Weiss Associates *Environmental and Geologic Services*

5500 Shellmound Street, Emeryville, CA 94608-2411 *Fax: 510-547-5043* *Phone:* ***510-547-5420***

TRANSMITTAL LETTER

FROM: Jeni Martin **DATE:** March 30, 1992

TO: Juliet Shin
Alameda County Department
of Environmental Health
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, CA 94621-1426

VIA:
- X First Class Mail
- ___ Fax ___ pages
- ___ UPS (Surface)
- ___ Federal Express
- ___ Courier

SUBJECT: Shell Service Station
WIC #204-0072-0403
1601 Webster Street
Alameda, California

JOB: 81-434-01

AS:
- ___ We discussed on the telephone today
- ___ You requested _____
- ___ We believe you may be interested
- X Is required

WE ARE SENDING:
- X Enclosed
- ___ Under Separate Cover Via _____

1. Quarterly ground water monitoring report for the subject site

FOR:
- ___ Your information
- X Your use
- ___ Your review & comments
- ___ Return to you

PLEASE:
- X Keep this material
- ___ Return within 2 weeks
- ___ Acknowledge receipt

MESSAGE:

Please call if you have any questions.

Weiss Associates Environmental and Geologic Services

5500 Shellmound Street, Emeryville, CA 94608-2411 Fax: 510-547-5043 Phone: **510-547-5420**

April 7, 1992

Ms. Juliette Shin
Alameda County Department
of Environmental Health
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, CA 94621-1426

Re: Shell Service Station
WIC #204-0072-0403
1601 Webster Street
Alameda, California 94501
WA Job #81-434-01

Dear Ms. Shin:

This letter describes the recently completed and the 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 first quarter 1992 and proposed work for the second quarter 1992.

First Quarter 1992 Activities

- EMCON Associates of San Jose, California measured ground water depths and collected water samples from all three site wells. EMCON's report describing these activities and the analytic results are included as Attachment A.

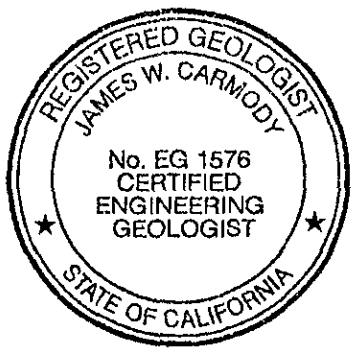
- Weiss Associates (WA) prepared a ground water elevation contour map (Figure 2) using EMCON Associates' ground water depth measurements. Previous ground water elevation contour maps for the past year are included as Figure 3.

Anticipated Second Quarter 1992 Activities

During the second quarter 1992, WA will submit a report presenting the results of ground water sampling and ground water level measurements for the second quarter sampling event. The report will include tabulated chemical analytic results and a ground water elevation contour map.

April 7, 1992

Please call if you have any questions.



Sincerely,
Weiss Associates

Jeni Martin
Staff Geologist

James W. Carmody, C.E.G.
Senior Hydrogeologist

JCM/JWC:fcr

E:\ALL\SHELL\400\434QMMA2.WP

Attachments: Figures
A - EMCON Associates' Ground Water Monitoring Report

cc: Kurt Miller, Shell Oil Company, P.O. Box 5278, Concord, California 94520-9998
Lester Feldman, Regional Water Quality Control Board - San Francisco Bay, 2101 Webster Street, Suite 500, Oakland, California 94612

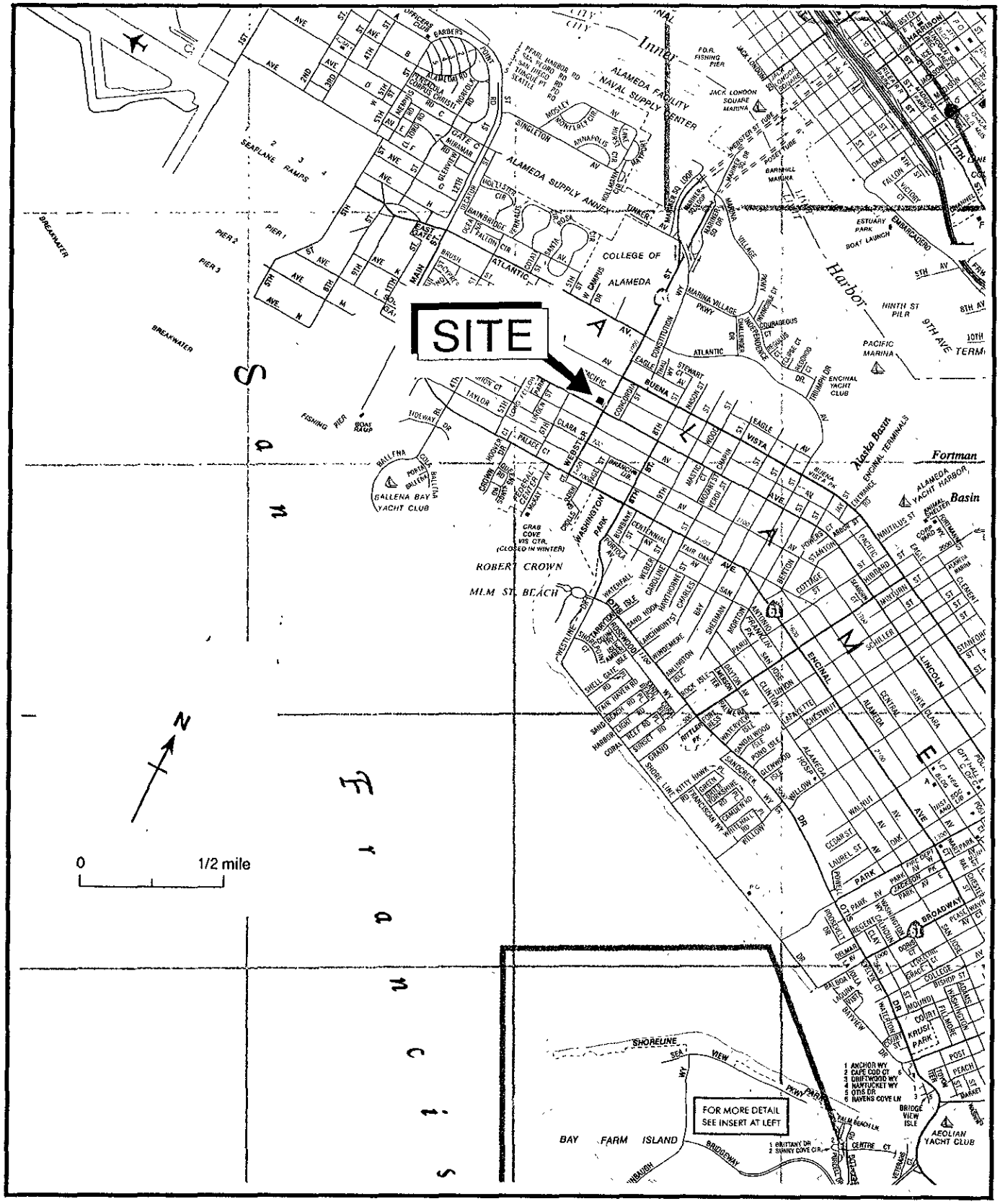


Figure 1. Site Location Map - Shell Service Station, WIC# 204-0072-0403, 1601 Webster Street, Alameda, CA

8/20/90

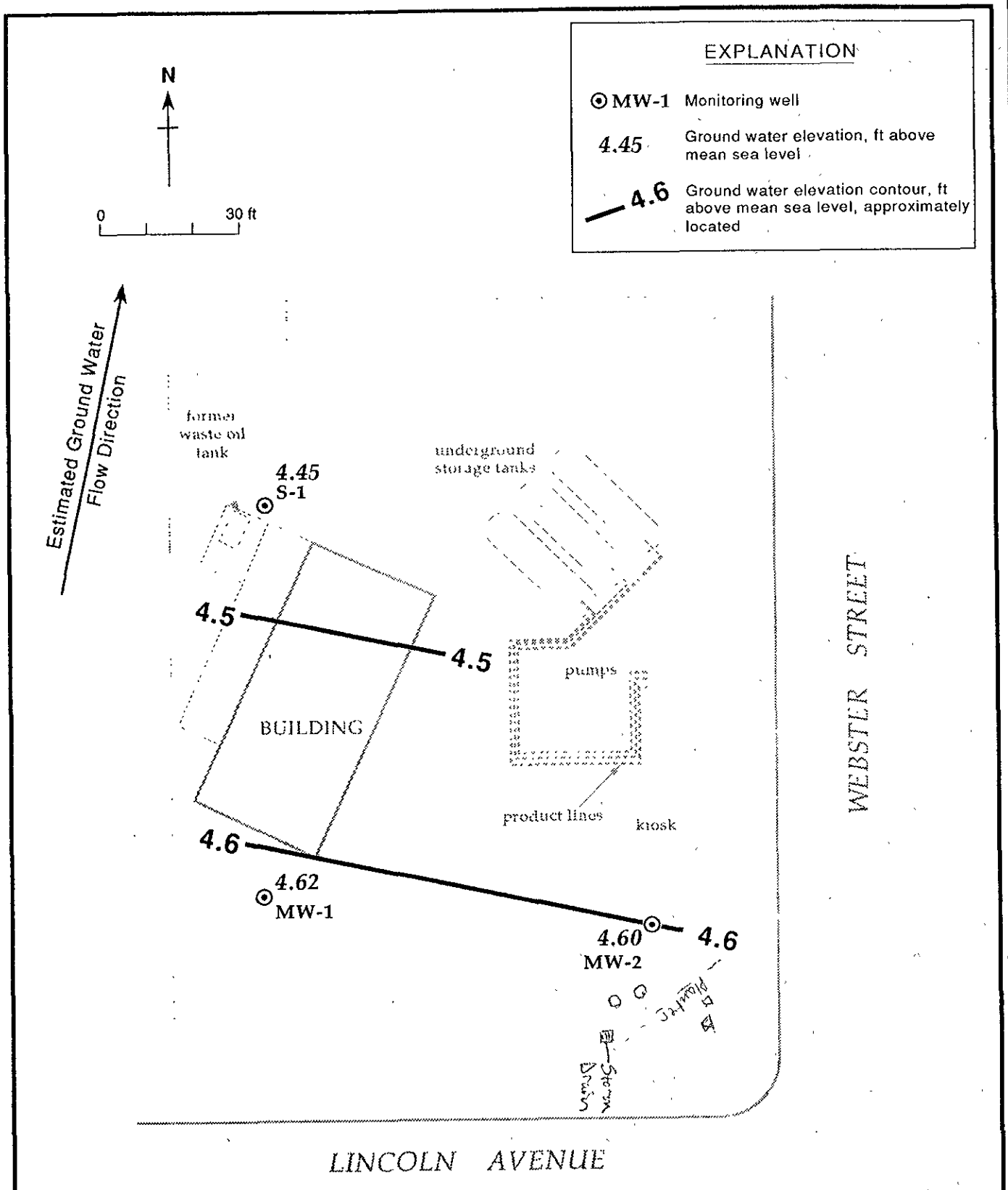


Figure 2. Monitoring Well Locations and Ground Water Elevation Contours - January 24, 1992 - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California

4/7/92

TABLE 1. Ground Water Elevations - Shell Service Station WIC #204-0072-0403, 1601 Webster Street Alameda, California

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Ground Water Elevation (ft above msl)
MW-1	04-11-90	13.80	8.22	5.58
	07-18-90		9.14	4.66
	10-18-90		10.37	3.43
	01-25-91		10.41	3.39
	04-11-91		7.37	6.43
	07-18-91		8.86	4.94
	10-17-91		10.47	3.33
	01-24-92		**9.18**	**4.62**
MW-2	04-11-90	13.20	7.69	5.51
	07-18-90		8.56	4.64
	10-18-90		9.76	3.44
	01-25-91		9.78	3.42
	04-11-91		6.87	6.33
	07-18-91		8.27	4.93
	10-17-19		9.89	3.31
	01-24-92		**8.60**	**4.60**
S-1	09-11-89	13.77	9.82	3.95
	04-11-90		8.41	5.36
	07-18-90		9.31	4.46
	10-18-90		10.43	3.34
	01-25-91		10.49	3.28
	04-11-91		7.68	6.09
	07-18-91		8.95	4.82
	10-17-91		10.62	3.15
	01-24-92		**9.32**	**4.45**

TABLE 2. Analytic Results for Ground Water - Shell Service Station, WIC #204-0072-0403, 1601 Webster Street, Alameda, California

Sample ID	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	E	T	X	c-1,2-DCE	1,2-DCA	TOG
			<----------parts per million (mg/L)---------->								
MW-1	04-11-90[a]	8.22	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<10
	07-18-90	9.14	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	0.003	<0.0005	<5
	10-18-90	10.37	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	0.0079	<0.0005	<5
	01-25-91	10.41	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	0.0056	<0.0005	---
	04-11-91	7.37	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	0.0009	<0.0005	---
	07-18-91	8.86	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	0.0044	<0.0005	---
	10-17-91	10.47	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	0.0072	<0.0005	---
	01-24-92	**9.18**	**<0.05**	---	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**0.0014**	**<0.0005**	---
MW-2	04-11-90[a]	7.69	0.58	0.43	0.020	0.0012	0.0049	0.073	<0.0005	0.0011	<10
	07-18-90	8.56	1.4	---	0.11	0.071	0.31	0.31	<0.0005	0.0007	<5
	10-18-90	9.76	1.9	1.3[b]	0.11	0.089	0.47	0.40	<0.0005	0.0009	<5
	01-25-91	9.78	8.1	---	0.43	0.48	1.2	2.6	<0.0005	0.0008	---
	04-11-91	6.87	2.6	---	0.13	0.25	0.15	0.33	<0.0005	<0.0005	---
	07-15-91	8.27	1.3	---	0.10	0.084	0.059	0.12	<0.0005	0.0008	---
	10-17-91	9.89	2.1	---	0.18	0.15	0.26	0.52	<0.0005	0.0006	---
	01-24-92	**8.60**	**7.1**	---	**0.45**	**0.45**	**0.96**	**1.6**	**<0.0005**	**<0.0005**	---
S-1	09-04-87[c]		---	---	<0.005	<0.005	<0.005	<0.005	<0.0005	<0.0005	---
	09-11-89[d]	9.82	<0.05	<0.1	<0.0005	<0.001	<0.001	<0.003	<0.0005	<0.0005	<1
	04-11-90[a]	8.41	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<10
	07-18-90	9.31	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<5
	10-18-90	10.43	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<5
	01-25-91	10.49	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	---	---	---
	04-11-91	7.68	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	---	---	---
	07-18-91	8.95	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	---	---	---
	10-17-91	10.62	<0.05	---	<0.0005	<0.0005	<0.0005	<0.005	---	---	---
	01-24-92	**9.32**	**<0.05**	---	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	---	---	---
Trip Blank	07-18-90		<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	---	---	---
	10-18-90		<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	---	---	---
	01-25-91		<0.05	---	<0.0005	<0.0005	<0.0005	0.0008	---	---	---
	04-11-91		<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	---	---	---
	07-18-91		<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	---	---	---
	10-17-91		<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	---	---	---
	01-24-92		**<0.05**	---	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	---	---	---
DTSC MCLs			NE	NE	0.001	0.680	0.10[e]	1.750	0.0060	0.0005	NE

-- Table 3 continues on next page --

TABLE 2. Analytic Results for Ground Water - Shell Service Station, WIC #204-0072-0403, 1601 Webster Street, Alameda, California (continued)

Abbreviations:

TPH-G = Total petroleum hydrocarbons as gasoline by Modified EPA Method 8015
TPH-D = Total petroleum hydrocarbons as diesel by Modified EPA Method 8015
B = Benzene by EPA Method 602, 624, or 8020
E = Ethylbenzene by EPA Method 602, 624, or 8020
T = Toluene by EPA Method 602, 624, or 8020
X = Xylenes by EPA Method 602, 624, or 8020
c-1,2-DCE = cis-1,2-dichloroethene by EPA Method 601 or 624
1,2-DCA = 1,2-dichloroethane by EPA Method 601 or 624
TOG = Total non-polar oil and grease by American Public Health Association Standard Method 503E
<n = Not detected at detection limit of n ppm
DTSC MCL = California Department of Health Services maximum contaminant level for drinking water
NE = Not established
--- = Not analyzed

Analytical Laboratory:

International Technology Analytical Services, San Jose, California

Notes:

a = Samples analyzed by National Environmental Testing Pacific, Inc., Santa Rosa, California
b = Compounds detected and calculated as diesel appear to be the less volatile constituents of gasoline.
c = Sampled by Pacific Environmental Group, Santa Clara, California; 0.12 ppm acetone detected by EPA Method 624; no other volatile organic compounds detected
d = Metals detected by EPA Method 6010; 0.020 ppm chromium, 0.060 ppm lead and 0.030 ppm zinc; no cadmium detected above detection limit of 0.010 ppm; no PCBs or semi-volatile compounds detected by EPA Method 625.
e = DHS recommended action level for drinking water; MCL not established

ATTACHMENT A

GROUND WATER MONITORING REPORT AND ANALYTIC REPORT

EMCON ASSOCIATES
Consultants in Wastes Management and Environmental Control

February 11, 1992
Project: G67-29.01
WIC#: 204-0072-0403

Mr. David Elias
Weiss Associates
5500 Shellmound Street
Emeryville, California 94608-2411

Re: First quarter 1992 ground-water monitoring report, Shell Oil Company, 1601 Webster Street, Alameda, California

Dear Mr. Elias:

This letter presents the results of the first quarter 1992 ground-water monitoring event for the Shell Oil Company (Shell) service station located at 1601 Webster Street, Alameda, California. First quarter monitoring was conducted on January 24, 1992. The site is monitored quarterly.

GROUND-WATER LEVEL SURVEY

A water-level survey preceded the purging and sampling of the monitoring wells. The wells included in the survey are identified in figure 1 (supplied by Weiss Associates). During the survey, wells MW-1, MW-2, and S-1 were measured for depth to water, floating product thickness, and total depth. Depth to water and floating product thickness were measured to the nearest 0.01 foot with an oil/water interface probe. No floating product was observed in any wells. Total depth was measured to the nearest 0.1 foot. Results of the water-level survey are summarized in table 1.

SAMPLING AND ANALYSIS

Ground-water samples were collected from wells MW-1, MW-2, and S-1 on January 24, 1992. Prior to sample collection, the wells were purged with dedicated polyvinyl chloride (PVC) bailers. During the purging operation, ground water was monitored for pH, electrical conductivity, and temperature as a function of volume of water removed. Purging continued until these parameters were stable and a minimum of three casing volumes of ground water were removed. Well S-1 was evacuated to dryness before three casing volumes were removed. The well was allowed to recharge for up to 24 hours. Samples were collected after the well had recharged to a level sufficient for sample collection. Field measurements from first quarter monitoring are summarized in table 1. Purge water from

Field Services: 1938 Junction Avenue, San Jose, California 95131-2102, (408) 453-0719, Fax (408) 453-0452

the monitoring wells was contained in a 55-gallon drum. The drum was identified with a Shell-approved label and secured for on-site storage.

Ground water samples were collected with a Teflon® bailer, labeled, placed on ice, and transported to a Shell-approved and state-certified analytical laboratory for analysis. Shell chain-of-custody documents accompanied all samples to the laboratory.

All equipment that was placed down a well or that came in contact with ground water was steam cleaned on site with steaming hot deionized water prior to use at each well.

Quality control samples included one trip blank (TB). Ground water samples from wells MW-1 and MW-2 were analyzed for total petroleum hydrocarbons (TPH) as gasoline, benzene, toluene, ethylbenzene, and total xylenes (BTEX), and volatile organic compounds (VOCs) by U.S. Environmental Protection Agency (EPA) method 8010/601. Water samples from well S-1 and the trip blank were analyzed for TPH as gasoline and BTEX only.

ANALYTICAL RESULTS

Analytical results for the first quarter 1992 monitoring event are summarized in table 2. The original certified analytical report and a copy of the final chain-of-custody document are attached.

If you have any questions, please call.

Very truly yours,

EMCON Associates

David Larsen
Environmental Sampling Coordinator

Orrin Childs
Environmental Sampling Supervisor

DL/OC:dl

Attachments: Table 1 - Monitoring well field measurement data, first quarter 1992
Table 2 - Summary of analytical results, first quarter 1992
Figure 1 - Site map
Certified analytical report
Chain-of-custody document

G672901A.DOC

Table 1

Monitoring Well Field Measurement Data
First Quarter 1992

Shell Station: 1601 Webster Street
Alameda, California

WIC#: 204-0072-0403

Well Identi-fication	Water Level Survey Date	Depth To Water (feet)	Well Total Depth (feet)	Floating Product Thickness (feet)	Well Sampling Date	pH (stnd. units)[1]	Electrical Conductivity (µmhos/cm)[2]	Temperature (°F)[3]	Turbidity (NTU)[4]
MW-1	01/24/92	9.18	21.0	ND.[5]	01/24/92	6.49	685	61.3	>200
MW-2	01/24/92	8.60	19.9	ND.	01/24/92	6.46	1,211	65.1	>200
S-1	01/24/92	9.32	20.0	ND.	01/24/92	6.51	806	60.7	>200

1. Standard pH units
2. µmhos/cm = micromhos per centimeter
3. °F = degrees Fahrenheit
4. NTU = nephelometric turbidity units
5. ND. = not detected

Table 2

Summary of Analytical Results
First Quarter 1992
milligrams per liter (mg/l) or parts per million (ppm)

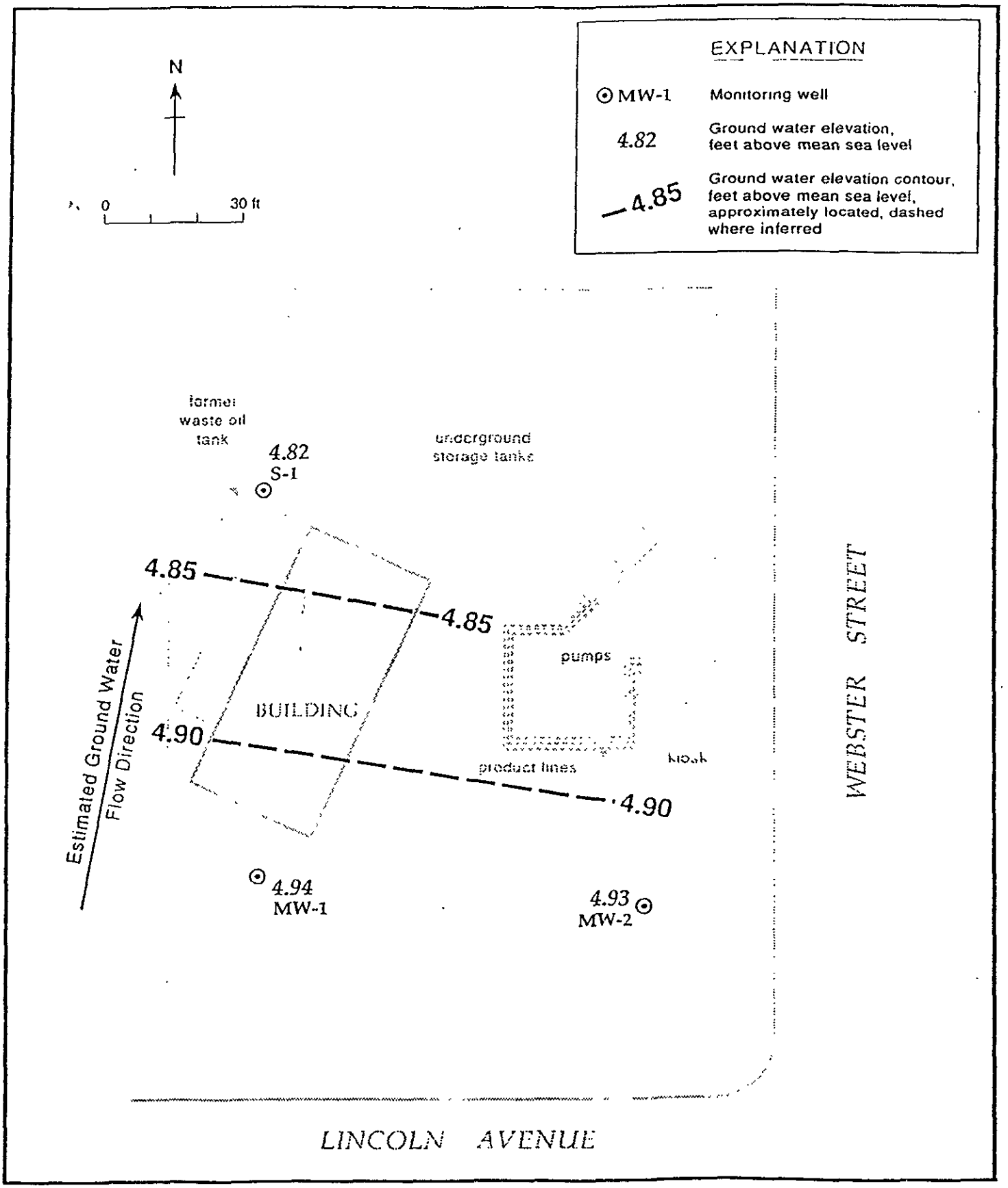
Shell Station: 1601 Webster Street
Alameda, California

WIC#: 204-0072-0403

Sample Designation	Sampling Date	TPH[1] as Gasoline (ppm)	Benzene (ppm)	Toluene (ppm)	Ethyl-benzene (ppm)	Total Xylenes (ppm)	1,2-DCE[2] (ppm)
MW-1	01/24/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	0.0014
MW-2	01/24/92	7.1	0.45	0.96	0.45	1.6	ND.[3]
S-1	01/24/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	NA.[4]
TB	01/24/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	NA.

1. TPH = total petroleum hydrocarbons
2. 1,2-DCE = cis-1,2-Dichloroethene; analyzed by U.S. Environmental Protection Agency (EPA) method 8010/601.
3. ND = not detected; sample was analyzed by EPA method 8010/601, no compounds were detected.
4. NA. = not analyzed; sample was not scheduled for analysis by EPA method 8010/601.

Figure 1
(Supplied by Weiss Associates) WEISS ASSOCIATES



Monitoring Welll Locations and Ground Water Elevation Contours - July 23, 1991 - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California

8/27/91

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Shell Oil Company
Emcon Associates
1938 Junction Ave.
San Jose, CA 95131
David Larson

Date: 02/10/92

Work Order: T2-01-164

P.O. Number: MOH 880-021 Vendor #I0002402

This is the Certificate of Analysis for the following samples:

Client Work ID: G6729, 1601 Webster, Alameda
Date Received: 01/27/92
Number of Samples: 7
Sample Type: aqueous

TABLE OF CONTENTS FOR ANALYTICAL RESULTS

Reviewed and Approved:

David A. Pichette
Project Manager

IT ANALYTICAL SERVICES
SAN JOSE, CA
(408) 943-1540

Company: Shell Oil Company
Date: 02/10/92
Client Work ID: G6729, 1601 Webster, Alameda

Work Order: T2-01-164

TEST NAME: **Halocarbons by 8010/601**

SAMPLE ID: **MW-1**
SAMPLE DATE: **01/24/92**
LAB SAMPLE ID: T201164-01
SAMPLE MATRIX: aqueous
RECEIPT CONDITION: Cool pH < 2
EXTRACTION DATE: N/A
ANALYSIS DATE: 01/31/92

RESULTS in Milligrams per Liter

PARAMETER	DETECTION LIMIT	DETECTED
Chloromethane	.0005	None
Bromomethane	.0005	None
Vinyl chloride	.0005	None
Chloroethane	.0005	None
Methylene Chloride	.0005	None
1,1-Dichloroethene	.0005	None
1,1-Dichloroethane	.0005	None
Chloroform	.0005	None
1,2-Dichloroethane	.0005	None
1,1,1-Trichloroethane	.0005	None
Carbon tetrachloride	.0005	None
Bromodichloromethane	.0005	None
1,1,2,2-Tetrachloroethane	.0005	None
1,2-Dichloropropane	.0005	None
cis-1,3-dichloropropene	.0005	None
Trichloroethene	.0005	None
Dibromochloromethane	.0005	None
1,1,2-Trichloroethane	.0005	None
trans-1,3-Dichloropropene	.0005	None
Bromoform	.0005	None
Tetrachloroethene	.0005	None
Dichlorodifluoromethane	.0005	None
Trichlorofluoromethane	.0005	None
cis-1,2-Dichloroethene	.0005	.0014
trans-1,2-Dichloroethene	.0005	None
Chlorobenzene	.0005	None
1,2-Dichlorobenzene	.0005	None
1,3-Dichlorobenzene	.0005	None
1,4-Dichlorobenzene	.0005	None
1,1,2-Trichlorotrifluoroethane	.0005	None
1-Chloro-2-fluorobenzene (Surr)	70-120%	88

IT ANALYTICAL SERVICES
SAN JOSE, CA
(408) 943-1540

Company: Shell Oil Company
Date: 02/10/92
Client Work ID: G6729, 1601 Webster, Alameda

Work Order: T2-01-164

TEST NAME: **Petroleum Hydrocarbons**

SAMPLE ID: **MW-1**
SAMPLE DATE: **01/24/92**
LAB SAMPLE ID: T201164-01
SAMPLE MATRIX: aqueous
RECEIPT CONDITION: Cool pH < 2

RESULTS in Milligrams per Liter:

	METHOD	EXTRACTION DATE	ANALYSIS DATE
BTEX	8020		01/31/92
Low Boiling Hydrocarbons	mod 8015		

PARAMETER	DETECTION LIMIT	DETECTED
Low Boiling Hydrocarbons calculated as Gasoline	0.05	None
BTEX		
Benzene	0.0005	None
Toluene	0.0005	None
Ethylbenzene	0.0005	None
Xylenes (total)	0.0005	None

SURROGATES	% REC
1,3-Dichlorobenzene (Gasoline)	95.
1,3-Dichlorobenzene (BTEX)	97.

IT ANALYTICAL SERVICES
SAN JOSE, CA
(408) 943-1540

Company: Shell Oil Company
Date: 02/10/92
Client Work ID: G6729, 1601 Webster, Alameda

Work Order: T2-01-164

TEST NAME: **Petroleum Hydrocarbons**

SAMPLE ID: **S-1**
SAMPLE DATE: **01/24/92**
LAB SAMPLE ID: **T201164-02**
SAMPLE MATRIX: **aqueous**
RECEIPT CONDITION: **Cool pH < 2**

RESULTS in Milligrams per Liter:

	METHOD	EXTRACTION DATE	ANALYSIS DATE
BTEX	8020		02/03/92
Low Boiling Hydrocarbons	mod 8015		02/03/92

PARAMETER	DETECTION LIMIT	DETECTED
Low Boiling Hydrocarbons calculated as Gasoline	0.05	None
BTEX		
Benzene	0.0005	None
Toluene	0.0005	None
Ethylbenzene	0.0005	None
Xylenes (total)	0.0005	None

SURROGATES	% REC
1,3-Dichlorobenzene (Gasoline)	94.
1,3-Dichlorobenzene (BTEX)	96.

IT ANALYTICAL SERVICES
SAN JOSE, CA
(408) 943-1540

Company: Shell Oil Company
Date: 02/10/92
Client Work ID: G6729, 1601 Webster, Alameda

Work Order: T2-01-164

TEST NAME: **Halocarbons by 8010/601**

SAMPLE ID: **MW-2**
SAMPLE DATE: **01/24/92**
LAB SAMPLE ID: T201164-03
SAMPLE MATRIX: aqueous
RECEIPT CONDITION: Cool pH < 2
EXTRACTION DATE: N/A
ANALYSIS DATE: 01/31/92

RESULTS in Milligrams per Liter

PARAMETER	DETECTION LIMIT	DETECTED
Chloromethane	0.0005	None
Bromomethane	0.0005	None
Vinyl chloride	0.0005	None
Chloroethane	0.0005	None
Methylene Chloride	0.0005	None
1,1-Dichloroethene	0.0005	None
1,1-Dichloroethane	0.0005	None
Chloroform	0.0005	None
1,2-Dichloroethane	0.0005	None
1,1,1-Trichloroethane	0.0005	None
Carbon tetrachloride	0.0005	None
Bromodichloromethane	0.0005	None
1,1,2,2-Tetrachloroethane	0.0005	None
1,2-Dichloropropane	0.0005	None
cis-1,3-dichloropropene	0.0005	None
Trichloroethene	0.0005	None
Dibromochloromethane	0.0005	None
1,1,2-Trichloroethane	0.0005	None
trans-1,3-Dichloropropene	0.0005	None
Bromoform	0.0005	None
Tetrachloroethene	0.0005	None
Dichlorodifluoromethane	0.0005	None
Trichlorofluoromethane	0.0005	None
cis-1,2-Dichloroethene	0.0005	None
trans-1,2-Dichloroethene	0.0005	None
Chlorobenzene	0.0005	None
1,2-Dichlorobenzene	0.0005	None
1,3-Dichlorobenzene	0.0005	None
1,4-Dichlorobenzene	0.0005	None
1,1,2-Trichlorotrifluoroethane	0.0005	None
1-Chloro-2-fluorobenzene (Surr)	70-120%	94

IT ANALYTICAL SERVICES
SAN JOSE, CA
(408) 943-1540

Company: Shell Oil Company
Date: 02/10/92
Client Work ID: G6729, 1601 Webster, Alameda

Work Order: T2-01-164

TEST NAME: **Petroleum Hydrocarbons**

SAMPLE ID: **MW-2**
SAMPLE DATE: **01/24/92**
LAB SAMPLE ID: **T201164-03**
SAMPLE MATRIX: **aqueous**
RECEIPT CONDITION: **Cool pH < 2**

RESULTS in Milligrams per Liter:

	METHOD	EXTRACTION DATE	ANALYSIS DATE
BTEX	8020		02/03/92
Low Boiling Hydrocarbons	mod 8015		02/03/92

PARAMETER	DETECTION LIMIT	DETECTED
Low Boiling Hydrocarbons calculated as Gasoline	0.25	7.1
BTEX		
Benzene	0.0025	0.45
Toluene	0.0025	0.96
Ethylbenzene	0.0025	0.45
Xylenes (total)	0.0025	1.6

SURROGATES	% REC
1,3-Dichlorobenzene (Gasoline)	108.
1,3-Dichlorobenzene (BTEX)	106.

IT ANALYTICAL SERVICES
SAN JOSE, CA
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Company: Shell Oil Company
Date: 02/10/92
Client Work ID: G6729, 1601 Webster, Alameda

Work Order: T2-01-164

TEST NAME: **Petroleum Hydrocarbons**

SAMPLE ID: **TRIP BLANK**
SAMPLE DATE: **not spec**
LAB SAMPLE ID: **T201164-04**
SAMPLE MATRIX: **aqueous**
RECEIPT CONDITION: **Cool pH < 2**

RESULTS in Milligrams per Liter:

	METHOD	EXTRACTION DATE	ANALYSIS DATE
BTEX	8020		01/31/92
Low Boiling Hydrocarbons	mod 8015		01/31/92

PARAMETER	DETECTION LIMIT	DETECTED
Low Boiling Hydrocarbons calculated as Gasoline	0.05	None
BTEX		
Benzene	0.0005	None
Toluene	0.0005	None
Ethylbenzene	0.0005	None
Xylenes (total)	0.0005	None

SURROGATES	% REC
1,3-Dichlorobenzene (Gasoline)	97.
1,3-Dichlorobenzene (BTEX)	98.

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Company: Shell Oil Company
Date: 02/10/92
Client Work ID: G6729, 1601 Webster, Alameda

Work Order: T2-01-164

TEST NAME: **Spike and Spike Duplicates**

SAMPLE ID: **Quality Control**
SAMPLE DATE: **not spec**
LAB SAMPLE ID: **T201164-05A**
EXTRACTION DATE:
ANALYSIS DATE: **01/31/92**
ANALYSIS METHOD: **mod 8015**

QUALITY CONTROL REPORT

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Analyses

RESULTS in Micrograms per Liter

PARAMETER	Sample Amt	Spike Amt	MS Result	MSD Result	MS %Rec	MSD %Rec	RPD
Gasoline	0	500	452	426	90	85	6

SURROGATES	MS %Rec	MSD %Rec
1,3-Dichlorobenzene	104	96

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Company: Shell Oil Company
Date: 02/10/92
Client Work ID: G6729, 1601 Webster, Alameda

Work Order: T2-01-164

TEST NAME: **Spike and Spike Duplicates**

SAMPLE ID: **Quality Control**
SAMPLE DATE: **not spec**
LAB SAMPLE ID: **T201164-06A**
EXTRACTION DATE:
ANALYSIS DATE: **02/03/92**
ANALYSIS METHOD: **8020**

QUALITY CONTROL REPORT

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Analyses

RESULTS in Micrograms per Liter

PARAMETER	Sample Amt	Spike Amt	MS Result	MSD Result	MS %Rec	MSD %Rec	RPD
Benzene	0	50	40.4	41.8	81	84	3
Toluene	0	50	41.5	42.6	83	85	2
Ethylbenzene	0	50	41.4	42.7	83	85	2
Total Xylenes	0	50	130	135	87	90	3

SURROGATES	MS %Rec	MSD %Rec
1,3-Dichlorobenzene	102	100

IT ANALYTICAL SERVICES
SAN JOSE, CA
(408) 943-1540

Company: Shell Oil Company
Date: 02/10/92
Client Work ID: G6729, 1601 Webster, Alameda

Work Order: T2-01-164

TEST NAME: **Spike and Spike Duplicates**

SAMPLE ID: **Quality Control**
SAMPLE DATE: **not spec**
LAB SAMPLE ID: T201164-07A
EXTRACTION DATE:
ANALYSIS DATE: 01/30/92
ANALYSIS METHOD: 8010/8020

QUALITY CONTROL REPORT

Laboratory Spike(LS) and Laboratory Spike Duplicate(LSD) Analyses

RESULTS in Micrograms per liter

PARAMETER	Sample Amt	Spike Amt	LS Result	LSD Result	LS %Rec	LSD %Rec	RPD
Chlorobenzene	None	10.0	9.82	9.84	98	98	0
1,1 Dichloroethene	None	10.0	8.77	9.31	88	93	6
Trichloroethene	None	10.0	11.2	12.2	112	122	9
Benzene	None	10.0	11.2	11.3	112	113	1
Toluene	None	10.0	10.8	10.8	108	108	0

SURROGATES	LS %Rec	LSD %Rec
8010	107	105
8020	99	96

IT ANALYTICAL SERVICES
SAN JOSE, CA
(408) 943-1540

Company: Shell Oil Company
Date: 02/10/92
Client Work ID: G6729, 1601 Webster, Alameda

Work Order: T2-01-164

TEST CODE **601** TEST NAME **Halocarbons by 8010/601**

The method of analysis for volatile halocarbons is taken from EPA Methods 601 and 8010. Samples are examined using the purge and trap technique. Final detection is by gas chromatography using an electrolytic conductivity detector.

TEST CODE **QC** TEST NAME **Quality Control**

Quality control (QC) samples are analyzed and used to assess the laboratory control measures. Routine QC samples include method blanks, spikes and duplicates. The purpose of the method blank (MB) analysis is to demonstrate that artifacts of the test do not yield false positives. The laboratory control spike (LS) and /or matrix spike (MS) analysis is used to evaluate the ability of the test to recover analytes of interest, i.e. accuracy. Accuracy is expressed as percent (%) recovery. The laboratory spike duplicate (LSD), matrix spike duplicate (MSD), or duplicate sample (DUP) is used to determine the precision of the test, by comparing the result from the original spike (or sample) to the duplicate spike (or sample). Precision is expressed as relative percent difference (RPD).

The results of appropriate QC samples from QC batches associated with the listed samples are included in this report.

TEST CODE **TPHVB** TEST NAME **TPH Gas,BTEX by 8015/8020**

The method of analysis for low boiling hydrocarbons is taken from EPA Methods modified 8015, 8020 and 5030. The sample is examined using the purge and trap technique. Final detection is by gas chromatography using a flame ionization detector in series with a photoionization detector. The result for total low boiling hydrocarbons is calculated as gasoline. Results in soils are corrected for moisture content and are reported on a dry soil basis unless otherwise noted.

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No.: 12-01-169

Date:
Page 1 of 1

Site Address: 1601 Webster St, Alameda

WIC#: 204-0072-0403

Shell Engineer: Kurt Miller — Phone No. (510) 685-3853 Fax #:

Consultant Name & Address: EMCON Associates — 1938 Junction Ave San Jose 95131

Consultant Contact: David Larsen — Phone No. 453-2269 Fax #: 453-0452

Comments: Late start, provide results ASAP!

Sampled By: J Butera

Printed Name: J Butera

LAB: IT Analytical (S.J.)

Analysis Required

Sample ID	Date	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	EPA 601	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
MW-1	1-24-92		X		6	X		X			X	40 ml	HCl	N		Cooled for ice 1-27-92
S-1	1-24-92		X		3	X		X				"	"	N		
MW-2	1-24-92		X		6	X		X			X	"	"	N		
TB	1-24-92		X		1	X		X				"	"	N		

CHECK ONE (1) BOX ONLY	CT/DT
Quarterly Monitoring	X 5461
Site Investigation	5441
Soil for disposal	5442
Water for disposal	5443
Air Sample- Sys O&M	5452
Water Sample - Sys O&M	5453
Other	

TURN AROUND TIME
- 24 hours
- 48 hours
- 15 days X (Normal)
- Other

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

Relinquished By (signature): X J Butera	Printed name: X J Butera	X Date: 1-24-92	Received (signature):	Printed name: M. LeGrande	Date: 1-27
		X Time: 0845			Time: 0845
Relinquished By (signature):	Printed name:	Date:	Received (signature):	Printed name:	Date:
		Time:			Time:
Relinquished By (signature):	Printed name:	Date:	Received (signature):	Printed name:	Date:
		Time:			Time:

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

Last Revision Date: 10/15/91

ATTACHMENT B

PREVIOUS GROUND WATER ELEVATION CONTOUR MAPS

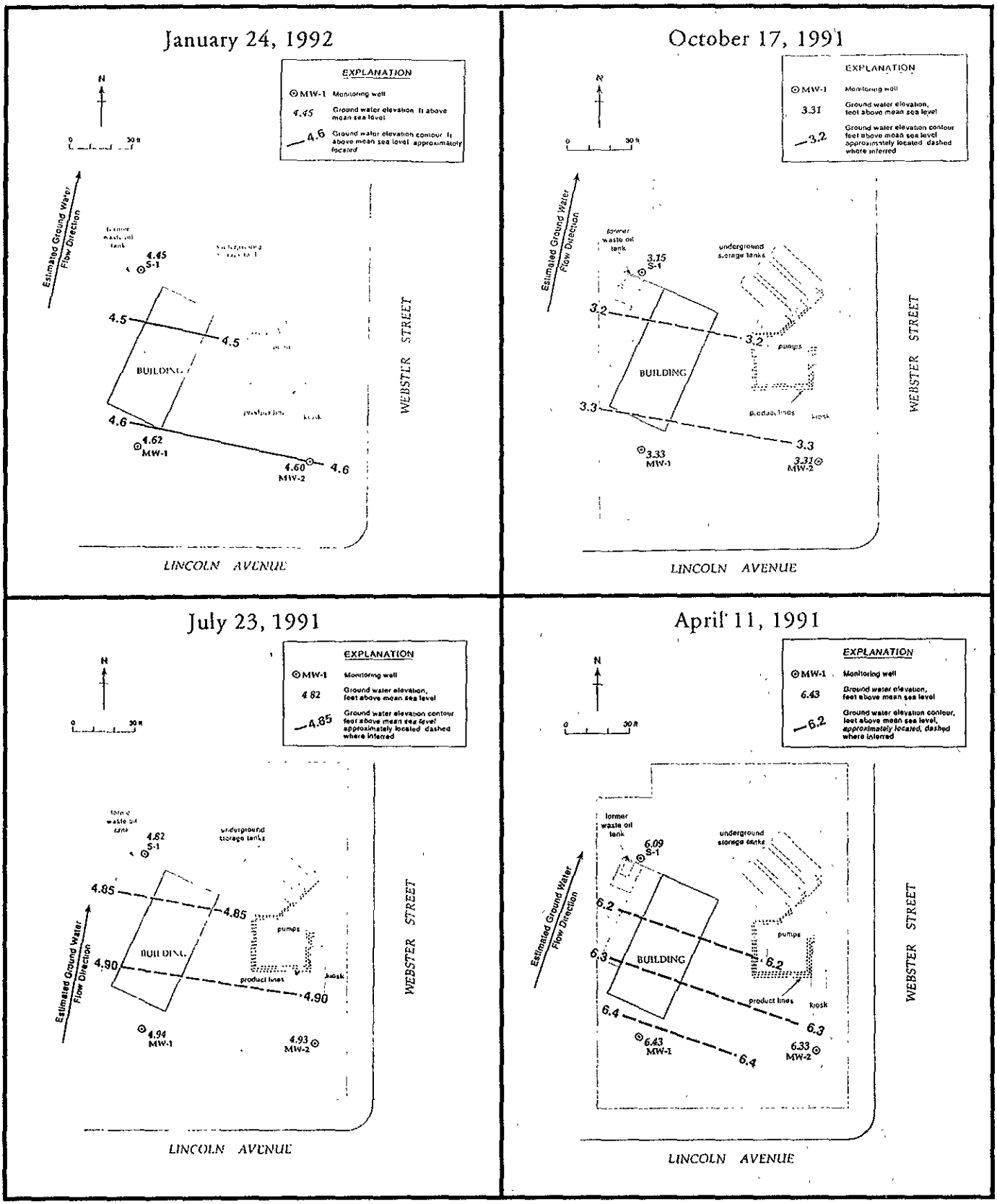

Figure 3. Previous Ground Water Elevation Contour Maps - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California