Weiss Associates Environmental and Geologic Services

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

92 AUG 24 AM 8:39

TRANSMITTAL LETTER

FROM: J. Michael Asport

DATE: August 20, 1992

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

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

SUBJECT: Shell Service Station
WIC #204-0072-0502
2160 Otis Drive
Alameda, California

JOB: 81-429-201

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 if you have any questions.

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

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Weiss Associates Environmental and Geologic Services

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

August 18, 1992

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

Re: Shell Service Station
WIC #204-0072-0502
2160 Otis Drive
Alameda, California
WA Job #81-429-201

Dear Ms. Shin:

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

Third Quarter 1992 Activities:

- EMCON Associates (EMCON) of San Jose, California measured depths to ground water and collected ground water samples from the three site wells. EMCON's report describing these sampling activities and presenting analytic results for ground water is included as Attachment A.

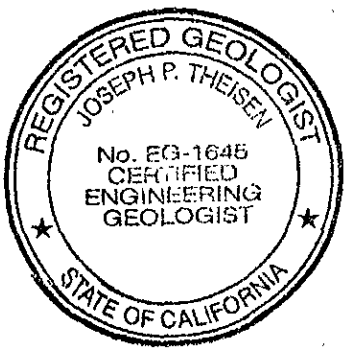
- Weiss Associates (WA) used EMCON's ground water elevation calculations to prepare a ground water elevation contour map (Figure 2).

Anticipated Fourth Quarter 1992 Activities:

WA will submit a report presenting the results of the fourth 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
Technical Assistant

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

JMA/JPT:jma

E:\ALL\SHELL\400\429QMJY2.WP

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

cc: Dan Kirk, Shell Oil Company, P.O. Box 5278, Concord, CA 94520
Tom Callaghan, Water Quality Control Board, San Francisco Bay Region, 2101 Webster Street, Suite 500, Oakland, CA 94612

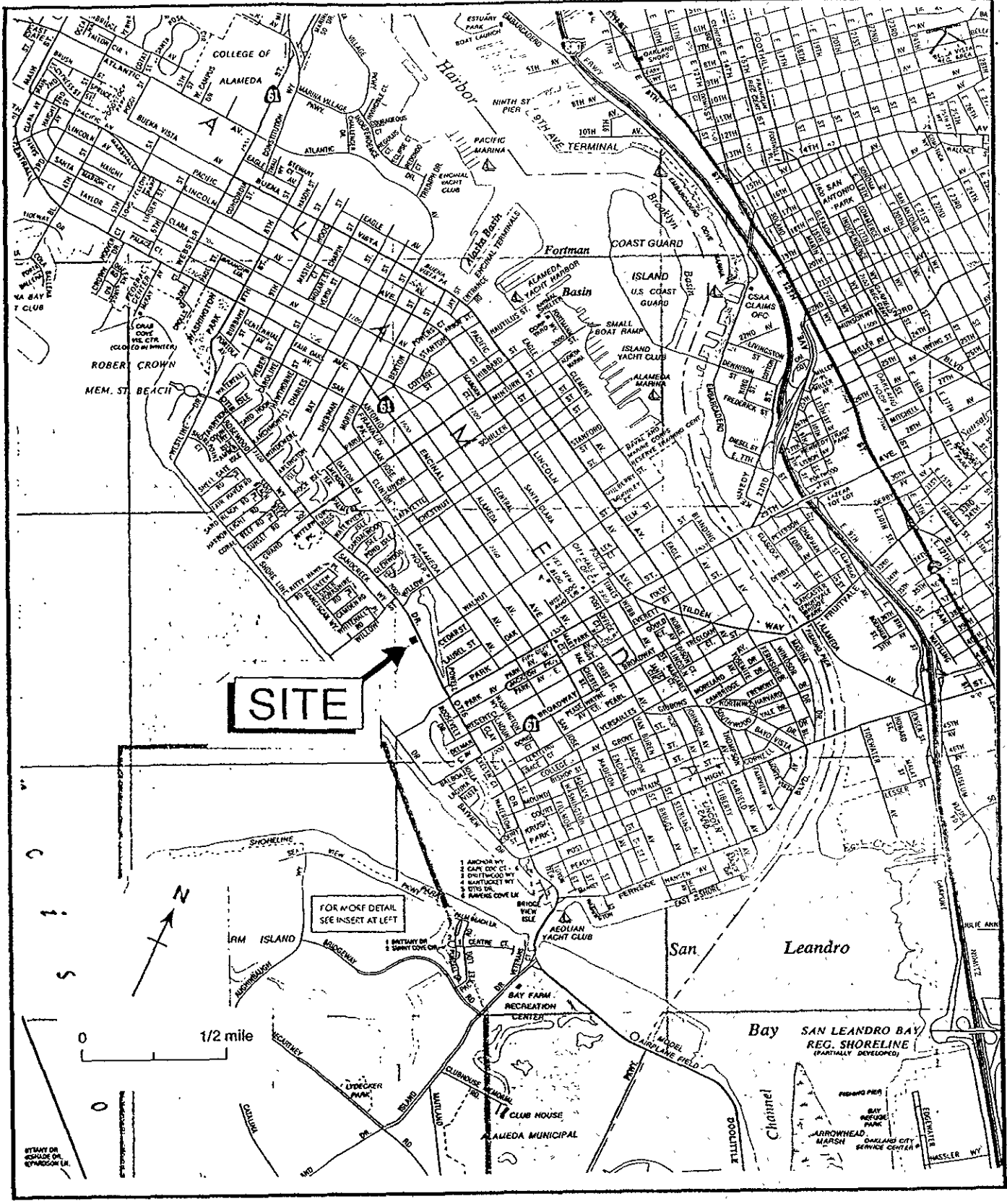


Figure 1. Site Location Map - Shell Service Station, WIC# 204-0072-0502, 2160 Otis Drive, Alameda, CA

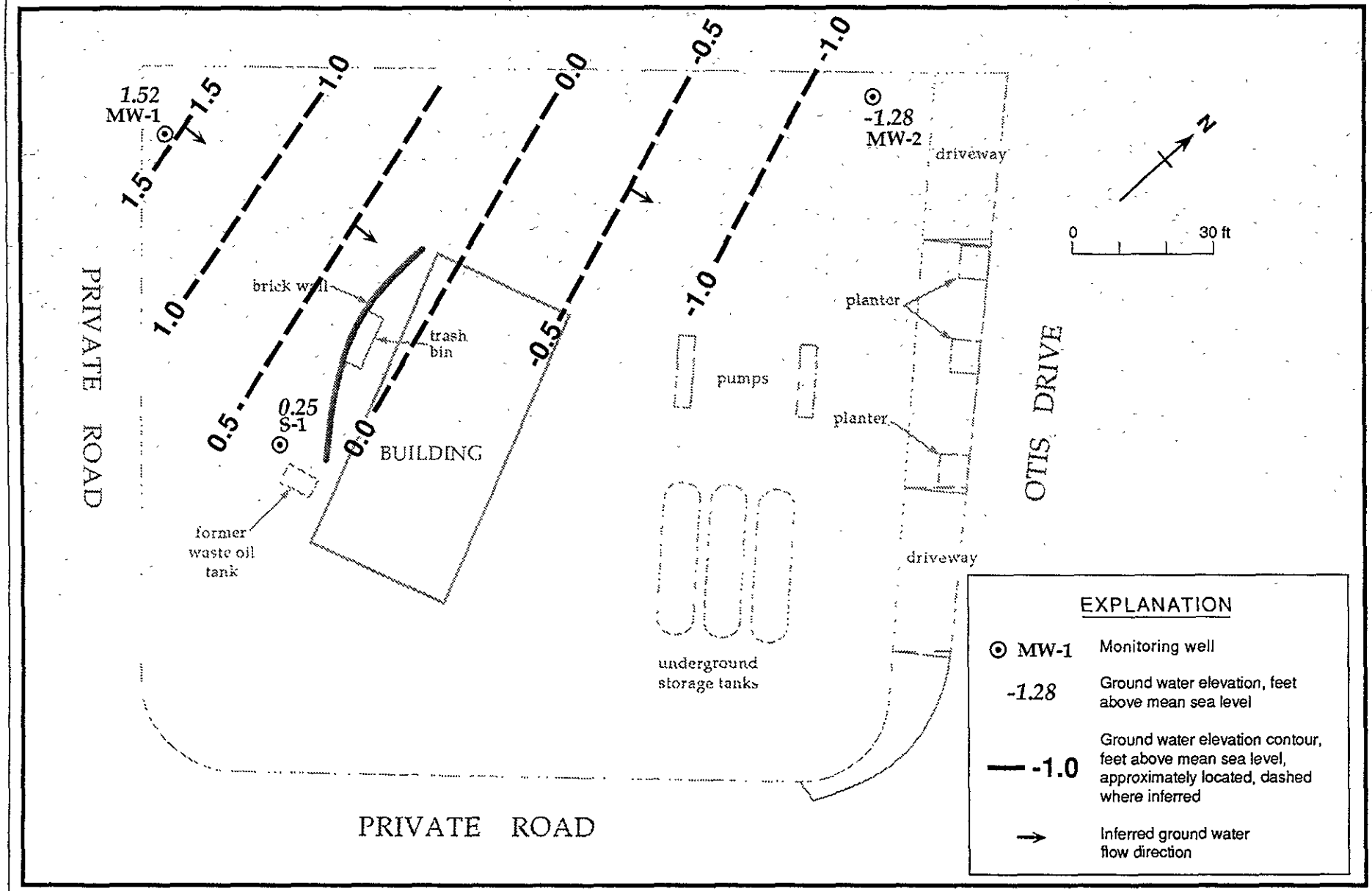


Figure 2. Monitoring Well Locations and Ground Water Elevation Contours - July 1, 1992 - Shell Service Station WIC #204-0072-0502, 2160 Otis Drive, Alameda, California

8/18/92

ATTACHMENT A

GROUND WATER MONITORING REPORT AND ANALYTIC REPORT

EMCON
ASSOCIATES
Consultants in Wastes
Management and
Environmental Control

July 28, 1992
Project: G67-30.01
WIC#: 204-0072-0502

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

Re: Third quarter 1992 ground-water monitoring report, Shell Oil Company, 2160 Otis Drive, Alameda, California

Dear Mr. Elias:

This letter presents the results of the third quarter 1992 ground-water monitoring event for the Shell Oil Company (Shell) site located at 2160 Otis Drive, Alameda, California (figure 1). Third quarter monitoring was conducted on July 1, 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 third 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 July 1, 1992. Prior to sample collection, the wells were purged with 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. 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 third quarter monitoring, and available measurements from four previous monitoring events, are summarized in table 1. Purge water from the monitoring

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

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 Anametrix Inc. 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 third quarter monitoring included a trip blank (called TB), and a field blank (called FB). All water samples collected during third 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 well MW-2 were analyzed for halogenated volatile organic compounds (VOCs) by U.S. Environmental Protection Agency method 601.

ANALYTICAL RESULTS

Analytical results for the third 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). The original certified analytical report and 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
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 report
Chain-of-custody document

Table 1
Monitoring Well Field Measurement Data
Third Quarter 1992

Shell Station: 2160 Otis Drive
Alameda, California
WIC #: 204-0072-0502

Date: 07/27/92
Project Number: G67-30.01

Well Designation	Water Level Field Date	TOC Elevation (ft-MSL)	Depth to Water (feet)	Groundwater 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	07/10/91	6.00	5.52	0.48	NR	NR	07/10/91	NR	NR	NR	NR
MW-1	10/09/91	6.00	5.70	0.30	NR	NR	10/09/91	NR	NR	NR	NR
MW-1	01/24/92	6.00	5.51	0.49	16.3	ND	01/24/92	7.27	13000	62.8	>200
MW-1	04/23/92	6.00	5.14	0.86	16.3	ND	04/23/92	7.49	12540	66.3	49.5
MW-1	07/01/92	6.00	4.48	1.52	16.3	ND	07/01/92	7.14	14680	70.4	>1000
MW-2	07/10/91	3.29	4.66	-1.37	NR	NR	07/10/91	NR	NR	NR	NR
MW-2	10/09/91	3.29	4.81	-1.52	NR	NR	10/09/91	NR	NR	NR	NR
MW-2	01/24/92	3.29	4.66	-1.37	17.0	ND	01/24/92	6.39	>20000	60.4	>200
MW-2	04/23/92	3.29	4.51	-1.22	17.0	ND	04/23/92	7.31	9490	66.0	12.6
MW-2	07/01/92	3.29	4.57	-1.28	17.0	ND	07/01/92	6.60	>20000	71.5	>1000
S-1	07/10/91	5.10	4.42	0.68	NR	NR	07/10/91	NR	NR	NR	NR
S-1	10/09/91	5.10	4.87	0.23	NR	NR	10/09/91	NR	NR	NR	NR
S-1	01/24/92	5.10	4.90	0.20	18.7	ND	01/24/92	8.99	374	62.7	>200
S-1	04/23/92	5.10	4.66	0.44	18.8	ND	04/23/92	8.92	355	68.4	79.8
S-1	07/01/92	5.10	4.85	0.25	18.8	ND	07/01/92	8.74	3830	66.8	>1000

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
Third Quarter 1992
milligrams per liter (mg/l) or parts per million (ppm)

Shell Station: 2160 Otis Drive
Alameda, California
WIC #: 204-0072-0502

Date: 07/27/92
Project Number: G67-30.01

Sample Designation	Water Sample Field Date	TPH-g (mg/l)	Benzene (mg/l)	Toluene (mg/l)	Ethyl-benzene (mg/l)	Total Xylenes (mg/l)	TPH-d (mg/l)
MW-1	07/10/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	NA
MW-1	10/09/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	NA
MW-1	01/24/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	NA
MW-1	04/23/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	NA
MW-1	07/01/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	NA
MW-2	07/10/91	0.05+	0.0084	<0.0005	<0.0005	<0.0005	<0.05
MW-2	10/09/91	0.15	0.022	<0.0005	<0.0005	<0.0005	NA
MW-2	01/24/92	<0.05	0.0048	<0.0005	<0.0005	<0.0005	NA
MW-2	04/23/92	<0.05	0.0023	<0.0005	0.0015	<0.0005	NA
MW-2	07/01/92	0.13	0.019	<0.0005	<0.0005	<0.0005	NA
S-1	07/10/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	NA
S-1	10/09/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	NA
S-1	01/24/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	NA
S-1	04/23/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	NA
S-1	07/01/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	NA
FB	07/01/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	NA
TB	07/10/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	NA
TB	10/09/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	NA
TB	01/24/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	NA
TB	04/23/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	NA
TB	07/01/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	NA

TPH-g = total petroleum hydrocarbons as gasoline
TPH-d = total petroleum hydrocarbons as diesel
NA = Not analyzed
+ = Compounds detected are not characteristic of the standard gasoline chromatographic pattern

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

Shell Station: 2160 Otis Drive
Alameda, California
WIC #: 204-0072-0502

Date: 07/27/92
Project Number: G67-30.01

Sample Designation	Water Sample Field Date	Benzene (mg/l)	TCE (mg/l)	TCA (mg/l)	PCE (mg/l)	Chloroform (mg/l)	cis-1,2-DCE (mg/l)	trans-1,2-DCE (mg/l)	1,2-DCA (mg/l)	Carbon Disulfide (mg/l)	Vinyl Chloride (mg/l)
MW-2	07/10/91	0.0092*	NR	NR	0.0069*	0.043*	NR	NR	NR	0.014*	NR
MW-2	10/09/91	NR	0.0019	NR	0.0128	0.0074	0.054	0.016	NR	NR	0.0017
MW-2	01/24/92	NA	0.0025	<0.0005	0.0070	0.0190	0.0160	0.0043	0.0006	NA	<0.0005
MW-2	04/23/92	NA	<0.003	<0.003	0.003	<0.003	0.084	0.018	<0.003	NA	<0.003
MW-2	07/01/92	NA	0.002	<0.001	0.002	<0.001	0.054	0.014	<0.001	NA	0.001

TCE = Trichloroethene
TCA = 1,1,1-Trichloroethane
PCE = Tetrachloroethene
cis-1,2-DCE = cis-1,2-Dichloroethene
trans-1,2-DCE = trans-1,2-Dichloroethene
1,2-DCA = 1,2-Dichloroethane
* = Analyzed by EPA method 8240
NR = Not reported; data not available
NA = Not analyzed

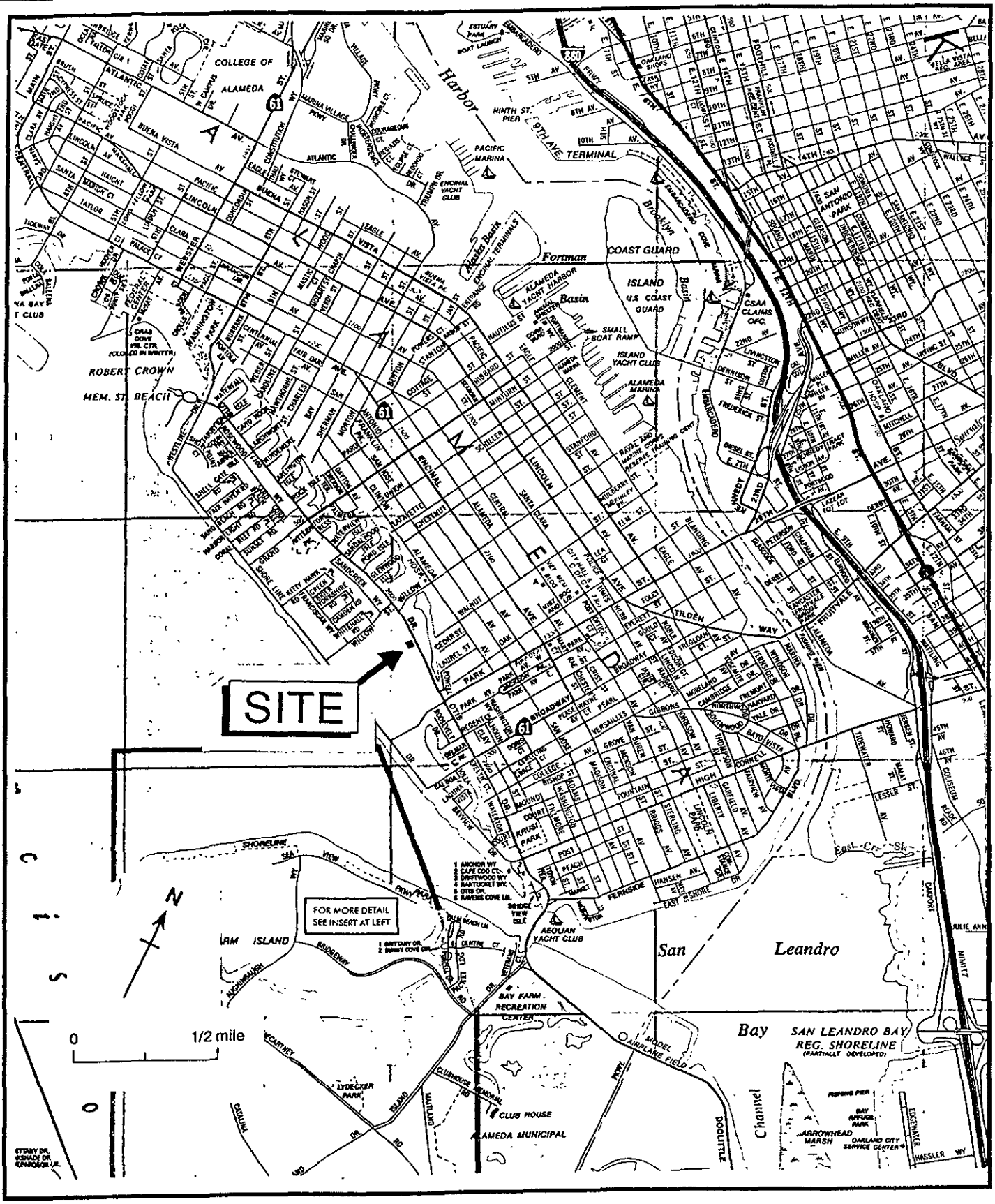


Figure 1. Site Location Map
Shell Service Station WIC #204-0072-0502
2160 Otis Drive, Alameda, California

8/21/90

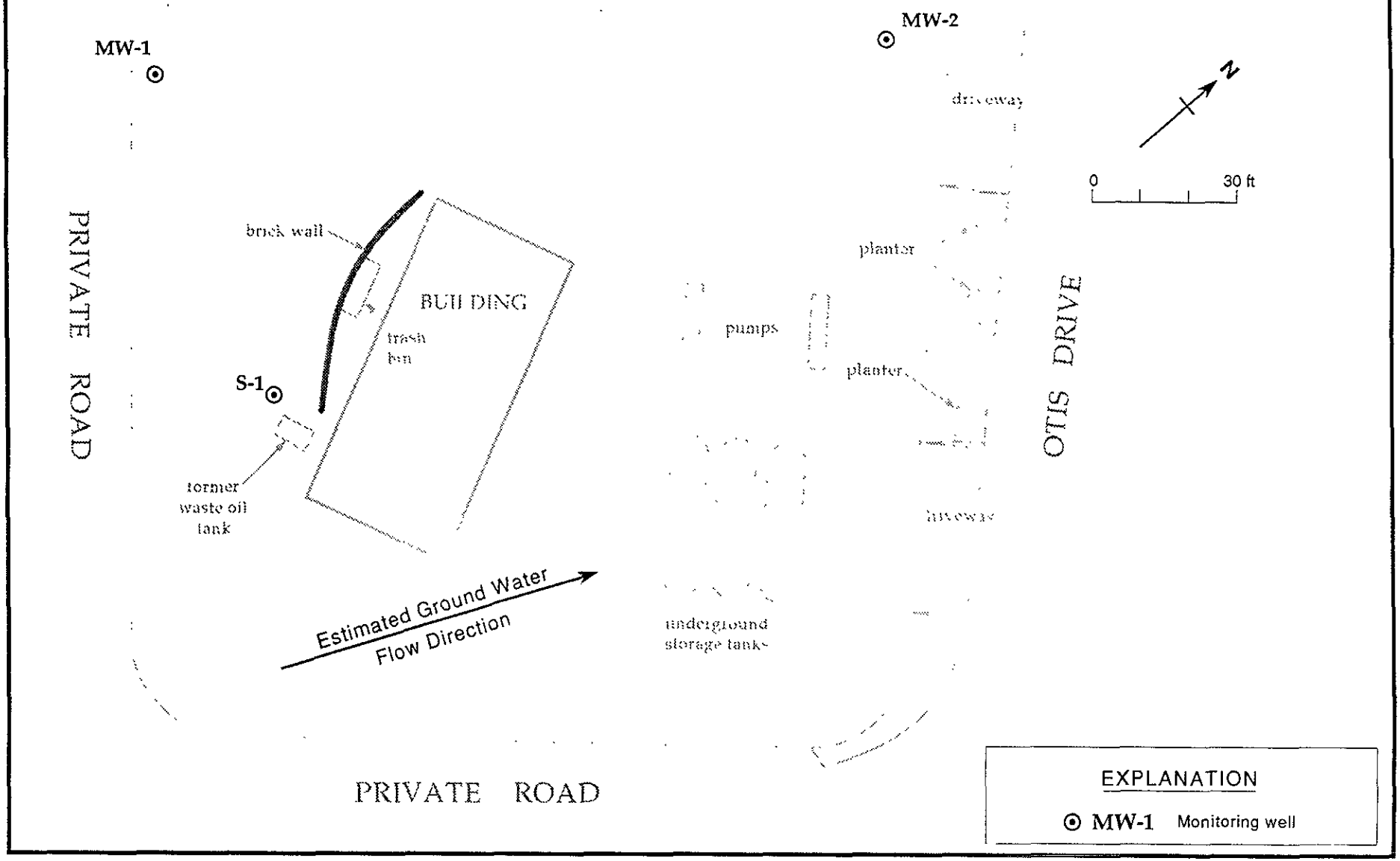


Figure 2. Monitoring Well Locations - Shell Service Station WIC #204-0072-0502, 2160 Otis Drive, Alameda, California

5/19/92

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 # : 9207037
Date Received : 07/06/92
Project ID : G67-30.01
Purchase Order: MOH-B813

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

ANAMETRIX ID	CLIENT SAMPLE ID
9207037- 1	MW-1
9207037- 2	S-1
9207037- 3	MW-2
9207037- 4	TB
9207037- 5	FB

This report consists of 11 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.

Larry Kent for
Sarah Schoen, Ph.D.
Laboratory Director

07-16-92
Date

EMCON ASSOCIATES
JUL 17 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 Anametrix 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

Anametrix 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 # : 9207037
Date Received : 07/06/92
Project ID : G67-30.01
Purchase Order: MOH-B813
Department : GC
Sub-Department: VOA

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9207037- 3	MW-2	WATER	07/01/92	601

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

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

Workorder # : 9207037
Date Received : 07/06/92
Project ID : G67-30.01
Purchase Order: MOH-B813
Department : GC
Sub-Department: VOA

QA/QC SUMMARY :

- No QA/QC problems encountered for this sample.

Corinne Ham 7/16/92
Department Supervisor Date

Kamel G. Kamel 7/16/92
Chemist Date

DESCRIPTIONS FOR SPECIFIC COMPOUNDS ANALYZED
EPA METHOD 601/8010

CAS #	COMPOUND NAME	ABBREVIATED NAME
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	Trichlrofluoromethane	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

mh/3426 - 10MH

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

Sample I.D.	: MW-2	Anametrix I.D.	: 9207037-03
Matrix	: WATER	Analyst	: KK
Date sampled	: 07/01/92	Supervisor	: CP
Date analyzed	: 07/15/92	Date released	: 07/16/92
Dilution	: 2	Instrument ID	: HP14

CAS #	Compound Name	Reporting Limit (mg/L)	Amount Found (mg/L)
74-87-3	* Chloromethane	0.002	ND
74-83-9	* Bromomethane	0.001	ND
75-71-8	* Dichlorodifluoromethane	0.002	ND
75-01-4	* Vinyl Chloride	0.001	0.001
75-00-3	* Chloroethane	0.001	ND
75-09-2	* Methylene Chloride	0.001	ND
75-69-4	* Trichlorofluoromethane	0.001	ND
75-35-4	* 1,1-Dichloroethene	0.001	ND
75-34-3	* 1,1-Dichloroethane	0.001	ND
156-59-2	# Cis-1,2-Dichloroethene	0.001	0.054
156-60-5	* Trans-1,2-Dichloroethene	0.001	0.014
67-66-3	* Chloroform	0.001	ND
76-13-1	# Trichlorotrifluoroethane	0.001	ND
107-06-2	* 1,2-Dichloroethane	0.001	ND
71-55-6	* 1,1,1-Trichloroethane	0.001	ND
56-23-5	* Carbon Tetrachloride	0.001	ND
75-27-4	* Bromodichloromethane	0.001	ND
78-87-5	* 1,2-Dichloropropane	0.001	ND
10061-02-6	* Trans-1,3-Dichloropropene	0.001	ND
79-01-6	* Trichloroethene	0.001	0.002
124-48-1	* Dibromochloromethane	0.001	ND
79-00-5	* 1,1,2-Trichloroethane	0.001	ND
10061-01-5	* cis-1,3-Dichloropropene	0.001	ND
110-75-8	* 2-Chloroethylvinylether	0.002	ND
75-25-2	* Bromoform	0.001	ND
127-18-4	* Tetrachloroethene	0.001	0.002
79-34-5	* 1,1,2,2-Tetrachloroethane	0.001	ND
108-90-7	* Chlorobenzene	0.001	ND
95-50-1	* 1,2-Dichlorobenzene	0.002	ND
541-73-1	* 1,3-Dichlorobenzene	0.002	ND
106-46-7	* 1,4-Dichlorobenzene	0.002	ND
	% Surrogate Recovery	51-136%	99%

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 Anametrix, Inc.

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

Sample I.D.	: VBLANK	Anametrix I.D.	: 14B0715H01
Matrix	: WATER	Analyst	: KK
Date sampled	: N/A	Supervisor	:
Date analyzed	: 07/15/92	Date released	: 07/16/92
Dilution	: NONE	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%	87%

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 Anametrix, Inc.

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

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

Workorder # : 9207037
Date Received : 07/06/92
Project ID : G67-30.01
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9207037- 1	MW-1	WATER	07/01/92	TPHg/BTEX
9207037- 2	S-1	WATER	07/01/92	TPHg/BTEX
9207037- 3	MW-2	WATER	07/01/92	TPHg/BTEX
9207037- 4	TB	WATER	07/01/92	TPHg/BTEX
9207037- 5	FB	WATER	07/01/92	TPHg/BTEX

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

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

Workorder # : 9207037
Date Received : 07/06/92
Project ID : G67-30.01
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- No QA/QC problems encountered for these samples.

Department Supervisor — Date: 7/15/92

Chemist — Date: 7/15/92

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

Anametrix W.O.: 9207037
Matrix : WATER
Date Sampled : 07/01/92

Project Number : G67-30.01
Date Released : 07/15/92

COMPOUNDS	Reporting Limit (mg/L)	Sample I.D.# MW-1 -01	Sample I.D.# S-1 -02	Sample I.D.# MW-2 -03	Sample I.D.# TB -04	Sample I.D.# FB -05
Benzene	0.0005	ND	ND	0.019	ND	ND
Toluene	0.0005	ND	ND	ND	ND	ND
Ethylbenzene	0.0005	ND	ND	ND	ND	ND
Total Xylenes	0.0005	ND	ND	ND	ND	ND
TPH as Gasoline	0.050	ND	ND	0.13	ND	ND
% Surrogate Recovery		89%	91%	76%	91%	115%
Instrument I.D.		HP4	HP4	HP4	HP4	HP4
Date Analyzed		07/09/92	07/09/92	07/09/92	07/09/92	07/09/92
RLMF		1	1	1	1	1

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

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 53-147%.

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

Analyst 7/15/92 Date

Supervisor 7/15/92 Date

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

Anametrix W.O.: 9207037
Matrix : WATER
Date Sampled : N/A

Project Number : G67-30.01
Date Released : 07/15/92

COMPOUNDS	Reporting Limit (mg/L)	Sample I.D.# BL0902E2 BLANK
Benzene	0.0005	ND
Toluene	0.0005	ND
Ethylbenzene	0.0005	ND
Total Xylenes	0.0005	ND
TPH as Gasoline	0.050	ND
% Surrogate Recovery		109%
Instrument I.D.		HP4
Date Analyzed		07/09/92
RLMF		1

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

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 53-147%.

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

Lucia Shor 7/15/92
Analyst Date

Cheryl Bacon 7/15/92
Supervisor Date

BTEX MATRIX SPIKE REPORT
EPA METHOD 5030 WITH GC/PID
ANAMETRIX, INC. (408) 432-8192

SAMPLE I.D. : G67-30.01 MW-1
Matrix : WATER
Date Sampled : 07/01/92
Date Analyzed : 07/09/92

Anametrix I.D.: 9207037-01
Analyst : IS
Supervisor : CA
Date Released : 07/15/92
Instrument ID : HP4

COMPOUND	SPIKE AMT. (mg/L)	MS (mg/L)	REC MS	MSD (mg/L)	REC MSD	RPD	%REC LIMITS
Benzene	0.020	0.023	115%	0.025	125%	8%	49-159
Toluene	0.020	0.021	105%	0.023	115%	9%	53-156
Etylbenzene	0.020	0.021	105%	0.023	115%	9%	54-151
M+P-Xylenes	0.0133	0.0130	98%	0.0140	105%	7%	56-157
O-Xylene	0.0067	0.0082	122%	0.0090	134%	9%	58-154
P-BFB			83%		80%		53-147

* Limits established by Anametrix, Inc.

Site Address: 2160 Otis Drive, Alameda, CA (18) (16)

WIC#: 204-0072-0502

Shell Engineer: Dan Kirk / ~~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 (HCl) for G, BTEX
~~3-VOAs (NP) for 601~~
Collected HCl VOAs for 601

Sampled By: M. J. Gallegos

Printed Name: Manuel Gallegos

Serial No.: 530

Page / of /

LAB: Anametrix

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
① MW-1	7-1-92		X		3	X		X				40 ml	NP/ HCl	No	Bubbles
② S-1	7-1-92				3	X		X							
③ MW-2	7-1-92				6	X		X			X				Bubbles
④ TB	7-1-92				3	X		X							Bubbles
⑤ FB	7-1-92				3	X		X							Bubbles
6															

CHECK ONE (1) BOX ONLY — **CT/DT**

Quarterly Monitoring	XXX	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 AROUN

- 24 hours [ ]
- 48 hours [ ]
- 15 days XXX (No
- Other [ ] ___

NOTE: Notify La soon as possible o 24/48 hrs. TAT.

SAMPLI CONDITIO COMMEN

Relinquished By (signature): M. J. Gallegos — **Printed name:** Manuel Gallegos — **Date:** 7/6/92 — **Time:** 1030 — **Received (signature):** Benny S. Carrizosa

Relinquished By (signature): Benny S. Carrizosa — **Printed name:** Benny S. Carrizosa — **Date:** 7-6-92 — **Time:** 1240 — **Received (signature):** Michele D. Aguilar

Relinquished By (signature): — **Printed name:** — **Date:** — **Time:** — **Received (signature):** — **Printed name:** Michele D Aguilar — **Date:** 7/6/92 — **Time:** 1240

Printed name: Benny S. Carrizosa — **Date:** 7-6-92 — **Time:** 1030

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

Last Revision Date: 10/15/91