

LOP # 3670-SH



Weiss Associates

5500 Shellmound Street, Emeryville, CA 94608-2411

Environmental and Geologic Services

Fax: 510-547-5043 Phone: 510-547-5120

ALCO
HAZOP
94 JAN 18 PM 2:39

January 11, 1994

Britt Johnson
Alameda Department of
Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621

Re: Shell Service Station
WIC #204-0079-0109
999 San Pablo Avenue
Albany, California
WA Job #81-699-203

Dear Mr. Johnson:

This letter describes recently completed and anticipated activities at the Shell service station referenced above (Figure 1). This status report satisfies the quarterly reporting requirements prescribed by California Administrative Code Title 23 Waters, Chapter 3, Subchapter 16, Article 5, Section 265.d. Included below are descriptions and results of activities performed in the fourth quarter 1993 and proposed work for the first quarter 1994.

Fourth Quarter 1993 Activities:

- Blaine Tech Services, Inc. (BTS) of San Jose, California measured ground water depths in all seven site wells and collected ground water samples from six of the site wells. Well S-5 contained 0.73 ft of floating hydrocarbons and was not sampled. BTS' report describing these activities and the analytic report for the ground water samples are included as Attachment A.
- Weiss Associates (WA) calculated ground water elevations and compiled the analytic data (Tables 1 and 2) and prepared a ground water elevation contour map (Figure 2).

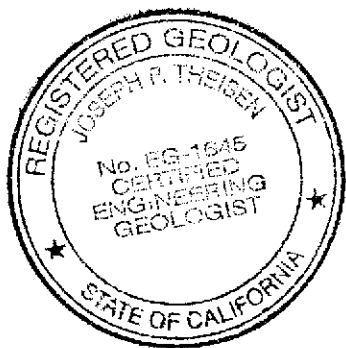
Anticipated First Quarter 1994 Activities:

WA will submit a report presenting the results of the first quarter 1994 ground water sampling and ground water depth measurements. The report will include tabulated chemical analytic results, ground water elevations and a ground water elevation contour map.

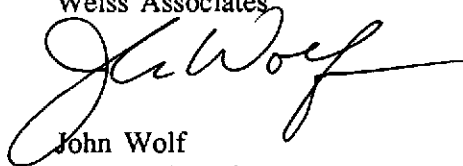
Conclusions and Recommendations:

- Since the floating hydrocarbons measured in monitoring well S-5 appear to originate from the Arco Station across Marin Avenue south of the Shell site, WA does not intend to install a hydrocarbon skimmer or bail floating hydrocarbons from monitoring well S-5.
- Although WA is not purging floating hydrocarbons from well MW-5, the floating hydrocarbon thickness has decreased from a recent high of 5.00 ft to the current thickness of only 0.73 ft. It is not clear whether this decrease is related to the recent rise in the water table measured in this well or whether it is due to changes in other site conditions. Since the ground water is currently below the top of the well screen, this thickness decrease is not due to ground water rising above the well screens.
- WA recommends continued monitoring of hydrocarbon concentrations in ground water during the first quarter of 1994.

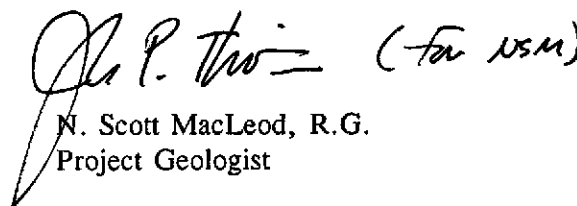
Please call if you have any questions.



Sincerely,
Weiss Associates



John Wolf
Technical Assistant

 (for NSM)

N. Scott MacLeod, R.G.
Project Geologist

JAW/NSM:jaw

J:\SHELL\650\699QMNO3.WP

Attachments: A - Blaine Tech's Ground Water Monitoring Report

cc: Dan Kirk, Shell Oil Company, P.O. Box 5278, Concord, California 945209998
Richard Heitt, Regional Water Quality Control Board - San Francisco Bay Region, 2101
Webster Street, Suite 500, Oakland, California 94612

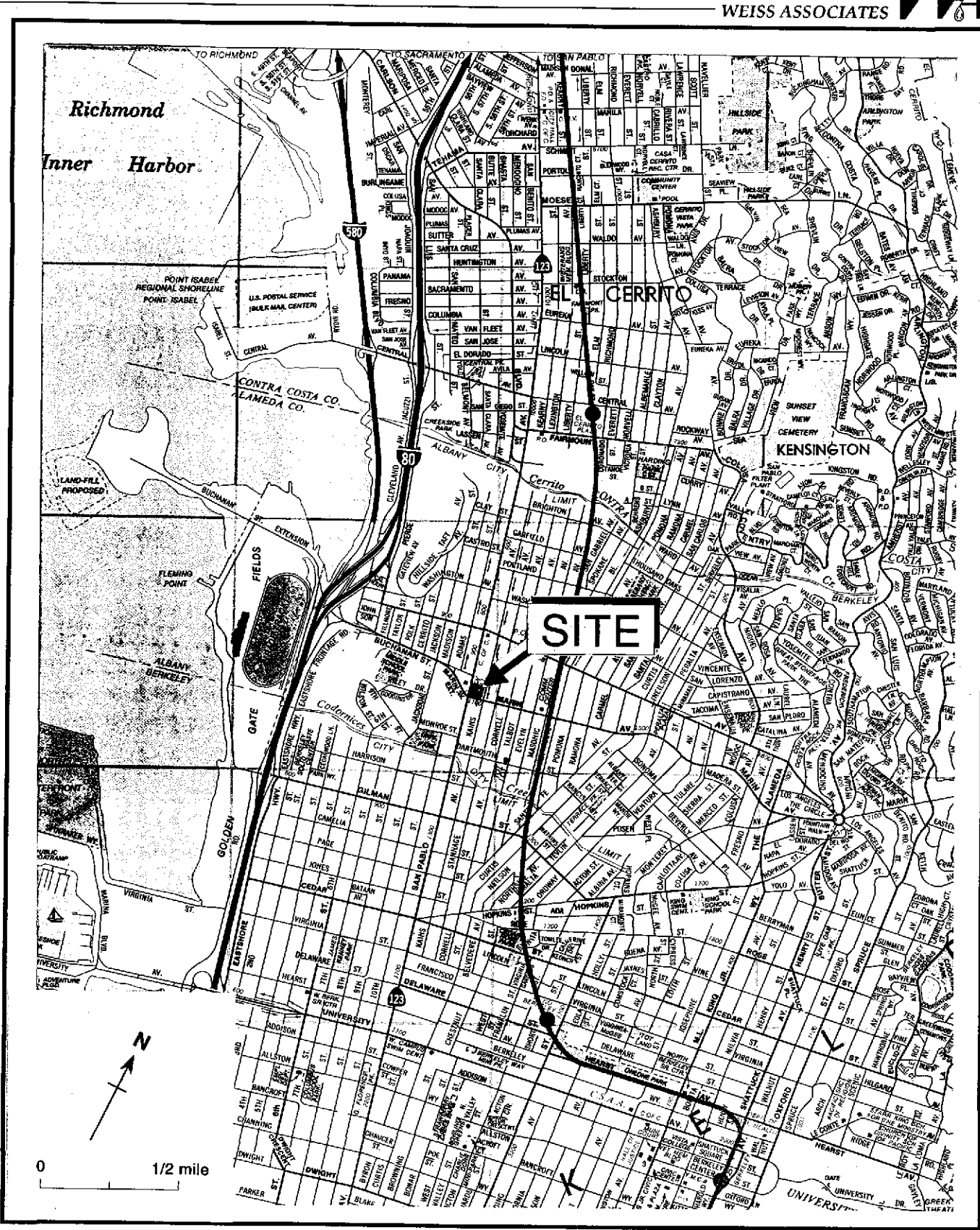
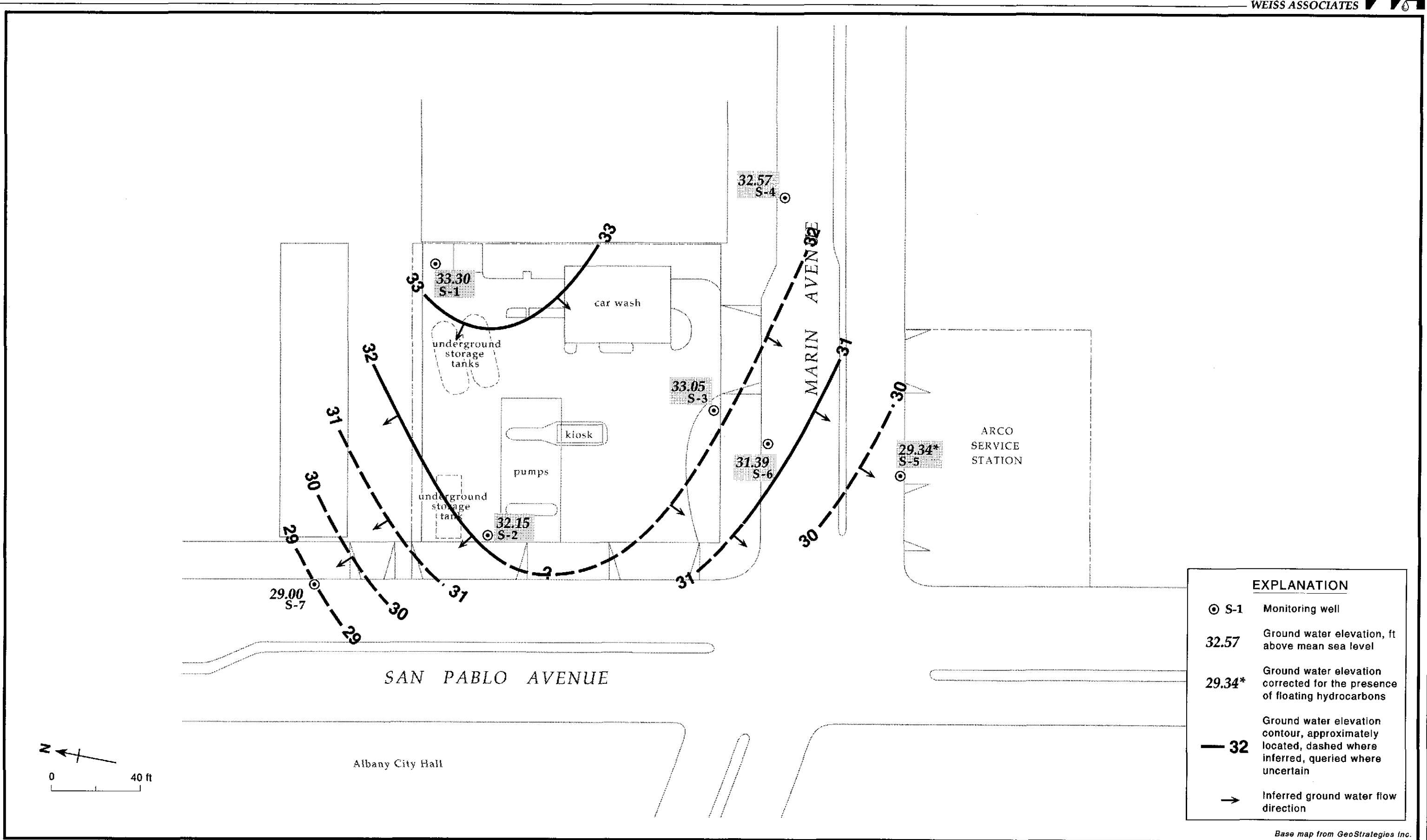





Figure 1. Site Location Map - Shell Service Station WIC #204-0079-0109, 999 San Pablo Avenue, Albany, California



EXPLANATION	
	S-1 Monitoring well
32.57	Ground water elevation, ft above mean sea level
29.34*	Ground water elevation corrected for the presence of floating hydrocarbons
 32	Ground water elevation contour, approximately located, dashed where inferred, queried where uncertain
	Inferred ground water flow direction

Base map from GeoStrategies Inc.

Figure 2. Monitoring Well Locations and Ground Water Elevation Contours - October 21, 1993- Shell Service Station WIC #204-0079-0109, 999 San Pablo Avenue, Albany, California

Table 1. Ground Water Elevations - Shell Service Station WIC #204-0079-0109, 999 San Pablo Avenue, Albany, California

Well ID	Date	Top-of-Vault Elevation	Depth to Water (ft)	Floating Hydrocarbon Thickness (ft) ^a	Ground Water Elevation (ft above msl)
S-1	05/06/92	42.73	7.95	---	34.78
	08/26/92		8.24	---	34.49
	10/28/92		8.52	---	34.21
	01/19/93		6.54	---	36.19
	04/29/93		7.93	---	34.80
	07/22/93		8.09	---	34.64
	10/21/93		9.43	---	33.30
S-2	05/06/92	40.73	8.10	---	32.63
	08/26/92		8.37	---	32.36
	10/28/92		8.64	---	32.09
	01/19/93		5.82	---	34.91
	04/29/93		7.70	---	33.03
	07/22/93		8.38	---	32.35
	10/21/93		8.58	---	32.15
S-3	05/06/92	41.46	7.55	---	33.91
	08/26/92		7.53	---	33.93
	10/28/92		7.95	---	33.51
	01/19/93		6.12	---	35.34
	04/29/93		7.27	---	34.19
	07/22/93		7.62	---	33.84
	10/21/93		7.81	---	33.65
S-4	05/06/92	41.10	7.21	---	33.89
	08/26/92		8.13	---	32.97
	10/28/92		8.73	---	32.37
	01/19/93		5.86	---	35.24
	04/29/93		7.02	---	34.08
	07/22/93		7.76	---	33.34
	10/21/93		8.53	---	32.57
S-5	05/06/92	39.99	14.31	5.66	30.21
	08/26/92		14.26	3.80	28.77
	10/28/92		14.22	3.81	28.82
	01/19/93		12.36	3.96	30.80
	04/29/93		9.64	0.90	31.07
	07/22/93		9.55	0.90	31.16
	10/21/93		11.23	0.73	29.34

-- Table 1 continues on next page --

Table 1. Ground Water Elevations - Shell Service Station WIC #204-0079-0109, 999 San Pablo Avenue, Albany, California (continued)

Well ID	Date	Top-of-Vault Elevation	Depth to Water (ft)	Floating Hydrocarbon Thickness (ft) ^a	Ground Water Elevation (ft above msl)
S-6	05/06/92	40.12	8.27	---	32.85
	08/26/92		9.57	---	31.55
	10/28/92		8.90	---	32.22
	01/19/93		4.84	---	35.28
	04/29/93		5.61	---	34.51
	07/22/93		6.56	---	33.56
	10/21/93		8.73	---	31.39
S-7	05/06/92	40.10	10.34	---	29.76
	08/26/92		11.13	---	28.97
	10/28/92		11.52	---	28.58
	01/19/93		8.68	---	31.42
	04/29/93		9.90	---	30.20
	07/22/93		---	---	---
	10/21/93		11.10	---	29.00

Notes:

a = When floating hydrocarbons are present, ground water elevation corrected by the relation:
 corrected ground water elevation = (top-of-box elevation) - (depth to water) + (0.8 x floating hydrocarbon thickness)

Table 2. Analytic Results for Ground Water, Former Shell Service Station, WIC #204-0079-0109, 999 San Pablo Avenue, Albany, California

Sample ID	Date	Depth to Water (ft)	TPH-G					X
			-----parts per billion (ug/L)-----					
WELLS								
S-1	05/06/92	7.95	1,200	5.5	80	<2.5	36	
	07/29/93	8.24	2,000	9.4	130	<2.5	<2.5	
	10/28/92	8.52	1,300	27	72	3.2	13	
	01/19/93	6.54	1,500	13	29	3	31	
	04/29/93	7.93	2,000	15	82	<2.5	<65	
	07/22/93	8.09	620	1.1	3.5	4.2	13	
	10/21/93	9.43	1,200	34	15	25	9.5	
	S-2	05/06/92	8.10	20,000	2,600	860	110	1,900
07/29/92		8.37	42,000	5,000	1,100	160	3,500	
10/28/92		8.64	34,000	4,800	1,600	330	2,900	
01/19/93		5.82	20,000	2,300	660	370	1,300	
04/29/93		7.70	40,000	2,000	900	67	1,900	
07/22/93		8.38	22,000	3,000	1,000	120	1,600	
07/22/93 ^{dup}		8.38	17,000	3,000	1,000	110	1,500	
10/21/93		8.58	14,000	2,800	870	74	1,100	
10/21/93 ^{dup}	8.58	13,000	3,200	960	53	820		
S-3	05/06/92	7.55	6,600	38	45	51	65	
	07/29/92	7.53	5,800	18	29	12	60	
	10/28/92	7.95	3,000	55	16	11	32	
	01/19/93	6.12	3,100	<5	11	5.1	16	
	04/29/93	7.27	3,000	31	<5	22	14	
	07/22/93	7.62	2,600	3.1	23	43	53	
	10/21/93	7.81	2,500	73	16	14	32	
	S-4	05/06/92	7.21	54	<0.5	<0.5	<0.5	<0.5
07/29/92		8.13	67	<0.5	<0.5	<0.5	<0.5	
10/28/92		8.73	<50	<0.5	<0.5	<0.5	<0.5	
01/19/93		5.86	86	1.2	2.7	0.7	15	
04/29/93		7.02	<50	<0.5	<0.5	<0.5	<0.5	
04/29/93 ^{dup}		7.02	<50	<0.5	<0.5	<0.5	<0.5	
07/22/93		7.76	<50	<0.5	<0.5	<0.5	<0.5	
10/21/93		8.53	<50	<0.5	<0.5	<0.5	<0.5	
S-5	05/06/92 ^{FHC}	14.31	---	---	---	---	---	
	07/29/92 ^{FHC}	14.26	---	---	---	---	---	
	10/28/92 ^{FHC}	14.22	---	---	---	---	---	
	01/19/93 ^{FHC}	12.36	---	---	---	---	---	
	04/29/93 ^{FHC}	9.64	---	---	---	---	---	
	07/22/93 ^{FHC}	9.55	---	---	---	---	---	
	10/21/93 ^{FHC}	11.23	---	---	---	---	---	

-- Table 2 continues on next page --

Weiss Associates



Table 2. Analytic Results for Ground Water, Former Shell Service Station, WIC #204-0079-0109, 999 San Pablo, Albany, California (continued)

Sample ID	Date	Depth to Water (ft)	TPH-G					X
			B	E	T	X		
			-----parts per billion (ug/L)-----					
S-6	05/06/92	8.27	7,100	330	110	29	210	
	07/29/92	9.57	13,000	240	56	<50	780	
	10/28/92	8.90	10,000	470	67	210	170	
	01/19/93	4.84	4,800	100	27	26	45	
	04/29/93	5.61	7,000	430	<12.5	20	42	
	07/22/93	6.56	5,800	260	65	120	150	
	10/21/93	8.73	5,500	270	120	69	140	
S-7	05/06/92	10.34	<50	<0.5	<0.5	<0.5	<0.5	
	07/29/92	11.13	160	<0.5	<0.5	<0.5	<0.5	
	10/28/92	11.52	<50	<0.5	<0.5	<0.5	<0.5	
	01/19/93	8.68	50	1.1	1.9	0.6	9.2	
	04/29/93	9.90	<50	<0.5	<0.5	<0.5	<0.5	
	07/22/93 ^a	---	---	---	---	---	---	
	10/21/93	11.10	<50	<0.5	<0.5	<0.5	<0.5	
Trip Blank	04/29/93		<50	<0.5	<0.5	<0.5	<0.5	
	07/22/93		<50	<0.5	<0.5	<0.5	<0.5	
	10/21/93		<50	<0.5	<0.5	<0.5	<0.5	
DTSC MCLs		NE	1	680	10 ^b	1,750		

Abbreviations:

TPH-G = Total petroleum hydrocarbons as gasoline by Modified EPA Method 8015
 B = Benzene by EPA Method 8020
 E = Ethylbenzene by EPA Method 8020
 T = Toluene by EPA Method 8020
 X = Xylenes by EPA Method 602 or 8020
 --- = Not analyzed
 DTSC MCLs = California Department of Toxic Substances Control maximum contaminant levels for drinking water
 NE = Not established
 <n = Not detected at detection limits of n ppb
 dup = Duplicate sample
 FHC = Floating hydrocarbons detected, no sample collected

Notes:

a = Well inaccessible
 b = DTSC recommended action level for drinking water; MCL not established



ATTACHMENT A
GROUND WATER MONITORING REPORT AND ANALYTIC REPORT

November 11, 1993

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

Attn: Daniel T. Kirk

SITE:
Shell WIC #204-0079-0109
999 San Pablo Avenue
Albany, California

QUARTER:
4th Quarter of 1993

QUARTERLY GROUNDWATER SAMPLING REPORT 931021K-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 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.

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 are removed in cases where more evacuation is needed to achieve stabilization of water parameters and when requested by the local implementing agency. Less than three-case volumes of water may be removed in cases where the well dewateres 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. Effluent water from purging and on-site equipment cleaning is collected and transported to Shell's Martinez Manufacturing Complex in Martinez, California.

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.

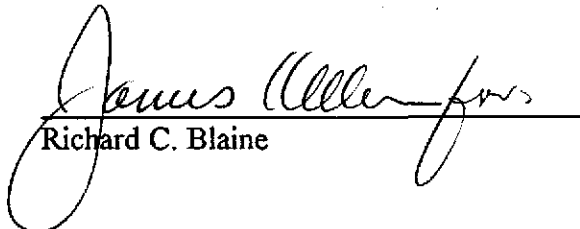
Objective Information Collection

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/cf

Attachments: Table of Well Gauging Data
Chain of Custody
Certified Analytical Report


cc: Weiss Associates
5500 Shellmound Street
Emeryville, CA 94608-2411
ATTN: Michael Asport

TABLE OF WELL GAUGING DATA

WELL I.D.	DATA COLLECTION DATE	MEASUREMENT REFERENCED TO	QUALITATIVE OBSERVATIONS (sheen)	DEPTH TO FIRST IMMISCIBLES LIQUID (FPZ) (feet)	THICKNESS OF IMMISCIBLES LIQUID ZONE (feet)	VOLUME OF IMMISCIBLES REMOVED (ml)	DEPTH TO WATER (feet)	DEPTH TO WELL BOTTOM (feet)
S-1	10/21/93	TOB	ODOR	NONE	--	--	9.43	11.98
S-2 *	10/21/93	TOB	ODOR/SHEEN	NONE	--	--	8.58	12.12
S-3	10/21/93	TOB	ODOR	NONE	--	--	7.81	12.22
S-4	10/21/93	TOB	--	NONE	--	--	8.53	14.23
S-5	10/21/93	TOB	FREE PRODUCT	10.50	0.73	--	11.23	16.17
S-6	10/21/93	TOB	ODOR/SHEEN	NONE	--	--	8.73	15.22
S-7	10/21/93	TOB	--	NONE	--	--	11.10	15.06

* Sample DUP was a duplicate sample taken from well S-2.

4310327 (18) 9.P. 11:55

 SHELL OIL COMPANY RETAIL ENVIRONMENTAL ENGINEERING - WEST										CHAIN OF CUSTODY RECORD Serial No: _____										Date: 10/21 Page: 1 of 2																																																																																						
Site Address: 999 San Pablo Ave., Albany										Analysis Required										LAB: Anamatrix																																																																																						
WIC#: 204-0079-0109										<table border="1"> <tr> <td>TPH (EPA 8015 Mod. Gas)</td> <td>TPH (EPA 8015 Mod. Diesel)</td> <td>BTEX (EPA 8020/602)</td> <td>Volatile Organics (EPA 8240)</td> <td>Test for Disposal</td> <td>Combination TPH 8015 & BTEX 8020</td> <td>Asbestos</td> <td>Container Size</td> <td>Preparation Used</td> <td>Composite Y/N</td> </tr> </table>										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	<table border="1"> <tr> <th>CHECK ONE (1) BOX ONLY</th> <th>CUDI</th> <th>TURN AROUND TIME</th> </tr> <tr> <td>Quantity Monitoring <input checked="" type="checkbox"/> 841</td> <td></td> <td>24 hours <input type="checkbox"/></td> </tr> <tr> <td>Site Investigation <input type="checkbox"/> 841</td> <td></td> <td>48 hours <input type="checkbox"/></td> </tr> <tr> <td>Soil Cleanup/Disposal <input type="checkbox"/> 842</td> <td></td> <td>16 days <input checked="" type="checkbox"/> (Normal)</td> </tr> <tr> <td>Water Cleanup/Disposal <input type="checkbox"/> 843</td> <td></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Soil/Air Rem. of Sys. O & M <input type="checkbox"/> 842</td> <td></td> <td rowspan="2">NOTE: Notify Lab as soon as possible of 24/48 hr. TAT.</td> </tr> <tr> <td>Water Rem. of Sys. O & M <input type="checkbox"/> 843</td> <td></td> </tr> <tr> <td>Other <input type="checkbox"/></td> <td></td> <td></td> </tr> </table>		CHECK ONE (1) BOX ONLY	CUDI	TURN AROUND TIME	Quantity Monitoring <input checked="" type="checkbox"/> 841		24 hours <input type="checkbox"/>	Site Investigation <input type="checkbox"/> 841		48 hours <input type="checkbox"/>	Soil Cleanup/Disposal <input type="checkbox"/> 842		16 days <input checked="" type="checkbox"/> (Normal)	Water Cleanup/Disposal <input type="checkbox"/> 843		Other <input type="checkbox"/>	Soil/Air Rem. of Sys. O & M <input type="checkbox"/> 842		NOTE: Notify Lab as soon as possible of 24/48 hr. TAT.	Water Rem. of Sys. O & M <input type="checkbox"/> 843		Other <input type="checkbox"/>																																																						
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Shell Engineer: Dan Kirk Phone No.: (510) 675-6168 Fax #: 675-6160					Consultant Name & Address: Blaine Tech Services, Inc. 985 Timothy Drive San Jose, CA 95133					Consultant Contact: Jim Keller Phone No.: (408) 295-5535 Fax #: 293-8773																																																																																																
Comments: S-5 - Free Product No Sample										Sampled by: Keith Brown										Printed Name: Phil C. B.																																																																																						
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THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSTODY WITH INVOICE AND RESULTS



Inchcape Testing Services

Anametrix Laboratories

1961 Concourse Drive
 Suite E
 San Jose, CA 95131
 Tel: 408-432-8192
 Fax: 408-432-8198

MR. JIM KELLER
 BLAINE TECH
 985 TIMOTHY DRIVE
 SAN JOSE, CA 95133

Workorder # : 9310327
 Date Received : 10/22/93
 Project ID : 204-0079-0109
 Purchase Order: MOH-B813

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

ANAMETRIX ID	CLIENT SAMPLE ID
9310327- 1	S-1
9310327- 2	S-2
9310327- 3	S-3
9310327- 4	S-4
9310327- 5	S-6
9310327- 6	S-7
9310327- 7	DUP
9310327- 8	TB

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
 Sarah Schoen, Ph.D.
 Laboratory Director

11/5/93
 Date

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

MR. JIM KELLER
BLAINE TECH
985 TIMOTHY DRIVE
SAN JOSE, CA 95133

Workorder # : 9310327
Date Received : 10/22/93
Project ID : 204-0079-0109
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9310327- 1	S-1	WATER	10/21/93	TPHgBTEX
9310327- 2	S-2	WATER	10/21/93	TPHgBTEX
9310327- 3	S-3	WATER	10/21/93	TPHgBTEX
9310327- 4	S-4	WATER	10/21/93	TPHgBTEX
9310327- 5	S-6	WATER	10/21/93	TPHgBTEX
9310327- 6	S-7	WATER	10/21/93	TPHgBTEX
9310327- 7	DUP	WATER	10/21/93	TPHgBTEX
9310327- 8	TB	WATER	10/21/93	TPHgBTEX

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

MR. JIM KELLER
BLAINE TECH
985 TIMOTHY DRIVE
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Workorder # : 9310327
Date Received : 10/22/93
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Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- No QA/QC problems encountered for these samples.

Cheryl Bremer
Department Supervisor

11/4/93
Date

Laura Sher 11/5/93
Chemist Date

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

Anamatrix W.O.: 9310327
Matrix : WATER
Date Sampled : 10/21/93

Project Number : 204-0079-0109
Date Released : 11/04/93

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# S-1	Sample I.D.# S-2	Sample I.D.# S-3	Sample I.D.# S-4	Sample I.D.# S-6
Benzene	0.5	34	2800	73	ND	270
Toluene	0.5	25	74	14	ND	69
Ethylbenzene	0.5	15	870	16	ND	120
Total Xylenes	0.5	9.5	1100	32	ND	140
TPH as Gasoline	50	1200	14000	2500	ND	5500
% Surrogate Recovery		113%	106%	130%	99%	133%
Instrument I.D.		HP12	HP12	HP12	HP12	HP12
Date Analyzed		10/28/93	10/27/93	10/27/93	10/27/93	10/27/93
RLMF		5	50	5	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 (Dilution).

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

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

Lucia Shier 11/5/93
Analyst Date

Cheryl Balman 11/4/93
Supervisor Date

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

Anamatrix W.O.: 9310327
Matrix : WATER
Date Sampled : 10/21/93

Project Number : 204-0079-0109
Date Released : 11/04/93

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# S-7	Sample I.D.# DUP	Sample I.D.# TB	Sample I.D.# B02701E3	Sample I.D.# B02802E3
Benzene	0.5	ND	3200	ND	ND	ND
Toluene	0.5	ND	53	ND	ND	ND
Ethylbenzene	0.5	ND	960	ND	ND	ND
Total Xylenes	0.5	ND	820	ND	ND	ND
TPH as Gasoline	50	ND	13000	ND	ND	ND
% Surrogate Recovery		92%	108%	96%	95%	96%
Instrument I.D.		HP12	HP12	HP12	HP12	HP12
Date Analyzed		10/27/93	10/27/93	10/27/93	10/27/93	10/28/93
RLMF		1	50	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 (Dilution).

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

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

Jenna Sher 11/5/93
Analyst Date

Cheryl Bulmer 11/7/93
Supervisor Date

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

Sample I.D. : 204-0079-0109 S-4
 Matrix : WATER
 Date Sampled : 10/21/93
 Date Analyzed : 10/27/93

Anamatrix I.D. : 10327-04
 Analyst : IS
 Supervisor : *CS*
 Date Released : 11/04/93
 Instrument ID : HP12

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%	510	102%	15%	48-149
P-BFB				94%		93%		61-139

* Quality control limits established by Anamatrix, 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 : 10/27/93

Anamatrix I.D. : MO2701E1
 Analyst : IS
 Supervisor : *CS*
 Date Released : 11/04/93
 Instrument I.D.: HP12

COMPOUND	SPIKE AMT. (ug/L)	REC LCS (ug/L)	%REC LCS	% REC LIMITS *
GASOLINE	500	490	98%	67-127
p-BFB			87%	61-139

* Quality control limits established by Anamatrix, 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
 Matrix : WATER
 Date Sampled : N/A
 Date Analyzed : 10/28/93

Anamatrix I.D. : MO2802E3
 Analyst : IS
 Supervisor : *OX*
 Date Released : 11/03/93
 Instrument I.D.: HP12

COMPOUND	SPIKE AMT. (ug/L)	LCS (ug/L)	REC LCS	%REC LIMITS *
Benzene	20.0	20.9	104%	52-133
Toluene	20.0	22.3	112%	57-136
Ethylbenzene	20.0	25.2	126%	56-139
Total Xylenes	20.0	23.7	119%	56-141
P-BFB			109%	61-139

* Quality control limits established by Anamatrix, Inc.