HYDRO ENVIRONMENTAL TECHNOLOGIES, INC.

2363 Mariner Square Drive, Suite 243
Alameda, CA 94501
Tel. 510-521-2684
Fax 510-521-5078

1-800-347-HETI
Massachusetts
New York

June 29, 1993

12-008

Mr. Dan Kirk
Shell Oil Company
P. O. Box 5278
Concord, California 94520

Re: Shell Service Station, 5251 Hopyard Road, Pleasanton, California
WIC# 204-6138-0907

Dear Mr. Kirk,

Hydro-Environmental Technologies, Inc. (HETI) is pleased to present this report on the second quarter 1993 ground water sampling at the referenced location (Figure 1). Information presented in this report is based on the results of lab analysis of ground water samples collected by the Shell Oil Company (Shell) sampling contractor on April 28, 1993. A copy of this report has been forwarded to the Alameda County Department of Environmental Health and to the Regional Board.

Executive Summary

- Recent field data indicate that the local ground water table beneath the site is fairly flat.
- The depth to water in most monitoring wells has increased from last quarter by approximately one foot.
- Analytical results of ground water samples collected during this monitoring event indicate that no detectable concentrations of petroleum hydrocarbons were present in wells S-2, and S-4 through S-8.
- No hydrocarbons in the gasoline range have been detected in wells S-2, S-4 or S-7 in the last year and a half.
- The extent of dissolved hydrocarbons in ground water is defined, and is limited to the area in the immediate vicinity of the former underground storage tanks.

Site Description

Project history and background information has been presented in investigative reports prepared during the site characterization phase of this project. There are currently five ground water monitoring wells present on-site, and three monitoring wells located off-site.

Results of the Second Quarter, 1993 Ground Water Sampling

Ground Water Gradient:

The depth to ground water in all monitoring wells was measured by the Shell sampling contractor, Blaine Tech Services, Inc. (Blaine), on April 28, 1993. These measurements were combined with previously established well head elevations to yield a ground water elevation map (Figure 2). Water table elevations are recorded in Table 1.

As shown on Figure 2, the ground water table beneath the site is basically flat. As shown on Table 1, the depth to ground water has dropped by approximately one foot since the sampling visit in January, 1993.

Ground Water Analytical Data:

Analytical results indicate that no detectable concentrations of petroleum hydrocarbons were present in the samples collected from S-2, and S-4 through S-8 on April 28, 1993. Low boiling point hydrocarbons were detected in the samples collected from S-1 and S-3 (Figure 3). Blaine sampling and analytical data is presented as an attachment to this report. Current and historical analytical results are presented in Table 1.

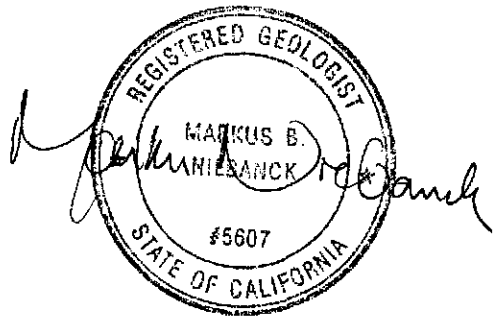
Recommendations

A modification in the sampling frequency for monitoring wells S-2, S-4 and S-7 was recommended in the last Quarterly Report, prepared by GeoStrategies, Inc. on March 2, 1993. This modification consisted of placing these wells on an annual sampling schedule, while leaving the schedule for the remaining wells unchanged. This modification will be implemented during the third quarterly sampling, which is currently planned to take place in mid to late July, 1993.

HYDRO
ENVIRONMENTAL
TECHNOLOGIES, INC.

All information and interpretation in this report is presented in accordance with currently accepted professional practices. This report has been prepared for the sole use of Shell Oil Company. Any reliance on the information presented herein by third parties will be at such parties' sole risk. HETI is pleased to be of continued service to Shell. If you have any questions or comments regarding this report, please do not hesitate to call.

Very truly yours,
HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.



Markus B. Niebanck, R. G.
Western Regional Manager

cc. Ms. Eva Chu, ACDEH
Mr. Rich Hiett, SF Bay RWQCB

Table 1

SUMMARY OF GROUND WATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS

Shell Service Station - WIC#204-6138-0907

5251 Hopyard Road, Pleasanton, California

Well Number	Sampling Date	TOB (feet)	DTW (feet)	GWE (feet)	TPHg (ppb)	TPHd (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)
S-1	1/6/88	—	—	—	600	<50	220	<5	#	<20
	12/14/88	—	—	—	17,000	8,000	5,100	40	570	200
	3/30/89	—	—	—	8,200	3,600	2,900	<20	330	160
	7/20/89	326.73	8.71	318.02	21,000	8,500	6,200	1,500	1,100	700
	10/16/89	—	—	—	16,000	11,000	3,900	890	1,200	900
	1/5/90	—	—	—	8,200	6,500	2,300	100	660	320
	4/11/90	—	—	—	11,000	NA	3,000	120	830	520
	7/12/90	—	—	—	20,000	8,000	4,400	960	1,300	1,200
	10/25/90	—	—	—	6,000	3,500	1,400	140	600	320
	1/25/91	—	—	—	2,500	1,500	460	<25	130	36
	4/16/91	—	—	—	6,700	2,600*	2,600	14	580	250
	7/24/91	—	—	—	8,800	3,800*	2,300	30	640	220
	10/18/91	326.73	8.85	317.88	12,000	3,300*	3,600	380	990	580
	1/23/92	—	—	—	1,600	890	450	3.0	120	17
	4/27/92	—	—	—	1,100†	500*	610	<10	110	10
	7/21/92	—	—	—	5,100	290@	1,900	54	430	140
	10/16/92	—	—	—	13,000	390@	3,200	310	780	360
	1/23/93	326.73	7.96	318.77	2,300	30**	640	<5	110	13
	4/28/93	326.73	9.07	317.66	4,600	390	780	<0.5	250	<0.5
S-2	5/11/89	—	—	—	<50	<100	<0.5	<1	<1	<3
	7/20/89	326.59	8.83	317.76	<50	<100	<0.5	<1	<1	<3
	10/16/89	—	—	—	<50	<100	<0.5	<1	<1	<3
	1/5/90	—	—	—	<50	<100	<0.5	<0.5	<0.5	<1

Table 1

SUMMARY OF GROUND WATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS

Shell Service Station - WIC#204-6138-0907

5251 Hopyard Road, Pleasanton, California

Well Number	Sampling Date	TOB (feet)	DTW (feet)	GWE (feet)	TPHg (ppb)	TPHd (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)
S-2	4/11/90	—	—	—	<50	NA	<0.5	<0.5	<0.5	<1
	7/12/90	—	—	—	<50	<50	<0.5	<0.5	<0.5	<0.5
	10/25/90	—	—	—	<50	<50	<0.5	<0.5	<0.5	<0.5
	1/25/91	—	—	—	<50	<50	<0.5	<0.5	<0.5	<0.5
	4/16/91	—	—	—	<50	<50	<0.5	<0.5	<0.5	<0.5
	7/24/91	—	—	—	<50	<50	<0.5	<0.5	<0.5	<0.5
	10/18/91	326.59	8.83	317.76	<50	<50	<0.5	<0.5	<0.5	<0.5
	1/23/92	—	—	—	<50	<50	<0.5	<0.5	<0.5	<0.5
	4/27/92	—	—	—	<50	<50	<0.5	<0.5	<0.5	<0.5
	7/17/92	—	—	—	<50	<50	<0.5	<0.5	<0.5	<0.5
	10/16/92	—	—	—	<50	<50	<0.5	<0.5	<0.5	<0.5
	1/23/93	326.59	8.10	318.49	<50	140~	<0.5	<0.5	<0.5	<0.5
	4/28/93	326.59	9.06	317.53	<50	<50	<0.5	<0.5	<0.5	<0.5
S-3	5/11/89	—	—	—	2,600	1,400	330	14	220	200
	7/20/89	327.38	9.55	317.83	9,700	2,200	2,300	30	880	160
	10/16/89	—	—	—	3,400	2,800	700	8.0	360	60
	1/5/90	—	—	—	860	1,600	140	1.6	78	2.0
	4/11/90	—	—	—	1,000	NA	210	<2	150	13
	7/12/90	—	—	—	2,800	2,000	490	8.5	210	81
	10/25/90	—	—	—	1,200	860	120	<2.5	82	5.1
	1/25/91	—	—	—	870	330	230	<2.5	130	<2.5
	4/16/91	—	—	—	190	140*	12	0.8	6.2	1.5
	7/24/91	—	—	—	1,700	1,200*	450	4.4	150	2.9

Table 1

SUMMARY OF GROUND WATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS

Shell Service Station - WIC#204-6138-0907

5251 Hopyard Road, Pleasanton, California

Well Number	Sampling Date	TOB (feet)	DTW (feet)	GWE (feet)	TPHg (ppb)	TPHd (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)
S-3	10/18/91	327.38	9.64	317.74	1,900	500	370	3.1	120	220
	1/23/92	—	—	—	2,000	650*	580	3.0	200	<0.5
	4/27/92	—	—	—	1,100	230*	150	<3	76	14
	7/17/92	—	—	—	810	58	200	<2.5	57	3.8
	10/16/92	—	—	—	440	190@	79	1.8	18	4.6
	1/23/93	327.38	8.81	318.57	670	170**	79	1.5	46	15
	4/28/93	327.38	9.87	317.51	2,000	<50	300	3.4	210	38
S-4	5/11/89	—	—	—	<50	<100	<0.5	<1	<1	<3
	7/20/89	327.38	8.03	319.35	<50	<100	<0.5	<1	<1	<3
	10/16/89	—	—	—	<50	<100	<0.5	<1	<1	<3
	1/5/90	—	—	—	<50	<100	<0.5	<0.5	<0.5	<1
	4/11/90	—	—	—	<50	NA	<0.5	<0.5	<0.5	<1
	7/12/90	—	—	—	<50	<50	<0.5	1.7	<0.5	2.1
	10/25/90	—	—	—	<50	<50	<0.5	<0.5	<0.5	0.6
	1/25/91	—	—	—	<50	<50	<0.5	1.5	<0.5	2.8
	4/16/91	—	—	—	<50	<50	0.7	<0.5	<0.5	<0.5
	7/24/91	—	—	—	<50	<50	<0.5	<0.5	<0.5	<0.5
	10/18/91	327.38	8.82	318.56	<50	<50	<0.5	<0.5	<0.5	<0.5
	1/23/92	—	—	—	<50	<50	<0.5	<0.5	<0.5	<0.5
	4/27/92	—	—	—	<50	<50	<0.5	<0.5	<0.5	<0.5
	7/17/92	—	—	—	<500	74	<0.5	<0.5	<0.5	<0.5
	10/16/92	—	—	—	<500	<50	<0.5	<0.5	<0.5	<0.5

Table 1

SUMMARY OF GROUND WATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS

Shell Service Station - WIC#204-6138-0907

5251 Hopyard Road, Pleasanton, California

Well Number	Sampling Date	TOB (feet)	DTW (feet)	GWE (feet)	TPHg (ppb)	TPHd (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)
S-4	1/23/93	327.38	8.32	319.06	<500	94~	<0.5	<0.5	<0.5	<0.5
	4/28/93	327.38	9.76	317.62	<50	<50	<0.5	<0.5	<0.5	<0.5
S-5	5/11/89	—	—	—	50	<100	<0.5	<1	1.0	3.0
	7/20/89	327.76	9.62	318.14	<50	<100	10	<1	<1	<3
	10/16/89	—	—	—	<50	<100	<0.5	<1	<1	<3
	1/5/90	—	—	—	<50	<100	<0.5	<0.5	<0.5	<1
	4/11/90	—	—	—	<50	NA	0.5	3.4	0.8	4.0
	7/12/90	—	—	—	<50	<50	<0.5	<0.5	<0.5	<0.5
	10/25/90	—	—	—	<50	<50	<0.5	<0.5	<0.5	<0.5
	1/25/91	—	—	—	<50	<50	<0.5	<0.5	<0.5	0.7
	4/16/91	—	—	—	<50	<50	<0.5	<0.5	<0.5	0.8
	7/24/91	—	—	—	<50	<50	<0.5	<0.5	<0.5	<0.5
	10/18/91	327.76	10.00	317.76	120^	<50	43	<0.5	1.0	0.7
	1/23/92	—	—	—	<50	<50	<0.5	<0.5	<0.5	<0.5
	4/27/92	—	—	—	50	<50	<0.5	<0.5	<0.5	0.6
	7/17/92	—	—	—	<50	70	<0.5	<0.5	<0.5	<0.5
	10/16/92	—	—	—	230	57	13	<0.5	4.9	4.3
	1/23/93	327.76	8.88	318.88	<50	150~	<0.5	<0.5	<0.5	<0.5
	4/30/93	327.76	10.20	317.56	<50	<50	<0.5	<0.5	<0.5	<0.5
S-6	11/15/89	—	—	—	<50	<100	<0.5	<0.5	<0.5	<1
	1/5/90	—	—	—	<50	<100	<0.5	0.5	<0.5	<1
	4/11/90	—	—	—	<50	NA	<0.5	<0.5	<0.5	<1

Table 1

SUMMARY OF GROUND WATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS

Shell Service Station - WIC#204-6138-0907

5251 Hopyard Road, Pleasanton, California

Well Number	Sampling Date	TOB (feet)	DTW (feet)	GWE (feet)	TPHg (ppb)	TPHd (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)
S-6	7/12/90	—	—	—	<50	<50	<0.5	0.5	<0.5	0.6
	10/25/90	—	—	—	<50	<50	<0.5	<0.5	<0.5	<0.5
	1/25/91	—	—	—	<50	<50	<0.5	1.7	<0.5	2.8
	4/16/91	—	—	—	<50	<50	<0.5	<0.5	<0.5	0.6
	7/24/91	—	—	—	<50	<50	<0.5	<0.5	<0.5	0.5
	10/18/91	326.56	8.84	317.72	<50	<50	<0.5	<0.5	<0.5	0.5
	1/23/92	—	—	—	<50	<50	<0.5	<0.5	<0.5	0.5
	4/27/92	—	—	—	<50	<50	<0.5	<0.5	<0.5	<0.5
	7/17/92	—	—	—	400	130	<0.5	<0.5	<0.5	<0.5
	10/16/92	—	—	—	<50	<50	<0.5	<0.5	<0.5	<0.5
	1/23/93	326.56	7.82	318.74	<50	230~	<0.5	<0.5	<0.5	<0.5
	4/28/93	326.56	9.00	317.56	<50	<50	<0.5	<0.5	<0.5	<0.5
S-7	1/15/93	—	—	—	<50	<100	<0.5	<0.5	<0.5	<1
	11/15/89	—	—	—	<50	<100	<0.5	<0.5	<0.5	<1
	1/5/90	—	—	—	<50	NA	<0.5	<0.5	<0.5	<1
	4/11/90	—	—	—	<50	NA	<0.5	<0.5	<0.5	0.7
	7/12/90	—	—	—	<50	<50	<0.5	0.6	<0.5	1.0
	10/25/90	—	—	—	<50	<50	<0.5	0.5	<0.5	<0.5
	1/25/91	—	—	—	<50	<50	<0.5	<0.5	<0.5	<0.5
	4/16/91	—	—	—	<50	<50	<0.5	<0.5	<0.5	<0.5
	7/24/91	—	—	—	<50	<50	<0.5	<0.5	<0.5	<0.5
	10/18/91	326.49	8.92	317.57	<50	140^^	<0.5	<0.5	<0.5	<0.5
	1/23/92	—	—	—	<50	140^^	<0.5	<0.5	<0.5	<0.5

Table 1

SUMMARY OF GROUND WATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS

Shell Service Station - WIC#204-6138-0907

5251 Hopyard Road, Pleasanton, California

Well Number	Sampling Date	TOB (feet)	DTW (feet)	GWE (feet)	TPHg (ppb)	TPHd (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)
S-7	4/27/92	—	—	—	<50	<50	<0.5	<0.5	<0.5	<0.5
	7/17/92	—	—	—	<50	<50	<0.5	1.8	0.6	4.1
	10/16/92	—	—	—	<50	<50	<0.5	<0.5	<0.5	<0.5
	1/23/93	326.49	8.06	318.43	<50	110~	<0.5	<0.5	<0.5	<0.5
	4/28/93	326.49	8.94	317.55	<50	<50	<0.5	<0.5	<0.5	<0.5
S-8	11/15/89	—	—	—	<50	<100	<0.5	<0.5	<0.5	<1
	1/5/90	—	—	—	<50	<100	<0.5	<0.5	<0.5	<1
	4/11/90	—	—	—	<50	NA	<0.5	<0.5	<0.5	<1
	7/12/90	—	—	—	<50	<50	<0.5	<0.5	<0.5	<0.5
	10/25/90	—	—	—	<50	<50	<0.5	<0.5	<0.5	<0.5
	1/25/91	—	—	—	<50	<50	<0.5	<0.5	<0.5	<0.5
	4/16/91	—	—	—	<50	<50	<0.5	<0.5	<0.5	<0.5
	7/24/91	—	—	—	<50	<50	<0.5	<0.5	<0.5	<0.5
	10/18/91	325.32	7.62	317.70	<50	360^^	<0.5	<0.5	<0.5	<0.5
	1/23/92	—	—	—	<50	90	<0.5	<0.5	<0.5	<0.5
	4/27/92	—	—	—	<50	<50	<0.5	<0.5	<0.5	<0.5
	7/21/92	—	—	—	53	<50	<0.5	1.0	<0.5	1.8
	10/16/92	—	—	—	<50	<50	<0.5	<0.5	<0.5	<0.5
	1/23/93	325.32	7.00	318.32	<50	<50	<0.5	<0.5	<0.5	<0.5
	4/28/93	325.32	7.77	317.55	<50	<50	<0.5	<0.5	<0.5	<0.5
V-1	12/14/88	—	—	—	770	4,500	6.4	21	9.0	87

Table 1

SUMMARY OF GROUND WATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS

Shell Service Station - WIC#204-6138-0907

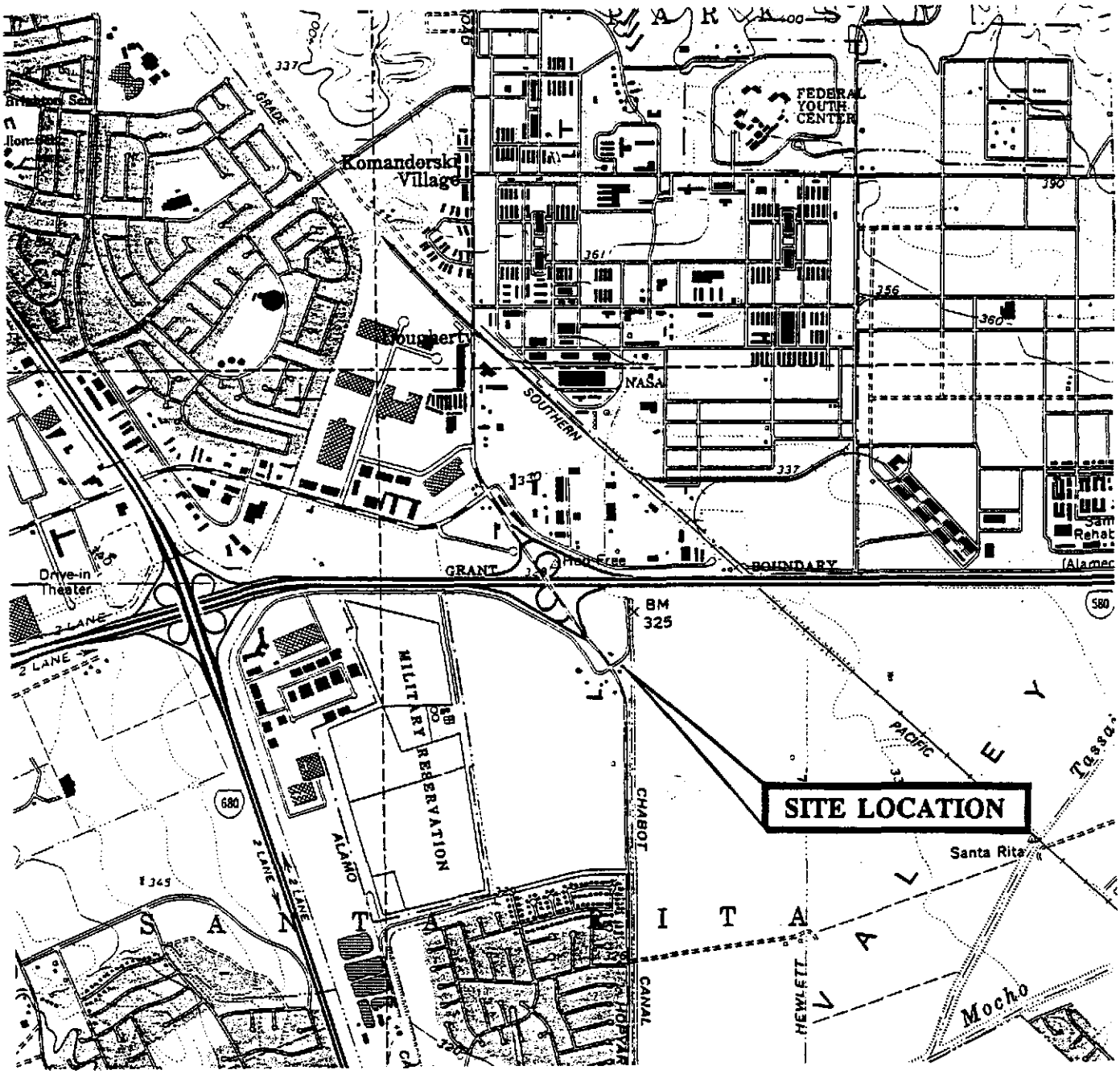
5251 Hopyard Road, Pleasanton, California

Well Number	Sampling Date	TOB (feet)	DTW (feet)	GWE (feet)	TPHg (ppb)	TPHd (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)
V-2	12/14/88	—	—	—	160	1,000	3.8	<1	<1	4.0
V-3	12/14/88	—	—	—	140	800	9.0	<1	<1	3.0

Notes:

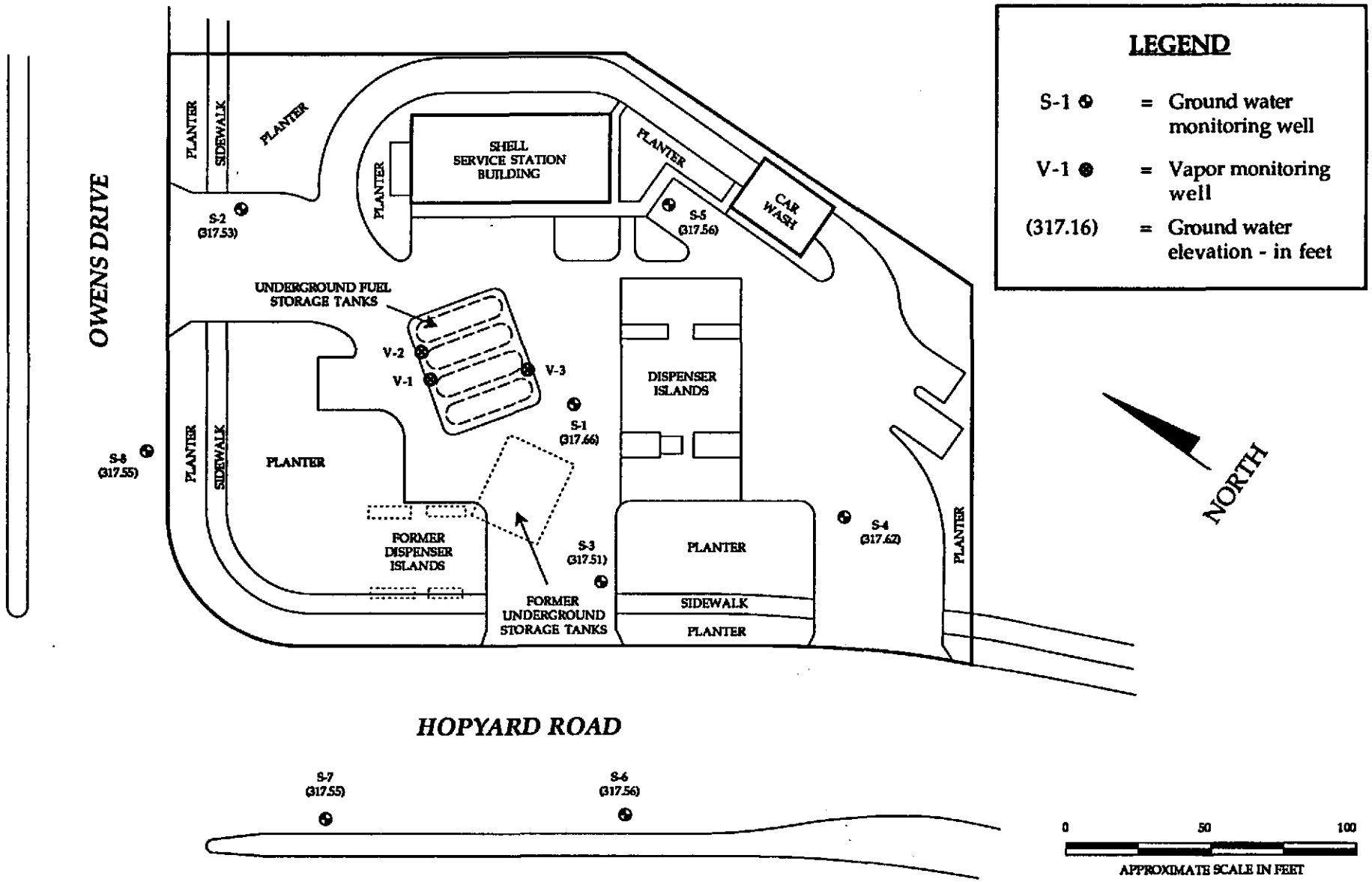
TOB:	Top of well casing referenced to mean sea level
DTW:	Depth to water
GWE:	Ground water elevation
TPHg:	Total petroleum hydrocarbons as gasoline by EPA Method 8015 (modified)
TPHd:	Total petroleum hydrocarbons as diesel by EPA Method 8015 (modified)
BTEX:	Benzene, toluene, ethylbenzene and total xylenes by EPA Method 8020
NA:	Not analyzed
#	Ethylbenzene and xylenes were combined in January 1988, well S-1.
*	Compounds detected as diesel appear to be the less volatile constituents of gasoline.
**	Concentration reported as diesel includes a heavier petroleum product.
^	Compounds detected within the chromatographic range of gasoline but not characteristic of the standard gasoline pattern.
^^	Compounds detected within the chromatographic range of diesel but not characteristic of the standard gasoline pattern.
†	The chromatographic pattern of the purgeable hydrocarbons found in the sample is similar to the pattern of weathered gasoline.
~	The concentration reported as diesel primarily due to the presence of a heavier petroleum product.
@	The concentration reported as diesel primarily due to the presence of a lighter petroleum product.

FIGURES



SOURCE:
USGS 7.5 MINUTE SERIES
DUBLIN QUADRANGLE
PHOTOREVISED 1980

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.	**SITE LOCATION MAP** Shell Service Station 5251 Hopyard Road Pleasanton, California WIC #204-6138-0907	Figure 1 12-008 6/93



BASED ON SITE PLAN/POTENTIOMETRIC MAP BY GEOSTRATEGIES INC. DATED 3/93, AND DATA COLLECTED 4/28/93.

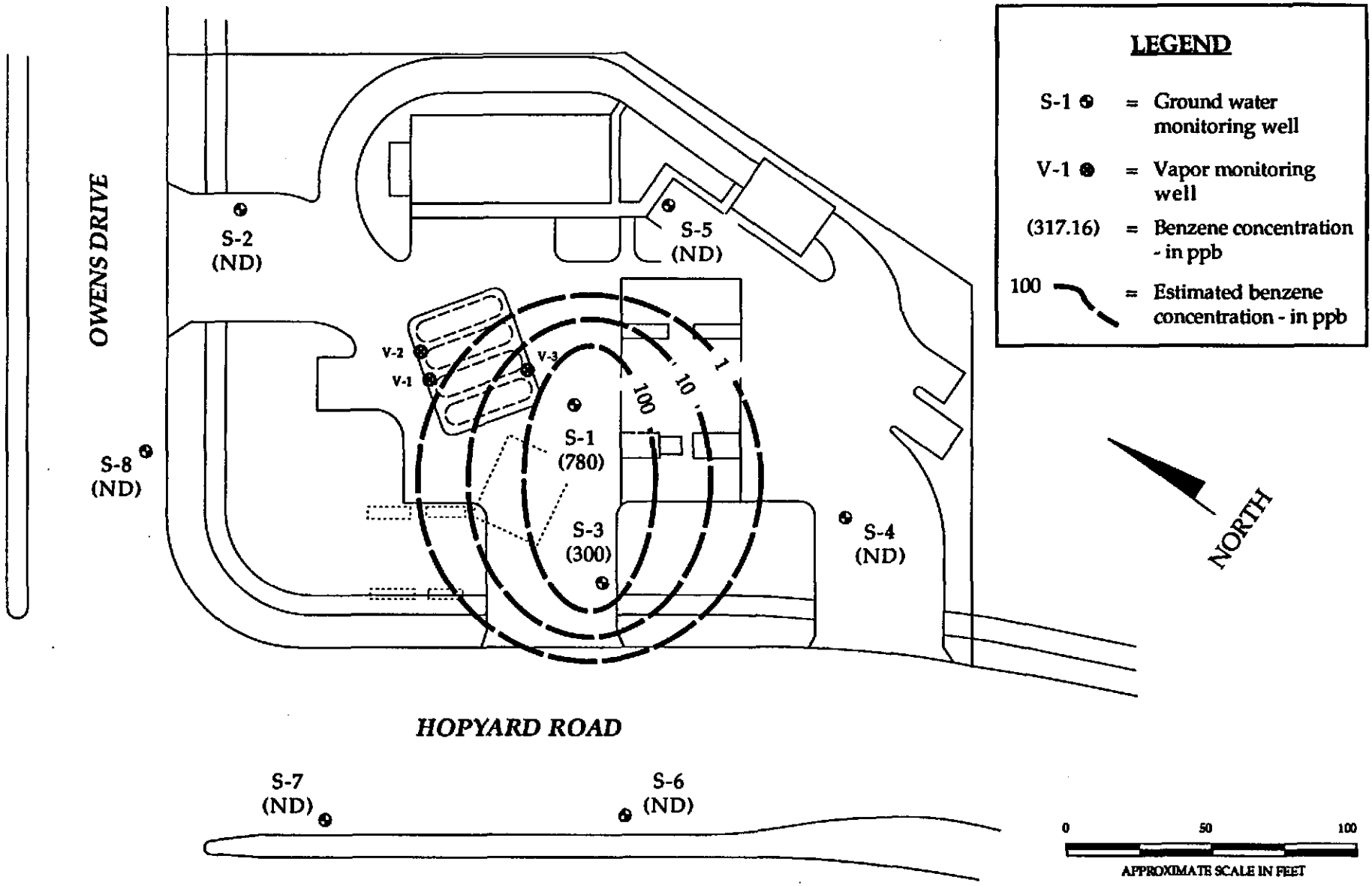
HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

SITE PLAN/GROUND WATER ELEVATION MAP

Shell Service Station
5251 Hopyard Road
Pleasanton, California
WIC # 204-6138-0907

Figure 2

12-008 6/93



BASED ON ANALYTICAL DATA FROM GROUND WATER SAMPLES COLLECTED 4/28/93

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

BENZENE ISOCONCENTRATION MAP

Shell Service Station
5251 Hopyard Road
Pleasanton, California
WIC # 204-6138-0907

Figure 3

12-008 6/93

APPENDIX A

12-008 am1.

BLAINE
TECH SERVICES INC.

985 TIMOTHY DRIVE
SAN JOSE, CA 9513
(408) 995-553
FAX (408) 293-877

May 10, 1993

RECEIVED JUN 0 4 1993

Shell Oil Company
P.O. Box 5278
Concord, CA 94520-9998

Attn: Daniel T. Kirk

SITE:
Shell WIC # 204-6138-0907
5251 Hopyard Road
Pleasanton, California

QUARTER:
2nd quarter of 1993

QUARTERLY GROUNDWATER SAMPLING REPORT 930428-W-1

This report contains data collected during routine inspection, gauging and sampling of groundwater monitoring wells performed by Blaine Tech Services, Inc. in response to the request of the consultant who is overseeing work at this site on behalf of our mutual client, Shell Oil Company. Data collected in the course of our field work is presented in a TABLE OF WELL GAUGING DATA. The field information was collected during our preliminary gauging and inspection of the wells, the subsequent evacuation of each well prior to sampling, and at the time of sampling.

Measurements taken include the total depth of the well and the depth to water. The surface of the water was further inspected for the presence of immiscibles which may be present as a thin film (a sheen on the surface of the water) or as a measurable free product zone (FPZ). At intervals during the evacuation phase, the purge water was monitored with instruments that measure electrical conductivity (EC), potential hydrogen (pH), temperature (degrees Fahrenheit), and turbidity (NTU). In the interest of simplicity, fundamental information is tabulated here, while the bulk of the information is turned over directly to the consultant who is making professional interpretations and evaluations of the conditions at the site.

TABLE OF WELL GAUGING DATA

WELL I.D.	WELL DIAMETER (inches)	DATA COLLECTION DATE	MEASUREMENTS REFERENCED TO	QUALITATIVE OBSERVATIONS (sheen)	DEPTH TO FIRST IMMISCIBLE LIQUID (FPZ) (feet)	THICKNESS OF IMMISCIBLE LIQUID ZONE (feet)	VOLUME OF IMMISCIBLES REMOVED (ml)	DEPTH TO WATER (feet)	DEPTH TO WELL BOTTOM (feet)
S-1	3	04-28-93	GRADE	ODOR	NONE	--	--	9.07	29.96
S-2	3	04-28-93	GRADE	--	NONE	--	--	9.06	24.60
S-3 *	3	04-28-93	GRADE	ODOR	NONE	--	--	9.87	24.87
S-4	3	04-28-93	GRADE	--	NONE	--	--	9.76	24.56

* Sample DUP was a duplicate sample taken from well S-3.

TABLE OF WELL GAUGING DATA

WELL I.D.	WELL DIAMETER (inches)	DATA COLLECTION DATE	MEASUREMENTS REFERENCED TO	QUALITATIVE OBSERVATIONS (sheen)	DEPTH TO FIRST IMMISCIBLE LIQUID (FPZ) (feet)	THICKNESS OF IMMISCIBLE LIQUID ZONE (feet)	VOLUME OF IMMISCIBLES REMOVED (ml)	DEPTH TO WATER (feet)	DEPTH TO WELL BOTTOM (feet)
S-5	3	04-28-93	GRADE	--	NONE	--	--	10.20	24.76
S-6	3	04-28-93	GRADE	--	NONE	--	--	9.0	26.10
S-7	3	04-28-93	GRADE	--	NONE	--	--	8.94	25.42
S-8	3	04-28-93	GRADE	--	NONE	--	--	7.77	25.25

STANDARD PROCEDURES

Evacuation

Groundwater wells are thoroughly purged before sampling to insure that the sample is collected from water that has been newly drawn into the well from the surrounding geologic formation. The selection of equipment to evacuate each well is based on the physical characteristics of the well and what is known about the performance of the formation in which the well has been installed. There are several suitable devices which can be used for evacuation. The most commonly employed devices are air or gas actuated pumps, electric submersible pumps, and hand or mechanically actuated bailers. Our personnel frequently employ USGS/Middleburg positive displacement pumps or similar air actuated pumps which do not agitate the water standing in the well.

Normal evacuation removes three case volumes of water from the well. More than three case volumes of water may be removed in cases where more evacuation is needed to achieve stabilization of water parameters. Less than three case volumes of water may be obtained in cases where the well dewaters and does not recharge to 80% of its original volume within two hours and any additional time our personnel have reason to remain at the site. In such cases, our personnel return to the site within twenty four hours and collect sample material from the water which has recharged into the well case.

Decontamination

All apparatus is brought to the site in clean and serviceable condition. The equipment is decontaminated after each use and before leaving the site.

Free Product Skimmer

The column headed, VOLUME OF IMMISCIBLES REMOVED (ml) is included in the TABLE OF WELL GAUGING DATA to cover situations where a free product skimming device must be removed from the well prior to gauging. Skimmers are installed in wells with a free product zone on the surface of the water. The skimmer is a free product recovery device which often prevents normal well gauging and free product zone measurements. The 2.0" and 3.0" PetroTraps fall into the category of devices that obstruct normal gauging. In cases where the consultant elects to have our personnel pull the skimmers out of the well and gauge the well, our personnel perform the additional task of draining the accumulated free product out of the PetroTrap before putting it back in the well. This recovered free product is measured and logged in the VOLUME OF IMMISCIBLES REMOVED column. Gauging at such site is performed in accordance with specific directions from the professional consulting firm overseeing work at the site on Shell's behalf.

Sample Containers

Sample material is collected in specially prepared containers which are provided by the laboratory that performs the analyses.

Sampling

Sample material is collected in stainless steel bailer type devices normally fitted with both a top and a bottom check valve. Water is promptly decanted into new sample containers in a manner which reduces the loss of volatile constituents and follows the applicable EPA standard for handling volatile organic and semi-volatile compounds.

Following collection, samples are promptly placed in an ice chest containing prefrozen blocks of an inert ice substitute such as Blue Ice or Super Ice. The samples are maintained in either an ice chest or a refrigerator until delivered into the custody of the laboratory.

Sample Designations

All sample containers are identified with a site designation and a discrete sample identification number specific to that particular groundwater well. Additional standard notations (e.g. time, date, sampler) are also made on the label. Either the requested analyses or the specific analytes are written on the sample label (e.g. TPH-G, BTEX).

Chain of Custody

Samples are continuously maintained in an appropriate cooled container while in our custody and until delivered to the laboratory under a standard Shell Oil Company chain of custody. If the samples are taken charge of by a different party (such as another person from our office, a courier, etc.) prior to being delivered to the laboratory, appropriate release and acceptance records are made on the chain of custody (time, date, and signature of the person releasing the samples followed by the time, date and signature of the person accepting custody of the samples).

Hazardous Materials Testing Laboratory

The samples obtained at this site were delivered to Anametrix, Inc. in San Jose, California. Anametrix, Inc. is a California Department of Health Services certified Hazardous Materials Testing Laboratory and is listed as DOHS HMTL #1234.

Objective Information Collection

Blaine Tech Services, Inc. performs specialized environmental sampling and documentation as an independent third party. In order to avoid compromising the objectivity necessary for the proper and disinterested performance of this work, Blaine Tech Services, Inc.

performs no consulting and does not become involved in the marketing or installation of remedial systems of any kind. Blaine Tech Services, Inc. is concerned only with the generation of objective information, not with the use of that information to support evaluations and recommendations concerning the environmental condition of the site. Even the straightforward interpretation of objective analytical data is better performed by interested regulatory agencies, and those engineers and geologists who are engaged in the work of providing professional opinions about the site and proposals to perform additional investigation or design remedial systems.

Reportage

Submission of this report and the attached laboratory report to interested regulatory agencies is handled by the consultant in charge of the project. Any professional evaluations or recommendations will be made by the consultant under separate cover.

Please call if we can be of any further assistance.

Richard C. Blaine

RCB/kkl

attachments: chain of custody
certified analytical report

cc: GeoStrategies, Inc.
2140 W. Winton Ave.
Hayward, CA 94545
ATTN: Ellen Fostersmith

9304365 (10/29) (18)

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: ____

Date: 4/28/93
Page 1 of 2

Site Address: 5251 Hopyard Rd Pleasanton
WIC#: 204-6138-0907
Shell Engineer: Dan Kirk
Phone No.:
Fax #:
Consultant Name & Address: Blaine Tech Serv. 985 Timothy S.J.
Consultant Contact: Glen Bennett
Phone No.: 408
Fax #: 995-5535
Comments:
Sampled by: Don Wetz
Printed Name: DON WETZ

LAB: Anametrix

CHECK ONE (1) BOX ONLY	CT/DT	TURN AROUND TIME
Quarterly Monitoring ☒	5461	24 hours ☐
Site Investigation ☐	5441	48 hours ☐
Soil Classify/Disposal ☐	5442	16 days ☒ (Normal)
Water Classify/Disposal ☐	5443	Other ☐
Soil/Air Rem. or Sys. O & M ☐	5462	NOTE: Notify Lab as soon as Possible of 24/48 hrs. TAT.
Water Rem. or Sys. O & M ☐	5463	
Other ☐		

Analysis Required

	Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020			Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
(1)	S-6	4/28			X		4		X				X				1oz/L	HCl/P	N	Groundwater	
(2)	S-7	↓			X		4		X				X				↓	↓	↓	↓	
(3)	S-8	↓			X		4		X				X				↓	↓	↓	↓	
(4)	S-5	↓			X		4		X				X				↓	↓	↓	↓	
(5)	S-4	↓			X		4		X				X				↓	↓	↓	↓	
(6)	S-2	↓			X		4		X				X				↓	↓	↓	↓	
(7)	S-3	↓			X		4		X				X				↓	↓	↓	↓	
(8)	S-1	↓			X		4		X				X				↓	↓	↓	↓	

Relinquished By (signature):	Printed Name:	Date/Time:	Received (signature):	Printed Name:	Date/Time:
Don Wetz	DON WETZ	Date: 4-30-93 Time: 1040	Simon Hoagie	Simon Heagle	Date: 4/30/93 Time: [illegible]
Simon Heagle	Simon Heagle	Date: 4-30-93 Time: 11:15	[illegible signature]	Maria Barajas	Date: 4/30/93 Time: 11:15
		Date: Time:			Date: Time:

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSTODY WITH INVOICE AND RESULTS

9304365 (10/29) (18)

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: _____

Date: 4/28/93
Page 2 of 2

Site Address: 5251 Hopyard Rd Pleasanton
WIC #: 204-6138-0907
Shell Engineer: Dan Kirk — Phone No.: — Fax #:
Consultant Name & Address: Blaine Tech Serv. 985 Timothy Sq.
Consultant Contact: Blaine Tech Serv. Grey Bennett — Phone No.: — Fax #:
Comments:
Sampled by: Don Wetz
Printed Name: DON WETZ

LAB: Anametrix

CHECK ONE (1) BOX ONLY — C1/D1

- Quarterly Monitoring ☒ 6457
- Site Investigation ☐ 6441
- Soil Classify/Disposal ☐ 6442
- Water Classify/Disposal ☐ 6443
- Soil/Air Rem. or Sys. O & M ☐ 6462
- Water Rem. or Sys. O & M ☐ 6463
- Other ☐

TURN AROUND TIME

- 24 hours ☐
- 48 hours ☐
- 10 days ☐ (Normal)
- Other ☐ ____

NOTE: Notify Lab as soon as Possible at 24/48 hrs. TAT.

Sample ID	Date	Sludge	Soil	Water	Air	No. of cont.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020			Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
(9) DUP	4/28			X		4		X				X				40ml/1L	HCl/D	N	Groundwater	
(10) TB	4/28			X		2						X				40 ml	HCl	"	trip blank.	

Relinquished By (signature):	Printed Name:	Date:	Received (signature):	Printed Name:	Date:
Don Wetz	DON WETZ	4/30/93 Time: 1345	Simon Hooper	Simon Hooper	4/30/93 Time: 1345
Relinquished By (signature): Simon Hooper	Printed Name: Simon Hooper	Date: 4/30/93 Time: 1715	Received (signature):	Printed Name: Maria Barajas	Date: 4/30/93 Time: 17:15
Relinquished By (signature):	Printed Name:	Date: Time:	Received (signature):	Printed Name:	Date: Time:

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSTODY WITH INVOICE AND RESULTS

ANAMETRIX INC
Environmental & Analytical Chemistry

Part of INCHCAPE ENVIRONMENTAL

REPORT

MR. GLEN BENNETT
BLAINE TECH
985 TIMOTHY STREET
SAN JOSE, CA 95133

Workorder # : 9304365
Date Received : 04/30/93
Project ID : 204-6138-0907
Purchase Order: MOH-B813

The following samples were received at Anametrix, Inc. for analysis :

ANAMETRIX ID	CLIENT SAMPLE ID
9304365- 1	S-6
9304365- 2	S-7
9304365- 3	S-8
9304365- 4	S-5
9304365- 5	S-4
9304365- 6	S-2
9304365- 7	S-3
9304365- 8	S-1
9304365- 9	DUP
9304365-10	TB

This report consists of 9 pages not including the cover letter, and is organized in sections according to the specific Anametrix laboratory group or section which performed the analysis(es) and generated the data. The Report Summary that precedes each section will help you determine which Anametrix group is responsible for those test results, and will bear the signatures of the department supervisor and the chemist who have reviewed the analytical data. Please refer all questions to the department supervisor who signed the form.

Anametrix is certified by the California Department of Health Services (DHS) to perform environmental testing under Certificate Number 1234. A detailed list of the approved fields of testing can be obtained by calling our office, or the DHS Environmental Laboratory Accreditation Program at (415)540-2800.

If you have any further questions or comments on this report, please give us a call as soon as possible. Thank you for using Anametrix.

Sarah Schoen, Ph.D.
Laboratory Director

05-17-93
Date

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

MR. GLEN BENNETT
BLAINE TECH
985 TIMOTHY STREET
SAN JOSE, CA 95133

Workorder # : 9304365
Date Received : 04/30/93
Project ID : 204-6138-0907
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9304365- 1	S-6	WATER	04/28/93	TPHd
9304365- 2	S-7	WATER	04/28/93	TPHd
9304365- 3	S-8	WATER	04/28/93	TPHd
9304365- 4	S-5	WATER	04/28/93	TPHd
9304365- 5	S-4	WATER	04/28/93	TPHd
9304365- 6	S-2	WATER	04/28/93	TPHd
9304365- 7	S-3	WATER	04/28/93	TPHd
9304365- 8	S-1	WATER	04/28/93	TPHd
9304365- 9	DUP	WATER	04/28/93	TPHd
9304365- 1	S-6	WATER	04/28/93	TPHg/BTEX
9304365- 2	S-7	WATER	04/28/93	TPHg/BTEX
9304365- 3	S-8	WATER	04/28/93	TPHg/BTEX
9304365- 4	S-5	WATER	04/28/93	TPHg/BTEX
9304365- 5	S-4	WATER	04/28/93	TPHg/BTEX
9304365- 6	S-2	WATER	04/28/93	TPHg/BTEX
9304365- 7	S-3	WATER	04/28/93	TPHg/BTEX
9304365- 8	S-1	WATER	04/28/93	TPHg/BTEX
9304365- 9	DUP	WATER	04/28/93	TPHg/BTEX
9304365-10	TB	WATER	04/28/93	TPHg/BTEX

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

MR. GLEN BENNETT
BLAINE TECH
985 TIMOTHY STREET
SAN JOSE, CA 95133

Workorder # : 9304365
Date Received : 04/30/93
Project ID : 204-6138-0907
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- The concentrations reported as diesel for samples S-1 and DUP are due to the presence of a combination of diesel and a lighter petroleum product of hydrocarbon range C6 to C12.

Cheryl Balmer 5/14/93
Department Supervisor Date

Peggie Davison 5/14/93
Chemist Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS
(GASOLINE WITH BTEX)
ANAMETRIX, INC. - (408) 432-8192

Anametrix W.O.: 9304365
Matrix : WATER
Date Sampled : 04/28/93

Project Number : 204-6138-0907
Date Released : 05/13/93

	Reporting Limit	Sample I.D.# S-6	Sample I.D.# S-7	Sample I.D.# S-8	Sample I.D.# S-5	Sample I.D.# S-4
COMPOUNDS	(ug/L)	-01	-02	-03	-04	-05
Benzene	0.5	ND	ND	ND	ND	ND
Toluene	0.5	ND	ND	ND	ND	ND
Ethylbenzene	0.5	ND	ND	ND	ND	ND
Total Xylenes	0.5	ND	ND	ND	ND	ND
TPH as Gasoline	50	ND	ND	ND	ND	ND
% Surrogate Recovery		117%	123%	117%	116%	100%
Instrument I.D.		HP4	HP21	HP4	HP21	HP21
Date Analyzed		05/06/93	05/05/93	05/06/93	05/05/93	05/05/93
RLMF		1	1	1	1	1

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.
RLMF - Reporting Limit Multiplication Factor.

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 61-139%

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

Reggie Davison 5/14/93
Analyst Date

Cheryl Bremer 5/14/93
Supervisor Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS
(GASOLINE WITH BTEX)
ANAMETRIX, INC. - (408) 432-8192

Anametrix W.O.: 9304365
Matrix : WATER
Date Sampled : 04/28/93

Project Number : 204-6138-0907
Date Released : 05/13/93

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# S-2 -06	Sample I.D.# S-3 -07	Sample I.D.# S-1 -08	Sample I.D.# DUP -09	Sample I.D.# TB -10
Benzene	0.5	ND	300	780	370	ND
Toluene	0.5	ND	3.4	ND	ND	ND
Ethylbenzene	0.5	ND	210	250	220	ND
Total Xylenes	0.5	ND	38	ND	40	ND
TPH as Gasoline	50	ND	2000	4600	1500	ND
% Surrogate Recovery		110%	130%	124%	119%	123%
Instrument I.D.		HP21	HP4	HP4	HP4	HP4
Date Analyzed		05/05/93	05/10/93	05/10/93	05/06/93	05/10/93
RLMF		1	5	25	10	1

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.
RLMF - Reporting Limit Multiplication Factor.

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 61-139%

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

Reggie Davisson 5/14/93
Analyst Date

Cheryl Baemen 5/14/93
Supervisor Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS
(GASOLINE WITH BTEX)
ANAMETRIX, INC. - (408) 432-8192

Anametrix W.O.: 9304365
Matrix : WATER
Date Sampled : N/A

Project Number : 204-6138-0907
Date Released : 05/13/93

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# BY0401E3 BLANK	Sample I.D.# BY0601E3 BLANK	Sample I.D.# BY1001E3 BLANK
Benzene	0.5	ND	ND	ND
Toluene	0.5	ND	ND	ND
Ethylbenzene	0.5	ND	ND	ND
Total Xylenes	0.5	ND	ND	ND
TPH as Gasoline	50	ND	ND	ND
% Surrogate Recovery		109%	114%	120%
Instrument I.D.		HP21	HP4	HP4
Date Analyzed		05/04/93	05/06/93	05/10/93
RLMF		1	1	1

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.
RLMF - Reporting Limit Multiplication Factor.

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 61-139%

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

Reggie Davison 5/14/93
Analyst Date

Cheryl Balmer 5/14/93
Supervisor Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS AS DIESEL
ANAMETRIX, INC. (408) 432-8192

Anametrix W.O.: 9304365
Matrix : WATER
Date Sampled : 04/28/93
Date Extracted: 05/06/93

Project Number : 204-6138-0907
Date Released : 05/13/93
Instrument I.D.: HP23

Anametrix I.D.	Client I.D.	Date Analyzed	Reporting Limit (ug/L)	Amount Found (ug/L)
9304365-01	S-6	05/07/93	50	ND
9304365-02	S-7	05/07/93	50	ND
9304365-03	S-8	05/08/93	50	ND
9304365-04	S-5	05/08/93	50	ND
9304365-05	S-4	05/08/93	50	ND
9304365-06	S-2	05/08/93	50	ND
9304365-07	S-3	05/08/93	50	ND
9304365-08	S-1	05/08/93	50	390
9304365-09	DUP	05/08/93	50	58
BY0611F1	METHOD BLANK	05/08/93	50	ND

Note : Reporting limit is obtained by multiplying the dilution factor times 50 ug/L.
ND - Not detected at or above the practical quantitation limit for the method.
TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following sample extraction by EPA Method 3510.

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

Reggie Davison 5/14/93
Analyst Date

Cheryl Balmer 5/14/93
Supervisor Date

TOTAL VOLATILE HYDROCARBON MATRIX SPIKE REPORT
EPA METHOD 5030 WITH GC/FID
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: 204-6138-0907 S-5	Anametrix I.D.	: 04365-04
Matrix	: WATER	Analyst	: RD
Date Sampled	: 04/28/93	Supervisor	: CS
Date Analyzed	: 05/05/93	Date Released	: 05/14/93
		Instrument ID	: HP21

COMPOUND	SPIKE AMT (ug/L)	SAMPLE AMT (ug/L)	REC MS (ug/L)	% REC MS	REC MD (ug/L)	% REC MD	RPD	% REC LIMITS
GASOLINE	500	0	440	88%	410	82%	-7%	48-149
P-BFB				103%		109%		61-139

* Limits established by Anametrix, Inc.

TOTAL VOLATILE HYDROCARBON LABORATORY CONTROL SAMPLE REPORT
EPA METHOD 5030 WITH GC/FID
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : LAB CONTROL SAMPLE
Matrix : WATER
Date Sampled : N/A
Date Analyzed : 05/04/93

Anametrix I.D. : LCSW0504
Analyst : RD
Supervisor : [illegible]
Date Released : 05/14/93
Instrument I.D.: HP21

COMPOUND	SPIKE AMT. (ug/L)	REC LCS (ug/L)	%REC LCS	% REC LIMITS
GASOLINE	500	540	108%	67-127
p-BFB			107%	61-139

* Quality control established by Anametrix, Inc.

TOTAL EXTRACTABLE HYDROCARBON LABORATORY CONTROL SAMPLE REPORT
EPA METHOD 3510 WITH GC/FID
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: LAB CONTROL SAMPLE	Anametrix I.D.	: MY0601F1
Matrix	: WATER	Analyst	: RD
Date Sampled	: N/A	Supervisor	: CM
Date Extracted	: 05/06/93	Date Released	: 05/14/93
Date Analyzed	: 05/07/93	Instrument I.D.	: HP23

COMPOUND	SPIKE AMT (ug/L)	LCS REC (ug/L)	% REC LCS	LCSD REC (ug/L)	% REC LCSD	RPD	% REC LIMITS
DIESEL	1250	700	56%	750	60%	7%	47-130

*Quality control established by Anametrix, Inc.

RECEIVED JUN 0 7 1993

MONITORING WELL DATA TRANSFER

Hydro-Environmental Technologies, Inc.

LOCATION: 5251 HOPYARD ROAD
CITY: PLEASANTON
WIC#: 204-6138-0907
LAB/CONTACT: ANAMETRIX - SIMON HAGUE
LOCK/KEY: MASTER LOCK 2357
SURVEY PTS: TOB/MSL

LEAD CONSULTANT: GEO STRATEGIES, INC.
LEAD CONTACT: ELLEN FOSTERSMITH
LEAD PHONE: (510) 352-4600
NOTIFICATION REQUIREMENTS: SEE TRAFFIC PERMIT
REPORT DUE TO AGENCY: 03/09/93
REPORT DUE TO LEAD: 02/09/93

WELL NUMBER	ANALYSES REQUIRED	DATE LAST SAMPLED	SAMPLE FREQ.	GAUGE FREQ.	ROE REQUD?	FREE PRODUCT (FP), SKIMMER (SK), OR DRY WELL (DW)
S-1	TPH-G, BTEX, TPH-D	10/16/92	Qtrly.	Qtrly.	No	
S-2	TPH-G, BTEX, TPH-D	10/16/92	Qtrly.	Qtrly.	No	
S-3	TPH-G, BTEX, TPH-D	10/16/92	Qtrly.	Qtrly.	No	
S-4	TPH-G, BTEX, TPH-D	10/16/92	Qtrly.	Qtrly.	No	
S-5	TPH-G, BTEX, TPH-D	10/16/92	Qtrly.	Qtrly.	No	
S-6	TPH-G, BTEX, TPH-D	10/16/92	Qtrly.	Qtrly.	No	
S-7	TPH-G, BTEX, TPH-D	10/16/92	Qtrly.	Qtrly.	No	
S-8	TPH-G, BTEX, TPH-D	10/16/92	Qtrly.	Qtrly.	No	

Wells S-6, S-7, and S-8 are in the street and have an encroachment permit.

The wells should only be accessed between 9:00 am to 11:30 am, and 1:00 pm to 4:00 pm.

12-08 Qtrly

WELL GAUGING DATA

204-6138-0907

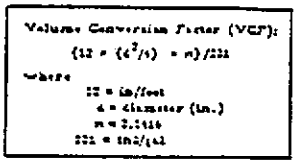
Project # 93042P-W Date 4/28/93 Client S-O-C.

Site 5251 Hegyard Rd Pleasanton Sampler DW

Well I.D.	Well Size (in.)	Sheen/ Odor	Depth to Immisible Liquid (feet)	Thickness of Immisible Liquid (ft.)	Volume of Immisibles Removed (ml)	Depth to Water (feet)	Depth to Well Bottom (feet)	Measured to: Top of Pipe or Grade
S-1	3	Sft Odor	none	—	—	9.07	29.96	Grade
S-2	3	none		—	—	9.06	24.60	
S-3	3	Odor		—	—	9.87	24.87	
S-4	3	none		—	—	9.76	24.56	
S-5	3			—	—	10.20	24.76	
S-6	3			—	—	9.00	26.10	
S-7	3			—	—	8.94	25.42	
S-8	3			—	—	7.77	25.25	

SHELL WELL MONITORING DATA SHEET

Project #: 930428-W1	Wic # 204-6138-0907
Sampler: DW	Date Sampled: 4/28/93
Well I.D.: S-1	Well Diameter: (circle one) 2 (3) 4 6 ___
Total Well Depth: Before 29.96 After	Depth to Water: Before 9.07 After
Depth to Free Product: none	Thickness of Free Product (feet):
Measurements referenced to: PVC (Grade) Other --	



Well dia.	VCF
2"	= 0.16
3"	= 0.37
4"	= 0.65
6"	= 1.47
10"	= 4.08
12"	= 5.87

7.7 (1 Case Volume) x 3 (Specified Volumes) = 23.1 gallons

Purging: Bailer ☐ Middleburg ☑ Electric Submersible ☐ Suction Pump ☐ Type of Installed Pump _____

Sampling: Bailer ☑ Middleburg ☐ Electric Submersible ☐ Suction Pump ☐ Installed Pump ☐

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
0956	64.6	7.0	3900	10.4	8	clear - odor
1004	65.4	7.3	3300	24	16	"
1009					17	dewatered
1610	Return	to	Sample	DTW.	9.12	
1612	67.9	7.5	3100	11.5	—	

Did Well Dewater? Yes If yes, gals. 17 Gallons Actually Evacuated: 17

Sampling Time: 1620

Sample I.D.: S-1 Laboratory: Anametrix.

Analyzed for: TPH-g/BTEX TPH-d

Duplicate I.D.: Cleaning Blank I.D.:

Analyzed for:

Shipping Notations:

Additional Notations:

SHELL WELL MONITORING DATA SHEET

Project #: 930428-W1	Wic # 204-6138-0907
Sampler: MW	Date Sampled: 4/28/93
Well I.D.: S-2	Well Diameter: (circle one) 2 (3) 4 6 ___
Total Well Depth: Before 24.60 After	Depth to Water: Before 9.06 After
Depth to Free Product: none	Thickness of Free Product (feet):
Measurements referenced to: PVC (Grade) Other --	

Volume Conversion Factor (VCF):
$(12 \times (d^2/4) \times \pi)/231$
Where
12 = in/foot
d = diameter (in.)
π = 3.1416
231 = in3/gal

Well dia.	VCF
2"	= 0.16
3"	= 0.37
4"	= 0.65
6"	= 1.47
10"	= 4.08
12"	= 5.87

5.7 (1 Case Volume) x 3 (Specified Volumes) = 17.1 gallons

Purging: Bailer ☐
Middleburg ☑
Electric Submersible ☐
Suction Pump ☐
Type of Installed Pump _____

Sampling: Bailer ☑
Middleburg ☐
Electric Submersible ☐
Suction Pump ☐
Installed Pump ☐

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
1450	64.6	7.7	4000	65	6	slt. cloudy
1458	65.2	7.6	4000	38	12	"
1506	66.0	7.4	4000	10.2	18	clear.

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 18

Sampling Time: 1515

Sample I.D.: S-2 Laboratory: Anametrix

Analyzed for: TPHg/BTXE, TPHd

Duplicate I.D.: Cleaning Blank I.D.:

Analyzed for:

Shipping Notations:

Additional Notations:

SHELL WELL MONITORING DATA SHEET

Project #: 930428-W1	Wic # 204-6138-0907
Sampler: DW	Date Sampled: 4/28/93
Well I.D.: S-3	Well Diameter: (circle one) 2 (3) 4 6 ___
Total Well Depth: Before 24.87 After	Depth to Water: Before 9.87 After
Depth to Free Product: none	Thickness of Free Product (feet): ___
Measurements referenced to: PVC (Grade) Other --	

Volume Conversion Factor (VCF):
$(12 \times (d^2/4) \times \pi)/231$
Where
12 = in./ft
d = diameter (in.)
π = 3.1416
231 = in³/gal

Well dia.	VCF
2"	= 0.16
3"	= 0.37
4"	= 0.65
6"	= 1.47
10"	= 4.08
12"	= 5.87

5.6 (1 Case Volume) x 3 (Specified Volumes) = 16.8 gallons

Purging: Bailer ☐
Middleburg ☑
Electric Submersible ☐
Suction Pump ☐
Type of Installed Pump ___

Sampling: Bailer ☑
Middleburg ☐
Electric Submersible ☐
Suction Pump ☐
Installed Pump ☐

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
1531	67.0	7.5	2900	6.8	6	clear - odor
1537	65.6	7.1	3100	6.5	12	" "
1545	66.2	7.2	3000	13.3	17	" "

Did Well Dewater? No If yes, gals. Gallons Actually Evacuated: 17

Sampling Time: 1600

Sample I.D.: S-3 Laboratory: Anametrix

Analyzed for: TPHg/BTEX, TPHd

Duplicate I.D.: DUP Cleaning Blank I.D.:

Analyzed for: same

Shipping Notations:

Additional Notations:

SHELL WELL MONITORING DATA SHEET

Project #: 930428-W1	Wic # 204-6138-0907
Sampler: MW	Date Sampled: 4/28/93
Well I.D.: S-4	Well Diameter: (circle one) 2 (3) 4 6 ___
Total Well Depth: Before 24.56 After	Depth to Water: Before 9.76 After
Depth to Free Product: none	Thickness of Free Product (feet):
Measurements referenced to: PVC (Grade) Other --	

Volume Conversion Factor (VCF):
$(12 * ((d^2/4) * \pi))/231$
Where
12 = in/ft
d = diameter (in.)
π = 3.1416
231 = in^3/gal

Well dia.	VCF
2"	= 0.16
3"	= 0.37
4"	= 0.65
6"	= 1.47
10"	= 4.08
12"	= 5.87

5.5 (1 Case Volume) x 3 (Specified Volumes) = 16.5 gallons

Purging: Bailer ☐ Middleburg ☐ Electric Submersible ☐ Suction Pump ☐ Type of Installed Pump _____

Sampling: Bailer ☐ Middleburg ☐ Electric Submersible ☐ Suction Pump ☐ Installed Pump ☐

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
1411	67.0	7.9	1800	119	6	cloudy
1415	66.4	7.9	1700	37	11	slt cloudy
1420	66.4	7.8	1600	12.4	17	clear

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 17

Sampling Time: 1430

Sample I.D.: S-4 Laboratory: Anametrix

Analyzed for: TPH-g/BTEX, TPH-d

Duplicate I.D.: Cleaning Blank I.D.:

Analyzed for:

Shipping Notations:

Additional Notations:

SHELL WELL MONITORING DATA SHEET

Project #: 930428-W1	Wic # WC-6138-0907
Sampler: CW	Date Sampled: 4/28/93
Well I.D.: S-5	Well Diameter: (circle one) 2 (3) 4 6 ___
Total Well Depth: Before 24.76 After	Depth to Water: Before 10.20 After
Depth to Free Product: none	Thickness of Free Product (feet): ___
Measurements referenced to: PVC (Grade) Other --	

Volume Conversion Factor (VCF):
$(12 \times (d^2/4) \times \pi)/231$
Where
12 = in./foot
d = diameter (in.)
π = 3.1416
231 = in.^{3}/gal

Well dia.	VCF
2"	0.16
3"	0.37
4"	0.65
6"	1.47
10"	4.08
12"	5.87

5.4 (1 Case Volume) x 3 (Specified Volumes) = 16.2 gallons

Purging: Bailer ☐
Middleburg ☑
Electric Submersible ☐
Suction Pump ☐
Type of Installed Pump ___

Sampling: Bailer ☐
Middleburg ☐
Electric Submersible ☐
Suction Pump ☐
Installed Pump ☐

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
1319	64.6	7.9	1600	36	6	slt cloudy
1323	63.8	7.8	1600	14.8	11	clear
1329	63.6	7.6	1700	5.2	17	"

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 17

Sampling Time: 1340

Sample I.D.: S-5 Laboratory: Anametrix

Analyzed for: TPH-g/BTEX, TPH-d

Duplicate I.D.: Cleaning Blank I.D.:

Analyzed for:

Shipping Notations:

Additional Notations:

SHELL WELL MONITORING DATA SHEET

Project #: 930428-W1	Wic # 204-6138-0907
Sampler: DW	Date Sampled: 4/28/93
Well I.D.: S-6	Well Diameter: (circle one) 2 (3) 4 6 ___
Total Well Depth: Before 26.10 After	Depth to Water: Before 9.00 After
Depth to Free Product: none	Thickness of Free Product (feet):
Measurements referenced to: PVC (Grade) Other --	

Volume Conversion Factor (VCF):
$(12 \times (d^2/4) \times \pi)/231$
where
12 = in/foot
d = diameter (in.)
π = 3.1416
231 = in³/gal

Well dia.	VCF
2"	= 0.16
3"	= 0.37
4"	= 0.65
6"	= 1.47
10"	= 4.08
12"	= 5.87

6.3 (1 Case Volume) x 3 (Specified Volumes) = 18.9 gallons

Purging: Bailer ☐
Middleburg ☑
Electric Submersible ☐
Suction Pump ☐
Type of Installed Pump _____

Sampling: Bailer ☑
Middleburg ☐
Electric Submersible ☐
Suction Pump ☐
Installed Pump ☐

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
1039	66.4	7.4	800	28	7	clear
1045	65.4	7.8	740	68	13	cloudy
1055	66.4	7.9	770	27	19	clear

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 19

Sampling Time: 1100

Sample I.D.: S-6 Laboratory: Anametrix

Analyzed for: TPH-g, BTEX, TPH-d

Duplicate I.D.: Cleaning Blank I.D.:

Analyzed for:

Shipping Notations:

Additional Notations:

SHELL WELL MONITORING DATA SHEET

Project #: 93042P-W1	Wic # 204-6138-0907
Sampler: MW	Date Sampled: 4/28/93
Well I.D.: S-7	Well Diameter: (circle one) 2 (3) 4 6 ___
Total Well Depth: Before 25.42 After	Depth to Water: Before 8.94 After
Depth to Free Product: none	Thickness of Free Product (feet): →
Measurements referenced to: PVC (Grade) Other --	

Volume Conversion Factor (VCF):
$(12 \times (d^2/4) \times \pi)/231$
Where
12 = in/foot
d = diameter (in.)
π = 3.1416
231 = in3/gal

Well dia.	VCF
2"	0.16
3"	0.37
4"	0.65
6"	1.47
10"	4.08
12"	5.87

6.1 (1 Case Volume) x 3 (Specified Volumes) = 18.3 gallons

Purging: Bailer ☐ Middleburg ☑ Electric Submersible ☐ Suction Pump ☐ Type of Installed Pump ____

Sampling: Bailer ☑ Middleburg ☐ Electric Submersible ☐ Suction Pump ☐ Installed Pump ☐

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
1123	67.8	7.5	800	17.4	7	clear
1128	66.8	7.7	700	13.9	13	"
1133	67.0	7.6	700	9.6	19	"

Did Well Dewater? No If yes, gals. Gallons Actually Evacuated: 19

Sampling Time: 1140

Sample I.D.: S-7 Laboratory: Anametrix

Analyzed for: TPHg/BTEX, TPHd

Duplicate I.D.: Cleaning Blank I.D.:

Analyzed for:

Shipping Notations:

Additional Notations:

SHELL WELL MONITORING DATA SHEET

Project #: 930428-W1	Wic # 204-6138-0907
Sampler: MW	Date Sampled: 4/28/93
Well I.D.: S-8	Well Diameter: (circle one) 2 (3) 4 6 ____
Total Well Depth: Before 25.25 After	Depth to Water: Before 7.77 After
Depth to Free Product: none	Thickness of Free Product (feet):
Measurements referenced to: PVC (Grade) Other --	

Volume Conversion Factor (VCF):
$(12 \times (d^2/4) \times \pi)/231$
Where
12 = in/foot
d = diameter (in.)
π = 3.1416
231 = in3/gal

Well dia.	VCF
2"	0.16
3"	0.37
4"	0.65
6"	1.47
10"	4.08
12"	5.87

6.5 (1 Case Volume) x 3 (Specified Volumes) = 19.5 gallons

Purging: Bailer ☐ Middleburg ☑ Electric Submersible ☐ Suction Pump ☐ Type of Installed Pump ____
Sampling: Bailer ☑ Middleburg ☐ Electric Submersible ☐ Suction Pump ☐ Installed Pump ☐

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
1207	68.0	7.8	5700	77	7	cloudy
1215	67.8	7.7	6000	42	14	slt. cloudy
1222	67.6	7.5	6100	42	20	" "

Did Well Dewater? No If yes, gals. Gallons Actually Evacuated: 20

Sampling Time: 1230

Sample I.D.: S-8 Laboratory: Anametrix

Analyzed for: TPH-g/BTEX, TPH-d

Duplicate I.D.: Cleaning Blank I.D.:

Analyzed for:

Shipping Notations:

Additional Notations: