



TRANSMITTAL LETTER

FROM: J. Michael Asport

DATE: July 6, 1992

TO: Mary Allen
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 #204-5508-4507
2142 East 12th Street
Oakland, California 94606

JOB: 81-434-201

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

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

Quarterly status 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 me if you have any questions.

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

82 50 11 12 30 21



July 1, 1992

Mary Allen
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 #81-434-201

Dear Ms. Allen:

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 second quarter 1992 and proposed work for the third quarter 1992.

Second Quarter 1992 Activities:

- EMCON Associates (EMCON) of San Jose, California measured ground water depths and collected water samples from the three site wells. Well MW-2 was sampled twice, the second time to confirm the presence of the methylene chloride detected in the initial sampling. Since no volatile organic compounds were detected in the second sampling, methylene chloride has never been detected before, and methylene chloride is a common laboratory solvent, the detected methylene chloride was probably caused by cross contamination at the laboratory. EMCON's report describing these sampling activities and the presenting analytic results for ground water is included as Attachment A.
- Weiss Associates (WA) used EMCON's ground water elevation calculations to prepare a ground water elevation contour map (Figure 2).

Mary Allen
July 1, 1992

2

Weiss Associates



Anticipated Third Quarter 1992 Activities:

WA will submit a report presenting the results of the third quarter 1992 ground water sampling and ground water depth measurements. The report will include tabulated chemical analytic results and a ground water elevation contour map.

Please call if you have any questions.

Sincerely,
Weiss Associates



J. Michael Asport
J. Michael Asport
Technical Assistant

J. P. Theisen
Joseph P. Theisen, C.E.G.
Senior Hydrogeologist

JMA/JPT:jma

E:\ALL\SHELL\400\434QMJU2.WP

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

cc: Dan Kirk, 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

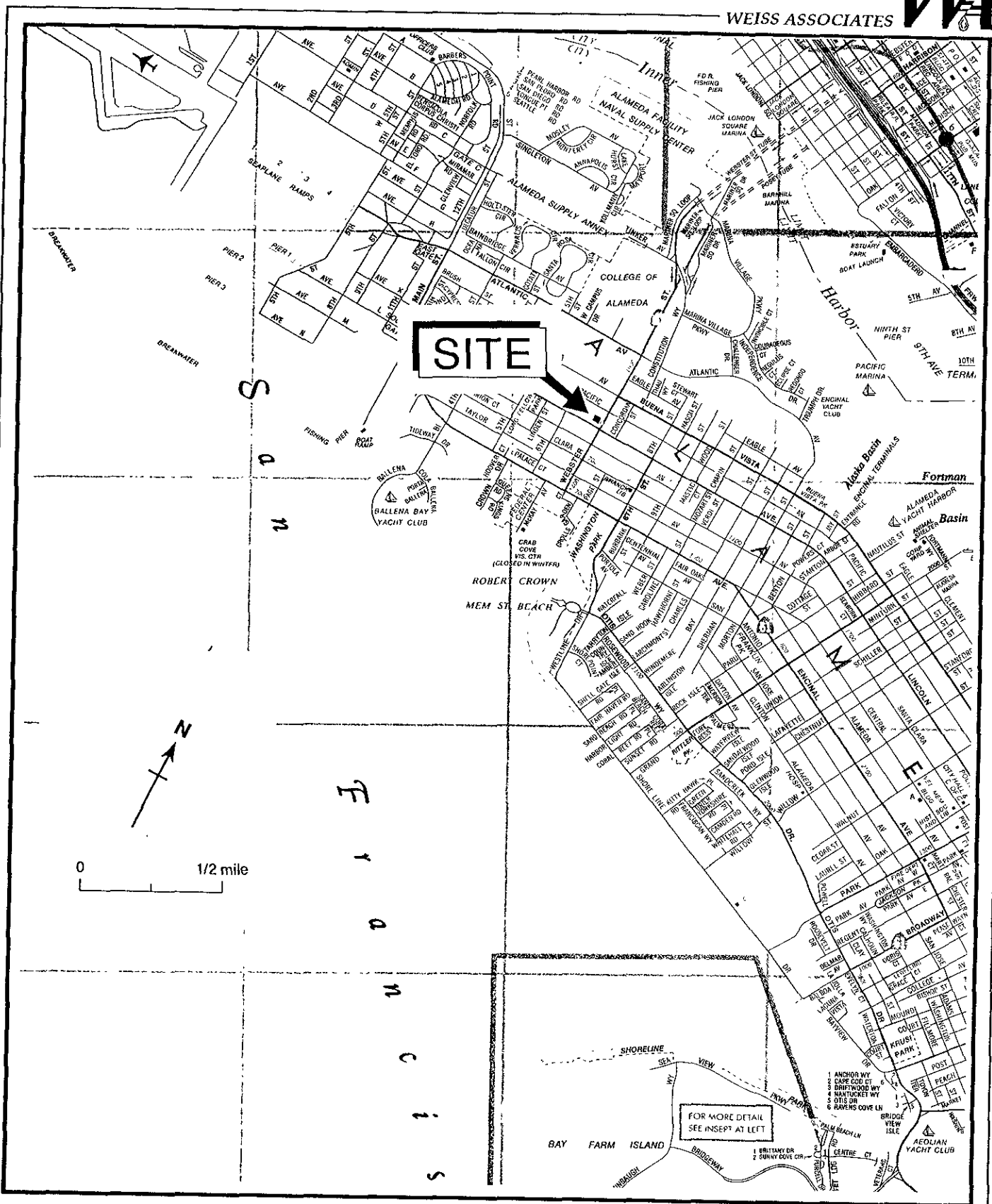


Figure 1. Site Location Map - Shell Service Station, WIC# 204-0072-0403, 1601 Webster Street, Alameda, CA

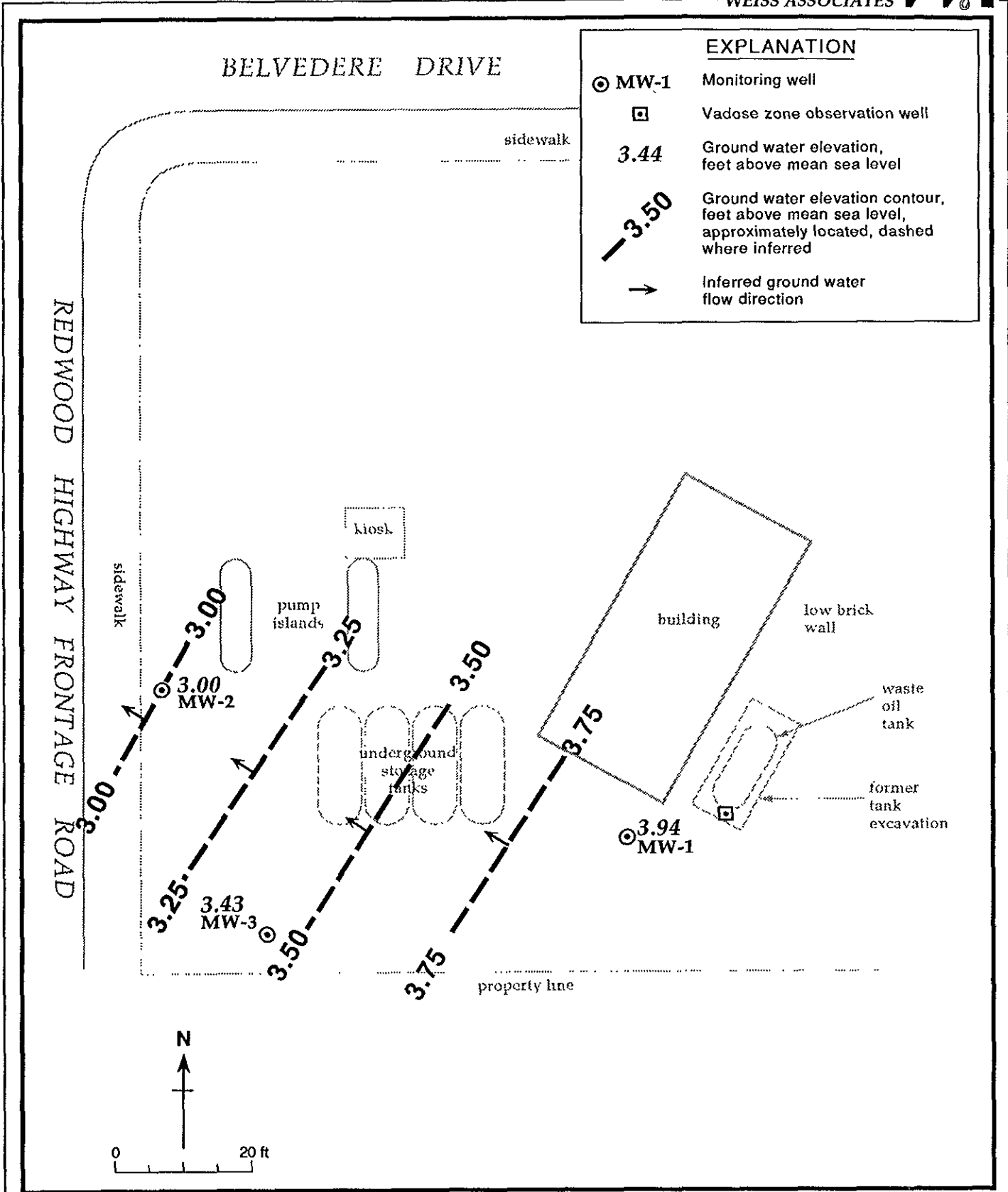


Figure 2. Ground Water Elevation Contours - May 6, 1992 - Shell Service Station WIC #204-4950-0402, 798 Redwood Highway, Mill Valley, California

ATTACHMENT A
GROUND WATER MONITORING REPORT AND ANALYTIC REPORT



May 26, 1992
Project: G67-29.01
WIC#: 204-0072-0403

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

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

Dear Mr. Elias:

This letter presents the results of the second quarter 1992 ground-water monitoring event for the Shell Oil Company (Shell) site located at 1601 Webster Street, Alameda, California (figure 1). Second quarter monitoring was conducted on April 23, 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 2 (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 second quarter water-level survey, and available data from four previous surveys, are summarized in table 1.

SAMPLING AND ANALYSIS

Ground-water samples were collected from wells MW-1, MW-2, and S-1 on April 23, 1992. Prior to sample collection, the wells were purged with dedicated polyvinyl chloride 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. Field measurements from second quarter monitoring, and available measurements from four previous monitoring events, are summarized in table 1. Purge water from 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.

G672901B.DOC



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 with deionized water prior to use at each well.

Quality control samples for second quarter monitoring included a trip blank. All water samples collected during second quarter monitoring were analyzed for total petroleum hydrocarbons as gasoline (TPH-g), and benzene, toluene, ethylbenzene, and total xylenes (BTEX). Additional ground-water samples collected from wells MW-1 and MW-2 were analyzed for halogenated volatile organic compounds (VOCs) by U.S. Environmental Protection Agency (EPA) method 601.

ANALYTICAL RESULTS

IT Analytical Services in Cerritos, California, reported 0.20 parts per million (ppm) methylene chloride in the ground-water sample collected on April 23 from well MW-2. At the request of Weiss Associates, well MW-2 was sampled again on May 20. This sample was submitted to Anametrix, Inc. in San Jose, California, for analysis of VOCs by EPA method 601. No compounds were detected.

Analytical results for the second quarter 1992 monitoring event, and available results from four previous monitoring events, are summarized in table 2 (TPH-g and BTEX) and table 3 (VOCs). VOC results of the sample collected on April 23 from well MW-2 were considered anomalous and are not included in table 3. VOC results of the sample collected on May 20 from well MW-2 are included in table 3. The original certified analytical reports and copies of the final chain-of-custody documents are attached.

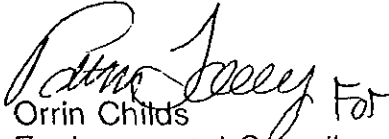
If you have any questions, please call.

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
Table 2 - Summary of analytical results (TPH-g and BTEX)
Table 3 - Summary of analytical results (VOCs)
Figure 1 - Site location map
Figure 2 - Monitoring well locations
Certified analytical reports
Chain-of-custody documents

Table 1
Monitoring Well Field Measurement Data
Second Quarter 1992

Shell Station: 1601 Webster St.
Alameda, California
WIC #: 204-0072-0403

Date: 05/26/92
Project Number: G67-29.01

Well Desig- nation	Water Level Field Date	TOC Elevation (ft-MSL)	Depth to Water (feet)	Ground- water Elevation (ft-MSL)	Total Well Depth (feet)	Floating Product Thickness (feet)	Water Sample Field Date	pH (std. units)	Electrical Conductivity (micromhos/cm)	Temperature (degrees F)	Turbidity (NTU)
MW-1	01/25/91	13.80	10.41	3.39	NR	NR	01/25/91	NR	NR	NR	NR
MW-1	04/11/91	13.80	7.37	6.43	NR	NR	04/11/91	NR	NR	NR	NR
MW-1	07/18/91	13.80	8.86	4.94	NR	NR	07/18/91	NR	NR	NR	NR
MW-1	01/24/92	13.80	9.18	4.62	21.0	ND	01/24/92	6.49	685	61.3	>200
MW-1	04/23/92	13.80	6.95	6.85	20.8	ND	04/23/92	6.38	928	63.3	>200
MW-2	01/25/91	13.20	9.78	3.42	NR	NR	01/25/91	NR	NR	NR	NR
MW-2	04/11/91	13.20	6.87	6.33	NR	NR	04/11/91	NR	NR	NR	NR
MW-2	07/18/91	13.20	8.27	4.93	NR	NR	07/18/91	NR	NR	NR	NR
MW-2	01/24/92	13.20	8.60	4.60	19.9	ND	01/24/92	6.46	1211	65.1	>200
MW-2	04/23/92	13.20	6.48	6.72	19.9	ND	04/23/92	6.68	1166	66.2	>200
S-1	01/25/91	13.77	10.49	3.28	NR	NR	01/25/91	NR	NR	NR	NR
S-1	04/11/91	13.77	7.68	6.09	NR	NR	04/11/91	NR	NR	NR	NR
S-1	07/18/91	13.77	8.95	4.82	NR	NR	07/18/91	NR	NR	NR	NR
S-1	01/24/92	13.77	9.32	4.45	20.0	ND	01/24/92	6.51	806	60.7	>200
S-1	04/23/92	13.77	7.27	6.50	19.9	ND	04/23/92	6.46	801	60.7	>200

TOC = top of casing
ft-MSL = elevation in feet, relative to mean sea level
std. units = standard pH units
micromhos/cm = micromhos per centimeter
degrees F = degrees Fahrenheit
NTU = nephelometric turbidity units
NR = Not reported; data not available
ND = None detected

Table 2
 Summary of Analytical Results
 Second Quarter 1992
 milligrams per liter (mg/l) or parts per million (ppm)

Shell Station: 1601 Webster St.
 Alameda, California
 WIC #: 204-0072-0403

Date: 05/26/92
 Project Number: G67-29.01

Sample Designation	Water Sample Field Date	TPH-g	Benzene	Toluene	Ethylbenzene	Total Xylenes
		(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)
MW-1	01/25/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
MW-1	04/11/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
MW-1	07/18/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
MW-1	01/24/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
MW-1	04/23/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
MW-2	01/25/91	8.1	0.43	1.2	0.48	2.6
MW-2	04/11/91	2.6	0.13	0.15	0.25	0.33
MW-2	07/18/91	1.3	0.10	0.059	0.084	0.12
MW-2	01/24/92	7.1	0.45	0.96	0.45	1.6
MW-2	04/23/92	16.	0.32	0.74	0.65	2.6
S-1	01/25/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-1	04/11/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-1	07/18/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-1	01/24/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-1	04/23/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
TB	01/25/91	<0.05	<0.0005	<0.0005	<0.0005	0.0008
TB	04/11/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
TB	07/18/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
TB	01/24/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
TB	04/23/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005

TPH-g = total petroleum hydrocarbons as gasoline

Table 3
 Summary of Analytical Results
 Volatile Organic Compounds by EPA Method 601
 Second Quarter 1992
 milligrams per liter (mg/L) or parts per million (ppm)

Shell Station: 1601 Webster St.
 Alameda, California
 WIC #: 204-0072-0403

Date: 05/26/92
 Project Number: G67-29.01

Sample Designation	Water Sample Field Date	cis-	
		1,2-DCE (mg/L)	1,2-DCA (mg/L)
MW-1	01/25/91	0.0056	<0.0005
MW-1	04/11/91	0.0009	<0.0005
MW-1	07/18/91	0.0044	<0.0005
MW-1	01/24/92	0.0014	<0.0005
MW-1	04/23/92	<0.0005	<0.0005
MW-2	01/25/91	<0.0005	0.0008
MW-2	04/11/91	<0.0005	<0.0005
MW-2	07/18/91	<0.0005	0.0008
MW-2	01/24/92	<0.0005	<0.0005
MW-2	05/20/92	<0.0025	<0.0025
S-1	10/18/90	<0.0005	<0.0005

Please File

cis-1,2-DCE = cis-1,2-Dichloroethene
 1,2-DCA = 1,2-Dichloroethane

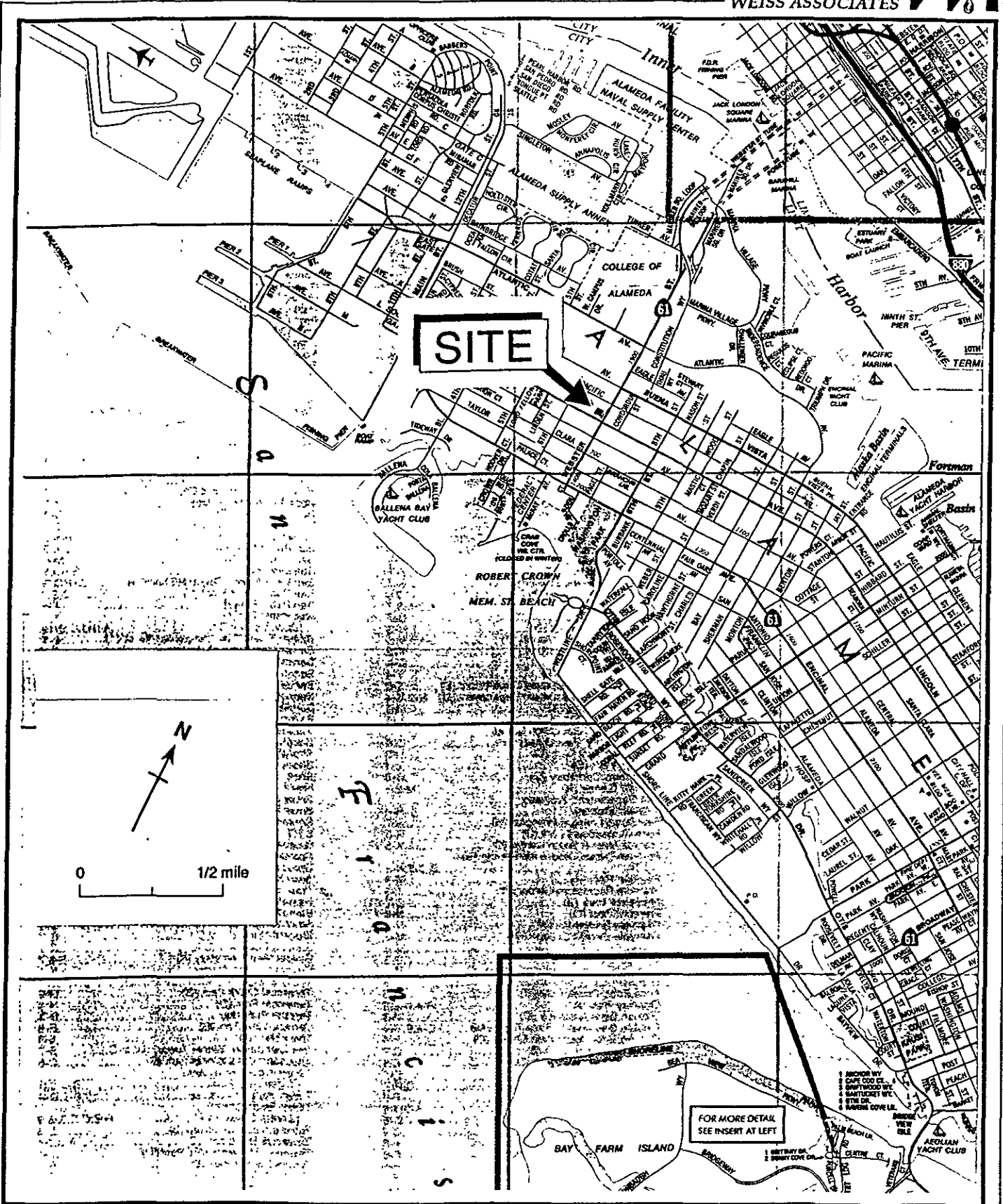


Figure 1. Site Location Map
Shell Service Station WIC #204-0072-0403
1601 Webster Street, Alameda, California

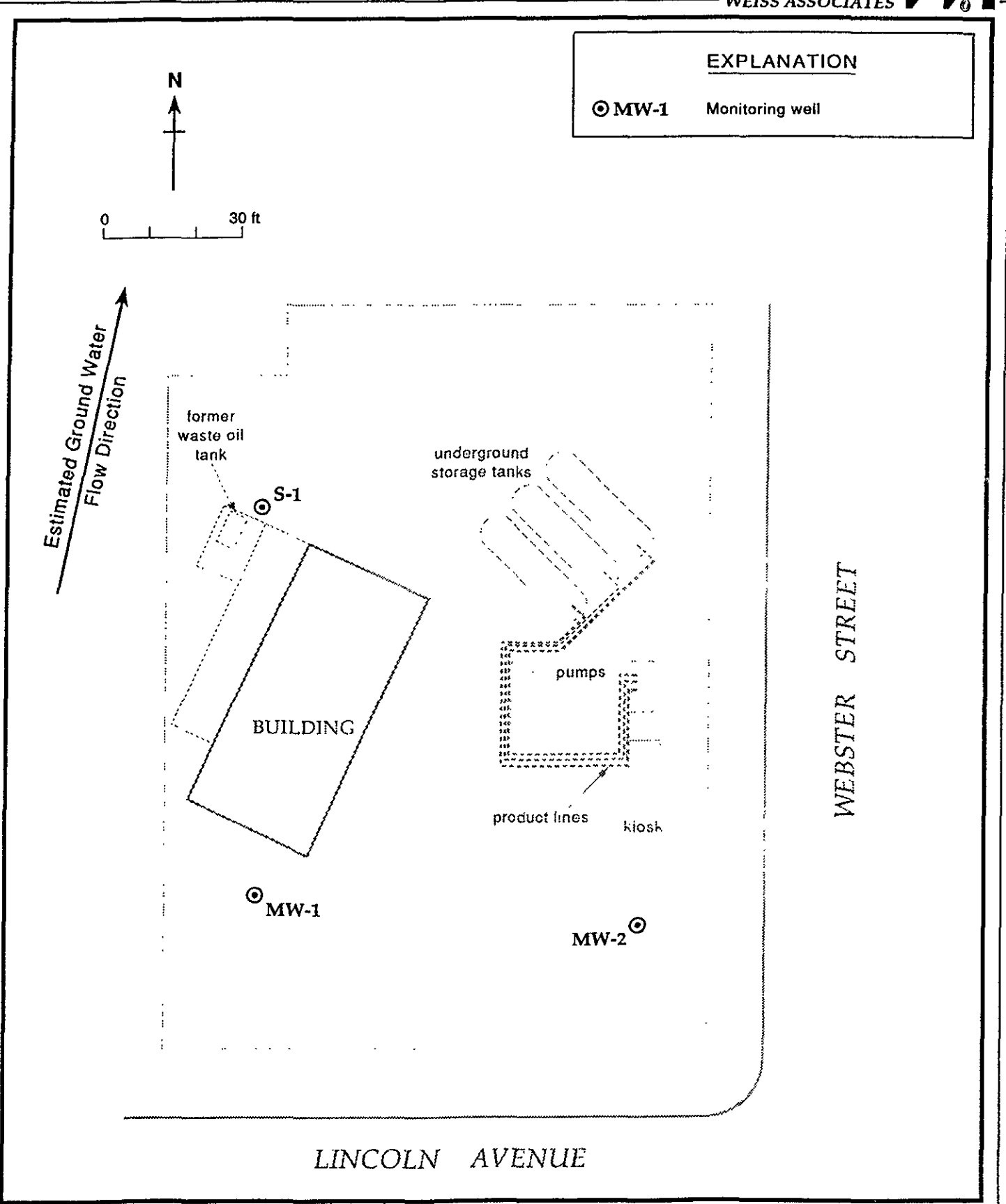


Figure 2. Monitoring Well Locations
 Shell Service Station WIC #204-0072-0403
 1601 Webster Street, Alameda, California



CERTIFICATE OF ANALYSIS

EMCON ASSOCIATES
1938 JUNCTION AVE
SAN JOSE CA 95131
DAVID LARSEN

Date: 05/08/92

Work order: C2-04-211

Project/P.O.#: 204-0072-0403

SHELL_NORTH

This is the Certificate of Analysis for the following samples:

Client Work ID: 1601 WEBSTER STREET, ALAMEDA

Date Received: 04/25/92

275000

Number of Samples: 9

Sample Type: LIQUID

Shell Site: 1601 Webster St, Alameda

WIC No.: 204-0072-0403

Shell Engineer: Kurt Miller

Shell Consultant: EMCON Associates / David Larsen

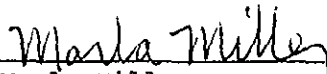
Work Description: Quarterly Monitoring

Class Type: 5461

Samples were labeled as follows:

<u>SAMPLE IDENTIFICATION</u>	<u>LABORATORY #</u>
MW-1	C2-04-211-01
S-1	C2-04-211-02
MW-2	C2-04-211-03
TRIP BLANK	C2-04-211-04
MATRIX SPIKE	C2-04-211-05
MATRIX SPIKE DUP	C2-04-211-06
METHOD BLANK 1	C2-04-211-07

Reviewed and Approved:



Marla Miller
Project Manager

EMCON ASSOCIATES

MAY 08 1992

RECEIVED

Company: EMCON ASSOCIATES

Date: 05/07/92

Client Work ID: 1601 WEBSTER STREET, ALAMEDA 275000

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C2-04-211

Samples, continued from above:

<u>SAMPLE IDENTIFICATION</u>	<u>LABORATORY #</u>
METHOD BLANK 2	C2-04-211-08
METHOD BLANK 3	C2-04-211-09

Company: EMCON ASSOCIATES

Date: 05/07/92

Client Work ID: 1601 WEBSTER STREET, ALAMEDA 275000

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C2-04-211

TEST NAME: HALOGENATED VOL. ORGANICS

SAMPLE ID: MW-1
LAB SAMPLE ID: C204211-01D
SAMPLE DATE: 04/23/92
ANALYSIS DATE: 05/04/92
CONFIRMATION DATE: 05/04/92
UNITS: MG/L
INSTRUMENT ID: GC23

Compounds	Results	Detection Limit	Compounds	Results	Detection Limit
Chloromethane	ND	0.0005	Bromodichloromethane	ND	0.0005
Vinyl chloride	ND	0.0005	2-Chloroethylvinyl ether	ND	0.0005
Bromomethane	ND	0.0005	trans-1,3-Dichloropropene	ND	0.0005
Chloroethane	ND	0.0005	cis-1,3-Dichloropropene	ND	0.0005
Trichlorofluoromethane	ND	0.0005	1,1,2-Trichloroethane	ND	0.0005
1,1-Dichloroethene	ND	0.0005	Tetrachloroethene	ND	0.0005
Methylene chloride	ND	0.015	Dibromochloromethane	ND	0.0005
trans-1,2-Dichloroethene	ND	0.0005	Chlorobenzene	ND	0.0005
1,1-Dichloroethane	ND	0.0005	Bromoform	ND	0.0005
Chloroform	ND	0.0005	1,1,2,2-Tetrachloroethane	ND	0.0005
1,1,1-Trichloroethane	ND	0.0005	1,3-Dichlorobenzene	ND	0.0005
Carbon tetrachloride	ND	0.0005	1,4-Dichlorobenzene	ND	0.0005
1,2-Dichloroethane	ND	0.0005	1,2-Dichlorobenzene	ND	0.0005
Trichloroethene	ND	0.0005	Dichlorodifluoromethane	ND	0.0005
1,2-Dichloropropane	ND	0.0005	cis-1,2-Dichloroethene	ND	0.0005

Surrogate % Recovery
1-Chloro-2-Fluorobenzene 96

Comments: 'ND' or '<' indicates that the compound is not detected at the specified limit.
'NA' indicates not applicable

Company: EMCON ASSOCIATES

Date: 05/07/92

Client Work ID: 1601 WEBSTER STREET, ALAMEDA 275000

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C2-04-211

TEST NAME: VOLATILE FUEL HYDROCARBONS

SAMPLE ID: MW-1

LAB SAMPLE ID: C204211-01A

SAMPLE DATE: 04/23/92

ANALYSIS DATE: 05/01/92

EXTRACTION DATE:

	Results in	MG/L:	Detection Limit
TPHC AS UNLEADED GASOLINE		ND	0.05

Surrogate	% Recovery
A,A,A-TRIFLUOROTOLUENE	93

Comments: 'ND' or '<' indicates that the compound is not detected at the specified limit.
 'NA' indicates not applicable
 '*' surrogate recovery is outside QC limit.
 'D' surrogate is diluted out.
 'B' indicates analyte found in the associated blank as well as in the sample, value reported is not blank corrected.

Company: EMCON ASSOCIATES

Date: 05/07/92

Client Work ID: 1601 WEBSTER STREET, ALAMEDA . 275000

Work Order: C2-04-211

TEST NAME: BTEX BY METHOD 8020

SAMPLE ID: MW-1

LAB SAMPLE ID: C204211-01A

SAMPLE DATE: 04/23/92

ANALYSIS DATE: 04/28/92

CONFIRMATION DATE:

	Results in	MG/L:	Detection Limit
BENZENE		ND	0.0005
TOLUENE		ND	0.0005
ETHYLBENZENE		ND	0.0005
XYLENES (TOTAL)		ND	0.0005

Surrogate	% Recovery	Limits	
A,A,A-TRIFLUOROTOLUENE	99	75	- 125
1-CHLORO-2-FLUOROBENZENE			-

Comments: 'ND' or '<' indicates that the compound is not detected at the specified limit.
 'NA' indicates not applicable
 '**' surrogate recovery is outside QC limit.
 'D' surrogate is diluted out.
 'B' indicates analyte found in the associated blank as well as in the sample, value reported is not blank corrected.

Company: EMCON ASSOCIATES

Date: 05/07/92

Client Work ID: 1601 WEBSTER STREET, ALAMEDA 275000

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C2-04-211

TEST NAME: VOLATILE FUEL HYDROCARBONS

SAMPLE ID: S-1

LAB SAMPLE ID: C204211-02A

SAMPLE DATE: 04/23/92

ANALYSIS DATE: 05/02/92

EXTRACTION DATE:

	Results in	MG/L:	Detection Limit
TPHC AS UNLEADED GASOLINE		ND	0.05

Surrogate	% Recovery
A,A,A-TRIFLUOROTOLUENE	91

Comments: 'ND' or '<' indicates that the compound is not detected at the specified limit.
 'NA' indicates not applicable
 '*' surrogate recovery is outside QC limit.
 'D' surrogate is diluted out.
 'B' indicates analyte found in the associated blank as well as in the sample, value reported is not blank corrected.

Company: EMCON ASSOCIATES

Date: 05/07/92

Client Work ID: 1601 WEBSTER STREET, ALAMEDA 275000

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C2-04-211

TEST NAME: BTEX BY METHOD 8020

SAMPLE ID: S-1

LAB SAMPLE ID: C204211-02A

SAMPLE DATE: 04/23/92

ANALYSIS DATE: 04/28/92

CONFIRMATION DATE:

	Results in	MG/L:	Detection Limit
BENZENE		ND	0.0005
TOLUENE		ND	0.0005
ETHYLBENZENE		ND	0.0005
XYLENES (TOTAL)		ND	0.0005

Surrogate	% Recovery	Limits	
A,A,A-TRIFLUOROTOLUENE	99	75	- 125
1-CHLORO-2-FLUOROBENZENE			-

Comments: 'ND' or '<' indicates that the compound is not detected at the specified limit.
 'NA' indicates not applicable
 '*' surrogate recovery is outside QC limit.
 'D' surrogate is diluted out.
 'B' indicates analyte found in the associated blank as well as in the sample, value reported is not blank corrected.

Company: EMCON ASSOCIATES

Date: 05/07/92

Client Work ID: 1601 WEBSTER STREET, ALAMEDA 275000

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C2-04-211

TEST NAME: HALOGENATED VOL. ORGANICS

SAMPLE ID: MW-2

LAB SAMPLE ID: C204211-03D

SAMPLE DATE: 04/23/92

ANALYSIS DATE: 05/04/92

CONFIRMATION DATE: 05/04/92

UNITS: MG/L

INSTRUMENT ID: GC23

Compounds	Results	Detection Limit	Compounds	Results	Detection Limit
Chloromethane	ND	0.005	Bromodichloromethane	ND	0.005
Vinyl chloride	ND	0.005	2-Chloroethylvinyl ether	ND	0.005
Bromomethane	ND	0.005	trans-1,3-Dichloropropene	ND	0.005
Chloroethane	ND	0.005	cis-1,3-Dichloropropene	ND	0.005
Trichlorofluoromethane	ND	0.005	1,1,2-Trichloroethane	ND	0.005
1,1-Dichloroethene	ND	0.005	Tetrachloroethene	ND	0.005
Methylene chloride	0.20	0.15	Dibromochloromethane	ND	0.005
trans-1,2-Dichloroethene	ND	0.005	Chlorobenzene	ND	0.005
1,1-Dichloroethane	ND	0.005	Bromoform	ND	0.005
Chloroform	ND	0.005	1,1,2,2-Tetrachloroethane	ND	0.005
1,1,1-Trichloroethane	ND	0.005	1,3-Dichlorobenzene	ND	0.005
Carbon tetrachloride	ND	0.005	1,4-Dichlorobenzene	ND	0.005
1,2-Dichloroethane	ND	0.005	1,2-Dichlorobenzene	ND	0.005
Trichloroethene	ND	0.005	Dichlorodifluoromethane	ND	0.005
1,2-Dichloropropene	ND	0.005	cis-1,2-Dichloroethene	ND	0.005

Surrogate	% Recovery
1-Chloro-2-Fluorobenzene	94

Comments: 'ND' or '<' indicates that the compound is not detected at the specified limit.
'NA' indicates not applicable

Company: EMCON ASSOCIATES

Date: 05/07/92

Client Work ID: 1601 WEBSTER STREET, ALAMEDA 275000

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C2-04-211

TEST NAME: VOLATILE FUEL HYDROCARBONS

SAMPLE ID: MW-2

LAB SAMPLE ID: C204211-03A

SAMPLE DATE: 04/23/92

ANALYSIS DATE: 05/02/92

EXTRACTION DATE:

	Results in	MG/L:	Detection Limit
TPHC AS UNLEADED GASOLINE		16	1

Surrogate	% Recovery
A,A,A-TRIFLUOROTOLUENE	95

Comments: 'ND' or '<' indicates that the compound is not detected at the specified limit.
'NA' indicates not applicable
'*' surrogate recovery is outside QC limit.
'D' surrogate is diluted out.
'B' indicates analyte found in the associated blank as well as in the sample, value reported is not blank corrected.

Company: EMCON ASSOCIATES

Date: 05/07/92

Client Work ID: 1601 WEBSTER STREET, ALAMEDA 275000

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C2-04-211

TEST NAME: BTEX BY METHOD 8020

SAMPLE ID: MW-2

LAB SAMPLE ID: C204211-03A

SAMPLE DATE: 04/23/92

ANALYSIS DATE: 05/02/92

CONFIRMATION DATE:

	Results in	MG/L:	Detection Limit
BENZENE		0.32	0.01
TOLUENE		0.74	0.01
ETHYLBENZENE		0.65	0.01
XYLENES (TOTAL)		2.6	0.01

	Surrogate	% Recovery	Limits	
	A,A,A-TRIFLUOROTOLUENE	99	75	- 125
	1-CHLORO-2-FLUOROBENZENE			-

Comments: 'ND' or '<' indicates that the compound is not detected at the specified limit.
 'NA' indicates not applicable
 '*' Surrogate recovery is outside QC limit.
 'D' Surrogate is diluted out.
 'B' indicates analyte found in the associated blank as well as in the sample, value reported is not blank corrected.

Company: EMCON ASSOCIATES

Date: 05/07/92

Client Work ID: 1601 WEBSTER STREET, ALAMEDA 275000

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C2-04-211

TEST NAME: VOLATILE FUEL HYDROCARBONS

SAMPLE ID: TRIP BLANK

LAB SAMPLE ID: C204211-04A

SAMPLE DATE: 04/23/92

ANALYSIS DATE: 05/01/92

EXTRACTION DATE:

	Results in	MG/L:	Detection Limit
TPHC AS UNLEADED GASOLINE		ND	0.05

Surrogate	% Recovery
A,A,A-TRIFLUOROTOLUENE	93

Comments: 'ND' or '<' indicates that the compound is not detected at the specified limit.
'NA' indicates not applicable
'*' Surrogate recovery is outside QC limit.
'D' Surrogate is diluted out.
'B' indicates analyte found in the associated blank as well as in the sample, value reported is not blank corrected.

Company: EMCON ASSOCIATES

Date: 05/07/92

Client Work ID: 1601 WEBSTER STREET, ALAMEDA 275000

Work Order: C2-04-211

TEST NAME: BTEX BY METHOD 8020

SAMPLE ID: TRIP BLANK

LAB SAMPLE ID: C204211-04A

SAMPLE DATE: 04/23/92

ANALYSIS DATE: 04/30/92

CONFIRMATION DATE:

	Results in	MG/L:	Detection Limit
BENZENE		ND	0.0005
TOLUENE		ND	0.0005
ETHYLBENZENE		ND	0.0005
XYLENES (TOTAL)		ND	0.0005

Surrogate	% Recovery	Limits		
A,A,A-TRIFLUOROTOLUENE	103	75	-	125
1-CHLORO-2-FLUOROBENZENE			-	

Comments: 'ND' or '<' indicates that the compound is not detected at the specified limit.
 'NA' indicates not applicable
 '*' Surrogate recovery is outside QC limit.
 'D' Surrogate is diluted out.
 'B' indicates analyte found in the associated blank as well as in the sample, value reported is not blank corrected.

Company: EMCON ASSOCIATES

Date: 05/07/92

Client Work ID: 1601 WEBSTER STREET, ALAMEDA 275000

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C2-04-211

TEST NAME: HALOGENATED VOL. ORGANICS

SAMPLE ID: MATRIX SPIKE

LAB SAMPLE ID: C204211-05A

SAMPLE DATE: not spec

ANALYSIS DATE: 05/02/92

CONFIRMATION DATE:

UNITS: %REC

INSTRUMENT ID: GC23

Compounds	Results	Detection Limit	Compounds	Results	Detection Limit
Chloromethane	-	-	Bromodichloromethane	-	-
Vinyl chloride	-	-	2-Chloroethylvinyl ether	-	-
Bromomethane	-	-	trans-1,3-Dichloropropene	-	-
Chloroethane	-	-	cis-1,3-Dichloropropene	-	-
Trichlorofluoromethane	-	-	1,1,2-Trichloroethane	-	-
1,1-Dichloroethene	-	-	Tetrachloroethene	128	-
Methylene chloride	-	-	Dibromochloromethane	-	-
trans-1,2-Dichloroethene	-	-	Chlorobenzene	-	-
1,1-Dichloroethane	-	-	Bromoform	-	-
Chloroform	118	-	1,1,2,2-Tetrachloroethane	-	-
1,1,1-Trichloroethane	120	-	1,3-Dichlorobenzene	-	-
Carbon tetrachloride	120	-	1,4-Dichlorobenzene	-	-
1,2-Dichloroethane	-	-	1,2-Dichlorobenzene	-	-
Trichloroethene	117	-	Dichlorodifluoromethane	-	-
1,2-Dichloropropane	-	-	cis-1,2-Dichloroethene	-	-

Surrogate	% Recovery
1-Chloro-2-Fluorobenzene	118

Comments: 'ND' or '<' indicates that the compound is not detected at the specified limit.
'NA' indicates not applicable

Company: EMCON ASSOCIATES

Date: 05/07/92

Client Work ID: 1601 WEBSTER STREET, ALAMEDA 275000

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C2-04-211

TEST NAME: VOLATILE FUEL HYDROCARBONS

SAMPLE ID: MATRIX SPIKE

LAB SAMPLE ID: C204211-05A

SAMPLE DATE: not spec

ANALYSIS DATE: 05/02/92

EXTRACTION DATE:

	Results in	%REC:	Detection Limit
TPHC AS UNLEADED GASOLINE		142	-

Surrogate	% Recovery
A,A,A-TRIFLUOROTOLUENE	96

Comments: 'ND' or '<' indicates that the compound is not detected at the specified limit.
 'NA' indicates not applicable
 '*' Surrogate recovery is outside QC limit.
 'D' surrogate is diluted out.
 'B' indicates analyte found in the associated blank as well as in the sample, value reported is not blank corrected.

Company: EMCON ASSOCIATES

Date: 05/07/92

Client Work ID: 1601 WEBSTER STREET, ALAMEDA 275000

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C2-04-211

TEST NAME: BTEX BY METHOD 8020

SAMPLE ID: MATRIX SPIKE

LAB SAMPLE ID: C204211-05A

SAMPLE DATE: not spec

ANALYSIS DATE: 04/30/92

CONFIRMATION DATE:

	Results in	%REC:	Detection Limit
BENZENE		113	-
TOLUENE		95	-
ETHYLBENZENE		102	-
XYLENES (TOTAL)		103	-

Surrogate	% Recovery	Limits
A,A,A-TRIFLUOROTOLUENE	102	75 - 125
1-CHLORO-2-FLUOROBENZENE		-

Comments: 'ND' or '<' indicates that the compound is not detected at the specified limit.
 'NA' indicates not applicable
 '*' Surrogate recovery is outside QC limit.
 'D' Surrogate is diluted out.
 'B' indicates analyte found in the associated blank as well as in the sample, value reported is not blank corrected.

Company: EMCON ASSOCIATES

Date: 05/07/92

Client Work ID: 1601 WEBSTER STREET, ALAMEDA 275000

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C2-04-211

TEST NAME: HALOGENATED VOL. ORGANICS

SAMPLE ID: MATRIX SPIKE DUP

LAB SAMPLE ID: C204211-06A

SAMPLE DATE: not spec

ANALYSIS DATE: 05/02/92

CONFIRMATION DATE:

UNITS: %REC

INSTRUMENT ID: GC23

Compounds	Results	Detection Limit	Compounds	Results	Detection Limit
Chloromethane	-	-	Bromodichloromethane	-	-
Vinyl chloride	-	-	2-Chloroethylvinyl ether	-	-
Bromomethane	-	-	trans-1,3-Dichloropropene	-	-
Chloroethane	-	-	cis-1,3-Dichloropropene	-	-
Trichlorofluoromethane	-	-	1,1,2-Trichloroethane	-	-
1,1-Dichloroethene	-	-	Tetrachloroethene	124	-
Methylene chloride	-	-	Dibromochloromethane	-	-
trans-1,2-Dichloroethene	-	-	Chlorobenzene	-	-
1,1-Dichloroethane	-	-	Bromoform	-	-
Chloroform	115	-	1,1,2,2-Tetrachloroethane	-	-
1,1,1-Trichloroethane	117	-	1,3-Dichlorobenzene	-	-
Carbon tetrachloride	119	-	1,4-Dichlorobenzene	-	-
1,2-Dichloroethane	-	-	1,2-Dichlorobenzene	-	-
Trichloroethene	113	-	Dichlorodifluoromethane	-	-
1,2-Dichloropropane	-	-	cis-1,2-Dichloroethene	-	-

Surrogate	% Recovery
1-Chloro-2-Fluorobenzene	102

Comments: 'ND' or '<' indicates that the compound is not detected at the specified limit.
'NA' indicates not applicable

Company: EMCON ASSOCIATES

Date: 05/07/92

Client Work ID: 1601 WEBSTER STREET, ALAMEDA 275000

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C2-04-211

TEST NAME: VOLATILE FUEL HYDROCARBONS

SAMPLE ID: MATRIX SPIKE DUP

LAB SAMPLE ID: C204211-06A

SAMPLE DATE: not spec

ANALYSIS DATE: 05/02/92

EXTRACTION DATE:

	Results in	%REC:	Detection Limit
TPHC AS UNLEADED GASOLINE		132	-

Surrogate	% Recovery
A,A,A-TRIFLUOROTOLUENE	95

Comments: 'ND' or '<' indicates that the compound is not detected at the specified limit.
'NA' indicates not applicable
'*' Surrogate recovery is outside QC limit.
'D' Surrogate is diluted out.
'B' indicates analyte found in the associated blank as well as in the sample, value reported is not blank corrected.

Company: EMCON ASSOCIATES

Date: 05/07/92

Client Work ID: 1601 WEBSTER STREET, ALAMEDA 275000

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C2-04-211

TEST NAME: BTEX BY METHOD 8020

SAMPLE ID: MATRIX SPIKE DUP

LAB SAMPLE ID: C204211-06A

SAMPLE DATE: not spec

ANALYSIS DATE: 04/30/92

CONFIRMATION DATE:

	Results in	%REC:	Detection Limit
BENZENE		114	-
TOLUENE		97	-
ETHYLBENZENE		104	-
XYLENES (TOTAL)		104	-

Surrogate	% Recovery	Limits
A,A,A-TRIFLUOROTOLUENE	103	75 - 125
1-CHLORO-2-FLUOROBENZENE		-

Comments: 'ND' or '<' indicates that the compound is not detected at the specified limit.
 'NA' indicates not applicable
 '*' Surrogate recovery is outside QC limit.
 'D' Surrogate is diluted out.
 'B' indicates analyte found in the associated blank as well as in the sample, value reported is not blank corrected.

Company: EMCON ASSOCIATES

Date: 05/07/92

Client Work ID: 1601 WEBSTER STREET, ALAMEDA 275000

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C2-04-211

TEST NAME: HALOGENATED VOL. ORGANICS

SAMPLE ID: METHOD BLANK 1

LAB SAMPLE ID: C204211-07A

SAMPLE DATE: not spec

ANALYSIS DATE: 05/04/92

CONFIRMATION DATE:

UNITS: MG/L

INSTRUMENT ID: GC23

Compounds	Results	Detection Limit	Compounds	Results	Detection Limit
Chloromethane	ND	0.0005	Bromodichloromethane	ND	0.0005
Vinyl chloride	ND	0.0005	2-Chloroethylvinyl ether	ND	0.0005
Bromomethane	ND	0.0005	trans-1,3-Dichloropropene	ND	0.0005
Chloroethane	ND	0.0005	cis-1,3-Dichloropropene	ND	0.0005
Trichlorofluoromethane	ND	0.0005	1,1,2-Trichloroethane	ND	0.0005
1,1-Dichloroethene	ND	0.0005	Tetrachloroethene	ND	0.0005
Methylene chloride	ND	0.015	Dibromochloromethane	ND	0.0005
trans-1,2-Dichloroethene	ND	0.0005	Chlorobenzene	ND	0.0005
1,1-Dichloroethane	ND	0.0005	Bromoform	ND	0.0005
Chloroform	ND	0.0005	1,1,2,2-Tetrachloroethane	ND	0.0005
1,1,1-Trichloroethane	ND	0.0005	1,3-Dichlorobenzene	ND	0.0005
Carbon tetrachloride	ND	0.0005	1,4-Dichlorobenzene	ND	0.0005
1,2-Dichloroethane	ND	0.0005	1,2-Dichlorobenzene	ND	0.0005
Trichloroethene	ND	0.0005	Dichlorodifluoromethane	ND	0.0005
1,2-Dichloropropane	ND	0.0005	cis-1,2-Dichloroethene	ND	0.0005

Surrogate % Recovery
1-Chloro-2-Fluorobenzene 90

Comments: 'ND' or '<' indicates that the compound is not detected at the specified limit.
'NA' indicates not applicable

Company: EMCON ASSOCIATES

Date: 05/07/92

Client Work ID: 1601 WEBSTER STREET, ALAMEDA 275000

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C2-04-211

TEST NAME: VOLATILE FUEL HYDROCARBONS

SAMPLE ID: METHOD BLANK 1

LAB SAMPLE ID: C204211-07A

SAMPLE DATE: not spec

ANALYSIS DATE: 05/01/92

EXTRACTION DATE:

	Results in	MG/L:	Detection Limit
TPHC AS UNLEADED GASOLINE		ND	0.05

Surrogate	% Recovery
A,A,A-TRIFLUOROTOLUENE	95

Comments: 'ND' or '<' indicates that the compound is not detected at the specified limit.
'NA' indicates not applicable
'*' Surrogate recovery is outside QC limit.
'D' Surrogate is diluted out.
'B' indicates analyte found in the associated blank as well as in the sample, value reported is not blank corrected.

Company: EMCON ASSOCIATES

Date: 05/07/92

Client Work ID: 1601 WEBSTER STREET, ALAMEDA 275000

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C2-04-211

TEST NAME: BTEX BY METHOD 8020

SAMPLE ID: METHOD BLANK 1

LAB SAMPLE ID: C204211-07A

SAMPLE DATE: not spec

ANALYSIS DATE: 04/30/92

CONFIRMATION DATE:

	Results in	MG/L:	Detection Limit
BENZENE		ND	0.0005
TOLUENE		ND	0.0005
ETHYLBENZENE		ND	0.0005
XYLENES (TOTAL)		ND	0.0005

Surrogate	% Recovery	Limits		
A,A,A-TRIFLUOROTOLUENE	99	75	-	125
1-CHLORO-2-FLUOROBENZENE			-	

Comments: 'ND' or '<' indicates that the compound is not detected at the specified limit.
 'NA' indicates not applicable
 '*' Surrogate recovery is outside QC limit.
 'D' Surrogate is diluted out.
 'B' indicates analyte found in the associated blank as well as in the sample, value reported is not blank corrected.

Company: EMCON ASSOCIATES

Date: 05/07/92

Client Work ID: 1601 WEBSTER STREET, ALAMEDA 275000

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C2-04-211

TEST NAME: VOLATILE FUEL HYDROCARBONS

SAMPLE ID: METHOD BLANK 2

LAB SAMPLE ID: C204211-08A

SAMPLE DATE: not spec

ANALYSIS DATE: 05/02/92

EXTRACTION DATE:

	Results in	MG/L:	Detection Limit
TPHC AS UNLEADED GASOLINE		ND	0.05

Surrogate	% Recovery
A,A,A-TRIFLUOROTOLUENE	94

Comments: 'ND' or '<' indicates that the compound is not detected at the specified limit.
 'NA' indicates not applicable
 '*' Surrogate recovery is outside QC limit.
 'D' Surrogate is diluted out.
 'B' indicates analyte found in the associated blank as well as in the sample, value reported is not blank corrected.

Company: EMCON ASSOCIATES

Date: 05/07/92

Client Work ID: 1601 WEBSTER STREET, ALAMEDA 275000

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C2-04-211

TEST NAME: BTEX BY METHOD 8020

SAMPLE ID: METHOD BLANK 2

LAB SAMPLE ID: C204211-08A

SAMPLE DATE: not spec

ANALYSIS DATE: 04/30/92

CONFIRMATION DATE:

	Results in	MG/L:	Detection Limit
BENZENE		ND	0.0005
TOLUENE		ND	0.0005
ETHYLBENZENE		ND	0.0005
XYLENES (TOTAL)		ND	0.0005

Surrogate	% Recovery	Limits		
A,A,A-TRIFLUOROTOLUENE	102	75	-	125
1-CHLORO-2-FLUOROBENZENE			-	

Comments: 'ND' or '<' indicates that the compound is not detected at the specified limit.
 'NA' indicates not applicable
 '*' Surrogate recovery is outside QC limit.
 'D' Surrogate is diluted out.
 'B' indicates analyte found in the associated blank as well as in the sample, value reported is not blank corrected.

Company: EMCON ASSOCIATES

Date: 05/07/92

Client Work ID: 1601 WEBSTER STREET, ALAMEDA 275000

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C2-04-211

TEST NAME: VOLATILE FUEL HYDROCARBONS

SAMPLE ID: METHOD BLANK 3

LAB SAMPLE ID: C204211-09A

SAMPLE DATE: not spec

ANALYSIS DATE: 05/02/92

EXTRACTION DATE:

	Results in	MG/L:	Detection Limit
TPHC AS UNLEADED GASOLINE		ND	0.05

Surrogate	% Recovery
A,A,A-TRIFLUOROTOLUENE	94

Comments: 'ND' or '<' indicates that the compound is not detected at the specified limit.
'NA' indicates not applicable
'*' Surrogate recovery is outside QC limit.
'D' Surrogate is diluted out.
'B' indicates analyte found in the associated blank as well as in the sample, value reported is not blank corrected.

Company: EMCON ASSOCIATES

Date: 05/07/92

Client Work ID: 1601 WEBSTER STREET, ALAMEDA 275000

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C2-04-211

TEST NAME: BTEX BY METHOD 8020

SAMPLE ID: METHOD BLANK 3

LAB SAMPLE ID: C204211-09A

SAMPLE DATE: not spec

ANALYSIS DATE: 05/02/92

CONFIRMATION DATE:

	Results in	MG/L:	Detection Limit
BENZENE		ND	0.0005
TOLUENE		ND	0.0005
ETHYLBENZENE		ND	0.0005
XYLENES (TOTAL)		ND	0.0005

	Surrogate	% Recovery	Limits	
	A,A,A-TRIFLUOROTOLUENE	99	75	- 125
	1-CHLORO-2-FLUOROBENZENE			-

Comments: 'ND' or '<' indicates that the compound is not detected at the specified limit.
 'NA' indicates not applicable
 '*' Surrogate recovery is outside QC limit.
 'D' Surrogate is diluted out.
 'B' indicates analyte found in the associated blank as well as in the sample, value reported is not blank corrected.

Company: EMCON ASSOCIATES

Date: 05/07/92

Client Work ID: 1601 WEBSTER STREET, ALAMEDA 275000

IT ANALYTICAL SERVICES
CERRITOS, CA

Work Order: C2-04-211

COMMENTS

Detection limits for Halogenated Volatile Organics (Method 601) are raised for sample MW-2 due to the presence of high concentrations of non-target analytes (gasoline = 16ppm). Methylene chloride result for this sample was quantitated using a daily single point standard as opposed to a 5 point calibration curve due to high %RSD. The presence of methylene chloride in the sample was confirmed on a second GC.

Company: EMCON ASSOCIATES

Date: 05/07/92

Client Work ID: 1601 WEBSTER STREET, ALAMEDA 275000

Work Order: C2-04-211

TEST NAME HALOGENATED VOL. ORGANICS TEST CODE 601

Each sample was analyzed for halogenated organic compounds according to USEPA Method 601. An aliquot of the sample is purged with helium and the volatile organic compounds are transferred to the vapor phase. The vapor is swept through a sorbent column where the halogenated compounds are adsorbed. Upon completion, the sorbent column is heated and backflushed onto a GC column. The trapped compounds are separated by a megabore column and detected by an electrolytic conductivity detector (ELCD or Hall).

TEST NAME VOLATILE FUEL HYDROCARBONS TEST CODE 8015U

Low boiling fuel hydrocarbons are analyzed by methods established by the California DHS' LUFT manual. An aliquot of the sample is purged with helium and the volatile fuel hydrocarbons are transferred to the vapor phase. The vapor is swept through a sorbent column where the hydrocarbons are adsorbed. Upon completion, the sorbent column is heated and backflushed onto a gas chromatograph equipped with a 30 meter capillary column. Detection and quantitation is made by a flame ionization detector. Unleaded gasoline is used as the calibration standard.

TEST NAME BTEX BY METHOD 8020**TEST CODE BTEX_W**

The sample was analyzed for benzene, toluene, ethylbenzene and total xylenes according to USEPA Methods 8020 and 5030. An aliquot of the sample is purged with helium and the volatile compounds are transferred to the vapor phase. The vapor is swept through a sorbent column where the aromatics are adsorbed. Upon completion the sorbent column is heated and backflushed onto a GC column. The trapped compounds are separated by the megabore column and detected by a photoionization detector.



SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD

Serial No.:

Date: 4-23-92
 Page 1 of 1

Site Address: 1601 Webster Street
Alameda, CA

Analysis Required

LAB: IT Analytical - Cervitos - San Jose

WIC#: 204-0072-0403

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

Consultant Name & Address: EMCON Assoc. 1938 Junction Ave.
San Jose, CA 95131

Consultant Contact: David Larsen Phone No. (408)
 Fax #: 453-2269

Comments: 3-VOAs for g, BTEX
3-VOAs for 601
2-VOAs for TB

Sampled By: Mark Knuttel
 Printed Name: Mark Knuttel

CHECK ONE (1) BOX ONLY	CT/DT	TURN AROUND TIME
Quarterly Monitoring <input checked="" type="checkbox"/> 5461	5461	24 hours <input type="checkbox"/>
Site Investigation <input type="checkbox"/> 5441	5441	48 hours <input type="checkbox"/>
Soil for disposal <input type="checkbox"/> 5442	5442	15 days <input checked="" type="checkbox"/> (Normal)
Water for disposal <input type="checkbox"/> 5443	5443	Other <input type="checkbox"/>
Air Sample- Sys O&M <input type="checkbox"/> 5452	5452	
Water Sample - Sys O&M <input type="checkbox"/> 5453	5453	
Other <input type="checkbox"/>		

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

TPH (EPA 8015 Mod. Diesel)	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
40 ml	HCl	No		INSTRUMENT 4

Sample ID	Date	Soil	Water	Air	No. of conts.
MW-1	4-23-92		X		6
S-1	4-23-92				3
MW-2	4-23-92				6
TB	4-23-92		∇		2

Relinquished By (signature): <u>Mark Knuttel</u>	Printed name: <u>Mark Knuttel</u>	Date: <u>4/27/92</u>	Time: <u>1608</u>	Received (signature): <u>[Signature]</u>	Printed name: <u>DAVID SOLEWSKI</u>	Date: <u>4/23/92</u>	Time: <u>1610</u>
Relinquished By (signature): <u>[Signature]</u>	Printed name: <u>DAVID SOLEWSKI</u>	Date: <u>4/24/92</u>	Time: <u> </u>	Received (signature): <u>[Signature]</u>	Printed name: <u>J. MARTIN</u>	Date: <u>4/25/92</u>	Time: <u>10:00am</u>
Relinquished By (signature): <u> </u>	Printed name: <u> </u>	Date: <u> </u>	Time: <u> </u>	Received (signature): <u> </u>	Printed name: <u> </u>	Date: <u> </u>	Time: <u> </u>

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

Last Revision Date: 10/15/91

ANAMETRIX INC

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

**REPORT**

MR. DAVID LARSEN
 EMCON ASSOCIATES
 1938 JUNCTION AVE.
 SAN JOSE, CA 95131

Workorder # : 9205290
 Date Received : 05/20/92
 Project ID : G67-29.01
 Purchase Order: MOH-B813

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

ANAMETRIX ID	CLIENT SAMPLE ID
9205290- 1	MW-2

This report consists of 6 pages not including the cover letter, and is organized in sections according to the specific Anamatrix 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 Anamatrix 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.

Anamatrix 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 Anamatrix.

Sarah Schoen, Ph.D.
 Laboratory Director

5-22-92

Date

EMCON ASSOCIATES

MAY 26 1992

RECEIVED

ANAMETRIX REPORT DESCRIPTION

GC

Organic Analysis Data Sheets (OADS)

OADS forms contain tabulated results for target compounds. The OADS are grouped by method and, within each method, organized sequentially in order of increasing Anamatrix ID number.

Surrogate Recovery Summary (SRS)

SRS forms contain quality assurance data. An SRS form will be printed for each method, if the method requires surrogate compounds. They will list surrogate percent recoveries for all samples and any method blanks. Any surrogate recovery outside the established limits will be flagged with an "*", and the total number of surrogates outside the limits will be listed in the column labelled "Total Out".

Matrix Spike Recovery Form (MSR)

MSR forms contain quality assurance data. They summarize percent recovery and relative percent difference information for matrix spikes and matrix spike duplicates. This information is a statement of both accuracy and precision. Any percent recovery or relative percent difference outside established limits will be flagged with an "*", and the total number outside the limits will be listed at the bottom of the page. Not all reports will contain an MSR form.

Qualifiers

Anamatrix uses several data qualifiers (Q) in it's report forms. These qualifiers give additional information on the compounds reported. They should help a data reviewer to verify the integrity of the analytical results. The following is a list of qualifiers and their meanings:

- U - Indicates that the compound was analyzed for, but was not detected at or above the specified reporting limit.
- B - Indicates that the compound was detected in the associated method blank.
- J - Indicates that the compound was detected at an amount below the specified reporting limit. Consequently, the amount should be considered an approximate value. Tentatively identified compounds will always have a "J" qualifier because they are not included in the instrument calibration.
- E - Indicates that the amount reported exceeded the linear range of the instrument calibration.
- D - Indicates that the compound was detected in an analysis performed at a secondary dilution.

Absence of a qualifier indicates that the compound was detected at a concentration at or above the specified reporting limit.

REPORTING CONVENTIONS

- ◆ Due to a size limitation in our data processing step, only the first eight (8) characters of your project ID and sample ID will be printed on the report forms. However, the report cover letter and report summary pages display up to twenty (20) characters of your project and sample IDs.
- ◆ Amounts reported are gross values, i.e., not corrected for method blank contamination.

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

MR. DAVID LARSEN
EMCON ASSOCIATES
1938 JUNCTION AVE.
SAN JOSE, CA 95131

Workorder # : 9205290
Date Received : 05/20/92
Project ID : G67-29.01
Purchase Order: MOH-B813
Department : GC
Sub-Department: VOA

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9205290- 1	MW-2	WATER	05/20/92	601

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

MR. DAVID LARSEN
EMCON ASSOCIATES
1938 JUNCTION AVE.
SAN JOSE, CA 95131

Workorder # : 9205290
Date Received : 05/20/92
Project ID : G67-29.01
Purchase Order: MOH-B813
Department : GC
Sub-Department: VOA

QA/QC SUMMARY :

- The sample was analyzed at a dilution due to interfering hydrocarbon peaks.

Corinne Khan
Department Supervisor

5/22/92
Date

Mr. Messerian 5/22/92
Chemist Date

DESCRIPTIONS FOR SPECIFIC COMPOUNDS ANALYZED
EPA METHOD 601/8010

<u>CAS #</u>	<u>COMPOUND NAME</u>	<u>ABBREVIATED NAME</u>
74-87-3	Chloromethane	Chloromethane
74-83-9	Bromomethane	Bromoethane
75-71-8	Dichlorodifluoromethane	Freon 12
75-01-4	Vinyl Chloride	Vinyl Chloride
75-00-3	Chloroethane	Chloroethane
75-09-2	Methylene Chloride	Methylene Chlor
75-69-4	Trichlorofluoromethane	Freon 11
75-35-4	1,1-Dichloroethene	1,1-DCE
75-34-3	1,1-Dichloroethane	1,1-DCA
156-59-2	Cis-1,2-Dichloroethene	Cis-1,2-DCE
156-60-5	Trans-1,2-Dichloroethene	Trans-1,2-DCE
67-66-3	Chloroform	Chloroform
76-13-1	Trichlorotrifluoroethane	Freon 113
107-06-2	1,2-Dichloroethane	1,2-DCA
71-55-6	1,1,1-Trichloroethane	1,1,1-TCA
56-23-5	Carbon Tetrachloride	Carbon Tet
75-27-4	Bromodichloromethane	BromodichloroMe
78-87-5	1,2-Dichloropropane	1,2-DCPA
10061-02-6	Trans-1,3-Dichloropropene	Trans-1,3-DCPE
79-01-6	Trichloroethene	TCE
124-48-1	Dibromochloromethane	DibromochloroMe
79-00-5	1,1,2-Trichloroethane	1,1,2-TCA
10061-01-5	Cis-1,3-Dichloropropene	Cis-1,3-DCPE
110-75-8	2-Chloroethylvinylether	Chloroethylvinl
75-25-2	Bromoform	Bromoform
127-18-4	Tetrachloroethene	PCE
79-34-5	1,1,2,2-Tetrachloroethane	PCA
108-90-7	Chlorobenzene	Chlorobenzene
95-50-1	1,2-Dichlorobenzene	1,2-DCB
541-73-1	1,3-Dichlorobenzene	1,3-DCB
106-46-7	1,4-Dichlorobenzene	1,4-DCB
352-33-0	p-Chlorofluorobenzene	Chlorofluoroben

ORGANIC ANALYSIS DATA SHEET - EPA METHOD 601/8010
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : MW-2
 Matrix : WATER
 Date sampled : 05/20/92
 Date analyzed: 05/21/92
 Dilution : 5

Anamatrix I.D. : 9205290-01
 Analyst :
 Supervisor :
 Date released : 05/22/92
 Instrument ID : HP14

CAS #	Compound Name	Reporting Limit (mg/L)	Amount Found (mg/L)
74-87-3	* Chloromethane	0.005	ND
74-83-9	* Bromomethane	0.0025	ND
75-71-8	* Dichlorodifluoromethane	0.005	ND
75-01-4	* Vinyl Chloride	0.0025	ND
75-00-3	* Chloroethane	0.0025	ND
75-09-2	* Methylene Chloride	0.0025	ND
75-69-4	* Trichlorofluoromethane	0.0025	ND
75-35-4	* 1,1-Dichloroethene	0.0025	ND
75-34-3	* 1,1-Dichloroethane	0.0025	ND
156-59-2	# Cis-1,2-Dichloroethene	0.0025	ND
156-60-5	* Trans-1,2-Dichloroethene	0.0025	ND
67-66-3	* Chloroform	0.0025	ND
76-13-1	# Trichlorotrifluoroethane	0.0025	ND
107-06-2	* 1,2-Dichloroethane	0.0025	ND
71-55-6	* 1,1,1-Trichloroethane	0.0025	ND
56-23-5	* Carbon Tetrachloride	0.0025	ND
75-27-4	* Bromodichloromethane	0.0025	ND
78-87-5	* 1,2-Dichloropropane	0.0025	ND
10061-02-6	* Trans-1,3-Dichloropropene	0.0025	ND
79-01-6	* Trichloroethene	0.0025	ND
124-48-1	* Dibromochloromethane	0.0025	ND
79-00-5	* 1,1,2-Trichloroethane	0.0025	ND
10061-01-5	* cis-1,3-Dichloropropene	0.0025	ND
110-75-8	* 2-Chloroethylvinylether	0.005	ND
75-25-2	* Bromoform	0.0025	ND
127-18-4	* Tetrachloroethene	0.0025	ND
79-34-5	* 1,1,2,2-Tetrachloroethane	0.0025	ND
108-90-7	* Chlorobenzene	0.0025	ND
95-50-1	* 1,2-Dichlorobenzene	0.005	ND
541-73-1	* 1,3-Dichlorobenzene	0.005	ND
106-46-7	* 1,4-Dichlorobenzene	0.005	ND
% Surrogate Recovery		51-136%	95%

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

* A 601/8010 approved compound (Federal Register, 10/26/84).

A compound added by Anamatrix, Inc.

ORGANIC ANALYSIS DATA SHEET - EPA METHOD 601/8010
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : METHOD BLANK
 Matrix : WATER
 Date sampled : N/A
 Date analyzed: 05/21/92
 Dilution : NONE

Anamatrix I.D. : 14B0521H01
 Analyst :
 Supervisor :
 Date released : 05/22/92
 Instrument ID : HP14

CAS #	Compound Name	Reporting Limit (mg/L)	Amount Found (mg/L)
74-87-3	* Chloromethane	0.001	ND
74-83-9	* Bromomethane	0.0005	ND
75-71-8	* Dichlorodifluoromethane	0.001	ND
75-01-4	* Vinyl Chloride	0.0005	ND
75-00-3	* Chloroethane	0.0005	ND
75-09-2	* Methylene Chloride	0.0005	ND
75-69-4	* Trichlorofluoromethane	0.0005	ND
75-35-4	* 1,1-Dichloroethene	0.0005	ND
75-34-3	* 1,1-Dichloroethane	0.0005	ND
156-59-2	# Cis-1,2-Dichloroethene	0.0005	ND
156-60-5	* Trans-1,2-Dichloroethene	0.0005	ND
67-66-3	* Chloroform	0.0005	ND
76-13-1	# Trichlorotrifluoroethane	0.0005	ND
107-06-2	* 1,2-Dichloroethane	0.0005	ND
71-55-6	* 1,1,1-Trichloroethane	0.0005	ND
56-23-5	* Carbon Tetrachloride	0.0005	ND
75-27-4	* Bromodichloromethane	0.0005	ND
78-87-5	* 1,2-Dichloropropane	0.0005	ND
10061-02-6	* Trans-1,3-Dichloropropene	0.0005	ND
79-01-6	* Trichloroethene	0.0005	ND
124-48-1	* Dibromochloromethane	0.0005	ND
79-00-5	* 1,1,2-Trichloroethane	0.0005	ND
10061-01-5	* cis-1,3-Dichloropropene	0.0005	ND
110-75-8	* 2-Chloroethylvinylether	0.001	ND
75-25-2	* Bromoform	0.0005	ND
127-18-4	* Tetrachloroethene	0.0005	ND
79-34-5	* 1,1,2,2-Tetrachloroethane	0.0005	ND
108-90-7	* Chlorobenzene	0.0005	ND
95-50-1	* 1,2-Dichlorobenzene	0.001	ND
541-73-1	* 1,3-Dichlorobenzene	0.001	ND
106-46-7	* 1,4-Dichlorobenzene	0.001	ND
	% Surrogate Recovery	51-136%	81%

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

* A 601/8010 approved compound (Federal Register, 10/26/84).
 # A compound added by Anamatrix, Inc.

Site Address: 1601 Webster Street
Alameda CA

WIC#: 204-0072-0403

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

Consultant Name & Address: EMCON Assoc.
1938 Junction Ave.
San Jose, CA 95131

Consultant Contact: David Larsen
Phone No. (408)
Fax #: 453-2269

Comments: 24 Hour Rush
3-VOAs (NP) for 601

Sampled By: Printed Name:

Analysis Required

TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	EPA 601
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LAB: Anamatrix

CHECK ONE (1) BOX ONLY	CT/DT	TURN AROUND
Quarterly Monitoring <input checked="" type="checkbox"/> 5461		24 hours <input checked="" type="checkbox"/>
Site Investigation <input type="checkbox"/> 5441		48 hours <input type="checkbox"/>
Soil for disposal <input type="checkbox"/> 5442		15 days <input type="checkbox"/> (N)
Water for disposal <input type="checkbox"/> 5443		Other <input type="checkbox"/>
Air Sample- Sys O&M <input type="checkbox"/> 5452		NOTE: Notify I
Water Sample - Sys O&M <input type="checkbox"/> 5453		soon as possible
Other <input type="checkbox"/>		24/48 hrs. TAT.

Sample ID	Date *	Soil	Water	Air	No. of conts.
MW-2	5/20/92		X		3

Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLI CONDIT COMME
40 ml	HCl	No		Cold, no pres. no br gm

Relinquished By (signature): [Signature]
Printed name: D. Larsen

Relinquished By (signature):
Printed name:

Relinquished By (signature):
Printed name:

Date: 5/20/92
Time: 16:20

Received (signature): Jennifer Miller
Printed name: JENNIFER MILLER

Date: 5/20/92
Time: 5:05

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