GeoStrategies Inc.

May 7, 1993

Mr. Rick Mueller
City of Pleasanton
Pleasanton Fire Department
Post Office Box 520
Pleasanton, California 94566-0802

ORIGINAL

Re: Shell Service Station
3790 Hopyard Road
Pleasanton, California
WIC# 204-6138-0501

Mr. Mueller:

As requested by Mr. Dan Kirk of Shell Oil Company, we are forwarding a copy of the May 7, 1993 Quarterly Report prepared for the above referenced location. The report presents the results of the ground-water sampling conducted during the first quarter of 1993.

If you have any questions, please call.

Sincerely,

Ellen Fostersmith

Ellen Fostersmith
Geologist

EF/rmt

Enclosure

cc: Mr. Dan Kirk, Shell Oil Company
Mr. Lester Feldman, Regional Water Quality Control Board

:ellens\632-s.wp

GeoStrategies Inc.

May 7, 1993

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

Attn: Mr. Dan Kirk

Re: QUARTERLY REPORT
Shell Service Station
3790 Hopyard Road
Pleasanton, California
WIC #204-6138-0501

Mr. Kirk:

This Quarterly Report has been prepared by GeoStrategies Inc. (GSI) and presents the results of the 1993 first quarter sampling for the above referenced site (Plate 1). Sampling data were furnished by the Shell Oil Company sampling contractor.

EXECUTIVE SUMMARY

- The dissolved hydrocarbon plume is delineated, and there is no evidence of offsite migration.
- Six of the nine wells (S-3 and S-6 through S-10) sampled were none-detected (ND) for benzene during the first quarter of 1993.
- Groundwater elevations rose approximately 1.5 feet during the first quarter of 1993.
- The groundwater gradient and flow direction remained consistent with historical observations.

763201-17

SITE DESCRIPTION

There are currently twelve monitoring wells at the site; Wells S-2 through S-10, SR-1, SR-2, and SR-3 (Plate 2). These wells were installed between 1986 and 1989 by EMCON Associates, Woodward-Clyde Consultants, Pacific Environmental Group and GSI. Well S-1 was destroyed in 1988.

CURRENT QUARTER SAMPLING RESULTS

Depth to water-level measurements were obtained in each monitoring well on February 4, 1993. Static ground-water levels were measured from the surveyed top of each well box and recorded to the nearest $\pm$0.01 foot. Water-level measurements are presented in the Blaine Tech Services Inc. (Blaine) Groundwater Sampling Report (Appendix A). Water-level data were used to construct a quarterly potentiometric map (Plate 2). Shallow ground-water flow is to the southeast at an approximate hydraulic gradient of 0.01.

Each well was checked for the presence of floating product. Floating product was not observed in the wells this quarter.

Ground-water samples were collected on February 4 and 5, 1993. Samples were analyzed for Total Petroleum Hydrocarbons calculated as Gasoline (TPH-Gasoline), according to EPA Method 8015 (Modified) and for Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) according to EPA Method 8020. The ground-water samples were analyzed by Anametrix Inc., a California State-certified laboratory located in San Jose, California. The Blaine Groundwater Sampling Report and Chain-of-Custody form are presented in Appendix A. These data are summarized and included with the historical chemical analytical data presented in Table 1. A chemical concentration map for benzene is presented on Plate 3.

DISCUSSION

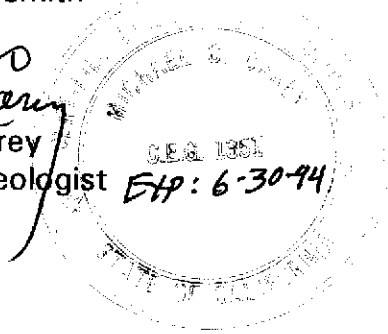
The dissolved hydrocarbon plume is well-defined in the downgradient and cross-gradient directions, and the plume does not appear to be migrating offsite. All site wells (except Wells S-4 and S-5) have been near or below the detection limits for TPH-Gasoline and BTEX during at least the past 6 quarters, and Wells S-3, S-7 and S-10 have been ND since at least August 1989.

If you have any questions, please call.

GeoStrategies Inc. by,

Robert C. Mallory
FOR
Ellen C. Fostersmith
Geologist

Michael Carey
Michael C. Carey
Engineering Geologist
C.E.G. 1351



ECF/MCC/rt

Plate 1. Vicinity Map
Plate 2. Site Plan/Potentiometric Map
Plate 3. Benzene Concentration Map

Appendix A: Blaine Tech Services Groundwater Sampling Report and Chain-of-Custody Form

QC Review: E.M.

763201-17

TABLE 1

HISTORICAL GROUND-WATER QUALITY DATABASE

Sample Date	Sample Point	TPH-G (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
06-Nov-87	S-1	920	230	<5	150	150
14-Feb-88	S-1	3,500	1,300	<40	500	500
06-Aug-88	S-1	Well abandoned				
06-Nov-87	S-2	16,000	870	100	2,700	2,700
14-Feb-88	S-2	1,800	440	<10	140	140
13-Oct-88	S-2	550	110	1	45	15
31-Jan-89	S-2	620	170	2	62	14
07-Mar-89	S-2	1,900	260	270	130	260
26-Jun-89	S-2	320	88	1	32	10
08-Sep-89	S-2	230	80	1	30	15
14-Dec-89	S-2	160	56	0.5	21	3
05-Mar-90	S-2	710	57	<0.5	<0.5	88
14-Jun-90	S-2	110	39	0.5	11	2
02-Oct-90	S-2	290	84	1.7	160	8.1
18-Dec-90	S-2	61	18	1.4	2.2	2.4
20-Mar-91	S-2	110	30	2.2	10	7
26-Jun-91	S-2	50*	6.3	<0.5	3.3	1.9
05-Sep-91	S-2	90	12	3.2	2.5	2.3
13-Dec-91	S-2	<50	12	<0.5	<0.5	<0.5
11-Mar-92	S-2	<30	<0.3	<0.3	<0.3	<0.3
15-Jun-92	S-2	<50	0.9	<0.5	<0.5	<0.5
17-Sep-92	S-2	78	2.6	<0.5	1.3	0.9
11-Dec-92	S-2	<50	0.8	<0.5	<0.5	<0.5
04-Feb-93	S-2	55	1.3	<0.5	0.7	<0.5
14-Feb-88	S-3	<50	<0.5	<1	<4	<4
13-Oct-88	S-3	<50	<0.5	<1	<1	<3
31-Jan-89	S-3	<50	<0.5	<1	<1	<3
07-Mar-89	S-3	<50	<0.5	<1	<1	<3
26-Jun-89	S-3	<50	<0.5	<1	<1	<3
08-Sep-89	S-3	<50	<0.5	<1	<1	<3
14-Dec-89	S-3	<50	<0.5	<0.5	<0.5	<1
05-Mar-90	S-3	<50	<0.5	<0.5	<0.5	<1
14-Jun-90	S-3	<500	<0.5	<0.5	<0.5	<1

TABLE 1

HISTORICAL GROUND-WATER QUALITY DATABASE

Sample Date	Sample Point	TPH-G (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
02-Oct-90	S-3	<50	<0.5	<0.5	<0.5	1
18-Dec-90	S-3	<50	<0.5	1.6	<0.5	2
20-Mar-91	S-3	70	2.3	8.9	4	23
26-Jun-91	S-3	<50	<0.5	<0.5	<0.5	<0.5
05-Sep-91	S-3	<50	<0.5	<0.5	<0.5	<0.5
13-Dec-91	S-3	<50	<0.5	<0.5	<0.5	<0.5
11-Mar-92	S-3	<30	<0.3	<0.3	<0.3	<0.3
15-Jun-92	S-3	<50	<0.5	<0.5	<0.5	<0.5
17-Sep-92	S-3	<50	<0.5	<0.5	<0.5	<0.5
11-Dec-92	S-3	<50	<0.5	<0.5	<0.5	<0.5
04-Feb-93	S-3	<50	<0.5	<0.5	<0.5	<0.5
14-Feb-88	S-4	5,100	160	8	730	730
13-Oct-88	S-4	530	24	1	25	16
31-Jan-89	S-4	1,100	33	2	20	24
07-Mar-89	S-4	650	37	1	35	27
26-Jun-89	S-4	670	110	<1	85	71
08-Sep-89	S-4	380	32	<1	36	26
14-Dec-89	S-4	210	21	<0.5	30	23
05-Mar-90	S-4	350	43	<0.5	24	47
14-Jun-90	S-4	430	74	<0.5	71	46
02-Oct-90	S-4	700	74	2.2	100	55
18-Dec-90	S-4	1,400	180	2.9	280	230
20-Mar-91	S-4	1,200	100	<2	210	130
26-Jun-91	S-4	220	14	<0.5	34	17
05-Sep-91	S-4	580	31	0.8	53	26
13-Dec-91	S-4	370	24	0.9	1.3	46
11-Mar-92	S-4	1,600	23	1.2	12	20
16-Jun-92	S-4	480	48	<1	95	22
17-Sep-92	S-4	260	35	1.2	51	7.8
11-Dec-92	S-4	270	34	0.6	28	4.5
05-Feb-93	S-4	1,100	12	<5	69	100
14-Feb-88	S-5	1,000	40	86	180	180
13-Oct-88	S-5	560	66	20	18	36

TABLE 1

HISTORICAL GROUND-WATER QUALITY DATABASE

Sample Date	Sample Point	TPH-G (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
31-Jan-89	S-5	180	27	8	9	13
07-Mar-89	S-5	3,800	520	530	260	570
26-Jun-89	S-5	<50	3.8	<1	2	<3
08-Sep-89	S-5	110	25	2	2	12
14-Dec-89	S-5	1,700	300	86	67	140
05-Mar-90	S-5	1,100	100	110	79	240
14-Jun-90	S-5	600	94	36	40	62
02-Oct-90	S-5	4,500	1,400	160	260	300
20-Nov-90	S-5	16,000	4,600	720	790	1,000
18-Dec-90	S-5	25,000	7,600	1,100	1,300	2,300
20-Mar-91	S-5	310	39	12	18	30
26-Jun-91	S-5	1,300	250	62	120	160
05-Sep-91	S-5	4,700	660	150	170	280
13-Dec-91	S-5	1,400	580	19	110	80
11-Mar-92	S-5	<30	<0.3	<0.3	<0.3	<0.3
16-Jun-92	S-5	1,800	380	52	120	180
17-Sep-92	S-5	2,200	750	91	170	170
11-Dec-92	S-5	8,700	1,600	86	48	340
04-Feb-93	S-5	150	15	0.7	4.7	4
13-Oct-88	S-6	1,100	13	1	42	33
31-Jan-89	S-6	340	3.8	<1	8	3
07-Mar-89	S-6	190	3.8	<1	7	3
26-Jun-89	S-6	480	15	<1	6	<3
08-Sep-89	S-6	270	1.3	1	7	<3
15-Dec-89	S-6	320	1	<0.5	2.6	<1
06-Mar-90	S-6	420	3.1	<0.5	14	<1
14-Jun-90	S-6	370	3.7	0.9	4.8	3
02-Oct-90	S-6	190	6.6	1.6	1.9	2.8
18-Dec-90	S-6	430	10	0.7	1.6	1.5
20-Mar-91	S-6	130*	6.6	0.6	0.7	3
26-Jun-91	S-6	120*	3.8	0.8	<0.5	1.7
05-Sep-91	S-6	60	<0.5	0.8	<0.5	0.5
13-Dec-91	S-6	150	2.3	<0.5	<0.5	150

TABLE 1

HISTORICAL GROUND-WATER QUALITY DATABASE

Sample Date	Sample Point	TPH-G (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
11-Mar-92	S-6	<30	<0.3	<0.3	<0.3	<0.3
15-Jun-92	S-6	170	<0.5	<0.5	<0.5	<0.5
17-Sep-92	S-6	190	<0.5	1.6	<0.5	1.2
11-Dec-92	S-6	180	<0.5	0.8	<0.5	0.7
05-Feb-93	S-6	290	<0.5	<0.5	<0.5	0.7
13-Oct-88	S-7	<50	0.6	1	<1	<3
31-Jan-89	S-7	<50	<0.5	<1	<1	<3
07-Mar-89	S-7	<50	<0.5	<1	<1	<3
26-Jun-89	S-7	<50	<0.5	<1	<1	<3
08-Sep-89	S-7	<50	<0.5	<1	<1	<3
15-Dec-89	S-7	<50	<0.5	<0.5	<0.5	<1
06-Mar-90	S-7	<50	<0.5	<0.5	<0.5	<1
14-Jun-90	S-7	<50	<0.5	<0.5	<0.5	<1
02-Oct-90	S-7	<50	<0.5	0.6	<0.5	0.9
18-Dec-90	S-7	<50	0.5	<0.5	<0.5	0.8
20-Mar-91	S-7	<50	<0.5	<0.5	<0.5	<0.5
26-Jun-91	S-7	<50	<0.5	<0.5	<0.5	<0.5
05-Sep-91	S-7	<50	<0.5	0.6	<0.5	<0.5
13-Dec-91	S-7	<50	<0.5	<0.5	<0.5	<0.5
11-Mar-92	S-7	<30	<0.3	<0.3	<0.3	<0.3
15-Jun-92	S-7	<50	<0.5	<0.5	<0.5	<0.5
17-Sep-92	S-7	<50	0.6	0.6	<0.5	<0.5
11-Dec-92	S-7	<50	<0.5	<0.5	<0.5	<0.5
05-Feb-93	S-7	<50	<0.5	<0.5	<0.5	<0.5
07-Mar-89	S-8	<50	1.2	1	<1	<3
26-Jun-89	S-8	<50	0.8	1	<1	<3
08-Sep-89	S-8	<50	<0.5	<1	<1	<3
14-Dec-89	S-8	<50	<0.5	<0.5	<0.5	<1
05-Mar-90	S-8	<50	<0.5	0.5	<0.5	<1
14-Jun-90	S-8	<50	<0.5	<0.5	<0.5	<1
02-Oct-90	S-8	<50	<0.5	<0.5	<0.5	<0.5
18-Dec-90	S-8	<50	2.9	7	1	6.4
20-Mar-91	S-8	50*	0.8	1.6	2.6	5.2

TABLE 1

HISTORICAL GROUND-WATER QUALITY DATABASE

Sample Date	Sample Point	TPH-G (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
26-Jun-91	S-8	<50	<0.5	<0.5	<0.5	<0.5
05-Sep-91	S-8	<50	<0.5	<0.5	<0.5	<0.5
13-Dec-91	S-8	<50	<0.5	<0.5	<0.5	<0.5
11-Mar-92	S-8	<30	<0.3	<0.3	<0.3	<0.3
15-Jun-92	S-8	<50	1.4	1.9	<0.5	<0.5
17-Sep-92	S-8	<50	<0.5	<0.5	<0.5	<0.5
11-Dec-92	S-8	<50	<0.5	<0.5	<0.5	<0.5
04-Feb-93	S-8	<50	<0.5	<0.5	<0.5	<0.5
07-Mar-89	S-9	<50	<0.5	<1	<1	<3
26-Jun-89	S-9	<50	<0.5	<1	<1	<3
08-Sep-89	S-9	<50	1.7	2	<1	<3
15-Dec-89	S-9	<50	0.5	<0.5	<0.5	<1
06-Mar-90	S-9	<50	<0.5	<0.5	<0.5	<1
14-Jun-90	S-9	<50	<0.5	<0.5	<0.5	<1
02-Oct-90	S-9	<50	<0.5	<0.5	<0.5	<0.5
18-Dec-90	S-9	<50	20	27	7.1	35
20-Mar-91	S-9	70*	0.7	0.7	<0.5	1
26-Jun-91	S-9	<50	<0.5	<0.5	<0.5	<0.5
05-Sep-91	S-9	<50	<0.5	0.8	<0.5	<0.5
13-Dec-91	S-9	<50	<0.5	<0.5	<0.5	<0.5
11-Mar-92	S-9	<30	<0.3	<0.3	<0.3	<0.3
16-Jun-92	S-9	<50	<0.5	<0.5	<0.5	<0.5
17-Sep-92	S-9	<50	<0.5	<0.5	<0.5	<0.5
11-Dec-92	S-9	<50	<0.5	<0.5	<0.5	<0.5
04-Feb-93	S-9	<50	<0.5	<0.5	<0.5	<0.5
11-Aug-89	S-10	<50	<0.5	<1	<1	<3
08-Sep-89	S-10	<50	<0.5	<1	<1	<3
15-Dec-89	S-10	<50	<0.5	<0.5	<0.5	<1
06-Mar-90	S-10	<50	<0.5	<0.5	<0.5	<1
14-Jun-90	S-10	<50	<0.5	<0.5	<0.5	<1
02-Oct-90	S-10	<50	<0.5	<0.5	<0.5	1
18-Dec-90	S-10	<50	<0.5	<0.5	<0.5	1.4
20-Mar-91	S-10	<50	<0.5	<0.5	<0.5	<0.5

TABLE 1

HISTORICAL GROUND-WATER QUALITY DATABASE

Sample Date	Sample Point	TPH-G (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
26-Jun-91	S-10	50	1.8	5.8	1.9	13
05-Sep-91	S-10	<50	<0.5	<0.5	<0.5	<0.5
13-Dec-91	S-10	<50	<0.5	<0.5	<0.5	<0.5
11-Mar-92	S-10	<30	<0.3	<0.3	<0.3	<0.3
15-Jun-92	S-10	<50	<0.5	<0.5	<0.5	<0.5
17-Sep-92	S-10	<50	<0.5	<0.5	<0.5	<0.5
11-Dec-92	S-10	<50	<0.5	<0.5	<0.5	<0.5
05-Feb-93	S-10	<50	<0.5	<0.5	<0.5	<0.5
11-Oct-89	SR-1	200	100	<1	10	10
14-Dec-89	SR-1	500	210	<0.5	16	16
05-Mar-90	SR-1	64	20	<0.5	1.5	4
14-Jun-90	SR-1	60	17	<0.5	1.9	1
02-Oct-90	SR-1	<50	5	<0.5	<0.5	<0.5
18-Dec-90	SR-1	<50	28	5.5	4.5	4.5
20-Mar-91	SR-1	<50*	4.2	<0.5	1.4	0.5
26-Jun-91	SR-1	<50	5	<0.5	0.5	<0.5
05-Sep-91	SR-1	<50	8.6	<0.5	0.7	<0.5
13-Dec-91	SR-1	70	9.4	7.1	6.6	22
11-Mar-92	SR-1	<30	<0.3	<0.3	<0.3	<0.3
15-Jun-92	SR-1	<50	<0.5	<0.5	<0.5	<0.5
17-Sep-92	SR-1	51	1.4	<0.5	<0.5	<0.5
11-Oct-89	SR-2	880	<10	1	29	33
14-Dec-89	SR-2	1,100	17	<0.5	100	67
05-Mar-90	SR-2	140	3	<0.5	12	7
14-Jun-90	SR-2	<50	<0.5	<0.5	2.6	<1
02-Oct-90	SR-2	<50	<0.5	<0.5	0.5	<0.5
18-Dec-90	SR-2	<50	1.6	1.4	1.6	2.7
20-Mar-91	SR-2	90	1.3	<0.5	6.1	1.4
26-Jun-91	SR-2	<50	0.6	<0.5	1.7	<0.5
05-Sep-91	SR-2	<50	1.2	<0.5	1.2	<0.5
13-Dec-91	SR-2	<50	<0.5	<0.5	<0.5	<0.5
11-Mar-92	SR-2	<30	0.5	<0.3	<0.3	<0.3
15-Jun-92	SR-2	120	6	1	0.7	2.1

TABLE 1

HISTORICAL GROUND-WATER QUALITY DATABASE

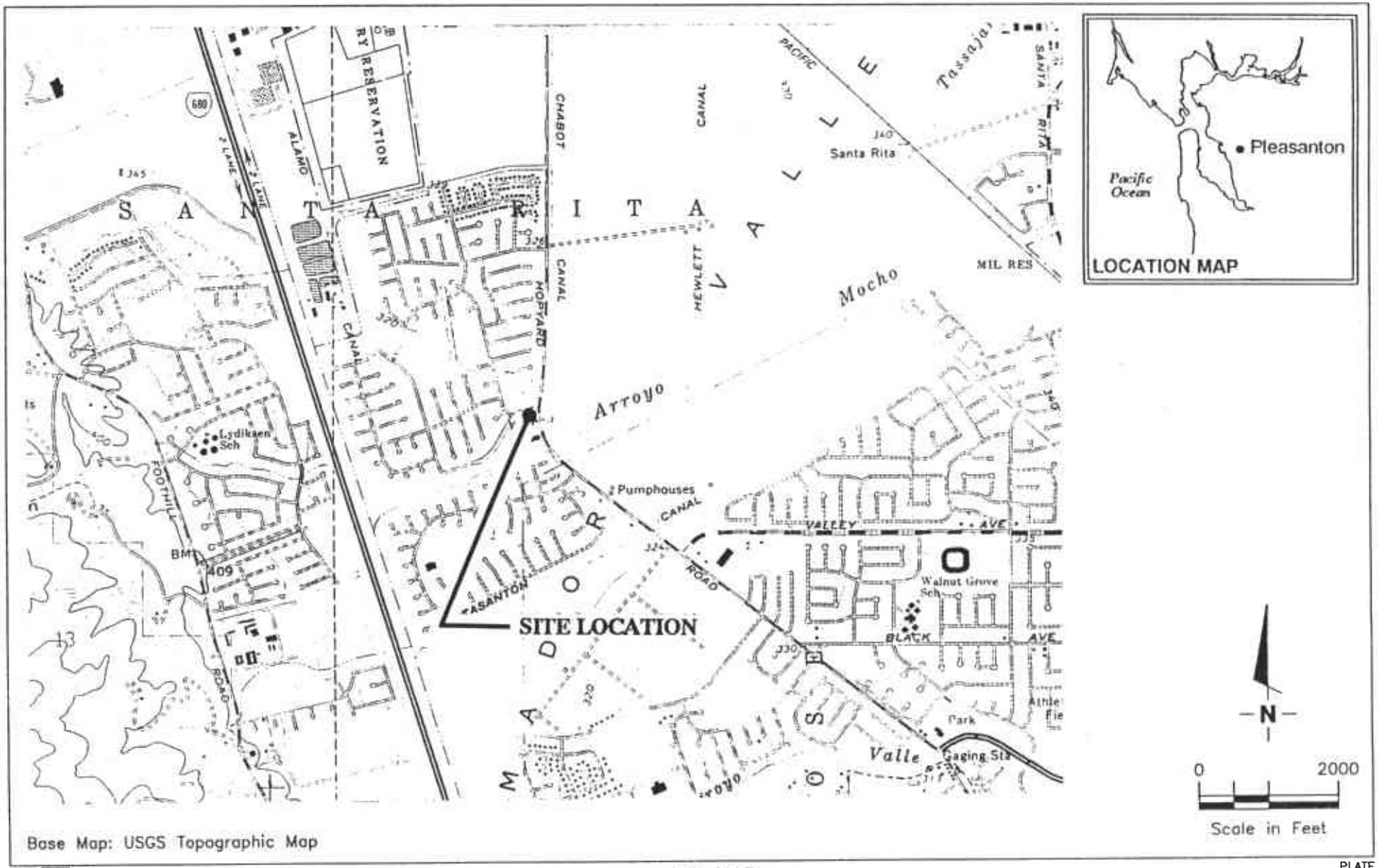
Sample Date	Sample Point	TPH-G (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)
17-Sep-92	SR-2	140	8.3	0.6	0.9	0.7
11-Oct-89	SR-3	500	92	10	43	100
14-Dec-89	SR-3	2,400	310	27	170	340
05-Mar-90	SR-3	70	15	0.8	5.8	10
14-Jun-90	SR-3	470	59	2.3	35	50
02-Oct-90	SR-3	1,700	91	6.2	7	100
18-Dec-90	SR-3	140	10	0.8	7.5	14
20-Mar-91	SR-3	1,350	970	3.6	64	79
26-Jun-91	SR-3	240	48	15	20	N/AO
26-Jun-91	SR-3	240	48	4.2	15	20
05-Sep-91	SR-3	160	19	<0.5	6	5.9
13-Dec-91	SR-3	50	13	<0.5	3.1	4.7
11-Mar-92	SR-3	410	28	1.6	22	24
16-Jun-92	SR-3	600	55	2.1	2.8	33
17-Sep-92	SR-3	210	25	1.8	17	20

TPH-G = Total Petroleum Hydrocarbons calculated as Gasoline
PPB = Parts Per Billion

* Compounds detected and calculated as low boiling hydrocarbons consist of compounds eluting within the chromatographic range of gasoline, but are not characteristic of the standard gasoline standard pattern.

Notes:

1. All data shown as <x are reported as ND (none detected).]
2. Wells SR-1, SR-2, and SR-3 were monitored only subsequent to the September 17, 1992 sampling.



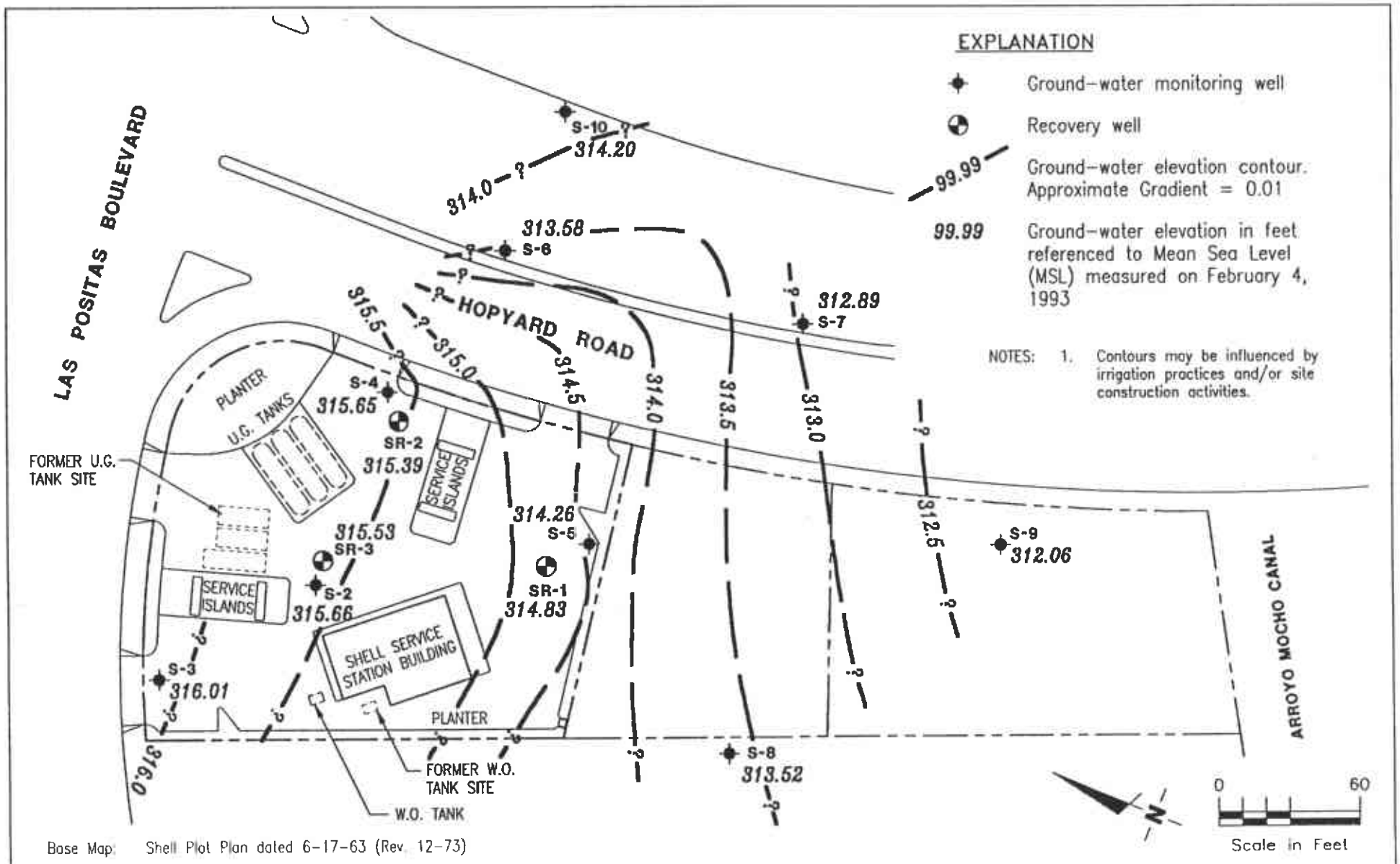
Base Map: USGS Topographic Map

GeoStrategies Inc.

VICINITY MAP
Shell Service Station
3790 Hopyard Road
Pleasanton, California

PLATE
1

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
7632		2/91	



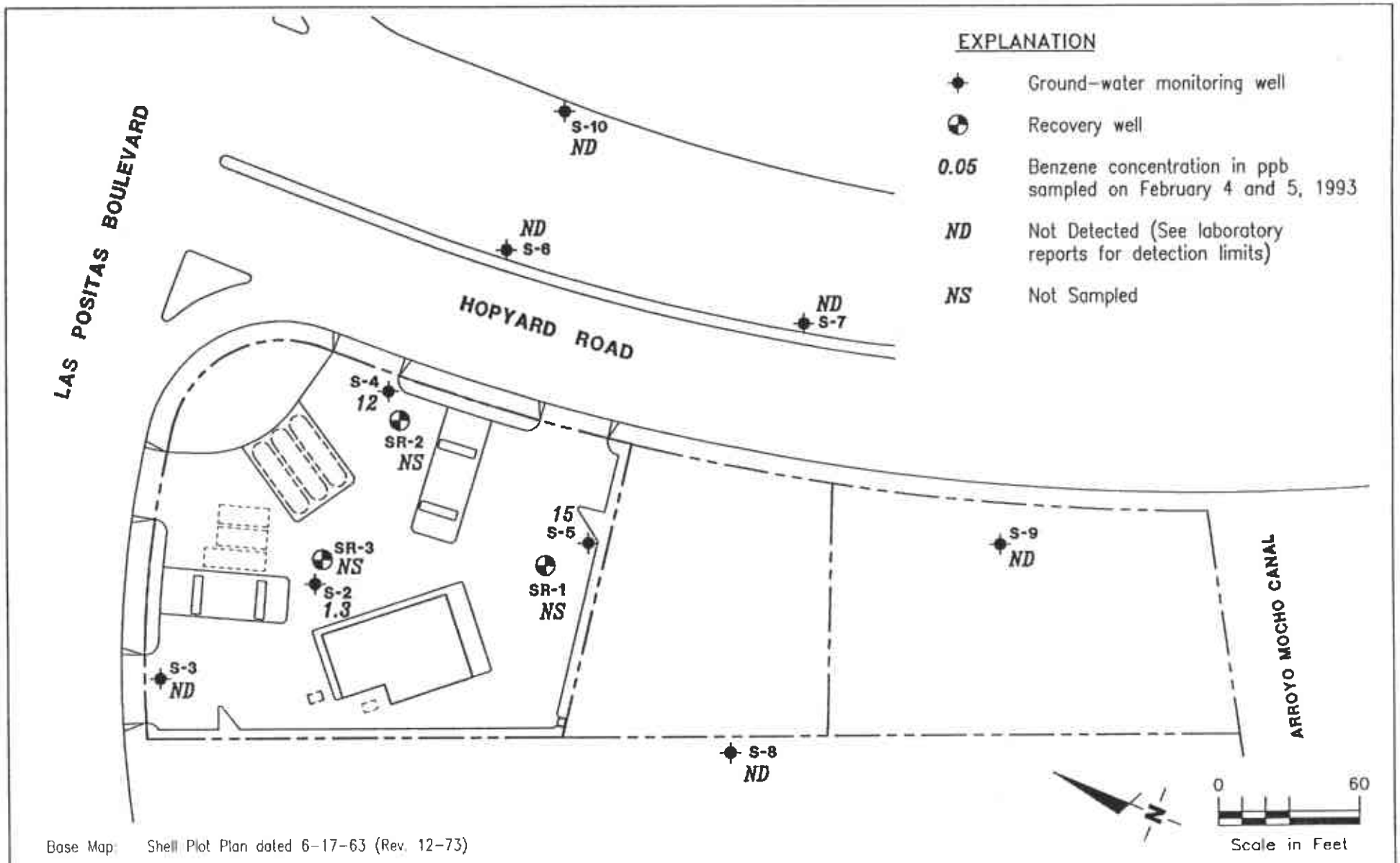
Base Map: Shell Plot Plan dated 6-17-63 (Rev. 12-73)

GeoStrategies Inc.

SITE PLAN/POTENTIOMETRIC MAP
Shell Service Station
3790 Hopyard Road
Pleasanton, California

PLATE 2

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
763201-17	RCM	4/93	



Base Map: Shell Plot Plan dated 6-17-63 (Rev. 12-73)

GeoStrategies Inc.

BENZENE CONCENTRATION MAP
Shell Service Station
3790 Hopyard Road
Pleasanton, California

PLATE
3

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
763201-17	RCM	4/93	

APPENDIX A

BLAINE GROUNDWATER SAMPLING REPORT

AND

CHAIN-OF-CUSTODY FORM

BLAINE
TECH SERVICES INC.

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

February 23, 1993

RECEIVED
MAR 4 - 199
GETTLER-RYAN INC.
GENERAL CONTRACTORS

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

Attn: Daniel T. Kirk

SITE:
Shell WIC # 204-6138-0501
3790 Hopyard Road
Pleasanton, California

QUARTER:
1st quarter of 1993

QUARTERLY GROUNDWATER SAMPLING REPORT 930204-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.

632-A

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-2	3	02-04-93	GRADE	--	NONE	--	--	13.55	35.36
S-3	3	02-04-93	GRADE	--	NONE	--	--	11.66	35.30
S-4	3	02-04-93	GRADE	ODOR	NONE	--	--	12.88	36.28
S-5 *	3	02-04-93	GRADE	ODOR	NONE	--	--	15.40	36.30
S-6	3	02-04-93	GRADE	ODOR	NONE	--	--	14.04	35.0
S-7	3	02-04-93	GRADE	--	NONE	--	--	15.78	35.11

* Sample DUP was a duplicate sample taken from well S-5.

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-8	3	02-04-93	GRADE	--	NONE	--	--	13.48	34.50
S-9	3	02-04-93	GRADE	--	NONE	--	--	16.18	35.03
S-10	3	02-04-93	GRADE	--	NONE	--	--	12.35	34.50
SR-1	4	02-04-93	GRADE	--	--	--	--	14.95	--
SR-2	4	02-04-93	GRADE	--	--	--	--	12.96	--
SR-3	4	02-04-93	GRADE	--	--	--	--	13.58	--

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.

James Allen for
Richard C. Blaine

RCB/lpn

attachments: chain of custody
certified analytical report

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

9302104 (18)

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: _____

Date: 2/4/93
Page 1 of 2

Site Address: 3790 Hopyard Rd Pleas.
WIC #: 204-6138-0501
Shell Engineer: Dan Kirk | Phone No.: | Fax #:
Consultant Name & Address: Blaine Tech Serv. 985 Timothy Sq. Tore
Consultant Contact: Glen Bennett | Phone No.: 998-995-5535 | Fax #:
Comments:
Sampled by: Don Wells
Printed Name: DON WELTZ

LAB: Anametrix

CHECK ONE (1) BOX ONLY | C1/D1 | TURN AROUND TIME

Quarterly Monitoring	☒	8421	24 hours ☐
Site Investigation	☐	8441	48 hours ☐
Soil Classify/Disposal	☐	8442	10 days ☒ (Normal)
Water Classify/Disposal	☐	8443	Other ☐ ____
Soil/Air Rem. or Sys. O & M	☐	8452	NOTE: Notify Lab as soon as Possible of 24/48 hr. TAT.
Water Rem. or Sys. O & M	☐	8453	
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-9	2/4			X		3						X		40 ml	HCl	N	Groundwater	
(2) S-8	2/4			X		3						X						
(3) S-3	2/4			X		3						X						
(4) S-2	2/4			X		3						X						
(5) S-4	2/5			X		3						X						
(6) S-5	2/4			X		3						X						
(7) S-10	2/5			X		3						X						
(8) S-7	2/5			X		3						X						

Relinquished By (signature):	Printed Name:	Date: 2-8-93 Time: 1025	Received (signature): Penny S. Carrasco
Relinquished By (signature): Penny S. Carrasco	Printed Name: PENNY S. CARRASCO	Date: 2-9-93 Time: 1010	Received (signature): Michele D Aguilar
Relinquished By (signature):	Printed Name:	Date: Time:	Received (signature):

Printed Name: Penny S. Carrasco	Date 2-8-93 Time: 1025	
Printed Name: Michele D Aguilar	Date: 2-8-93 Time: 1010	
Printed Name:	Date: Time:	

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

9302104 (18) 14:40

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD

Serial No:

Date: 2/4/93
Page 2 of 2

Site Address: 3790 Hopyard Rd Pleas.
WIC#: 204-6138-0501
Shell Engineer: Dan Kirk
Phone No.:
Fax #:
Consultant Name & Address: Blaine Tech Serv. 985 Timothy San JOSE
Consultant Contact: Glen Bennett
Phone No.: 408 995-5535
Fax #:
Comments:
Sampled by: Don Weltz
Printed Name: DON WELTZ

LAB: Anametrix

CHECK ONE (1) BOX ONLY	CT/DT
Quarterly Monitoring	☒ 5461
Site Investigation	☐ 5441
Soil Classify/Disposal	☐ 5442
Water Classify/Disposal	☐ 5443
Soil/Air Rem. or Sys. O & M	☐ 5452
Water Rem. or Sys. O & M	☐ 5453
Other	☐

TURN AROUND TIME	
24 hours	☐
48 hours	☐
15 days	☒ (Normal)
Other	☐

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

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
(9) S-6	2/5			X		3						X					40 ml	HCl	N	Groundwater	
(10) DUP	2/4			X		3						X					↓	↓	↓	↓	
(11) Trip Blank	2/4			X		2						X					↓	↓	↓	Trip Blank	

Relinquished By (signature):	Printed Name:	Date/Time:	Received (signature):	Printed Name:	Date/Time:
Don Weltz		Date: 2-8-93 Time: 1025	Benny S. Carrizosa	BENNY S. CARRIZOSA	Date: 2-8-93 Time: 1025
Benny S. Carrizosa	BENNY S. CARRIZOSA	Date: 2-8-93 Time: 1040	Michele D Aguilar	Michele D Aguilar	Date: 2-8-93 Time: 1040
		Date: Time:			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 # : 9302104
Date Received : 02/08/93
Project ID : 204-6138-0501
Purchase Order: MOH-B813

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

ANAMETRIX ID	CLIENT SAMPLE ID
9302104- 1	S-9
9302104- 2	S-8
9302104- 3	S-3
9302104- 4	S-2
9302104- 5	S-4
9302104- 6	S-5
9302104- 7	S-10
9302104- 8	S-7
9302104- 9	S-6
9302104-10	DUP
9302104-11	T. BLANK

This report consists of 7 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

02-23-93
Date

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

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

Workorder # : 9302104
Date Received : 02/08/93
Project ID : 204-6138-0501
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9302104- 1	S-9	WATER	02/04/93	TPHg/BTEX
9302104- 2	S-8	WATER	02/04/93	TPHg/BTEX
9302104- 3	S-3	WATER	02/04/93	TPHg/BTEX
9302104- 4	S-2	WATER	02/04/93	TPHg/BTEX
9302104- 5	S-4	WATER	02/05/93	TPHg/BTEX
9302104- 6	S-5	WATER	02/04/93	TPHg/BTEX
9302104- 7	S-10	WATER	02/05/93	TPHg/BTEX
9302104- 8	S-7	WATER	02/05/93	TPHg/BTEX
9302104- 9	S-6	WATER	02/05/93	TPHg/BTEX
9302104-10	DUP	WATER	02/04/93	TPHg/BTEX
9302104-11	T. BLANK	WATER	02/04/93	TPHg/BTEX

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

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

Workorder # : 9302104
Date Received : 02/08/93
Project ID : 204-6138-0501
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- No QA/QC problems encountered for these samples.

Cheryl Balmer 2/23/93
Department Supervisor Date

Charlotte Burch 2.23.93
Chemist Date

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

Anametrix W.O.: 9302104
Matrix : WATER
Date Sampled : 02/04-05/93

Project Number : 204-6138-0501
Date Released : 02/23/93

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# S-9 -01	Sample I.D.# S-8 -02	Sample I.D.# S-3 -03	Sample I.D.# S-2 -04	Sample I.D.# S-4 -05
Benzene	0.5	ND	ND	ND	1.3	12
Toluene	0.5	ND	ND	ND	ND	ND
Ethylbenzene	0.5	ND	ND	ND	0.7	69
Total Xylenes	0.5	ND	ND	ND	ND	100
TPH as Gasoline	50	ND	ND	ND	55	1100
% Surrogate Recovery		93%	85%	112%	101%	85%
Instrument I.D.		HP12	HP12	HP12	HP12	HP12
Date Analyzed		02/12/93	02/17/93	02/12/93	02/12/93	02/16/93
RLMF		1	1	1	1	10

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.

Charlesh Burch 2-22-93
Analyst Date

Cheryl Bateman 2/23/93
Supervisor Date

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

Anametrix W.O.: 9302104
Matrix : WATER
Date Sampled : 02/04-05/93

Project Number : 204-6138-0501
Date Released : 02/23/93

	Reporting Limit	Sample I.D.# S-5	Sample I.D.# S-10	Sample I.D.# S-7	Sample I.D.# S-6	Sample I.D.# DUP
COMPOUNDS	(ug/L)	-06	-07	-08	-09	-10
Benzene	0.5	15	ND	ND	ND	14
Toluene	0.5	0.7	ND	ND	ND	0.7
Ethylbenzene	0.5	4.7	ND	ND	ND	4.4
Total Xylenes	0.5	4.0	ND	ND	0.7	3.6
TPH as Gasoline	50	150	ND	ND	290	150
% Surrogate Recovery		90%	106%	102%	95%	102%
Instrument I.D.		HP12	HP12	HP12	HP12	HP12
Date Analyzed		02/12/93	02/12/93	02/12/93	02/11/93	02/11/93
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.

Luna Shor 2/23/93
Analyst Date

Cheryl Balma 2/23/93
Supervisor Date

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

Anametrix W.O.: 9302104
Matrix : WATER
Date Sampled : 02/04/93

Project Number : 204-6138-0501
Date Released : 02/23/93

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# T. BLANK -11	Sample I.D.# BF1101E3 BLANK	Sample I.D.# BF1201E3 BLANK	Sample I.D.# BF1601E3 BLANK	Sample I.D.# BF1701E3 BLANK
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		102%	97%	102%	103%	104%
Instrument I.D.		HP12	HP12	HP12	HP12	HP12
Date Analyzed		02/11/93	02/11/93	02/12/93	02/16/93	02/17/93
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.

Charleston Burch 2.23-93
Analyst Date

Cheryl Burmer 2/23/93
Supervisor Date

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

Sample I.D. : 204-6138-0501 S-3
Matrix : WATER
Date Sampled : 02/04/93
Date Analyzed : 02/12/93

Anametrix I.D. : 9302104-03
Analyst : CMR
Supervisor : [illegible]
Date Released : 02/23/93
Instrument I.D.: HP12

COMPOUND	SPIKE AMT (ug/L)	SAMPLE CONC (ug/L)	REC MS (ug/L)	%REC MS	REC MD (ug/L)	%REC MD	RPD	%REC LIMITS
BENZENE	20.0	0.0	20.8	104%	21.1	106%	1%	45-139
TOLUENE	20.0	0.0	21.0	105%	21.4	107%	2%	51-138
ETHYLBENZENE	20.0	0.0	22.7	114%	23.2	116%	2%	48-146
TOTAL XYLENES	20.0	0.0	21.4	107%	21.9	110%	2%	50-139
p-BFB				88%		86%		61-139

* Quality control established by Anametrix, Inc.

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

Sample I.D.	: LAB CONTROL SAMPLE	Anametrix I.D.	: LCSW0212
Matrix	: WATER	Analyst	: OMB
Date Sampled	: N/A	Supervisor	:
Date Analyzed	: 02/12/93	Date Released	: 02/23/93
		Instrument ID	: HP12

COMPOUND	SPIKE AMT. (ug/L)	LCS (ug/L)	REC LCS	%REC LIMITS
Benzene	20.0	21.4	107%	52-133
Toluene	20.0	22.0	110%	57-136
Ethylbenzene	20.0	23.6	118%	56-139
TOTAL Xylenes	20.0	22.7	114%	61-139
P-BFB			99%	61-139

* Limits established by Anametrix, Inc.

WELL GAUGING DATA

Shell @ WIC# 204-6138-0501

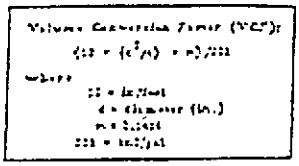
Project # 930204-W1 Date 2/4/93 Client Shell

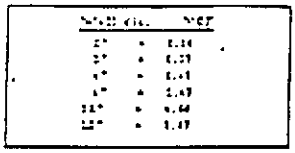
Site 3790 Hopyard Rd Pleasanton Sampler DW

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-2	3	none	none	NL	—	13.55	35.36	Grade
S-3	3	none		—	—	11.66	35.30	
S-4	3	slt odor		—	—	12.88	36.28	
S-5	3	odor		—	—	15.40	36.30	
S-6	3	slt odor		—	—	14.04	35.00	
S-7	3	none		—	—	15.78	35.11	
S-8	3	none		—	—	13.48	34.50	
S-9	3	none		—	—	16.18	35.03	
S-10	3	none		—	—	12.35	34.50	
SR-1	4	—		—	—	14.95	—	
SR-2	4	—		—	—	12.96	—	
SR-3	4	—		—	—	13.8	—	

SHELL WELL MONITORING DATA SHEET

Project #: 930204-1101	Wic # 204-6139-0501
Sampler: RW	Date Sampled: 2/4/93
Well I.D.: S-2	Well Diameter: (circle one) 2 (3) 4 6 ___
Total Well Depth: Before 35.36 After	Depth to Water: Before 13.55 After
Depth to Free Product: none	Thickness of Free Product (feet): ___
Measurements referenced to: PVC (Grade) Other --	





8.07	x	3	=	24.21
1 Case Volume		Specified Volumes		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:
1330	69.0	8.3	2700	32	8.5	Clear
1339	68.0	8.1	3000	25	16.5	"
1349	68.0	8.2	3200	37	24.5	"

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 24.5

Sampling Time: 1355

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

Analyzed for: TPH Gas / BTEX

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

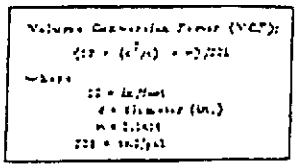
Analyzed for:

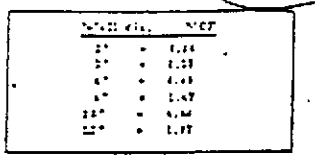
Shipping Notations:

Additional Notations:

SHELL WELL MONITORING DATA SHEET

Project #: 930204-411	Wic # 204-6138-0501
Sampler: DW	Date Sampled: 2/4/93
Well I.D.: S-3	Well Diameter: (circle one) 2 (3) 4 6 ___
Total Well Depth: Before 35.30 After	Depth to Water: Before 11.66 After
Depth to Free Product: NONE	Thickness of Free Product (feet): ___
Measurements referenced to: PVC (Grade) Other --	





8.75 (1 Case Volume) x 3 (Specified Volumes) = 26.25 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:
1243	68.2	8.3	3200	26	9.0	Clear
1252	68.4	8.1	3400	13.2	17.5	"
1301	68.2	8.0	3300	10.2	26.5	"

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 26.5

Sampling Time: 1310

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

Analyzed for: TPH Gas/BTEX

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

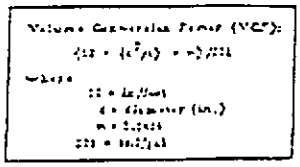
Analyzed for:

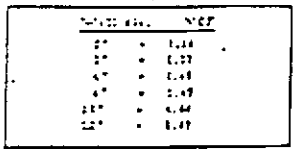
Shipping Notations:

Additional Notations:

SHELL WELL MONITORING DATA SHEET

Project #: 930204-1401	Wic # 204-6138-0501
Sampler: DW	Date Sampled: 2/4/93 & 2/5/93
Well I.D.: S-4	Well Diameter: (circle one) 2 (3) 4 6 ___
Total Well Depth: Before 36.28 After	Depth to Water: Before 12.88 After
Depth to Free Product: none	Thickness of Free Product (feet): —
Measurements referenced to: PVC (Grade) Other --	





8.66 (1 Case Volume) x 3 (Specified Volumes) = 25.98 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:
1435	69.0	9.0	1000	130	9.0	cloudy - odor
1445	67.4	7.8	2700	120	17.5	4
1450	Dewatered					
1329	69.4	7.6	2900	78	—	DTW 12.86

2/5

Did Well Dewater? Yes If yes, gals. Gallons Actually Evacuated: 20

Sampling Time: 1335 2/5

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

Analyzed for: TPH Gas / BTEX

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

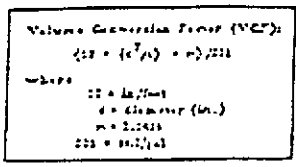
Analyzed for:

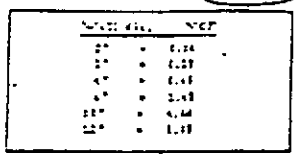
Shipping Notations:

Additional Notations:

SHELL WELL MONITORING DATA SHEET

Project #: 920204-411	Wic # 204-6138-0501
Sampler: DW	Date Sampled: 2/4/93
Well I.D.: S-5	Well Diameter: (circle one) 2 (3) 4 6 ___
Total Well Depth: Before 36.30 After	Depth to Water: Before 15.40 After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: PVC (Grade) Other --	





1.13 x 3 = 23.19

1 Case Volume | Specified Volumes | 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:
1516	65.6	8.4	1500	40	8.0	Clear-foamy-Slt odor
1524	66.0	8.0	1500	32	15.5	4
1532	65.6	7.8	1500	33	23.5	4

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 23.5

Sampling Time: 1540

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

Analyzed for: TPH Gas / BTEX

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

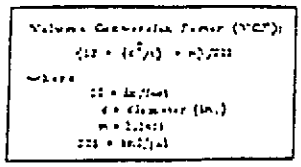
Analyzed for: TPH Gas / BTEX

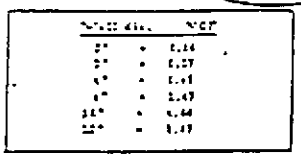
Shipping Notations:

Additional Notations:

SHELL WELL MONITORING DATA SHEET

Project #: 930204-W1	Wic # 204-6138-0501
Sampler: DW	Date Sampled: 2/5/93
Well I.D.: S-6	Well Diameter: (circle one) 2 (3) 4 6 ___
Total Well Depth: Before 35.00 After	Depth to Water: Before 14.04 After
Depth to Free Product: none	Thickness of Free Product (feet): ___
Measurements referenced to: PVC (Grade) Other --	





7.76 (1 Case Volume) x 3 (Specified Volumes) = 23.28 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:
1447	66.8	8.0	1700	175	8.0	cloudy sl odor
1456	66.2	7.2	1900	117	16.0	"
1504	66.4	7.1	1900	121	23.5	"

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 23.5

Sampling Time: 1515

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

Analyzed for: TPH Gas/BTEX

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

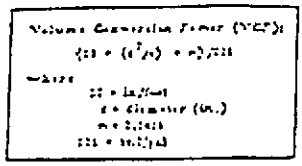
Analyzed for:

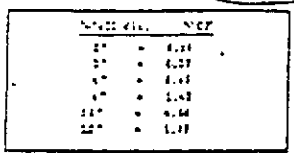
Shipping Notations:

Additional Notations:

SHELL WELL MONITORING DATA SHEET

Project #: 930204-W1	Wic # 204-6138-0501
Sampler: MW	Date Sampled: 2/5/93
Well I.D.: S-7	Well Diameter: (circle one) 2 (3) 4 6 ___
Total Well Depth: Before 35.11 After	Depth to Water: Before 15.78 After
Depth to Free Product: none	Thickness of Free Product (feet): —
Measurements referenced to: PVC (Grade) Other --	





7.15	x	3	=	21.45
1 Case Volume		Specified Volumes		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:
1405	67.8	7.6	2900	130	7.5	cloudy
1412	67.2	6.9	2900	75	14.5	slt cloudy
1419	67.0	7.1	3200	150	21.5	cloudy

Did Well Dewater? No If yes, gals. Gallons Actually Evacuated: 21.5

Sampling Time: 1430

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

Analyzed for: TPH Gas/BTEX

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

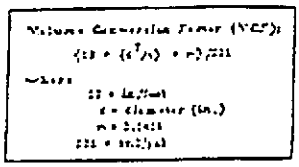
Analyzed for:

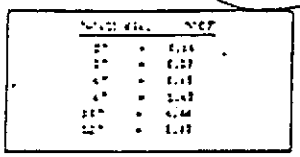
Shipping Notations:

Additional Notations:

SHELL WELL MONITORING DATA SHEET

Project #: 9302004-A11	Wic # 204-6138-0501
Sampler: MW	Date Sampled: 2/4/93
Well I.D.: S-8	Well Diameter: (circle one) 2 (3) 4 6 ____
Total Well Depth: Before 34.50 After	Depth to Water: Before 13.48 After
Depth to Free Product: none	Thickness of Free Product (feet): ____
Measurements referenced to: PVC (Grade) Other --	





7.78	x	3	=	23.34
1 Case Volume		Specified Volumes		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:
1105	67.4	8.6	2000	160	8.0	Cloudy
1113	67.0	7.7	2700	195	16.0	"
1121	66.6	7.7	3000	138	23.5	"

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 23.5

Sampling Time: 1130

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

Analyzed for: TPH/Gas/BTEX

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

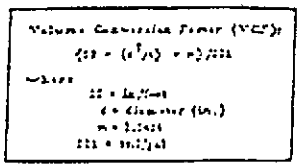
Analyzed for:

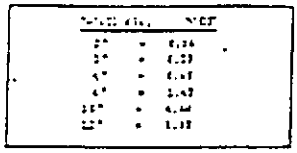
Shipping Notations:

Additional Notations:

SHELL WELL MONITORING DATA SHEET

Project #: 930204-WJ	Wic #: 204-6138-0501
Sampler: MW	Date Sampled: 2/4/93
Well I.D.: S-9	Well Diameter: (circle one) 2 (3) 4 6 ___
Total Well Depth: Before 35.03 After	Depth to Water: Before 16.18 After
Depth to Free Product: none	Thickness of Free Product (feet): ___
Measurements referenced to: PVC (Grade) Other --	





6.97 (1 Case Volume) x 3 (Specified Volumes) = 20.91 (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:
1011	66.6	7.5	3300	180	7.0	cloudy
1018	66.0	7.1	3100	93	14.0	slt cloudy
1026	66.2	6.9	3100	87	21.0	"

Did Well Dewater? No If yes, gals. Gallons Actually Evacuated: 21

Sampling Time: 1030

Sample I.D.: S-9 Laboratory: Anametrix

Analyzed for: TPH Gas / BTEX

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

Analyzed for:

Shipping Notations:

Additional Notations:

SHELL WELL MONITORING DATA SHEET

Project #: 930204-W1	WIC #: 204-6138-0501
Sampler: BW	Date Sampled: 2/5/93
Well I.D.: S-10	Well Diameter: (circle one) 2 (3) 4 6 ___
Total Well Depth: Before 34.50 After	Depth to Water: Before 12.35 After
Depth to Free Product: none	Thickness of Free Product (feet): —
Measurements referenced to: PVC (Grade) Other --	

Volume Conversion Factor (VCF): [illegible]

Well dia.	VCF
[illegible]	[illegible]

8.20 x 3 = 24.60

1 Case Volume x Specified Volumes = 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:
1252	64.4	8.1	1000	48	8.5	Clear - H2S odor.
1302	65.6	7.6	1600	15.7	16.5	"
1312	65.6	7.4	1700	8.2	25	"

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 25

Sampling Time: 1320

Sample I.D.: S-10 Laboratory: Anametrix

Analyzed for: TPH Gas / BTEX

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

Analyzed for:

Shipping Notations:

Additional Notations: cap extension loose from casing - evidence of rain water running into well