (COD)	EPA 410.1,2,3,4	:
Oil & Grease	EPA 413.1/9070	:
Carbon, Organic	EPA 415.1/9060	:
pH (Std. Units)	EPA 150.1	:
Solids, Suspended	EPA 160.2	: 156
Solids, (TSS)	EPA 160.1	: 45.4

E.: *[Signature]*



Date Reported: 4/11/89

Date Received: 4/5/89

Date sampled : 4/4/89

Sampled by : Client

: Anametrix, Inc.  
: 1961 Concourse Drive, Suite E  
: San Jose, Calif. 95131  
: Attn: N. Sylvia

Sample Identification: SML/42854 - 8904023-06 MW-2 Shell Oil Co.,  
7194 Amador Valley Blvd., Dublin, Calif.

Parameter	Methodology Reference	Analytical Results Milligrams/liter
Alkalinity (CaCO <sub>3</sub> )		: 1072
Aluminum (Al)	EPA 202.1/7020	:
Arsenic (As)	EPA 206.3/7061	:
Antimony (Sb)	EPA 204.1/7040	:
Barium (Ba)	EPA 208.1/7080	:
Boron (B)	EPA 212.3	:
Cadmium (Cd)	EPA 213.1/7130	:
Chromium (Cr+6)	EPA 7196	:
Chromium (Cr)	EPA 218.1/7190	:
Copper (Cu)	EPA 220.1/7210	:
Cyanide (CN)	EPA 335.1/9010	:
Fluoride (F)	EPA 340.2	:
Lead (Pb)	EPA 239.1/7420	:
Manganese (Mn)	EPA 243.1/7460	:
Mercury (Hg)	EPA 245.1/7470	:
Nickel (Ni)	EPA 249.1/7520	:
Ammonia (N)	EPA 350.2	:
Nitrogen (TKN)	EPA 351.3	:
Phenolics	EPA 420.1/9065	:
Selenium (Se)	EPA 270.3/7741	:
Silver (Ag)	EPA 272.1/7760	:
Zinc (Zn)	EPA 289.1/7950	:
Hardness (CaCO <sub>3</sub> )		: 1474
Demand (BOD)	EPA 405.1	:
Demand (COD)	EPA 410.1,2,3,4	:
Oil & Grease	EPA 413.1/9070	:
Carbon, Organic	EPA 415.1/9060	:
pH (Std. Units)	EPA 150.1	:
Solids, Suspended	EPA 160.2	: 6
Solids, TSS	EPA 160.1	: 5072

E.: 

Date Reported: 4/11/89

Date Received: 4/5/89

Date sampled : 4/4/89

Sampled by : Client

: Anamatrix, Inc.  
: 1961 Concourse Drive, Suite E  
: San Jose, Calif. 95131  
: Attn: N. Sylvia

Sample Identification: SML/42855 - 8904023-07 MW-7 Shell Oil Co.,  
7194 Amador Valley Blvd., Dublin, Calif.

Parameter	Methodology Reference	Analytical Results Milligrams/liter
Alkalinity (CaCO <sub>3</sub> )		: 956
Aluminum (Al)	EPA 202.1/7020	:
Arsenic (As)	EPA 206.3/7061	:
Antimony (Sb)	EPA 204.1/7040	:
Barium (Ba)	EPA 208.1/7080	:
Boron (B)	EPA 212.3	:
Cadmium (Cd)	EPA 213.1/7130	:
Chromium (Cr+6)	EPA 7196	:
Chromium (Cr)	EPA 218.1/7190	:
Copper (Cu)	EPA 220.1/7210	:
Cyanide (CN)	EPA 335.1/9010	:
Fluoride (F)	EPA 340.2	:
Lead (Pb)	EPA 239.1/7420	:
Manganese (Mn)	EPA 243.1/7460	:
Mercury (Hg)	EPA 245.1/7470	:
Nickel (Ni)	EPA 249.1/7520	:
Ammonia (N)	EPA 350.2	:
Nitrogen (TKN)	EPA 351.3	:
Phenolics	EPA 420.1/9065	:
Selenium (Se)	EPA 270.3/7741	:
Silver (Ag)	EPA 272.1/7760	:
Zinc (Zn)	EPA 289.1/7950	:
Hardness (CaCO <sub>3</sub> )		: 913
Demand (BOD)	EPA 405.1	:
Demand (COD)	EPA 410.1,2,3,4	:
Oil & Grease	EPA 413.1/9070	:
Carbon, Organic	EPA 415.1/9060	:
pH (Std. Units)	EPA 150.1	:
Solids, Suspended	EPA 160.2	: 495
Solids, TDS	EPA 160.1	: 3154

By: 

Date Reported: 4/11/89  
 Date Received: 4/5/89  
 Date sampled : 4/4/89  
 Sampled by : Client

: Anametrix, Inc.  
 : 1961 Concourse Drive, Suite E  
 : San Jose, Calif. 95131  
 : Attn: N. Sylvania

Sample Identification: SML/42856 - 8904023-08 MW-10 Shell Oil Co.,  
 7194 Amador Valley Blvd., Dublin, Calif.

Parameter	Methodology Reference	Analytical Results Milligrams/liter
Alkalinity (CaCO <sub>3</sub> )		: 1130
Aluminum (Al)	EPA 202.1/7020	:
Arsenic (As)	EPA 206.3/7061	:
Antimony (Sb)	EPA 204.1/7040	:
Barium (Ba)	EPA 208.1/7080	:
Boron (B)	EPA 212.3	:
Cadmium (Cd)	EPA 213.1/7130	:
Chromium (Cr+6)	EPA 7196	:
Chromium (Cr)	EPA 218.1/7190	:
Copper (Cu)	EPA 220.1/7210	:
Cyanide (CN)	EPA 335.1/9010	:
Fluoride (F)	EPA 340.2	:
Lead (Pb)	EPA 239.1/7420	:
Manganese (Mn)	EPA 243.1/7460	:
Mercury (Hg)	EPA 245.1/7470	:
Nickel (Ni)	EPA 249.1/7520	:
Ammonia (N)	EPA 350.2	:
Nitrogen (TKN)	EPA 351.3	:
Phenolics	EPA 420.1/9065	:
Selenium (Se)	EPA 270.3/7741	:
Silver (Ag)	EPA 272.1/7760	:
Zinc (Zn)	EPA 289.1/7950	:
Hardness (CaCO <sub>3</sub> )		: 922
Demand (BOD)	EPA 405.1	:
Demand (COD)	EPA 410.1,2,3,4	:
Oil & Grease	EPA 413.1/9070	:
Carbon, Organic	EPA 415.1/9060	:
pH (Std. Units)	EPA 150.1	:
Solids, Suspended	EPA 150.2	: 34
Solids, TSS	EPA 150.1	: 33

E.: 

Date Reported: 4/11/89  
 Date Received: 4/5/89  
 Date sampled : 4/4/89  
 Sampled by : Client

: Anametrix, Inc.  
 : 1961 Concourse Drive, Suite E  
 : San Jose, Calif. 95131  
 : Attn: N. Sylvia

Sample Identification: SML/42857 - 8904023-09 MW-3 Shell Oil Co.,  
 7194 Amador Valley Blvd., Dublin, Calif.

Parameter	Methodology Reference	Analytical Results Milligrams/liter
Alkalinity (CaCO <sub>3</sub> )		: 765
Aluminum (Al)	EPA 202.1/7020	:
Arsenic (As)	EPA 206.3/7061	:
Antimony (Sb)	EPA 204.1/7040	:
Barium (Ba)	EPA 208.1/7080	:
Boron (B)	EPA 212.3	:
Cadmium (Cd)	EPA 213.1/7130	:
Chromium (Cr+6)	EPA 7196	:
Chromium (Cr)	EPA 218.1/7190	:
Copper (Cu)	EPA 220.1/7210	:
Cyanide (CN)	EPA 335.1/9010	:
Fluoride (F)	EPA 340.2	:
Lead (Pb)	EPA 239.1/7420	:
Manganese (Mn)	EPA 243.1/7460	:
Mercury (Hg)	EPA 245.1/7470	:
Nickel (Ni)	EPA 249.1/7520	:
Ammonia (N)	EPA 350.2	:
Nitrogen (TKN)	EPA 351.3	:
Phenolics	EPA 420.1/9065	:
Selenium (Se)	EPA 270.3/7741	:
Silver (Ag)	EPA 272.1/7760	:
Zinc (Zn)	EPA 289.1/7950	:
Hardness (CaCO <sub>3</sub> )		: 617
Demand (BOD)	EPA 405.1	:
Demand (COD)	EPA 410.1,2,3,4	:
Oil & Grease	EPA 413.1/9070	:
Carbon, Organic	EPA 415.1/9066	:
Chl. Std. Units	EPA 150.1	:
Solids, Suspended	EPA 160.2	: 64
Solids, TSS	EPA 160.1	: 2078

By: *[Signature]*





Date Reported: 4/11/89  
 Date Received: 4/5/89  
 Date sampled : 4/4/89  
 Sampled by : Client

: Anametrix, Inc.  
 : 1961 Concourse Drive, Suite E  
 : San Jose, Calif. 95131  
 : Attn: N. Sylvia

Sample Identification: SML/42859 - 8904023-11 MW-1 Shell Oil Co.,  
 7194 Amador Valley Blvd., Dublin, Calif.

Parameter	Methodology Reference	Analytical Results Milligrams/liter
Alkalinity (CaCO <sub>3</sub> )		: 830
Aluminum (Al)	EPA 202.1/7020	:
Arsenic (As)	EPA 206.3/7061	:
Antimony (Sb)	EPA 204.1/7040	:
Barium (Ba)	EPA 208.1/7080	:
Boron (B)	EPA 212.3	:
Cadmium (Cd)	EPA 213.1/7130	:
Chromium (Cr+6)	EPA 7196	:
Chromium (Cr)	EPA 218.1/7190	:
Copper (Cu)	EPA 220.1/7210	:
Cyanide (CN)	EPA 335.1/9010	:
Fluoride (F)	EPA 340.2	:
Lead (Pb)	EPA 239.1/7420	:
Manganese (Mn)	EPA 243.1/7460	:
Mercury (Hg)	EPA 245.1/7470	:
Nickel (Ni)	EPA 249.1/7520	:
Ammonia (N)	EPA 350.2	:
Nitrogen (TKN)	EPA 351.3	:
Phenolics	EPA 420.1/9065	:
Selenium (Se)	EPA 270.3/7741	:
Silver (Ag)	EPA 272.1/7760	:
Zinc (Zn)	EPA 289.1/7950	:
Hardness (CaCO <sub>3</sub> )		: 262
Demand (BOD)	EPA 405.1	:
Demand (COD)	EPA 410.1,2,3,4	:
Oil & Grease	EPA 413.1/9070	:
Carbon, Organic	EPA 415.1/9060	:
pH (Std. Units)	EPA 150.1	:
Solids, Suspended	EPA 160.2	: 370
Solids, TSS	EPA 160.1	: 1054

By: JK [Signature]

Date reported: 4/11/89

Date Received: 4/5/89

Date sampled : 4/4/89

Sampled by : Client

: Anametrix, Inc.  
: 1961 Concourse Drive, Suite E  
: San Jose, Calif. 95131  
: Attn: N. Sylvia

Sample Identification: SML/42860 - 8904023-12 MW-6 Shell Oil Co.,  
7194 Amador Valley Blvd., Dublin, Calif.

Parameter	Methodology Reference	Analytical Results Milligrams/liter
Alkalinity (CaCO <sub>3</sub> )		: 1020
Aluminum (Al)	EPA 202.1/7020	:
Arsenic (As)	EPA 206.3/7061	:
Antimony (Sb)	EPA 204.1/7040	:
Barium (Ba)	EPA 208.1/7080	:
Boron (B)	EPA 212.3	:
Cadmium (Cd)	EPA 213.1/7130	:
Chromium (Cr+6)	EPA 7196	:
Chromium (Cr)	EPA 218.1/7190	:
Copper (Cu)	EPA 220.1/7210	:
Cyanide (CN)	EPA 335.1/9010	:
Fluoride (F)	EPA 340.2	:
Lead (Pb)	EPA 239.1/7420	:
Manganese (Mn)	EPA 243.1/7460	:
Mercury (Hg)	EPA 245.1/7470	:
Nickel (Ni)	EPA 249.1/7520	:
Ammonia (N)	EPA 350.2	:
Nitrogen (TKN)	EPA 351.3	:
Phenolics	EPA 420.1/9065	:
Selenium (Se)	EPA 270.3/7741	:
Silver (Ag)	EPA 272.1/7760	:
Zinc (Zn)	EPA 289.1/7950	:
Hardness (CaCO <sub>3</sub> )		: 1740
Demand (BOD)	EPA 405.1	:
Demand (COD)	EPA 410.1,2,3,4	:
Oil & Grease	EPA 413.1/9070	:
Carbon, Organic	EPA 415.1/9060	:
pH (Etc. Units)	EPA 150.1	:
Solids, Suspended	EPA 160.2	: 872
Solids, TSS	EPA 160.1	: 4550

By: *N. Sylvia*





# McINTOSH LABORATORIES

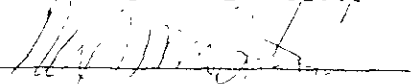
2292 TRADE ZONE BLVD. SAN JOSE, CALIFORNIA 95131 (408)946-3935

Date Reported: 4/11/89  
Date Received: 4/6/89  
Date sampled : 4/5/89  
Sampled by : Client

: Anametrix, Inc.  
: 1961 Concourse Drive, Suite E  
: San Jose, Calif. 95131  
: Attn: Narine Sylvia

Sample Identification: SML/42869 - 8904031-02 MW-5 7194 Amador Valley Blvd., Dublin, Calif.

Parameter	Methodology Reference	Analytical Results Milligrams/liter
Alkalinity, Total (CaCO <sub>3</sub> )		: 745
Aluminum (Al)	EPA 202.1/7020	:
Arsenic (As)	EPA 206.3/7061	:
Antimony (Sb)	EPA 204.1/7040	:
Barium (Ba)	EPA 208.1/7080	:
Boron (B)	EPA 212.3	:
Cadmium (Cd)	EPA 213.1/7130	:
Chromium (Cr+6)	EPA 7196	:
Chromium (Cr)	EPA 218.1/7190	:
Copper (Cu)	EPA 220.1/7210	:
Cyanide (CN)	EPA 335.1/9010	:
Fluoride (F)	EPA 340.2	:
Lead (Pb)	EPA 239.1/7420	:
Manganese (Mn)	EPA 243.1/7460	:
Mercury (Hg)	EPA 245.1/7470	:
Nickel (Ni)	EPA 249.1/7520	:
Ammonia (N)	EPA 350.2	:
Nitrogen (TKN)	EPA 351.3	:
Phenolics	EPA 420.1/9065	:
Selenium (Se)	EPA 270.3/7741	:
Silver (Ag)	EPA 272.1/7760	:
Zinc (Zn)	EPA 289.1/7950	:
Hardness (CaCO <sub>3</sub> )		: 1070
Demand (BOD)	EPA 405.1	:
Demand (COD)	EPA 410.1,2,3,4	:
Oil & Grease	EPA 413.1/9070	:
Carbon, Organic	EPA 415.1/9080	:
pH (Std. Units)	EPA 150.1	:
Solids, Suspended	EPA 160.2	: 7590
Solids, TSS	EPA 160.1	: 3250

By: 



# McINTOSH LABORATORIES

2292 TRADE ZONE BLVD. SAN JOSE, CALIFORNIA 95131 (408)946-3935

Date Reported: 4/11/89  
Date Received: 4/6/89  
Date sampled : 4/5/89  
Sampled by : Client

: Anametrix, Inc.  
: 1961 Concourse Drive, Suite E  
: San Jose, Calif. 95131  
: Attn: Narine Sylvia

Sample Identification: SML/42870 - 8904031-03 RW-1 7194 Amador Valley Blvd., Dublin, Calif.

Parameter	Methodology Reference	Analytical Results Milligrams/liter
Alkalinity, Total (CaCO <sub>3</sub> )		: 1205
Aluminum (Al)	EPA 202.1/7020	:
Arsenic (As)	EPA 206.3/7061	:
Antimony (Sb)	EPA 204.1/7040	:
Barium (Ba)	EPA 208.1/7080	:
Boron (B)	EPA 212.3	:
Cadmium (Cd)	EPA 213.1/7130	:
Chromium (Cr+6)	EPA 7196	:
Chromium (Cr)	EPA 218.1/7190	:
Copper (Cu)	EPA 220.1/7210	:
Cyanide (CN)	EPA 335.1/9010	:
Fluoride (F)	EPA 340.2	:
Lead (Pb)	EPA 239.1/7420	:
Manganese (Mn)	EPA 243.1/7460	:
Mercury (Hg)	EPA 245.1/7470	:
Nickel (Ni)	EPA 249.1/7520	:
Ammonia (N)	EPA 350.2	:
Nitrogen (TKN)	EPA 351.3	:
Phenolics	EPA 420.1/9065	:
Selenium (Se)	EPA 270.3/7741	:
Silver (Ag)	EPA 272.1/7760	:
Zinc (Zn)	EPA 289.1/7950	:
Hardness (CaCO <sub>3</sub> )		: 992
Demand (BOD)	EPA 405.1	:
Demand (COD)	EPA 410.1, 2, 3, 4	:
Oil & Grease	EPA 413.1 A, B, C	:
Carbon, Organic	EPA 415.1/9160	:
pH (Std. Units)	EPA 150.1	:
Solids, Suspended	EPA 160.2	: 100
Solids, TSS	EPA 160.1	: 404

E. *[Signature]*

Anamatrix

CHAIN OF CUSTODY RECORD

P.O. #3194

PROJECT NO.		PROJECT NAME		ADDRESS		TEST REQUESTED							REMARKS
17266		Shell Dublin		7194 Amador Valley Blvd Dublin		THS	DTX	TDS	TSS	Alkalinity	Hardness	Iron	
SAMPLERS (Signature)													48 hr TAT
John Monroe, Jim Durkin													
NO	DATE	TIME	DRIVE	GRAB	STATION AND LOCATION	THS	DTX	TDS	TSS	Alkalinity	Hardness	Iron	
1	4/27	9:55			2 vmpres VOA	X							
2		10:15			2 vmpres VOA, amber liter	X	X	X	X	X	X	X	
					2 nitric acid pres pint,								
					1 vmpres pint								
3		11:20			2 vmpres VOA, amber liter	X	X	X	X	X	X	X	
					3 nitric acid pres pint,								

RELINQUISHED BY <i>[Signature]</i>	DATE	TIME	RECEIVED BY.	RELINQUISHED BY.	DATE	TIME	RECEIVED BY
RELINQUISHED BY	DATE	TIME	RECEIVED BY.	RELINQUISHED BY	DATE	TIME	RECEIVED BY LABORATORY
					4/26/89	19:45	Tyhi Memorial

Send Report to have station address on all pages, in ppm

Report for Rich Gumbel



ensco environmental services, inc.

41674 Christy Street  
Fremont, CA 94538-3114  
(415) 659-0404  
Fax (415) 651-4677  
Contr. L.: No 454324

Unamatrix

CHAIN OF CUSTODY RECORD

pg 142 P.O.# 13194

PROJECT NO 18269 PROJECT NAME Shell - Dublin  
 7194 Amador St. Key Blvd. Dublin

SAMPLERS (Signature) John C. Bourge James Dublin John M. Moore

TEST REQUESTED

48 W. T.A.T.

NO	DATE	TIME	DRIVE	GRAI	STATION AND LOCATION	TW-BTX	TD5 TSS Alkalinity	Ammonia	Iron	PH
BB-1	4 April 99	9:30	9:30	(BB-2)	2 non pres. VOC's. Rich	X				
MW-11		9:42			2 non pres. VOC's, 1 Ammon. Nitrate, 2 HCO <sub>3</sub> pres. Volatiles, 1 non pres.	X	X			
MW-12		9:49			1/2 litre. (non pres.)	X	X	X	X	
MW-9		10:32				X	X	X	X	
MW-8		10:40				X	X	X	X	
MW-2		12:05p				X	X	X	X	
MW-7		12:38p				X	X	X	X	
MW-10		1:01p				X	X	X	X	

RELINQUISHED BY *John C. Bourge* DATE TIME RECEIVED BY.

RELINQUISHED BY: DATE TIME RECEIVED BY

RELINQUISHED BY: DATE TIME RECEIVED BY.

RELINQUISHED BY: DATE TIME RECEIVED BY LABORATORY

REMARKS Report to Rich Garlow / Bryan Richter

**ensco environmental services, inc.**  
 41674 Christy Street  
 Fremont, CA 94538-3114  
 (415) 659-0400  
 Fax (415) 651-4677  
 Contr Lic No 464324

# CHAIN OF CUSTODY RECORD

Pg 2 of 2


PROJECT NO: 13264 PROJECT NAME: Shell - Dublin  
 7194 Amador Valley Blvd, Dublin, CA TEST REQUESTED

SAMPLERS (Signature)						TEST REQUESTED						REMARKS	
NO	DATE	TIME	DRIVE	GRAV	STATION AND LOCATION	TURBIDITY	TDS, TSS, Alkalinity	Hardness	Iron	PH			
MW-1	4 April	1:42p			2 non pres. vials, 1 Amber litre	X	X						
					2 HNO <sub>3</sub> pres. 1/2 litres,			X	X				
		2:00p			1 non pres. 1/2 litre					X			
						X	X						
MW-1		2:42p				X	X	X	X				
								X	X				
MW-6						X	X			X			
								X	X				
										X			
33B-2	4/11/89				2 vials	X							

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:

REMARKS: 4/5/89 1100 Jy W. McNeill

DISTRIBUTION



**ensco environmental services, inc.**  
 41674 Christy Street  
 Fremont, CA 94538-3114  
 (415) 659-0413  
 Fax (415) 651-4677  
 Contr Lic No 464324



# CHAIN OF CUSTODY RECORD

P.O.# 13452

*Unmuted*

PROJECT NO	PROJECT NAME	7194 Amador Valley Blvd. Dublin CA	TEST REQUESTED																
18266	Shell Dublin	Dublin CA																	
SA. APPLICANTS (Signatures)			<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <i>Amador Valley</i>  <i>Conditioned</i> </div> <div style="text-align: center;"> <i>James</i>  <i>Condi</i> </div> </div>																
<i>Neal Bonzo, Jim Monroe</i>																			
NO	DATE	TIME	DRIVE	ORAL	STATION AND LOCATION	TEST													
BE-1	1 May 89	9:56			2 pres. Voa's	X													
MW-7		10:10				X													
MW-11		10:27				X													
MW-9		10:40				X													
MW-16		10:50				X													
MW-8		11:17				X													
MW-2		11:26				X													
MW-4		11:42				X													
MW-3		11:58				X													
MW-1		12:00				X													
MW-12		2:23				X													
MW-5		2:37				X													
MW-15	2 May 89	1:28				X													
MW-1		9:55				X													

48 hr.  
T.A.T.  
  
(1 MAIL)

RELINQUISHED BY	DATE	TIME	RECEIVED BY	RELINQUISHED BY	DATE	TIME	RECEIVED BY
<i>[Signature]</i>							
RELINQUISHED BY	DATE	TIME	RECEIVED BY	RELINQUISHED BY	DATE	TIME	RECEIVED BY (LABORATORY)

ISSUES  
*Report to Rich Galloway*

DISTRIBUTION



**ensco**  
environmental  
services, inc.

41674 Christy Street  
Fremont, CA 94538-3114  
(415) 659-0404  
Fax (415) 651-4677  
Contr. Lic. No. 464324

TOTAL VOLATILE HYDROCARBON MATRIX SPIKE REPORT  
EPA METHOD 5030 WITH GC/FID

Sample I.D. : 1826G MW-7  
Matrix : WATER  
Date sampled : 05-01-89  
Date analyzed : 05-03-89

Anametrix I.D. : 8905021-02  
Analyst : RK  
Supervisor : *SL*  
Date Released : 05-05-89

COMPOUND	SPIKE AMT. (PPM)	MS (PPM)	%REC MS	MSD (PPM)	%REC MSD	RPD	%REC LIMITS
Gasoline	0.50	0.52	104%	0.49	98%	-6%	50-150

\* Limits established by Anametrix, Inc.

SHELL OIL COMPANY.  
7194 AMADOR VALLEY BLVD.  
DUBLIN, CA

# ANAMETRIX INC

Environmental & Analytical Chemistry  
1961 Concourse Drive, Suite E, San Jose, CA 95131  
(408) 432-8192 • Fax (408) 432-8198



# REPORT

Steve Costello  
Ensco Environmental Services  
41674 Christy Street  
Fremont, CA 94538-3114

May 05, 1989  
Anamatrix W.O.#: 8905021  
Date Received : 05/03/89  
Purchase Order#: 13452  
Site: Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA

Dear Mr. Costello:

Your samples have been received for analysis. The REPORT SUMMARY lists your sample identifications and the analytical methods you requested. The following sections are included in this report: RESULTS and QUALITY ASSURANCE.

NOTE: Amounts reported are net values, i.e. corrected for method blank contamination.

If there is any more that we can do, please give us a call. Thank you for using ANAMETRIX, INC.

Sincerely,

ANAMETRIX, INC.

A handwritten signature in cursive script, appearing to read "Sarah Schoen".

Sarah Schoen, Ph.D.  
GC Manager

SRS/lm

REPORT SUMMARY  
ANAMETRIX, INC. (408) 432-8192

Client : Ensco Environmental Services	Anamatrix W.O.#: 8905021
Address : 41674 Christy Street	Date Received : 05/03/89
	Purchase Order#: 13452
City : Fremont, CA 94538-3114	Project No. : 1826G
Attn. : Steve Costello	Date Released : 05/05/89

Anamatrix I.D.	Sample I.D.	Matrix	Date Sampled	Method	Date Extract	Date Analyzed	Inst I.D.
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RESULTS

8905021-01	BB-1	WATER	05/01/89	TPH		05/03/89	N/A
8905021-02	MW-7	WATER	05/01/89	TPH		05/03/89	N/A
8905021-03	MW-11	WATER	05/01/89	TPH		05/03/89	N/A
8905021-04	MW-9	WATER	05/01/89	TPH		05/03/89	N/A
8905021-05	MW-10	WATER	05/01/89	TPH		05/03/89	N/A
8905021-06	MW-8	WATER	05/01/89	TPH		05/03/89	N/A
8905021-07	MW-2	WATER	05/01/89	TPH		05/03/89	N/A
8905021-08	MW-4	WATER	05/01/89	TPH		05/04/89	N/A
8905021-09	MW-3	WATER	05/01/89	TPH		05/04/89	N/A
8905021-10	MW-1	WATER	05/01/89	TPH		05/03/89	N/A
8905021-11	MW-12	WATER	05/01/89	TPH		05/04/89	N/A
8905021-12	MW-6	WATER	05/01/89	TPH		05/04/89	N/A
8905021-13	MW-5	WATER	05/02/89	TPH		05/04/89	N/A
8905021-14	RW-1	WATER	05/02/89	TPH		05/05/89	N/A

QUALITY ASSURANCE (QA)

8905021-02	MW-7	WATER	05/01/89	SPIKE		05/03/89	N/A
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ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G BB-1  
 Matrix : WATER  
 Date sampled : 05/01/89  
 Date anl.TPHg: 05/03/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anamatrix I.D. : 8905021-01  
 Analyst : RK  
 Supervisor : ~~SC~~  
 Date released : 05/05/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.0005	ND
108-88-3	Toluene	0.0005	ND
100-41-4	Ethylbenzene	0.0005	ND
1330-20-7	Total Xylenes	0.001	ND
	TPH as Gasoline	0.05	ND

- ND - Not detected at or above the practical quantitation limit for the method.
- TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
- BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-7  
 Matrix : WATER  
 Date sampled : 05/01/89  
 Date anl.TPHg: 05/03/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anamatrix I.D. : 8905021-02  
 Analyst : RK  
 Supervisor : SK  
 Date released : 05/05/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.0005	ND
108-88-3	Toluene	0.0005	ND
100-41-4	Ethylbenzene	0.0005	ND
1330-20-7	Total Xylenes	0.001	ND
	TPH as Gasoline	0.05	ND

- ND - Not detected at or above the practical quantitation limit for the method.
- TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
- BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-11  
 Matrix : WATER  
 Date sampled : 05/01/89  
 Date anl.TPHg: 05/03/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anamatrix I.D. : 8905021-03  
 Analyst : RK  
 Supervisor : JX  
 Date released : 05/05/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.0005	ND
108-88-3	Toluene	0.0005	ND
100-41-4	Ethylbenzene	0.0005	ND
1330-20-7	Total Xylenes	0.001	ND
	TPH as Gasoline	0.05	ND

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-9  
 Matrix : WATER  
 Date sampled : 05/01/89  
 Date anl.TPHg: 05/03/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anamatrix I.D. : 8905021-04  
 Analyst : RK  
 Supervisor : *sc*  
 Date released : 05/05/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.0005	ND
108-88-3	Toluene	0.0005	ND
100-41-4	Ethylbenzene	0.0005	ND
1330-20-7	Total Xylenes	0.001	ND
	TPH as Gasoline	0.05	ND

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA



ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-10  
 Matrix : WATER  
 Date sampled : 05/01/89  
 Date anl.TPHg: 05/03/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anamatrix I.D. : 8905021-05  
 Analyst : RK  
 Supervisor : JC  
 Date released : 05/05/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.0005	0.099
108-88-3	Toluene	0.0005	0.024
100-41-4	Ethylbenzene	0.0005	0.0081
1330-20-7	Total Xylenes	0.001	0.032
	TPH as Gasoline	0.05	0.68

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-8  
 Matrix : WATER  
 Date sampled : 05/01/89  
 Date anl.TPHg: 05/03/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anamatrix I.D. : 8905021-06  
 Analyst : RK  
 Supervisor : JL  
 Date released : 05/05/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.0005	ND
108-88-3	Toluene	0.0005	ND
100-41-4	Ethylbenzene	0.0005	ND
1330-20-7	Total Xylenes	0.001	ND
	TPH as Gasoline	0.05	ND

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-2  
 Matrix : WATER  
 Date sampled : 05/01/89  
 Date anl.TPHg: 05/03/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anamatrix I.D. : 8905021-07  
 Analyst : RK  
 Supervisor : ~~JK~~  
 Date released : 05/05/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.0005	0.0027
108-88-3	Toluene	0.0005	ND
100-41-4	Ethylbenzene	0.0005	ND
1330-20-7	Total Xylenes	0.001	ND
	TPH as Gasoline	0.05	ND

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-4  
Matrix : WATER  
Date sampled : 05/01/89  
Date anl.TPHg: 05/04/89  
Date ext.TPHd: N/A  
Date anl.TPHd: N/A

Anamatrix I.D. : 8905021-08  
Analyst : RK  
Supervisor : SK  
Date released : 05/05/89  
Date ext. TOG : N/A  
Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.001	0.065
108-88-3	Toluene	0.001	0.002
100-41-4	Ethylbenzene	0.001	0.003
1330-20-7	Total Xylenes	0.002	0.004
	TPH as Gasoline	0.1	0.2

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-3  
 Matrix : WATER  
 Date sampled : 05/01/89  
 Date anl.TPHg: 05/04/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anamatrix I.D. : 8905021-09  
 Analyst : RK  
 Supervisor : *JK*  
 Date released : 05/05/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.0005	0.048
108-88-3	Toluene	0.0005	0.0012
100-41-4	Ethylbenzene	0.0005	0.0034
1330-20-7	Total Xylenes	0.001	0.002
	TPH as Gasoline	0.05	0.13

- ND - Not detected at or above the practical quantitation limit for the method.  
 TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.  
 BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-1  
 Matrix : WATER  
 Date sampled : 05/01/89  
 Date anl.TPHg: 05/03/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anamatrix I.D. : 8905021-10  
 Analyst : RK  
 Supervisor : ~~CK~~  
 Date released : 05/05/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.005	2.8
108-88-3	Toluene	0.005	0.88
100-41-4	Ethylbenzene	0.005	0.41
1330-20-7	Total Xylenes	0.01	0.78
	TPH as Gasoline	0.25	11

- ND - Not detected at or above the practical quantitation limit for the method.  
 TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.  
 BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-12  
 Matrix : WATER  
 Date sampled : 05/01/89  
 Date anl.TPHg: 05/04/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anamatrix I.D. : 8905021-11  
 Analyst : RK  
 Supervisor : JZ  
 Date released : 05/05/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.0005	ND
108-88-3	Toluene	0.0005	ND
100-41-4	Ethylbenzene	0.0005	ND
1330-20-7	Total Xylenes	0.001	ND
	TPH as Gasoline	0.05	ND

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-6  
 Matrix : WATER  
 Date sampled : 05/01/89  
 Date anl.TPHg: 05/04/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anamatrix I.D. : 8905021-12  
 Analyst : RK  
 Supervisor : *SC*  
 Date released : 05/05/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.0025	0.12
108-88-3	Toluene	0.0025	0.011
100-41-4	Ethylbenzene	0.0025	0.025
1330-20-7	Total Xylenes	0.005	0.017
	TPH as Gasoline	0.25	0.79

- ND - Not detected at or above the practical quantitation limit for the method.  
 TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.  
 BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA



ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G MW-5  
 Matrix : WATER  
 Date sampled : 05/02/89  
 Date anl.TPHg: 05/04/89  
 Date ext.TPHd: N/A  
 Date anl.TPHd: N/A

Anamatrix I.D. : 8905021-13  
 Analyst : RK  
 Supervisor : JC  
 Date released : 05/05/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.0005	0.0013
108-88-3	Toluene	0.0005	ND
100-41-4	Ethylbenzene	0.0005	ND
1330-20-7	Total Xylenes	0.001	ND
	TPH as Gasoline	0.05	ND

- ND - Not detected at or above the practical quantitation limit for the method.
- TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
- BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
 7194 Amador Valley Blvd.  
 Dublin, CA

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 1826G RW-1  
Matrix : WATER  
Date sampled : 05/02/89  
Date anl.TPHg: 05/05/89  
Date ext.TPHd: N/A  
Date anl.TPHd: N/A

Anamatrix I.D. : 8905021-14  
Analyst : *Pre*  
Supervisor : *SK*  
Date released : 05/05/89  
Date ext. TOG : N/A  
Date anl. TOG : N/A

CAS #	Compound Name	Detection Limit (ppm)	Amount Found (ppm)
71-43-2	Benzene	0.005	0.39
108-88-3	Toluene	0.005	0.005
100-41-4	Ethylbenzene	0.005	0.01
1330-20-7	Total Xylenes	0.01	ND
	TPH as Gasoline	0.5	0.9

ND - Not detected at or above the practical quantitation limit for the method.

TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Shell Oil  
7194 Amador Valley Blvd.  
Dublin, CA

## SHELL STATUS LOG

Project Number 1826G  
7194 Amador Valley Boulevard  
Dublin, California

Date Mailed	Report Dated	Description
5/25/88		Initial Soil and Groundwater Investigation
		Report to Diane Lundquist
11/30/88		Supplemental Soil and Groundwater Investigation
		Report to Diane Lundquist
3/17/89		March Quarterly Groundwater Sampling Report
		to Diane Lundquist
6/16/89	6/12/89	June Quarterly Report-Groundwater Sampling
		and Analysis to Alamo Mortgage Corporation
6/16/89	6/5/89	Final Assessment Report to
		Alamo Mortgage Corporation, Walnut Creek, CA
6/30/89	6/5/89	Final Assessment Report
		Alameda Co. Health Care Svcs-Storm Goranson
		Reg.Water Quality Control Brd.-Donald Dalke
6/30/89	6/12/89	June Quarterly Report-Groundwater Sampling
		Alameda Co.Health Care Svcs-Craig Mayfield
		Reg.Water Quality Control Brd.-Donald Dalke
		Alameda Co. Health Care Svcs-Storm Goranson