



92 JUL 24 PM 11:30

TRANSMITTAL LETTER

FROM: J. Michael Asport

DATE: July 22, 1992

TO: Richard Hiatt
Water Quality Control Board
San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, CA 94612

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

SUBJECT: Shell Service Station
WIC #204-5508-5801
500 - 40th Street
Oakland, California

JOB: 81-601-201

609

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: _____ 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: Paul Hayes, Shell Oil Company, P.O. Box 5278, Concord, California 94520-9998
Brian Oliva, Alameda County Department of Environmental Health, 80 Swan Way,
Oakland, CA 94621-1426



July 20, 1992

05-11-1992 10:15:30

Richard Hiett
Regional Water Quality Control Board
San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, CA 94612

Re: Shell Service Station
WIC #204-5508-5801
500 - 40th Street
Oakland, California
WA Job #81-601-201

Dear Mr. Hiett,

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 depths to ground water and collected ground water samples from nine of the twelve site wells. Wells OMW-9, OMW-11 and OMW-13 were inaccessible and were not sampled. Since the analytical laboratory has consistently reported that the detected total petroleum hydrocarbons as diesel (TPH-D) in wells MW-2, MW-3, and MW-6 were actually gasoline, we will no longer analyze for TPH-D. EMCON's report describing these 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).

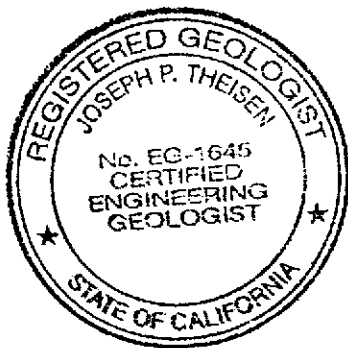
Mr. Richard Hiett
July 20, 1992

2

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.

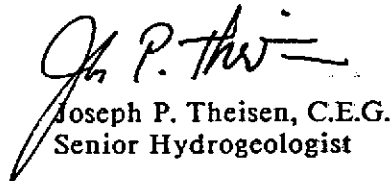
Please call if you have any questions.



Sincerely,
Weiss Associates



J. Michael Asport
Technical Assistant



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

JMA/JPT:jma

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Attachments: Figures

A - EMCON's Ground Water Monitoring Report

cc: Paul Hayes, Shell Oil Company, P.O. Box 5278, Concord, CA 94520-9998
Brian Oliva, Alameda County Department of Environmental Health, 80 Swan Way,
Room 200, Oakland, CA 94621-1426

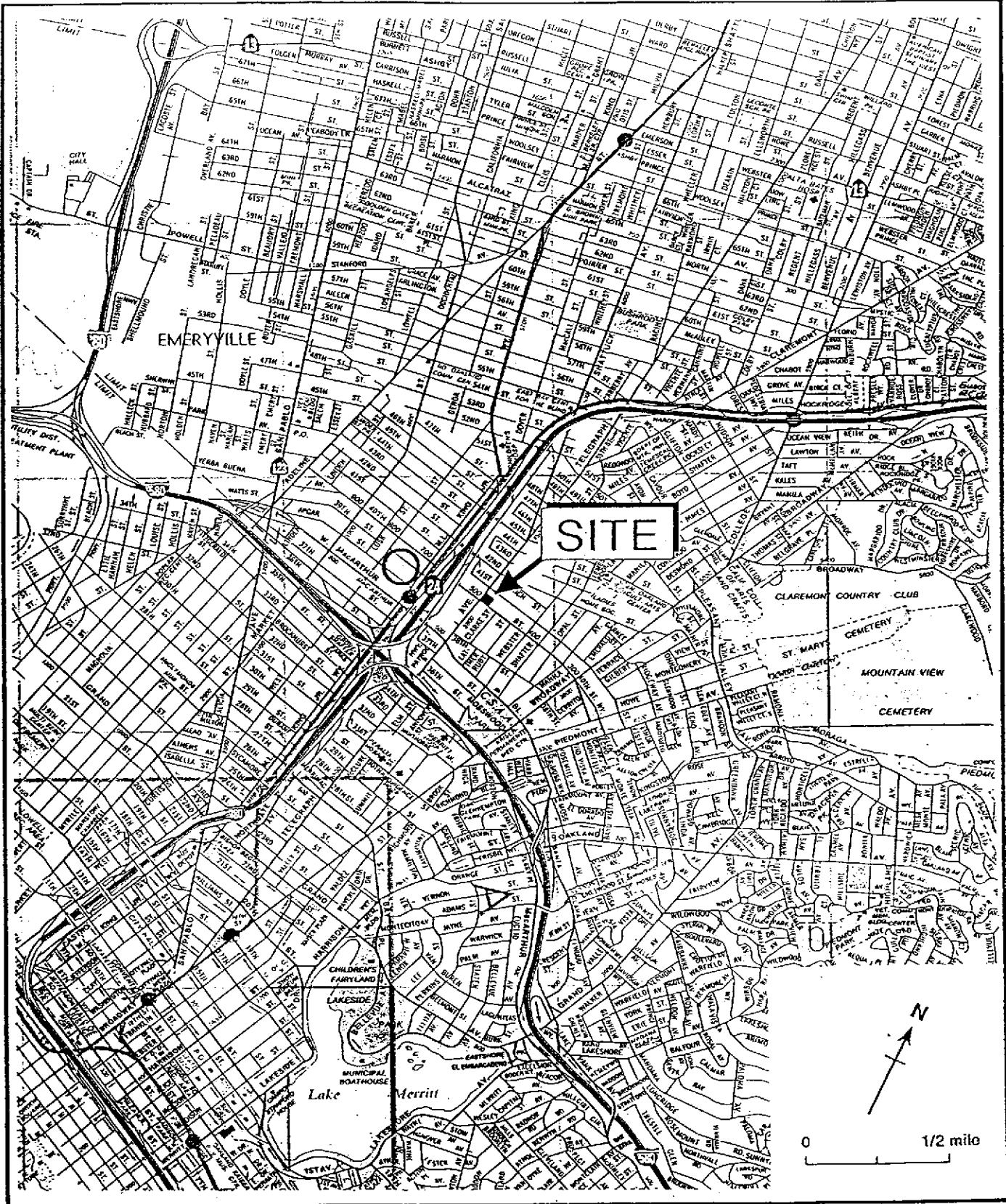


Figure 1. Site Location Map - Shell Service Station WIC #204-5508-4903, 500 40th Street, Oakland, California

EXPLANATION	
⊙ MW-1	Monitoring well
⊙ OMW-10	Offsite monitoring well
● EW-1	Extraction well
67.59	Ground water elevation, ft above mean sea level
65.42	Ground water elevation anomalous, not used for contouring
NM	Not measured, well inaccessible
- 68	Ground water elevation contour, feet above mean sea level, approximately located, dashed where inferred
→	Inferred ground water flow direction

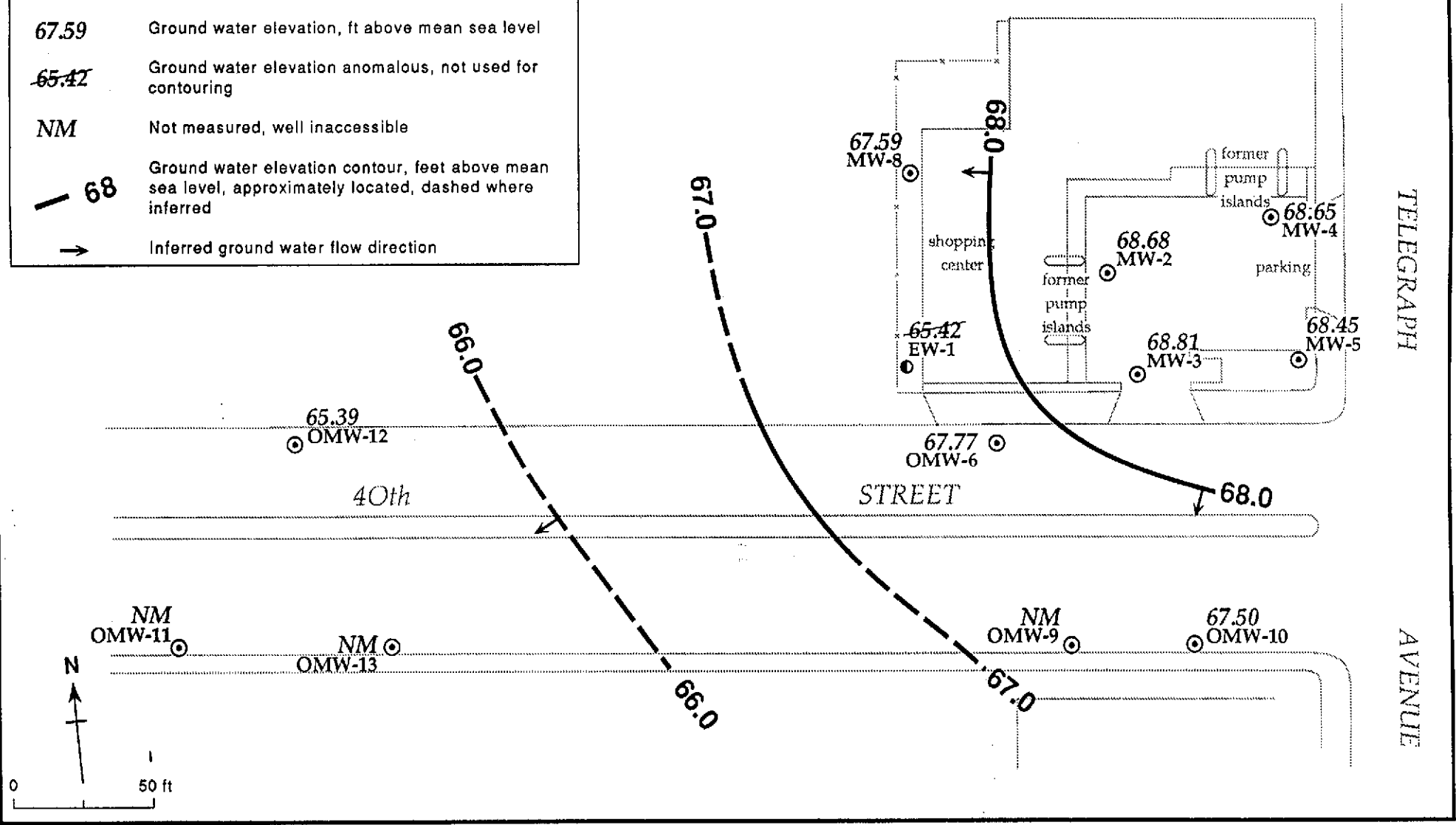


Figure 2. Monitoring Well Locations and Ground Water Elevation Contours - May 20, 1992 - Shell Service Station, WIC #204-5508-4903, 500 40th Street, Oakland, California

ATTACHMENT A
GROUND WATER MONITORING REPORT AND ANALYTIC REPORT



EMCON
ASSOCIATES

Consultants in Wastes
Management and
Environmental Control

June 15, 1992
Project: G67-49.01
WIC#: 204-5508-4903

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

Re: Second quarter 1992 ground-water monitoring report, Shell Oil
Company, 500 40th Street, Oakland, 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 500 40th Street, Oakland, California (figure 1). Second quarter monitoring was conducted on May 20, 21, and 22, 1992. Wells OMW-9, OMW-11, and OMW-13 were inaccessible on May 20, 21, and 22 (due to parked cars), and were not monitored during second quarter. 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 EW-1, MW-2 through MW-5, OMW-6, MW-8, OMW-10, and OMW-12 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 monitoring wells EW-1, MW-2 through MW-5, OMW-6, MW-8, OMW-10, and OMW-12 on May 20, 21, and 22, 1992. Prior to sample collection, the wells were purged with an electric submersible pump (well EW-1) or polyvinyl chloride bailers (all other wells). 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 OMW-10 was evacuated to dryness before three casings were

G674901B.DOC



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 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 55-gallon drums. The drums were identified with Shell-approved labels 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 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).

ANALYTICAL RESULTS

Analytical results for the second quarter 1992 monitoring event, and available results from four previous monitoring events, are summarized in table 2. The original certified analytical report and 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
Figure 1 - Site location map
Figure 2 - Monitoring well locations
Certified analytical report
Chain-of-custody document

Table 1
Monitoring Well Field Measurement Data
Second Quarter 1992

Shell Station: 500 40th Street
Oakland, California
WIC #: 204-5508-4903

Date: 06/12/92
Project Number: G67-49.01

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)
EW-1	05/30/91	78.26	12.88	65.38	NR	ND	05/31/91	NR	NR	NR	NR
EW-1	08/06/91	78.26	NR	NR	NR	ND	08/06/91	NR	NR	NR	NR
EW-1	10/30/91	78.26	12.72	65.54	NR	ND	10/30/91	NR	NR	NR	NR
EW-1	03/18/92	78.26	11.71	66.55	38.6	ND	02/15/92	6.56	575	62.5	24
EW-1	05/20/92	78.26	12.84	65.42	38.5	ND	05/22/92	6.64	676	66.3	6.0
MW-2	05/30/91	80.80	11.96	68.84	NR	ND	05/30/91	NR	NR	NR	NR
MW-2	08/06/91	80.80	12.12	68.68	NR	ND	08/07/91	NR	NR	NR	NR
MW-2	10/30/91	80.80	11.70	69.10	NR	ND	10/30/91	NR	NR	NR	NR
MW-2	03/18/92	80.80	11.10	69.70	19.5	ND	02/15/92	6.25	401	64.7	130
MW-2	05/20/92	80.80	12.12	68.68	19.5	ND	05/21/92	6.50	465	69.9	>200
MW-3	05/30/91	79.60	11.10	68.50	NR	ND	05/30/91	NR	NR	NR	NR
MW-3	08/06/91	79.60	11.12	68.48	NR	ND	08/07/91	NR	NR	NR	NR
MW-3	10/30/91	79.60	10.93	68.67	NR	ND	10/30/91	NR	NR	NR	NR
MW-3	03/18/92	79.60	10.54	69.06	18.7	ND	02/15/92	6.28	409	64.1	96
MW-3	05/20/92	79.60	10.79	68.81	18.7	ND	05/21/92	6.58	500	69.1	>200
MW-4	05/30/91	81.00	12.18	68.82	NR	ND	05/30/91	NR	NR	NR	NR
MW-4	08/06/91	81.00	12.36	68.64	NR	ND	08/07/91	NR	NR	NR	NR
MW-4	10/30/91	81.00	12.02	68.98	NR	ND	10/30/91	NR	NR	NR	NR
MW-4	03/18/92	81.00	11.34	69.66	14.9	ND	02/15/92	6.26	339	66.2	40
MW-4	05/20/92	81.00	12.35	68.65	14.9	ND	05/21/92	6.27	394	70.7	>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 1
Monitoring Well Field Measurement Data
Second Quarter 1992

Shell Station: 500 40th Street
Oakland, California
WIC #: 204-5508-4903

Date: 06/12/92
Project Number: G67-49.01

Well Designation	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-5	05/30/91	81.50	12.88	68.62	NR	ND	05/30/91	NR	NR	NR	NR
MW-5	08/06/91	81.50	13.02	68.48	NR	ND	08/07/91	NR	NR	NR	NR
MW-5	10/30/91	81.50	12.73	68.77	NR	ND	10/30/91	NR	NR	NR	NR
MW-5	03/18/92	81.50	12.52	68.98	20.1	ND	02/15/92	6.45	377	66.1	>200
MW-5	05/20/92	81.50	13.05	68.45	20.2	ND	05/20/92	6.43	367	67.3	>200
OMW-6	05/30/91	77.90	10.00	67.90	NR	ND	05/30/91	NR	NR	NR	NR
OMW-6	08/06/91	77.90	10.71	67.19	NR	ND	08/06/91	NR	NR	NR	NR
OMW-6	10/30/91	77.90	10.50	67.40	NR	ND	10/30/91	NR	NR	NR	NR
OMW-6	03/18/92	77.90	9.24	68.66	20.1	ND	02/15/92	6.57	957	61.9	144
OMW-6	05/20/92	77.90	10.13	67.77	20.2	ND	05/21/92	6.60	1249	68.1	>200
MW-8	05/30/91	79.91	12.20	67.71	NR	ND	05/31/91	NR	NR	NR	NR
MW-8	08/06/91	79.91	13.08	66.83	NR	ND	08/06/91	NR	NR	NR	NR
MW-8	10/30/91	79.91	12.87	67.04	NR	ND	10/30/91	NR	NR	NR	NR
MW-8	03/18/92	79.91	11.54	68.37	38.7	ND	02/15/92	6.28	381	62.2	>200
MW-8	05/20/92	79.91	12.32	67.59	38.8	ND	05/20/92	6.69	372	68.2	>200
OMW-9	05/30/91	77.71	9.86	67.85	NR	ND	05/30/91	NR	NR	NR	NR
OMW-9	08/06/91	77.71	10.38	67.33	NR	ND	08/06/91	NR	NR	NR	NR
OMW-9	10/30/91	77.71	NR	NR	NR	ND	10/30/91	NR	NR	NR	NR
OMW-9	03/18/92	77.71	8.76	68.95	17.2	ND	03/18/92	6.81	663	62.3	>200
OMW-9	05/20/92	77.71	IW	IW	IW	IW	05/20/92	IW	IW	IW	IW

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
IW = Inaccessible well; well was inaccessible and was not sampled

Table 1
Monitoring Well Field Measurement Data
Second Quarter 1992

Shell Station: 500 40th Street
Oakland, California
WIC #: 204-5508-4903

Date: 06/12/92
Project Number: G67-49.01

Well Designation	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)
OMW-10	05/30/91	77.91	9.87	68.04	NR	ND	05/31/91	NR	NR	NR	NR
OMW-10	08/08/91	77.91	10.00	67.91	NR	ND	08/07/91	NR	NR	NR	NR
OMW-10	10/31/91	77.91	10.10	67.81	NR	ND	10/31/91	NR	NR	NR	NR
OMW-10	03/18/92	77.91	9.55	68.36	16.0	ND	02/15/92	6.61	469	59.3	>200
OMW-10	05/20/92	77.91	10.41	67.50	16.0	ND	05/21/92	6.93	543	70.3	>200
OMW-11	11/22/91	75.76	11.90	63.86	NR	NR	11/22/91	NR	NR	NR	NR
OMW-11	02/15/92	75.76	IW	IW	IW	IW	02/15/92	IW	IW	IW	IW
OMW-11	03/18/92	75.76	IW	IW	IW	IW	03/18/92	IW	IW	IW	IW
OMW-11	05/20/92	75.76	IW	IW	IW	IW	05/20/92	IW	IW	IW	IW
OMW-12	12/02/91	75.65	10.31	65.34	NR	NR	12/02/91	NR	NR	NR	NR
OMW-12	03/18/92	75.65	8.93	66.72	19.5	ND	03/18/92	6.23	458	65.0	>200
OMW-12	05/20/92	75.65	10.26	65.39	19.4	ND	05/20/92	6.55	434	65.9	>200
OMW-13	11/22/91	76.36	11.96	64.40	NR	NR	11/22/91	NR	NR	NR	NR
OMW-13	03/18/92	76.36	10.84	65.52	21.0	ND	03/18/92	6.50	885	66.8	>200
OMW-13	05/20/92	76.36	IW	IW	IW	IW	05/20/92	IW	IW	IW	IW

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

IW = Inaccessible well; well was inaccessible and was not sampled

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

Shell Station: 500 40th Street
 Oakland, California
 WIC #: 204-5508-4903

Date: 06/12/92
 Project Number: G67-49.01

Sample Designation	Water Sample Field Date	TPH-g	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPH-d
		(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)
EW-1	05/31/91	0.25	0.012	<0.0005	0.0029	<0.0005	<0.05
EW-1	08/06/91	0.18	0.0054	<0.0005	0.0009	0.0007	<0.05
EW-1	10/30/91	0.07	0.0026	<0.0005	<0.0005	<0.0005	<0.05
EW-1	02/15/92	<0.05	0.0021	<0.0005	<0.0005	<0.0005	NA
EW-1	05/22/92	0.099	0.0041	<0.0005	<0.0005	<0.0005	NA
MW-2	05/30/91	1.4	0.023	<0.0005	0.038	0.059	0.15
MW-2	08/07/91	1.2	0.059	0.0011	0.038	0.056	0.23
MW-2	10/30/91	0.52	0.056	<0.0005	0.056	0.1	0.3
MW-2	02/15/92	2.3	0.087	<0.0025	0.088	0.15	2.2#
MW-2	05/21/92	0.70	0.024	0.0010	0.034	0.048	NA
MW-3	05/30/91	2.5	0.16	0.047	0.053	0.18	0.22
MW-3	08/07/91	1.9	0.22	0.057	0.057	0.26	0.47
MW-3	10/30/91	1.9	0.16	0.028	0.063	0.18	0.48
MW-3	02/15/92	2.3	0.17	0.031	0.059	0.18	0.78#
MW-3	05/21/92	1.5	0.16	0.020	0.044	0.14	NA
MW-4	05/30/91	NR	NR	NR	NR	NR	NR
MW-4	08/07/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.05
MW-4	10/30/91	0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.05
MW-4	02/15/92	0.09	0.0009	<0.0005	<0.0005	<0.0005	NA
MW-4	05/21/92	<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 and calculated as diesel appear to be the less volatile constituents of gasoline

NR = Not reported; data not available

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

Shell Station: 500 40th Street
Oakland, California
WIC #: 204-5508-4903

Date: 06/12/92
Project Number: G67-49.01

Sample Designation	Water Sample Field Date	TPH-g	Benzene	Toluene	Ethylbenzene	Total Xylenes	TPH-d
		(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)
MW-5	05/30/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.05
MW-5	08/07/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.05
MW-5	10/30/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.05
MW-5	02/15/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	NA
MW-5	05/20/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	NA
OMW-6	05/30/91	31.	0.73	0.40	0.51	2.4	2.6
OMW-6	08/06/91	26.	0.91	0.42	0.58	1.9	3.6
OMW-6	10/30/91	20.	0.71	0.24	0.41	1.7	4.6
OMW-6	02/15/92	35.	0.69	0.42	0.65	3.0	27.#
OMW-6	05/21/92	15.	0.46	0.11	0.30	1.6	NA
MW-8	05/31/91	0.08	<0.0005	<0.0005	<0.0005	<0.0005	<0.05
MW-8	08/06/91	0.09	<0.0005	<0.0005	<0.0005	<0.0005	<0.05
MW-8	10/30/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.05
MW-8	02/15/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	NA
MW-8	05/20/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	NA
OMW-9	05/30/91	3.2	0.049	0.016	0.059	0.110	0.28
OMW-9	08/06/91	3.9	0.058	0.0088	0.080	0.220	0.19
OMW-9	10/30/91	NR	NR	NR	NR	NR	NR
OMW-9	03/18/92	1.8*	0.084	0.011	0.049	0.060	0.21
OMW-9	05/20/92	IW	IW	IW	IW	IW	IW

TPH-g = total petroleum hydrocarbons as gasoline

TPH-d = total petroleum hydrocarbons as diesel

NA = Not analyzed

= Compounds detected and calculated as diesel appear to be the less volatile constituents of gasoline

NR = Not reported; data not available

* = Compounds detected and calculated as gasoline do not match the standard gasoline chromatographic pattern

IW = Inaccessible well; well was inaccessible and was not sampled

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

Shell Station: 500 40th Street
 Oakland, California
 WIC #: 204-5508-4903

Date: 06/12/92
 Project Number: G67-49.01

Sample Designation	Water Sample Field Date	TPH-g (mg/l)	Benzene (mg/l)	Toluene (mg/l)	Ethylbenzene (mg/l)	Total Xylenes (mg/l)	TPH-d (mg/l)
OMW-10	05/31/91	0.69	0.063	0.0022	0.024	0.016	<0.05
OMW-10	08/07/91	0.46	0.073	0.001	0.018	0.0084	<0.05
OMW-10	10/31/91	0.63	0.100	<0.0005	0.033	0.026	0.15
OMW-10	02/15/92	0.81	0.085	0.0025	0.044	0.038	0.57#
OMW-10	05/21/92	0.28	0.047	0.0007	0.0040	0.0031	NA
OMW-11	11/22/91	0.45	0.0011	<0.0005	<0.0005	<0.0005	0.24
OMW-11	02/15/92	IW	IW	IW	IW	IW	IW
OMW-11	03/18/92	IW	IW	IW	IW	IW	IW
OMW-11	05/20/92	IW	IW	IW	IW	IW	IW
OMW-12	12/02/91	<1	<0.0005	<0.0005	<0.0005	<0.0005	<0.05
OMW-12	03/18/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.05
OMW-12	05/20/92	0.18^	<0.0005	<0.0005	<0.0005	<0.0005	NA
OMW-13	11/22/91	0.90	0.037	0.0095	0.074	0.130	1.0
OMW-13	03/18/92	9.*	0.24	0.028	0.32	0.32	0.59#
OMW-13	05/20/92	IW	IW	IW	IW	IW	IW
TB	02/15/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.05
TB	03/18/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	NA
TB	05/21/92	<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

= Compounds detected and calculated as diesel appear to be the less volatile constituents of gasoline

NA = Not analyzed

IW = Inaccessible well; well was inaccessible and was not sampled

^ = Concentration reported as gasoline is primarily due to the presence of discrete hydrocarbon peaks not indicative of gasoline

* = Compounds detected and calculated as gasoline do not match the standard gasoline chromatographic pattern

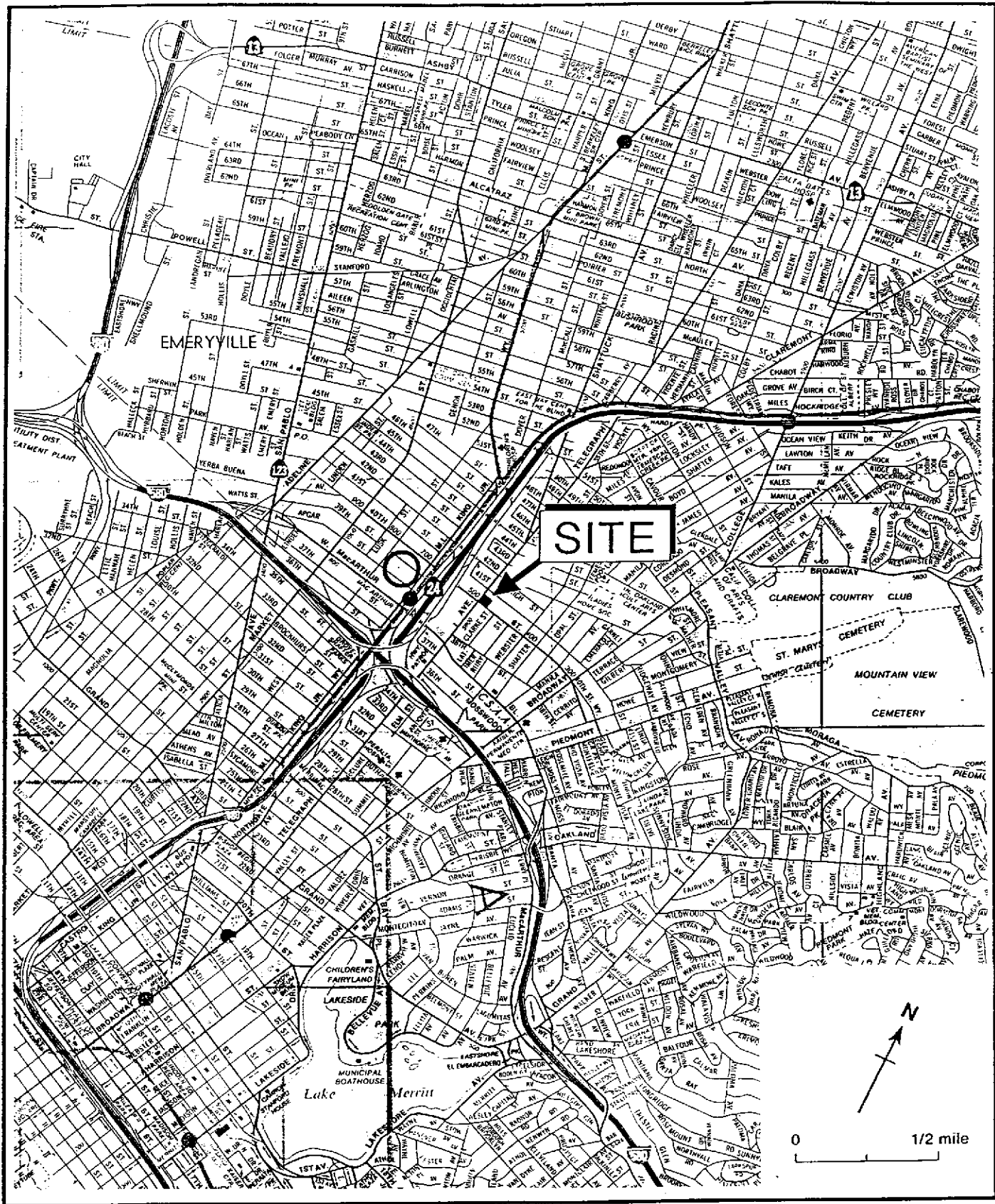


Figure 1. Site Location Map - Shell Service Station WIC #204-5508-4903, 500 40th Street, Oakland, California

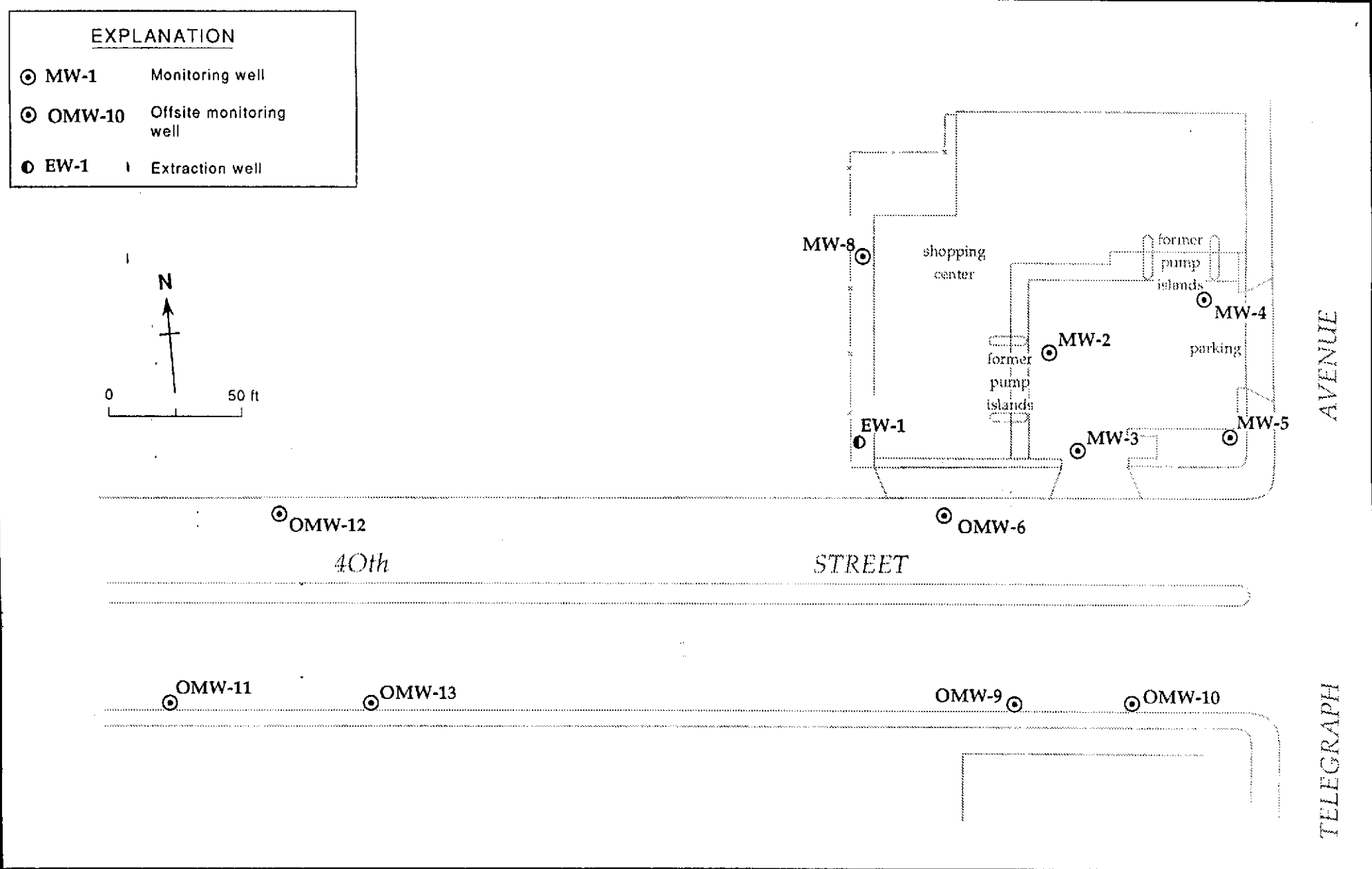


Figure 2. Monitoring Well Locations - Shell Service Station WIC #204-5508-4903, 500 40th Street, Oakland, California

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 # : 9205328
 Date Received : 05/22/92
 Project ID : G67-49.01
 Purchase Order: MOH-B813

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

ANAMETRIX ID	CLIENT SAMPLE ID
9205328- 1	MW-5
9205328- 2	MW-8
9205328- 3	OMW-12
9205328- 4	MW-4
9205328- 5	OMW-10
9205328- 6	MW-2
9205328- 7	MW-3
9205328- 8	OMW-6
9205328- 9	TB
9205328-10	EW-1

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

6-08-92

Date

EMCON ASSOCIATES

JUN 11 1992

RECEIVED

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

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

Workorder # : 9205328
Date Received : 05/22/92
Project ID : G67-49.01
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9205328- 1	MW-5	WATER	05/20/92	TPHg/BTEX
9205328- 2	MW-8	WATER	05/20/92	TPHg/BTEX
9205328- 3	OMW-12	WATER	05/20/92	TPHg/BTEX
9205328- 4	MW-4	WATER	05/21/92	TPHg/BTEX
9205328- 5	OMW-10	WATER	05/21/92	TPHg/BTEX
9205328- 6	MW-2	WATER	05/21/92	TPHg/BTEX
9205328- 7	MW-3	WATER	05/21/92	TPHg/BTEX
9205328- 8	OMW-6	WATER	05/21/92	TPHg/BTEX
9205328- 9	TB	WATER	05/21/92	TPHg/BTEX
9205328-10	EW-1	WATER	05/22/92	TPHg/BTEX

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

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

Workorder # : 9205328
Date Received : 05/22/92
Project ID : G67-49.01
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- The concentration reported as gasoline for sample OMW-12 is primarily due to the presence of discrete hydrocarbon peaks not indicative of gasoline.

Cheryl Bulmer 6/8/92
Department Supervisor Date

Laura Sher 6/8/92
Chemist Date

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

Anamatrix W.O.: 9205328
Matrix : WATER
Date Sampled : 05/20 - 21/92

Project Number : G67-49.01
Date Released : 06/08/92

COMPOUNDS	Reporting Limit (mg/L)	Sample I.D.# MW-5	Sample I.D.# MW-8	Sample I.D.# OMW-12	Sample I.D.# MW-4	Sample I.D.# OMW-10
Benzene	0.0005	ND	ND	ND	ND	0.047
Toluene	0.0005	ND	ND	ND	ND	0.0007
Ethylbenzene	0.0005	ND	ND	ND	ND	0.0040
Total Xylenes	0.0005	ND	ND	ND	ND	0.0031
TPH as Gasoline	0.050	ND	ND	0.18	ND	0.28
% Surrogate Recovery		98%	91%	117%	88%	104%
Instrument I.D.		HP12	HP12	HP12	HP12	HP12
Date Analyzed		06/01/92	06/01/92	06/01/92	06/01/92	06/01/92
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.

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

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

Luisa Stor 6/8/92
Analyst Date

Cheyl Beulman 6/8/92
Supervisor Date

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

Anamatrix W.O.: 9205328
Matrix : WATER
Date Sampled : 05/21 - 22/92

Project Number : G67-49.01
Date Released : 06/08/92

COMPOUNDS	Reporting Limit (mg/L)	Sample I.D.# MW-2	Sample I.D.# MW-3	Sample I.D.# OMW-6	Sample I.D.# TB	Sample I.D.# EW-1
Benzene	0.0005	0.024	0.16	0.46	ND	0.0041
Toluene	0.0005	0.0010	0.020	0.11	ND	ND
Ethylbenzene	0.0005	0.034	0.044	0.30	ND	ND
Total Xylenes	0.0005	0.048	0.14	1.6	ND	ND
TPH as Gasoline	0.050	0.70	1.5	15	ND	0.099
% Surrogate Recovery		99%	99%	107%	95%	91%
Instrument I.D.		HP12	HP12	HP12	HP12	HP12
Date Analyzed		06/01/92	06/01/92	06/03/92	06/01/92	06/01/92
RLMF		2	5	100	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.

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

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

Luna Shor 6/8/92
Analyst Date

Cheryl Balmer 6/8/92
Supervisor Date

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

Anamatrix W.O.: 9205328
Matrix : WATER
Date Sampled : N/A

Project Number : G67-49.01
Date Released : 06/08/92

COMPOUNDS	Reporting Limit (mg/L)	Sample I.D.# 12B0601A BLANK	Sample I.D.# BU0201E2 BLANK
Benzene	0.0005	ND	ND
Toluene	0.0005	ND	ND
Ethylbenzene	0.0005	ND	ND
Total Xylenes	0.0005	ND	ND
TPH as Gasoline	0.050	ND	ND
% Surrogate Recovery		95%	96%
Instrument I.D.		HP12	HP12
Date Analyzed		06/01/92	06/03/92
RLMF		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.

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

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

Luise Shor 6/8/92
Analyst Date

Cheryl Bailmer 6/8/92
Supervisor Date

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

SAMPLE I.D. : G67-49.01 MW-8
 Matrix : WATER
 Date Sampled : 05/20/92
 Date Analyzed : 06/01/92

Anamatrix I.D.: 9205328-02
 Analyst : JS
 Supervisor : CJ
 Date Released : 06/08/92
 Instrument ID : HP12

COMPOUND	SPIKE AMT. (mg/L)	MS (mg/L)	REC MS	MSD (mg/L)	REC MSD	RPD	%REC LIMITS
Benzene	0.010	0.007	70%	0.009	90%	25%	49-159
Toluene	0.010	0.007	70%	0.008	80%	13%	53-156
Etylbenzene	0.010	0.008	80%	0.010	100%	22%	54-151
M+P-Xylenes	0.0067	0.0054	81%	0.0064	96%	17%	56-157
O-Xylene	0.0033	0.0028	85%	0.0034	103%	19%	58-154
P-BFB			105%		57%		53-147

* Limits established by Anamatrix, Inc.

300 ... Street
Oakland CA

ICN: 204-5508-4903

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

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

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

Parameters:
3-VOAs (CHL) for g, BTEX
2-Liter Glass (SR) for diesel

Analysis Required

LAB: Anametrix

CHECK ONE (1) BOX ONLY	CT/DT	TURN AROUND
Quarterly Monitoring <input checked="" type="checkbox"/> 5461		24 hours <input type="checkbox"/>
Site Investigation <input type="checkbox"/> 5441		48 hours <input type="checkbox"/>
Soil for disposal <input type="checkbox"/> 5442		15 days <input checked="" type="checkbox"/> (No)
Water for disposal <input type="checkbox"/> 5443		Other <input type="checkbox"/>
Air Sample - Sys O&M <input type="checkbox"/> 5452		NOTE: Notify Lab as soon as possible to avoid 24/48 hrs. TAT.
Water Sample - Sys O&M <input type="checkbox"/> 5453		
Other <input type="checkbox"/>		

Sampled By: Joe Williams
Printed Name: Joe Williams

Sample ID	Date	Soil	Water	Air	No. of conts.
MW-5	5-20-92		X		3
MW-8	5-20-92				3
OMW-12	5-20-92				3
MW-4	5-21-92				3
EW-1					3
OMW-11					5
OMW-10	5-21-92				3
MW-2	5-21-92				3

TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal
X		X		
X		X		
X		X		
X		X		
X		X		
X	X	X		
X		X		
X		X		

Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLING CONDITION COMMENT
40 ml	HGT	No		
			Not Received	

Relinquished By (signature): Joe Williams
Printed name: Joe Williams

Relinquished By (signature): Benny S. Carrizosa
Printed name: BENNY S. CARRIZOSA

Relinquished By (signature):
Printed name:

Date: 5-22-92
Time: 8:30

Date: 5-22-92
Time: 0850

Date:
Time:

Received (signature): Benny S. Carrizosa
Printed name: BENNY S. CARRIZOSA

Received (signature):
Printed name:

Received (signature):
Printed name:

Date: 5-22
Time: 8:30

Date: 5-22-92
Time: 0850

Date:
Time:

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

Oakland CA

Analysis Required

1203 H.C.

LAB: Anametrix

ICN: 204-5508-4903

Well 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: See page 1.

Sampled By: Joe Williams
 Printed Name: Joe Williams

Sample ID	Date	Soil	Water	Air	No. of Conts.
OMW-13			X		5
MW-3	5-21-92				3
OMW-9					5
OMW-6	5-21-92				3
TB	5-21-92				3

TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal
X	X	X		
X		X		
X	X	X		
X		X		
X		X		

CHECK ONE (1) BOX ONLY

Quarterly Monitoring	<input checked="" type="checkbox"/>	5461	24 hours	<input type="checkbox"/>
Site Investigation	<input type="checkbox"/>	5441	48 hours	<input type="checkbox"/>
Soil for disposal	<input type="checkbox"/>	5442	15 days	<input checked="" type="checkbox"/> (No
Water for disposal	<input type="checkbox"/>	5443	Other	<input type="checkbox"/>
Air Sample - Sys O&M	<input type="checkbox"/>	5452	NOTE: Notify Lab	soon as possible o
Water Sample - Sys O&M	<input type="checkbox"/>	5453	24/48 hrs. TAT.	
Other	<input type="checkbox"/>			

Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLING CONDITION COMMENT
40 ml	HCL	No	NOT Received	
			NOT Received	

Relinquished By (signature): Joe Williams
 Printed name: Joe Williams
 Date: 5-21-92

Relinquished By (signature): [Signature]
 Printed name: BENVY S. GARRIZOSA
 Date: 5-22-92

Relinquished By (signature): [Signature]
 Printed name: [Signature]
 Date: [Signature]

Received (signature): [Signature]
 Printed name: [Signature]
 Date: 5-22-92

Received (signature): [Signature]
 Printed name: [Signature]
 Date: 5-22-92

Received (signature): [Signature]
 Printed name: [Signature]
 Date: [Signature]

Received (signature): [Signature]
 Printed name: BENVY S. GARRIZOSA
 Date: 5-22-92

Received (signature): [Signature]
 Printed name: [Signature]
 Date: 5-22-92

Received (signature): [Signature]
 Printed name: [Signature]
 Date: [Signature]

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

Site Address: 500 40th Street
Oakland CA

WIC#: 204-5508-4903

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

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

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

Comments: 3-VOAs (HCl) for g, BTEX
2-Liter Glass (SR) for diesel

Sampled By: Joe Williams
Printed Name: Joe Williams

Analysis Required

TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal																	
X	X	X																			

LAB: Anametrix

CHECK ONE (1) BOX ONLY	CT/DT	TURN AROUND
Quarterly Monitoring <input checked="" type="checkbox"/> 5461		24 hours <input type="checkbox"/>
Site Investigation <input type="checkbox"/> 5441		48 hours <input type="checkbox"/>
Soil for disposal <input type="checkbox"/> 5442		15 days <input checked="" type="checkbox"/> (No
Water for disposal <input type="checkbox"/> 5443		Other <input type="checkbox"/>
Air Sample- Sys O&M <input type="checkbox"/> 5452		NOTE: Notify Lab soon as possible or 24/48 hrs. TAT.
Water Sample - Sys O&M <input type="checkbox"/> 5453		
Other <input type="checkbox"/>		

Sample ID	Date	Soil	Water	Air	No. of conis.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLI CONDITIC COMMEN
MW-5	5-20-92		X		3	X		X			40 ml	HCl	No		
MW-8	5-20-92				3	X		X							
OMW-12	5-20-92				3	X		X							
MW-4	5-21-92				3	X		X							
EW-1	5-22-92				3	X		X						EW-1 Received by Anametrix	
OMW-11					5	X	X	X							
OMW-10	5-21-92				3	X		X							
MW-2	5-21-92				3	X		X							

Relinquished By (signature): <i>Joe Williams</i>	Printed name: JOE WILLIAMS	Date: 5-22-92	Received (signature): <i>Benny S. Carrizosa</i>	Printed name: BENNY S. CARRIZOSA	Date: 5-22-92
Relinquished By (signature): <i>Chris Clark</i>	Printed name: CHRIS CLARK	Time: 9:30	Received (signature): <i>Farah Badiei</i>	Printed name: FARAH BADIEI	Time: 8:30
Relinquished By (signature):	Printed name:	Date: 5-22-92	Received (signature):	Printed name:	Date: 5-22-92
		Time: 16:33			Time: 6:30
		Date:			Date:
		Time:			Time:

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