R. SHAHID

CONVERSE ENVIRONMENTAL WEST

55 Hawthorne Street, Suite 500
San Francisco, California 94105-3906
Telephone **415 543-4200**
FAX 415 777-3157

September 30, 1991
88-44-359-20-1404
WIC No. 204-5508-5504

Ms. Penny Silzer
San Francisco Bay Regional Water
Quality Control Board
2101 Webster Street, Suite 500
Oakland, California 94612

Subject: Report of Activities, Quarter 3, 1991
Shell Retail Gas Station
285 Hegenberger Road
Oakland, California

Dear Ms. Silzer:

This letter presents the results of investigations conducted by Converse Environmental West (Converse) during Quarter 3, 1991, at the above Shell retail gas station (Drawing 1) for Shell Oil Company. Descriptions of site location, conditions, soil stratigraphy, soil borings, and well installations have been included in previous quarterly reports on file with the regulatory agencies of jurisdiction.

Quarter 3, 1991 investigations consisted of monitoring the physical conditions of groundwater (depth to water, depth to product, thickness of floating product if present, etc.), collecting groundwater samples from 8 on-site monitoring wells (Drawing 2). Additionally, Converse contracted Environmental Control Associates (ECA) to perform a soil gas survey. ECA collected five soil gas samples beneath Hegenberger Road, within backfill material associated with a City of Oakland storm drain right-of-way. ECA drove 1-inch diameter hollow steel pipe to the desired sampling depth. Vapor samples were collected in a Tedlar® bag by placing the hollow sample pipe under the vacuum. The vapor samples were delivered to an on-site mobile NET Pacific, Inc. analytical laboratory.

Chemical and physical data acquired from the groundwater sampling activities are tabulated in Tables 1 & 2. Laboratory reports and chain-of-custody forms are attached. Groundwater contours are illustrated in Drawing 3.

An increase in petroleum hydrocarbons was observed in samples from monitoring wells MW-2 and MW-5, compared to the previous quarter. Concentrations of petroleum hydrocarbons in wells MW-7, MW-8, and MW-9, have decreased from the previous quarter.

The groundwater measurements indicate that the groundwater elevations have dropped 0.4 to 2.4 feet since the measurements taken last quarter. This fluctuation follows the pattern of fluctuating groundwater elevations at this site; which is groundwater elevations increase generally in the winter and spring (wet) months, and decrease in the summer and fall.

Converse installed five soil gas points beneath the south bound lanes at Hegenberger road (Drawing 4). The soil gas points were installed within the backfill material at a City of Oakland storm drain to investigate for petroleum hydrocarbons previously found during nearby utility trench excavation.

Results of the soil gas investigation indicate the presence of hydrocarbon vapors in the backfill material (as shown in Drawing 4), with the exception of Sample Point 4 (most southerly sample point) and Sample Point 5 (most northerly point).

Work conducted is consistent with the Tri-Regional Water Quality Control Board guidelines for underground storage tanks. Samples, chain-of-custody protocols, and recommended analytical methods have been included in previous quarterly reports and are on file with the regulatory agencies.

If you have any questions, please call me at (415) 543-4200.

Very truly yours,

Converse Environmental West

David Siegel (for)
Project Geologist

James L. Bruce, RG 4808
Senior Geologist

cc: Mr. Rafat Shahid - Alameda County Health Care Services Agency
Mr. Jack Brastad - Shell Oil Company
Mr. Michael Gallagher - Converse Environmental West

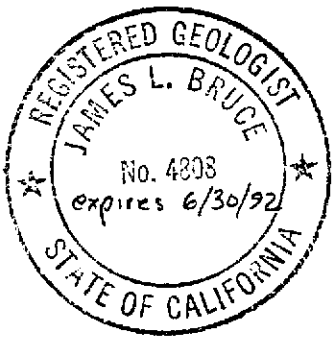
Attachments: Certification
Drawing 1 - Site Location
Drawing 2 - Site Plot Plan
Drawing 3 - Groundwater Contour Map
Drawing 4 - Soil Gas Sampling Points
Table 1 - Results of Groundwater Chemical Analyses
Table 2- Groundwater Monitoring Well Information
Table 3 - Chronological Summary
Laboratory Reports
Chain-of-Custody Forms

CERTIFICATION

This report of activities for the Shell Oil Company facility at 285 Hegenberger Road, Oakland, California has been prepared by the staff of **Converse Environmental West** under the professional supervision of the Engineer and/or Geologist whose seal(s) and signature(s) appear hereon.

The findings, recommendations, specifications or professional opinions are presented, within the limits prescribed by the Client, after being prepared in accordance with generally accepted professional engineering and geologic practice. We make no other warranty, either expressed or implied.

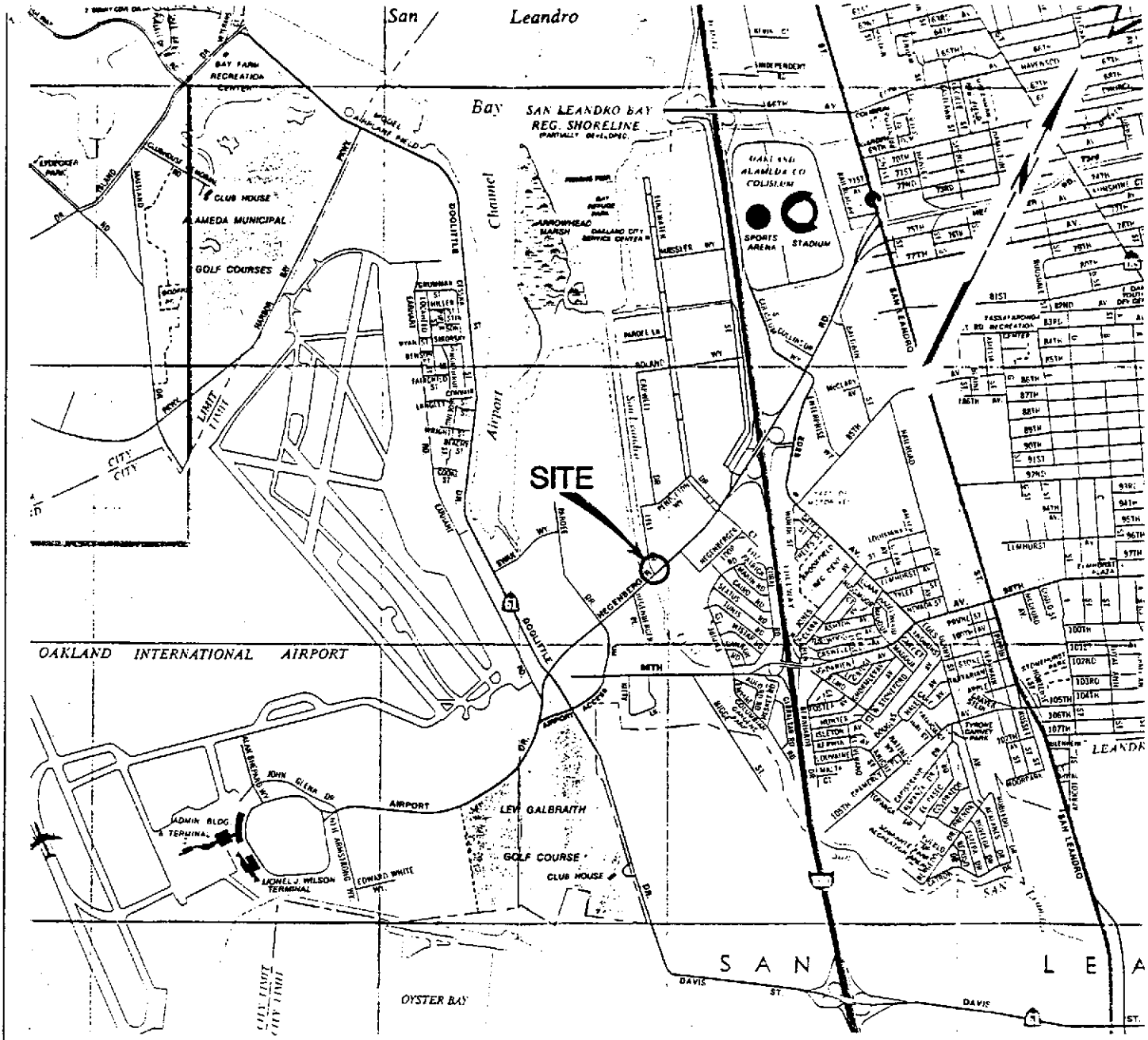
Respectfully submitted,



Robin Siegel (for)

DAVID SIEGEL
Project Geologist

JAMES L. BRUCE, R.G. 4808
Senior Geologist



SOURCE: California State Automobile Association

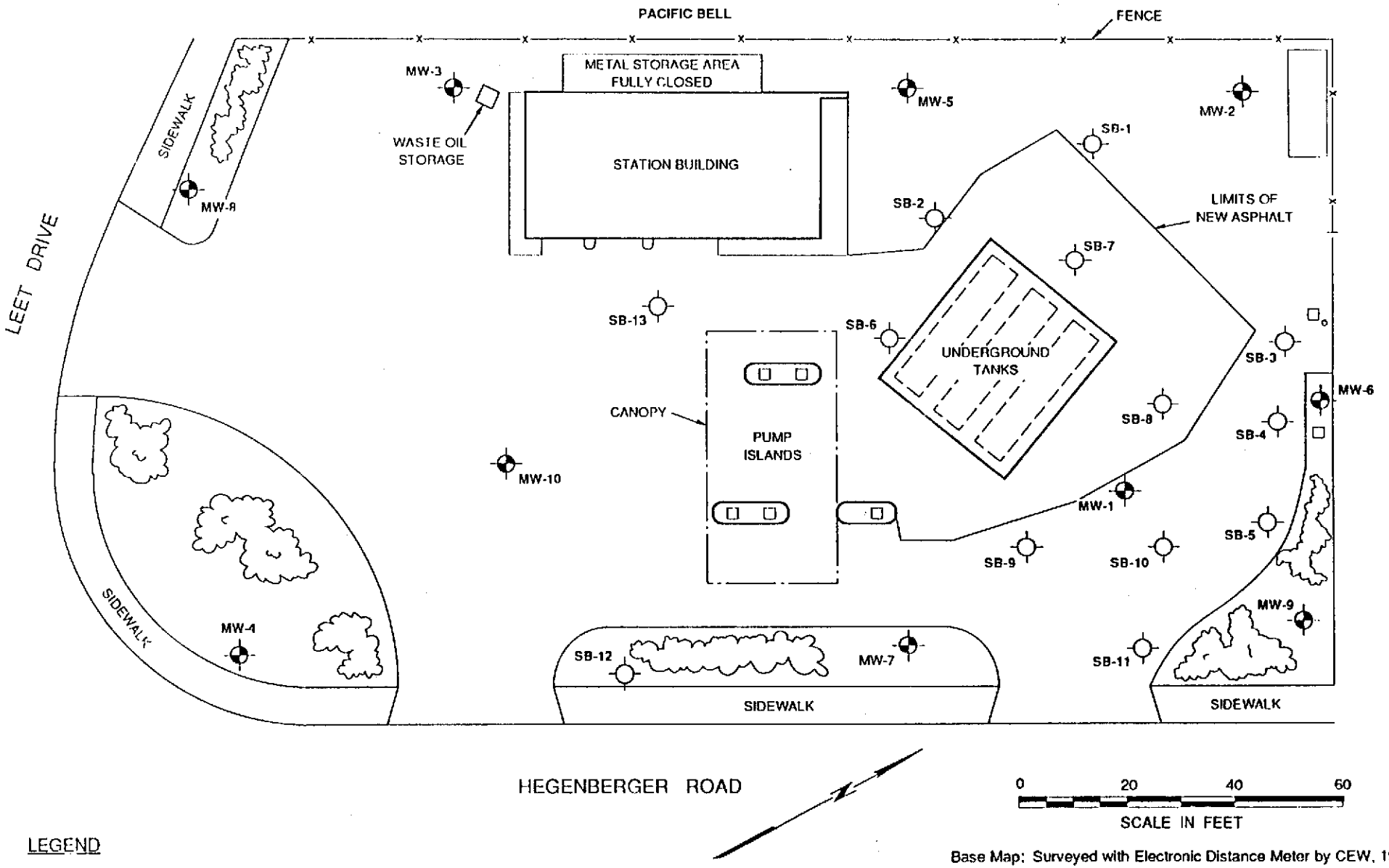
WIC No. 204-5508-5504

SITE LOCATION

SHELL OIL COMPANY
285 Hegenberger Road
Oakland, California

Converse Environmental West

Scale	AS SHOWN
Project No.	88-44-359-20
Prepared by	LQL
Date	3/28/90
Checked by	RMB
Drawing No.	1
Approved by	CRC



LEGEND

SB-1 — SOIL BORING (locations approximate)

MW-1 — GROUNDWATER MONITORING WELL

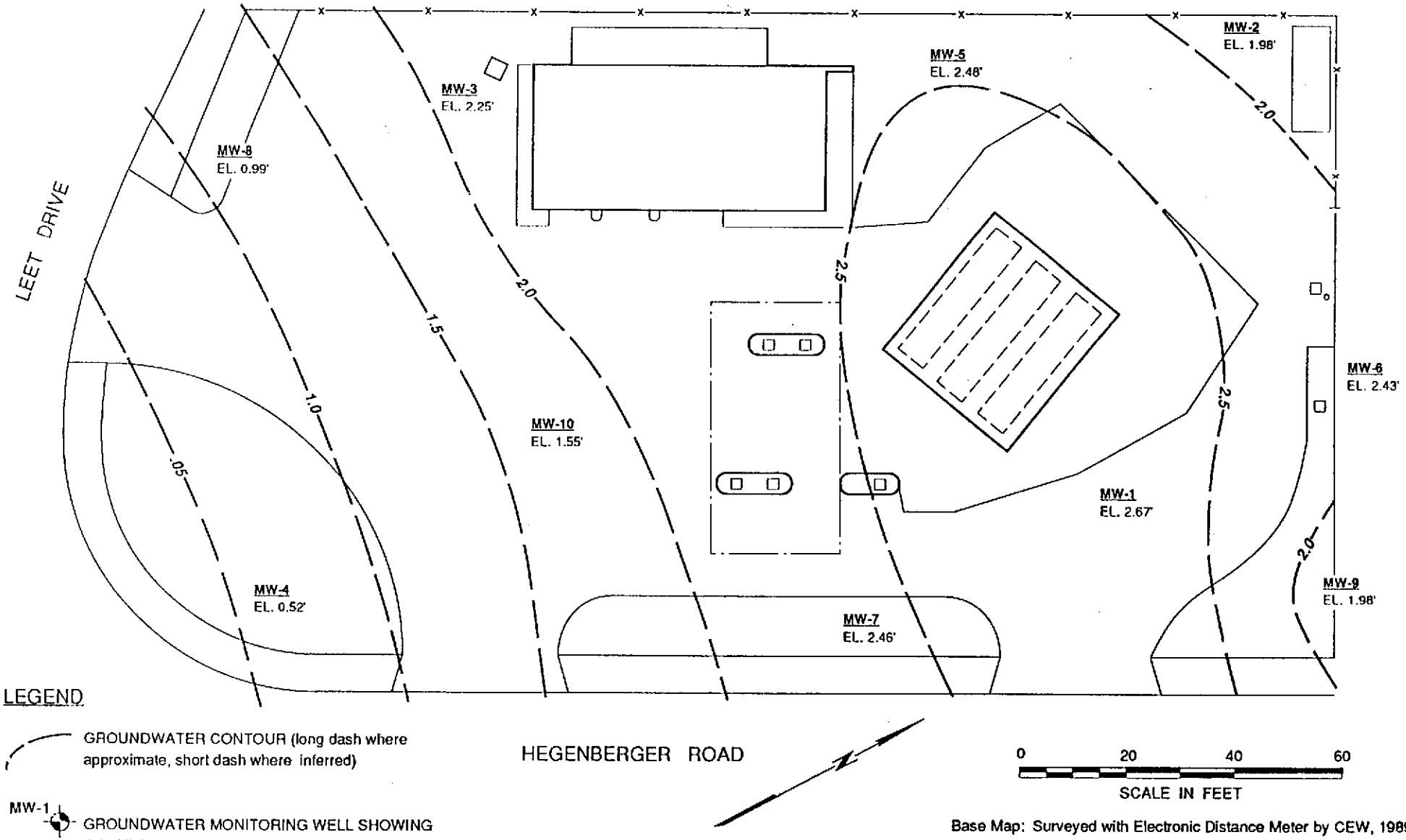
Base Map: Surveyed with Electronic Distance Meter by CEW, 1989.

PLOT PLAN

SHELL OIL COMPANY
285 Hegenberger Road
Oakland, California

Converse Environmental West

Scale: AS SHOWN	Project No.: 88-44-359-20
Prepared by: CRB	Date: 3/18/91
Approved by: CRC	Drawing No.: 2
WIC No.: 204-5508-5504	



LEGEND

GROUNDWATER CONTOUR (long dash where approximate, short dash where inferred)

MW-1 GROUNDWATER MONITORING WELL SHOWING GROUNDWATER ELEVATION

NOTES: 1. Groundwater elevations in feet above mean sea level.

2. Groundwater flow direction is not specified due to irregular response to tidal effects.

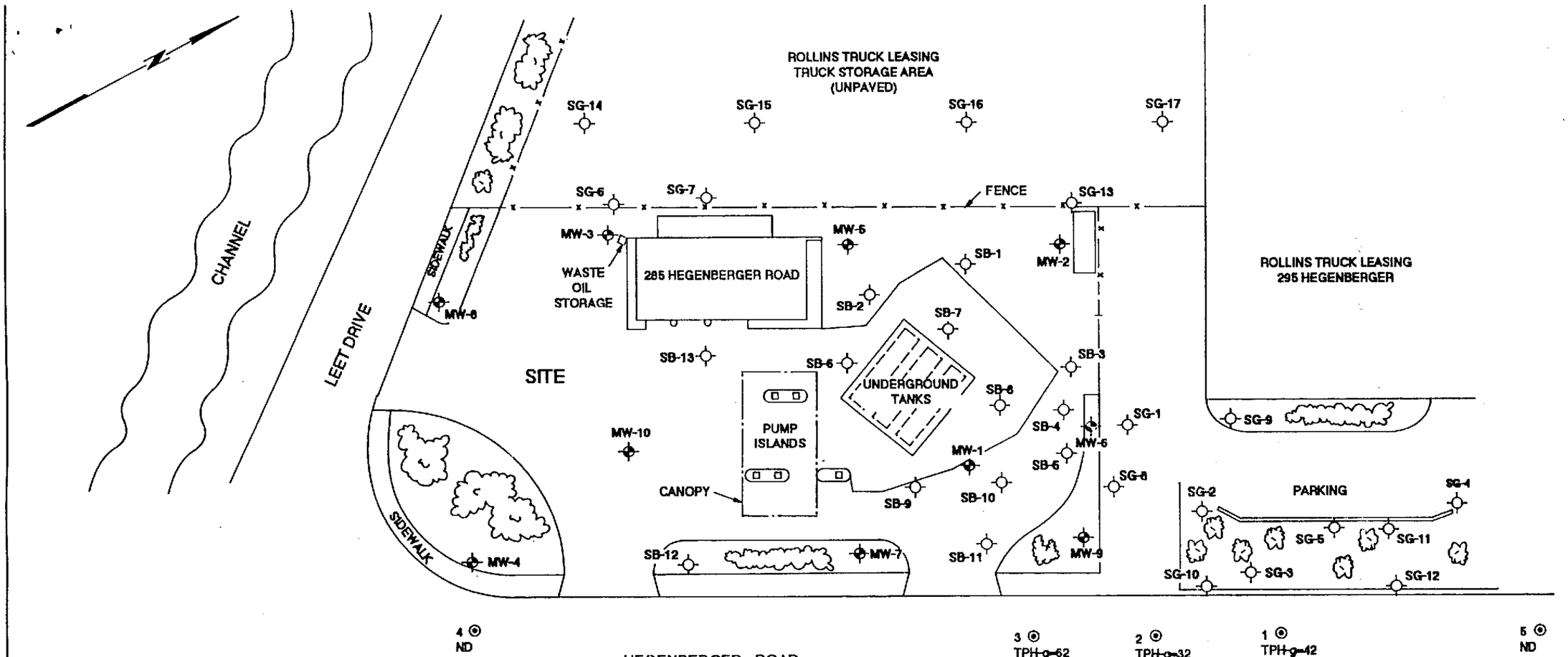
Base Map: Surveyed with Electronic Distance Meter by CEW, 1989.

GROUNDWATER CONTOUR MAP Q3/91

SHELL OIL COMPANY
285 Hegenberger Road
Oakland, California

Converse Environmental West

Scale	AS SHOWN
Project No.	88-44-359-20
Prepared by	LQL
Date	6/28/91
Approved by	CRC
Drawing No.	3
WIC No.	204-5508-5504



LEGEND

- SB-1 — SOIL BORING (locations approximate)
- SG-1 — OFF SITE SOIL BORING (locations approximate)
- MW-1 — GROUNDWATER MONITORING WELL
- 1 — SOIL GAS SAMPLING POINT WITH TPH-g CONCENTRATION (ppm)
- ND — NOT DETECTED

0 40 80

APPROXIMATE SCALE IN FEET

PLAN: SOIL GAS SAMPLING POINTS

SHELL OIL COMPANY
285 Hegenberger Road
Oakland, California

Converse Environmental West

Scale	AS SHOWN
Project No.	89-44-359-20
Prepared by	DEN
Date	9/24/90
Checked by	RMB
Drawing No.	4
Approved by	CRC

TABLE 1. RESULTS OF GROUNDWATER CHEMICAL ANALYSES

Shell Oil Company Facility
285 Hegenberger Road
Oakland, California

Concentration (mg/L)

Well No.	Date Sampled	TPH-g	TPH-d	Benzene	Toluene	Ethyl-Benzene	Xylenes
MW-1	02/16/89	99.0	NA	20	23	5.7	23
MW-1	05/23/89	48.0	11.0	4.2	5.2	1.2	7.7
MW-1	08/04/89	63.0	11.0	5.5	5.5	3.2	9.5
MW-1	12/15/89	30.0	11.0	<0.005	<0.0005	<0.0005	<0.0005
MW-1	02/07/90	93.0	10.0	13.0	9.6	2.4	14.0
MW-1	04/18/90	55.0	8.7	14.0	8.4	3.2	13.0
MW-1	07/24/90	73.0	3.6	16.0	7.40	2.80	15.0
MW-1[2]	07/24/90	57.0	3.6	18.0	8.0	3.0	16.0
MW-1	10/01/90	45.0	1.7	8.0	4.3	2.0	11.0
MW-1	01/03/91	43.0	3.10	10.0	3.40	1.90	11.0
MW-1	04/10/91	67.0	1.8	20.0	9.60	3.50	16.0
MW-1	**07/12/91**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**
MW-2	02/16/89	20.0	NA	0.2	0.9	2.7	9.6
MW-2	05/23/89	1.5	1.6	0.0043	0.0029	0.011	0.15
MW-2	08/04/89	15.0	7.4	0.075	0.12	0.85	2.2
MW-2	12/15/89	5.0	2.6	0.052	0.013	0.0041	0.29
MW-2	02/07/90	13.0	4.8	0.032	0.034	0.23	0.640
MW-2	04/18/90	9.8	3.2	0.033	0.019	0.46	1.7
MW-2	07/24/90	9.6	2.7	0.041	0.027	0.540	0.940
MW-2	10/01/90	0.39	1.6	0.0034	0.015	0.0085	0.025
MW-2	01/03/91	1.8	0.83	0.056	0.0044	0.0048	0.092
MW-2	04/10/91	1.9	0.28	<0.0005	0.028	0.140	0.490
MW-2	**07/12/91**	**8.1**	**1.1**	**0.089**	**0.066**	**0.350**	**0.930**
MW-3	02/16/89	60.0	NA	5.5	0.2	3.2	5.2
MW-3	05/23/89	<0.05	1.5	<0.0005	<0.0005	<0.0015	<0.0015
MW-3	08/04/89	2.0	1.2	0.12	0.012	<0.0015	0.086
MW-3	12/15/89	5.2	1.7	0.38	0.047	0.017	0.410
MW-3	03/08/90	0.26	0.23	0.017	<0.0005	0.0054	0.0025
MW-3	04/19/90	0.26	<0.05	<0.0005	<0.0005	<0.0005	0.0094
MW-3	07/24/90	0.51	0.21	0.046	0.0012	<0.0005	0.0093
MW-3	09/28/90	0.46	0.35	0.0063	0.0017	<0.0005	0.015
MW-3	01/03/91	4.8	0.63	0.920	0.0088	<0.0005	0.190
MW-3	04/10/91	0.12	0.06	0.0012	0.0008	0.0035	0.021
MW-3	**07/12/91**	**0.43**	**<0.05**	**0.012**	**<0.0005**	**<0.0005**	**0.0077**

TABLE 1 (cont'd). RESULTS OF GROUNDWATER CHEMICAL ANALYSES

Shell Oil Company Facility
285 Hegenberger Road
Oakland, California

Concentration (mg/L)

Well No.	Date Sampled	TPH-g	TPH-d	Benzene	Toluene	Ethyl-Benzene	Xylenes
MW-8	05/23/89	<0.05	0.10	<0.0005	<0.0005	<0.0015	<0.0015
MW-8	08/04/89	<0.05	0.075	<0.0005	<0.0005	<0.0015	<0.0015
MW-8	12/15/89	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
MW-8	03/08/90	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
MW-8	07/25/90	<0.05	<0.05	<0.0005	0.0013	<0.0005	<0.0005
MW-8	09/28/90	<0.05	1.1	<0.0005	<0.0005	<0.0005	<0.0005
MW-8	01/03/91	<0.05	<0.05	0.0013	<0.0005	<0.0005	<0.0005
MW-8	04/10/91	0.05	<0.05	0.0007	0.0011	0.0008	0.0010
MW-8	**07/12/91**	**<0.05**	**<0.05**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**
MW-9	08/04/89	47.0	12.0	5.6	6.6	1.5	8.5
MW-9	12/15/89	88.0	9.2	4.3	5.4	0.14	5.6
MW-9	02/08/90	50.0	7.4	1.8	1.4	3.2	1.8
MW-9	04/19/90	50.0	7.5	14.0	11.0	0.73	10.0
MW-9	07/24/90	62.0	3.20	19.0	16.0	0.950	15.0
MW-9	09/28/90	30.0	2.70	16.0	6.50	0.980	11.0
MW-9	01/03/91	34.0	2.50	9.20	3.20	0.770	7.00
MW-9	04/10/91	66	2.2	17.0	13.0	1.40	14.0
MW-9	**07/12/91**	**40**	**2.0**	**7.7**	**3.2**	**1.1**	**9.4**
MW-9[2]	**07/12/91**	**41**	**1.5**	**0.430**	**<0.0005**	**0.640**	**0.660**
MW-10	12/15/89	<0.05	3.1	1.5	<0.0005	<0.0005	<0.0005
MW-10	03/08/90	25.0	1.8	17	0.330	2.1	1.4
MW-10	04/19/90	23.0	3.6	15.0	1.2	0.19	3.3
MW-10	07/25/90	18.0	1.9	12.0	0.380	<0.0005	1.40
MW-10	09/28/90	9.5	0.43	13.0	0.100	1.80	0.23
MW-10	01/03/91	4.3	0.63	3.70	0.0097	<0.0005	0.110
MW-10	04/10/91	45	1.4	16.0	4.60	3.0	6.90
MW-10	**07/12/91**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**

NOTES:

[1]Analyzed semi-annually
[2]Duplicate sample (Sample #910712 in laboratory analysis, chain of custody)
*MW-4 Analysis 601 was ND for all compounds.
TPH-g Total Petroleum Hydrocarbons of Gasoline (GCFID)
TPH-d Total Petroleum Hydrocarbons of Diesel (GCFID)
NS Not Sampled
Bold Indicates work completed this quarter

TABLE 2 (cont'd). GROUNDWATER MONITORING INFORMATION

Shell Oil Company Facility
285 Hegenberger Road
Oakland, California

Well No.	Date Monitored	Depth to Water (ft bgs)	Groundwater Elevation (msl)	Petroleum Odor in Water	Floating Product Thickness (inches)	Comments
MW-8	05/23/89	6.62	1.17	None	0	----
El. 7.79	08/03/89	6.62	1.17	None	0	----
	12/15/89	6.71	1.08	None	0	----
	03/08/90	4.95	2.84	Moderate	0	Milky
	04/18/90	6.40	1.89	None	0	No sample taken
	07/23/90	6.62	1.17	None	<0.25"	Floating sludge
	09/27/90	6.98	0.81	Slight	0	Decaying odor
	01/02/91	7.03	0.76	Slight	0	Decaying odor
	04/09/91	4.40	3.39	None	0	Decaying odor
	07/11/91	**6.80**	**0.99**	**Slight**	**0**	**Yellowish**
MW-9	08/03/89	5.78	1.85	None	0	----
El. 7.63	12/15/89	5.24	2.39	None	0	----
	02/07/90	5.23	2.40	None	0	Yellow
	04/18/90	5.34	2.29	Slight	0	Yellow
	07/23/90	5.65	1.98	None	0	
	09/27/90	5.96	1.67	None	0	Yellow
	01/02/91	6.23	1.40	None	0	Yellow
	04/09/91	4.65	2.98	Slight	0	Amber
	07/11/91	**5.65**	**1.98**	**Slight**	**0**	**Amber**
MW-10	12/15/89	6.33	0.82	None	0	----
El. 7.45	03/08/90	5.41	2.00	Strong	0	Clear
	04/18/90	5.60	1.85	Slight	0	No silt, Lt. Yellow
	07/23/90	5.81	1.64	None	0	Floating sludge
	09/27/90	6.64	0.81	Slight	0	Clear
	01/02/91	6.96	0.49	None	0	Yellow tint
	04/09/91	4.70	2.75	None	0	Putrid odor
	07/11/91	**5.90**	**1.55**			

NOTES:

ft bgs feet below ground surface
Elevations are in feet above Mean Sea Level
Bold indicates work completed this quarter

TABLE 3. CHRONOLOGICAL SUMMARY

The following chronological summary is based on information provided to Converse Environmental West (Converse) by Shell Oil Company (Shell). Converse was not provided with certain information related to the construction, operational, and environmental history of the facility. According to Shell, the following information is not available in Shell files: volume of contaminated soil removed at the time of tank removal if any, geometry of the excavation created during tank removal, and date and volume of any possible releases at the facility.

Date	Description of Activity
1984	Underground storage tanks replaced with single-wall fiberglass tanks.
01/89	Shell transferred this case to Converse.
02/15/89	Converse drilled and sampled MW-1 to MW-3 and SB-1 and SB-2.
04/28/89	Converse installed MW-4 through MW-8.
05/26/89	Converse drilled, sampled and abandoned borings SB-3, SB-4 and SB-5.
07/13/89	Converse drilled, sampled and abandoned borings SB-6 through SB-11.
9/20-21/89	Converse conducted a tidal influence test.
10/17/89	Loma Prieta Earthquake struck.
10/26/89	Converse performed slug tests on existing wells.
11/16/89	Converse drilled, sampled and abandoned SB-12 and SB-13.
11/16/89	Converse installed MW-10.
12/15/89	Converse developed MW-10 and collected Q4/89 groundwater samples.
1/17/90 and 2/02/90	Converse performed off-site survey and survey calculations of property adjacent to site.
2/7/90	Converse sampled wells MW-1, MW-2, MW-5, MW-6, MW-7, MW-9.
2/8/90	Converse sampled wells MW-5, MW-7, MW-9.
3/8/90	Converse sampled wells MW-3, MW-4, MW-8, MW-10.
4/90	Converse applied for an encroachment permit from the City of Oakland.
4/18/90 and 4/19/90	Converse sampled wells MW-1, MW-2, MW-3, MW-5, MW-7, MW-9, MW-10.

TABLE 3 (cont'd.). CHRONOLOGICAL SUMMARY

Date	Description of Activity
7/24/90 and 7/25/90	Converse sampled wells MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9 and MW-10.
8/06/90 and 8/07/90	Converse drilled and sampled SG-1 through SG-13.
9/07/90	Converse performed constant head test on monitoring wells MW-1, MW-5, MW-6, MW-7, MW-9, and MW-10.
9/13/90	Converse drilled and sampled SG-14 through SG-17.
9/27/90 - 10/01/90	Converse monitored and sampled monitoring wells MW-1 through MW-10.
1/2-3/91	Converse monitored and sampled monitoring wells MW-1 through MW-10.
4/9/91	Converse monitored and sampled monitoring wells MW-1 through MW-10.
7/8/91	**Converse conducted soil gas survey off-site on Hegenberger Road.**
7/12/91	**Converse monitored and sampled monitoring wells MW-1 through MW-10.**

Boldface items were conducted during this quarter

LABORATORY REPORTS and CHAIN-OF-CUSTODY FORMS

NET NATIONAL ENVIRONMENTAL TESTING, INC.®

NET Pacific, Inc.
435 Tesconi Circle
Santa Rosa, CA 95401
Tel: (707) 526-7200
Fax: (707) 526-9623

Charles Comstock
Converse Consultants
55 Hawthorne St, Ste 500
San Francisco, CA 94105

Date: 07-18-91
NET Client Acct No: 18.02
NET Pacific Log No: 8590
Received: 07-13-91 0930

Client Reference Information

SHELL, 285 Hegenberger, Oakland; Project: 88-44-359-20

Sample analysis in support of the project referenced above has been completed and results are presented on following pages. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Approved by:

Jules Skamarack
Laboratory Manager

JS:rct
Enclosure(s)

NET Pacific, Inc.

Client No: 18.02 Date: 07-18-91
Client Name: Converse Consultants
NET Log No: 8590 Page: 2

Ref: SHELL, 285 Hegenberger, Oakland; Project: 88-44-359-20

Parameter	Method	Reporting Limit	Descriptor, Lab No. and Results MW-5 07-12-91 0925 91613**	 MW-2 07-12-91 1005 91614**	Units
PETROLEUM HYDROCARBONS			--	--	
VOLATILE (WATER)			--	--	
DILUTION FACTOR *			100	10	
DATE ANALYZED			07-17-91	07-17-91	
METHOD GC FID/5030			--	--	
as Gasoline		0.05	24	8.1	mg/L
METHOD 602			--	--	
DILUTION FACTOR *			100	10	
DATE ANALYZED			07-17-91	07-17-91	
Benzene		0.5	2,200	89	ug/L
Ethylbenzene		0.5	430	350	ug/L
Toluene		0.5	280	66	ug/L
Xylenes, total		0.5	5,700	930	ug/L
PETROLEUM HYDROCARBONS			--	--	
EXTRACTABLE (WATER)			--	--	
DILUTION FACTOR *			1	1	
DATE EXTRACTED			07-15-91	07-15-91	
DATE ANALYZED			07-17-91	07-17-91	
METHOD GC FID/3510			--	--	
as Diesel		0.05	1.7	1.1	mg/L
as Motor Oil		0.5	0.9	1.3	mg/L

** Note: The positive result for the PETROLEUM HYDROCARBONS as Diesel analysis on this sample appears to be a lighter hydrocarbon than diesel and The positive result for the PETROLEUM HYDROCARBONS as Motor Oil appears wax-like.

NET Pacific, Inc.

Client No: 18.02 Date: 07-18-91
Client Name: Converse Consultants
NET Log No: 8590 Page: 3

Ref: SHELL, 285 Hegenberger, Oakland; Project: 88-44-359-20

Parameter	Method	Reporting Limit	Descriptor, Lab No. and Results MW-6 07-12-91 1030 91615**	MW-9 07-12-91 1100 91616***	Units
PETROLEUM HYDROCARBONS			--	--	
VOLATILE (WATER)			--	--	
DILUTION FACTOR *			10	100	
DATE ANALYZED			07-17-91	07-17-91	
METHOD GC FID/5030			--	--	
as Gasoline		0.05	9.5	40	mg/L
METHOD 602			--	--	
DILUTION FACTOR *			100	200	
DATE ANALYZED			07-17-91	07-18-91	
Benzene		0.5	670	7,700	ug/L
Ethylbenzene		0.5	1,100	1,100	ug/L
Toluene		0.5	51	3,200	ug/L
Xylenes, total		0.5	920	9,400	ug/L
PETROLEUM HYDROCARBONS			--	--	
EXTRACTABLE (WATER)			--	--	
DILUTION FACTOR *			1	1	
DATE EXTRACTED			07-15-91	07-15-91	
DATE ANALYZED			07-17-91	07-17-91	
METHOD GC FID/3510			--	--	
as Diesel		0.05	1.9	2.0	mg/L
as Motor Oil		0.5	0.9	ND	mg/L

** Note: The positive result for the PETROLEUM HYDROCARBONS as Diesel analysis on this sample appears to be a lighter hydrocarbon than diesel and The positive result for the PETROLEUM HYDROCARBONS as Motor Oil appears wax-like.

*** Note: The positive result for the PETROLEUM HYDROCARBONS as Diesel analysis on this sample appears to be a lighter hydrocarbon than diesel .

NET Pacific, Inc.

Client No: 18.02 Date: 07-18-91
Client Name: Converse Consultants
NET Log No: 8590 Page: 4

Ref: SHELL, 285 Hegenberger, Oakland; Project: 88-44-359-20

			Descriptor, Lab No. and Results		
			MW-4 07-12-91 1150	MW-8 07-12-91 1210	
Parameter	Method	Reporting Limit	91617	91618**	Units
PETROLEUM HYDROCARBONS			--	--	
VOLATILE (WATER)			--	--	
DILUTION FACTOR *			1	1	
DATE ANALYZED			07-17-91	07-17-91	
METHOD GC FID/5030			--	--	
as Gasoline		0.05	ND	ND	mg/L
METHOD 602			--	--	
DILUTION FACTOR *			1	1	
DATE ANALYZED			07-17-91	07-17-91	
Benzene		0.5	ND	ND	ug/L
Ethylbenzene		0.5	ND	ND	ug/L
Toluene		0.5	ND	ND	ug/L
Xylenes, total		0.5	ND	ND	ug/L
PETROLEUM HYDROCARBONS			--	--	
EXTRACTABLE (WATER)			--	--	
DILUTION FACTOR *			1	1	
DATE EXTRACTED			07-15-91	07-15-91	
DATE ANALYZED			07-17-91	07-17-91	
METHOD GC FID/3510			--	--	
as Diesel		0.05	ND	ND	mg/L
as Motor Oil		0.5	ND	0.5	mg/L

** Note: The positive result for the PETROLEUM HYDROCARBONS as Motor Oil analysis on this sample appears wax-like.

NET Pacific, Inc.

Client No: 18.02 Date: 07-18-91
®Client Name: Converse Consultants
NET Log No: 8590 Page: 5

Ref: SHELL, 285 Hegenberger, Oakland; Project: 88-44-359-20

Parameter	Method	Reporting Limit	Descriptor, Lab No. and Results 910712 07-12-91 1035 91619**	 MW-3 07-12-91 1225 91620	Units
PETROLEUM HYDROCARBONS			--	--	
VOLATILE (WATER)			--	--	
DILUTION FACTOR *			50	1	
DATE ANALYZED			07-18-91	07-17-91	
METHOD GC FID/5030			--	--	
as Gasoline		0.05	41	0.43	mg/L
METHOD 602			--	--	
DILUTION FACTOR *			100	1	
DATE ANALYZED			07-17-91	07-17-91	
Benzene		0.5	430	12	ug/L
Ethylbenzene		0.5	640	ND	ug/L
Toluene		0.5	ND	ND	ug/L
Xylenes, total		0.5	660	7.7	ug/L
PETROLEUM HYDROCARBONS			--	--	
EXTRACTABLE (WATER)			--	--	
DILUTION FACTOR *			1	1	
DATE EXTRACTED			07-15-91	07-15-91	
DATE ANALYZED			07-17-91	07-17-91	
METHOD GC FID/3510			--	--	
as Diesel		0.05	1.5	ND	mg/L
as Motor Oil		0.5	0.5	ND	mg/L

** Note: The positive result for the PETROLEUM HYDROCARBONS as Diesel analysis on this sample appears to be a lighter hydrocarbon than diesel and The positive result for the PETROLEUM HYDROCARBONS as Motor Oil appears wax-like.

Ref: SHELL, 285 Hegenberger, Oakland; Project: 88-44-359-20

			Descriptor, Lab No. and Results		
			field blank 07-12-91 0935	trip blank 07-12-91	
Parameter	Method	Reporting Limit	91621	91622	Units
PETROLEUM HYDROCARBONS			--	--	
VOLATILE (WATER)			--	--	
DILUTION FACTOR *			1	1	
DATE ANALYZED			07-17-91	07-17-91	
METHOD GC FID/5030			--	--	
as Gasoline		0.05	ND	ND	mg/L
METHOD 602			--	--	
DILUTION FACTOR *			1	1	
DATE ANALYZED			07-17-91	07-17-91	
Benzene		0.5	ND	ND	ug/L
Ethylbenzene		0.5	ND	ND	ug/L
Toluene		0.5	ND	0.79	ug/L
Xylenes, total		0.5	ND	1.1	ug/L
PETROLEUM HYDROCARBONS			--	--	
EXTRACTABLE (WATER)			--	--	
DILUTION FACTOR *			1	1	
DATE EXTRACTED			07-15-91	07-15-91	
DATE ANALYZED			07-17-91	07-17-91	
METHOD GC FID/3510			--	--	
as Diesel		0.05	ND	ND	mg/L
as Motor Oil		0.5	ND	ND	mg/L

NET Pacific, Inc.

Client No: 18.02 Date: 07-18-91
Client Name: Converse Consultants
NET Log No: 8590 Page: 7

Ref: SHELL, 285 Hegenberger, Oakland; Project: 88-44-359-20

Parameter	Method	Reporting Limit	Descriptor, Lab No. and Results MW-7 07-12-91 1130 91623**	Units
PETROLEUM HYDROCARBONS			--	
VOLATILE (WATER)			--	
DILUTION FACTOR *			100	
DATE ANALYZED			07-18-91	
METHOD GC FID/5030			--	
as Gasoline		0.05	79	mg/L
METHOD 602			--	
DILUTION FACTOR *			100	
DATE ANALYZED			07-18-91	
Benzene		0.5	7,700	ug/L
Ethylbenzene		0.5	2,300	ug/L
Toluene		0.5	7,200	ug/L
Xylenes, total		0.5	10,000	ug/L
PETROLEUM HYDROCARBONS			--	
EXTRACTABLE (WATER)			--	
DILUTION FACTOR *			1	
DATE EXTRACTED			07-15-91	
DATE ANALYZED			07-17-91	
METHOD GC FID/3510			--	
as Diesel		0.05	1.1	mg/L
as Motor Oil		0.5	0.8	mg/L

** Note: The positive result for the PETROLEUM HYDROCARBONS as Diesel analysis on this sample appears to be a lighter hydrocarbon than diesel and The positive result for the PETROLEUM HYDROCARBONS as Motor Oil appears wax-like.

NET Pacific, Inc.

Client Acct: 18.02
Client Name: Converse Consultants
NET Log No: 8590

Date: 07-18-91
Page: 8

Ref: SHELL, 285 Hegenberger, Oakland; Project: 88-44-359-20

QUALITY CONTROL DATA

Parameter	Reporting Limits	Units	Cal Verf Stand % Recovery	Blank Data	Spike % Recovery	Duplicate Spike % Recovery	RPD
Diesel	0.05	mg/L	106	ND	N/A	N/A	1.8
Motor Oil	0.5	mg/L	100	ND	N/A	N/A	N/A
Gasoline	0.05	mg/L	105	ND	129	129	< 1
Benzene	0.5	ug/L	87	ND	107	107	< 1
Toluene	0.5	ug/L	97	ND	105	105	< 1
Gasoline	0.05	mg/L	104	ND	122	114	6.8
Benzene	0.5	ug/L	87	ND	107	100	6.8
Toluene	0.5	ug/L	97	ND	106	99	7.0

COMMENT: Blank Results were ND on other analytes tested.

NET Pacific, Inc.

KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in results column indicates analyte not detected at the value following. This datum supercedes the listed Reporting Limit.
*	:	Reporting Limits are a function of the dilution factor for any given sample. To obtain the actual reporting limits for this sample, multiply the stated Reporting Limits by the dilution factor (but do not multiply reported values).
ICVS	:	Initial Calibration Verification Standard (External Standard).
mean	:	Average; sum of measurements divided by number of measurements.
mg/Kg (ppm)	:	Concentration in units of milligrams of analyte per kilogram of sample (parts per million).
mg/L	:	Concentration in units of milligrams of analyte per liter of sample.
mL/L/hr	:	Milliliters per liter per hour.
MPN/100 mL	:	Most probable number of bacteria per one hundred milliliters of sample
N/A	:	Not applicable.
NA	:	Not analyzed.
ND	:	Not detected; the analyte concentration is less than applicable listed reporting limit.
NTU	:	Nephelometric turbidity units.
RPD	:	Relative percent difference, 100 [Value 1 - Value 2]/mean value.
SNA	:	Standard not available.
ug/Kg (ppb)	:	Concentration in units of micrograms of analyte per kilogram of sample (parts per billion).
ug/L	:	Concentration in units of micrograms of analyte per liter of sample.
umhos/cm	:	Micromhos per centimeter.

Method References

Methods 100 through 493: see "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.

Methods 601 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants" U.S. EPA, 40 CFR, Part 136, rev. 1988.

Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd edition, 1986.

SM: see "Standard Methods for the Examination of Water & Wastewater, 17th Edition, APHA, 1989.

8590

WIC # 204-5508-55

CONVERSE ENVIRONMENTAL WEST

CHAIN OF CUSTODY RECORD

PM: Charles Comstock

PROJECT NO.: 68-14-359-20

PROJECT NAME / CROSS STREET: Shell 285 Hegenberger, OAKLAND

SAMPLERS: (Signature) Carol Morrison

CUSTODY SEALED 7/12/91 @ 1400 MMW

STATION NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NUMBER OF CONTAINERS	ANALYSES: TPH-Gas	TPH-Diesel	Btex	REMARKS
MW-5	7-12-91	935			40ml VOA	4	X		X	Standard turnaround
MW-5		935 1005	cm		1 l Amber	3		X		
MW-2		1005			40 ml VOA	3	X		X	
MW-2		1005			1 l amber	2		X		
MW-6		1030			40 ml VOA	3	X		X	
MW-6		1030			1 l amber	2		X		
MW-9		1100			40 ml VOA	3	X		X	
MW-9		1100			1 l amber	2		X		1 amber rec'd broken. 7/16/91
MW-4		1150			40 ml VOA	3	X		X	
MW-4		1150			1 l amber	2		X		
MW-8		1210			40 ml VOA	3	X		X	
MW-8	↓	1210			1 l amber	2		X		

Det. Limits:
Btex: 0.0005 ppm
TPH-Gas: 0.05 ppm
TPH-D: 0.05 ppm

RELINQUISHED BY: (Signature) Carol Morrison	DATE: 7/12/91 TIME: 5PM	RECEIVED BY: (Signature) Mike Tanner	RELINQUISHED BY: (Signature) Mike Tanner
RELINQUISHED BY: (Signature)	DATE: TIME:	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)
RELINQUISHED BY COURIER: (Sign.)	DATE: TIME:	RECEIVED BY MOBILE LAB: (Sign.)	RELINQ. BY MOBILE LAB: (Signature)
METHOD OF SHIPMENT: WCS		SHIPPED BY: (Signature)	RECEIVED FOR LAB: (Signature)

DATE: 7/12/91 TIME:	RECEIVED BY: (Signature)	
DATE: TIME:	RECEIVED BY: (Signature)	
DATE: TIME:	RECEIVED BY COURIER: (Signature)	
DATE: 7-13-91 TIME: 0930	COURIER FROM AIRPORT: (Signature)	

CONVERSE ENVIRONMENTAL WEST

8590

CHAIN OF CUSTODY RECORD

WIC#: 204-5508-5501

PM: C. Comstock

PROJECT NO.: 8244-359-20	PROJECT NAME / CROSS STREET: Shell: 285 Hegenberger OAKLAND						ANALYSES						
SAMPLERS: (Signature) Carol Morrison													
STATION NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NUMBER OF CONTAINERS	TPH-Gas	TPH-Diesel	Btex				REMARKS
910712	7-12-91	1035			40 ml VOA	3	X		X				standard turnaround time
910712		1035			1 l amber	2		X					
MW-3		1225			40 ml VOA	3	X		X				
MW-3		1225			1 l amber	2		X					
Field Blank		935			40 ml VOA	1	X		X				
Field Blank		935			1 l amber	1		X					DET LIMITS:
TRIP BLANK		—			40 ml VOA	1	X		X				Btex: 0.0005ppm
TRIP BLANK		—			1 l amber	1		X					TPH-Gas: 0.05ppm
MW-7		1130			40 ml VOA	3	X		X				TPH-D: 0.05ppm
MW-7		1130			1 l amber	2	X	X					
							on						CUSTODY SEALED 7/12/91
													@ 1900 MWT
													received

RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)
Carol Morrison	DATE: 7/12/91 TIME: 5PM	Mike Tavani	Mike Tavani	DATE: 7/12/91 TIME:	
RELINQUISHED BY: (Signature)	DATE: TIME:	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE: TIME:	RECEIVED BY: (Signature)
RELINQUISHED BY COURIER: (Sign.)	DATE: TIME:	RECEIVED BY MOBILE LAB: (Sign.)	RELINQ. BY MOBILE LAB: (Signature)	DATE: TIME:	RECEIVED BY COURIER: (Signature)
METHOD OF SHIPMENT: WCS		SHIPPED BY: (Signature)	RECEIVED FOR LAB: (Signature)	DATE: 7-13-91 TIME: 0930	COURIER FROM AIRPORT: (Signature)

NET NATIONAL ENVIRONMENTAL TESTING, INC.

NET Pacific, Inc.
435 Tesconi Circle
Santa Rosa, CA 95401
Tel: (707) 526-7200
Fax: (707) 526-9623

Charles Comstock
Converse Consultants
55 Hawthorne St, Ste 500
San Francisco, CA 94105

Date: 07-12-91
NET Client Acct No: 18.02
NET Pacific Log No: 8469
Received: 07-09-91 0800

Client Reference Information

SHELL-Hegenberger Road, Oakland

Sample analysis in support of the project referenced above has been completed and results are presented on following pages. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Approved by:

Troy K. Mikell

Troy Mikell
Division Manager, Field Services

JS:rct
Enclosure(s)

NET Pacific, Inc.

Client No: 18.02 Date: 07-12-91
Client Name: Converse Consultants
NET Log No: 8469 Page: 2

Ref: SHELL-Hegenberger Road, Oakland

			Descriptor, Lab No. and Results		
			1	2	
			07-08-91	07-08-91	
Parameter	Method	Reporting Limit	91049	91050	Units
PETROLEUM HYDROCARBONS			--	--	
VOLATILE (VAPOR)			--	--	
DILUTION FACTOR *			1	1	
DATE ANALYZED			7-8-91	7-8-91	
METHOD GC FID/5030			--	--	
as Gasoline		0.05	42	32	mg/L
METHOD 602			--	--	
Benzene		0.5	890	290	ug/L
Ethylbenzene		0.5	210	340	ug/L
Toluene		0.5	690	670	ug/L
Xylenes		0.5	620	470	ug/L

NET Pacific, Inc.

Client No: 18.02 Date: 07-12-91
Client Name: Converse Consultants
NET Log No: 8469 Page: 3

Ref: SHELL-Hegenberger Road, Oakland

			Descriptor, Lab No. and Results		
			3	4	
			07-08-91	07-08-91	
Parameter	Method	Reporting Limit	91051	91052	Units
PETROLEUM HYDROCARBONS			--	--	
VOLATILE (VAPOR)			--	--	
DILUTION FACTOR *			1	1	
DATE ANALYZED			7-8-91	7-8-91	
METHOD GC FID/5030			--	--	
as Gasoline		0.05	62	ND	mg/L
METHOD 602			--	--	
Benzene		0.5	300	5.3	ug/L
Ethylbenzene		0.5	380	5.9	ug/L
Toluene		0.5	960	ND	ug/L
Xylenes		0.5	3500	ND	ug/L

NET Pacific, Inc.

Client No: 18.02 Date: 07-12-91
Client Name: Converse Consultants
NET Log No: 8469 Page: 4

Ref: SHELL-Hegenberger Road, Oakland

Parameter	Method	Reporting Limit	Descriptor, Lab No. and Results 5 07-08-91 91053	Units
PETROLEUM HYDROCARBONS			--	
VOLATILE (VAPOR)			--	
DILUTION FACTOR *			1	
DATE ANALYZED			7-8-91	
METHOD GC FID/5030			--	
as Gasoline		0.05	ND	mg/L
METHOD 602			--	
Benzene		0.5	5.0	ug/L
Ethylbenzene		0.5	5.3	ug/L
Toluene		0.5	10	ug/L
Xylenes		0.5	ND	ug/L

NET Pacific, Inc.

Client No: 18.02 Date: 07-12-91
Client Name: Converse Consultants
NET Log No: 8469 Page: 5

Ref: SHELL-Hegenberger Road, Oakland

QUALITY CONTROL DATA

Parameter	Reporting Limits	Units	Cal Verf Stand % Recovery	Blank Data	Spike % Recovery	Duplicate Spike % Recovery	RPD
Gasoline	0.05	mg/L	96	ND	93	85	8.8
Benzene	0.5	ug/L	99	ND	170	165	3.0
Toluene	0.5	ug/L	99	ND	107	100	6.3

COMMENT: Blank Results were ND on other analytes tested.

NET Pacific, Inc.

KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in results column indicates analyte not detected at the value following. This datum supercedes the listed Reporting Limit.
*	:	Reporting Limits are a function of the dilution factor for any given sample. To obtain the actual reporting limits for this sample, multiply the stated Reporting Limits by the dilution factor (but do not multiply reported values).
ICVS	:	Initial Calibration Verification Standard (External Standard).
mean	:	Average; sum of measurements divided by number of measurements.
mg/Kg (ppm)	:	Concentration in units of milligrams of analyte per kilogram of sample, (parts per million).
mg/L	:	Concentration in units of milligrams of analyte per liter of sample.
mL/L/hr	:	Milliliters per liter per hour.
MPN/100 mL	:	Most probable number of bacteria per one hundred milliliters of sample.
N/A	:	Not applicable.
NA	:	Not analyzed.
ND	:	Not detected; the analyte concentration is less than applicable listed reporting limit.
NTU	:	Nephelometric turbidity units.
RPD	:	Relative percent difference, 100 [Value 1 - Value 2]/mean value.
SNA	:	Standard not available.
ug/Kg (ppb)	:	Concentration in units of micrograms of analyte per kilogram of sample, (parts per billion).
ug/L	:	Concentration in units of micrograms of analyte per liter of sample.
umhos/cm	:	Micromhos per centimeter.

Method References

Methods 100 through 493: see "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.

Methods 601 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants" U.S. EPA, 40 CFR, Part 136, rev. 1988.

Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd edition, 1986.

SM: see "Standard Methods for the Examination of Water & Wastewater, 17th Edition, APHA, 1989.

NET Pacific, Inc.
435 TESCONI CIRCLE
SANTA ROSA, CA 95401
TEL: 707-526-7200
FAX: 707-526-9623

CHAIN OF CUSTODY RECORD

PROJ NO: 8469
PROJECT NAME: Converse Env. - Hegenberger Rd, Oakland
SAMPLERS (Signature)

STA NO	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	TPH Gas	BTEX	REMARKS
1	7/8/91			X		2	X	X	Soil Vapor Samples
2				X		2	X	X	
3				X		1	X	X	
4				X		1	X	X	
5				X		1	X	X	

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
R. Kulanda	7/8/91 15:04				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by. (Signature)
Relinquished by: (Signature)	Date / Time.	Received for Laboratory by: (Signature)	Date / Time	Remarks	
	7/9/91 0800		7/9/91 0800		