REPORT OF ACTIVITIES
QUARTER 1, 1991

SHELL OIL COMPANY FACILITY
285 HEGENBERGER ROAD
OAKLAND, CALIFORNIA

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CEW Project No. 88-44-359-20
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SECTION 1

INTRODUCTION

1.1 BACKGROUND AND OBJECTIVES

This report presents the results of investigative activities conducted by Converse Environmental West (CEW) during Quarter 1, 1991 (Q1/91) for the Shell Oil Company (Shell) station (site) at 285 Hegenberger Road, Oakland, California (Drawing 1). This report is prepared to fulfill the quarterly reporting requirements as specified in the Work Plan prepared by CEW dated February 3, 1989 and revised February 10, 1989 and June 12, 1989 for achievement of environmental closure of the site. The Work Plan is on file with the regulatory agencies of jurisdiction.

The site is located on the northeast corner of Hegenberger Road and Leet Drive in Oakland, California (Drawing 2). The site is approximately 235 feet long by 130 feet wide. Shell owns and operates a retail fuel sales station on the site.

Available data indicates that soil and groundwater containing petroleum hydrocarbons exist on the property. This condition has been established by preliminary investigations conducted by CEW since 1989. A chronological summary of environmental activities conducted at the site is presented in Appendix A.

1.2 SCOPE OF ACTIVITIES

The investigative activities conducted during Q1/91 were authorized under an existing purchase order and blanket number from Shell for environmental services at the facility. The work initiated and completed by CEW during Q1/91 consisted of the following:

- Collecting and sampling groundwater from monitoring wells MW-1 through MW-10,

- Evaluating the findings from the field activities and preparing this report. Investigative activities conducted at the site to date are summarized in Table 1.

As a consultant to Shell on this project, CEW is contracted to perform specific activities related to acquiring data and information which will lead to the ultimate successful environmental closure of the facility under investigation. CEW's primary obligation is to collect information within proper standard of care and practice, and in accordance with protocols which have been created by CEW and which are on file with the regulatory agencies of jurisdiction. From time to time, because of site-specific conditions or limitations, CEW may find it necessary to deviate from these protocols. Under these conditions, CEW will describe in appropriate reports the rationale and necessities for the deviations which occurred, along with a statement of the possible impact these deviations may have on the database generated.

In interpreting its findings, CEW will follow the scientific method and develop multiple working hypotheses which explain site conditions and findings. CEW will not report and justify these multiple working hypotheses to the regulatory agencies for two principal reasons:

(1) The number of assumptions and limitations that are part of the process are numerous and would require substantial discussion and justification, and

(2) The multiple working hypothesis process is iterative to the time of closure. Closure documentation will provide a final, best hypothesis that is fully explained.

SECTION 2

WORK COMPLETED THIS QUARTER

Work initiated and completed during Q1/91 followed the task descriptions of the CEW Work Plan dated February 3, 1989 and revised February 10, 1989 and June 12, 1989, the project critical path and the CEW protocols are on file with the regulatory agencies of jurisdiction. No modifications were made to the revised Work Plan.

2.1 Soil Sampling and Analyses

No additional soil samples were collected during Q1/91. A summary of soil boring information and analyses were presented in previous quarterly reports on files with the regulatory agencies of jurisdiction.

2.2 Groundwater Sampling and Analysis

Groundwater samples were collected on January 3, 1991, from monitoring wells MW-1 through MW-10, following CEW protocols. These samples were submitted to NET Pacific, Inc., a California-certified laboratory in Santa Rosa, California. Samples were analyzed for total petroleum hydrocarbons as gasoline (TPH-g); total petroleum hydrocarbons as diesel (TPH-d); and benzene, toluene, ethylbenzene and xylenes (BTEX), following the recommended analytical methods listed in Table 3. Analytical data for the water samples collected from the monitoring wells are summarized in Table 4. Laboratory reports and chain-of-custody forms are provided in Appendix B.

2.3 Physical Monitoring Activities

During Q1/91, wells MW-1 through MW-10 were measured once for depth to water table and observed for floating product. A summary of these results is presented in Table 5.

SECTION 3

FINDINGS AND DISCUSSION

3.1 Soil

Stratigraphy and geologic setting are presented in previous progress reports on file with local agencies of jurisdiction.

3.2 Groundwater

3.2.1 Elevation and Gradient

Groundwater measurements ranged from 4.88 feet below grade surface (bgs) in well MW-1 to 7.54 feet bgs in MW-4 (Table 5). Groundwater flow direction and gradient varied across the site. Flow direction during Q1/91 was generally in a southerly direction. The variation in flow directions during this and previous quarterly monitoring periods is most likely due to tidal influence and due to differentiation in soil types and their respective response to water level changes.

3.2.2 Results of Chemical Analyses

The following is a list of the principal findings and conclusions from groundwater chemical monitoring at the site. Chemical data is summarized in Table 4.

- TPH-g was detected in all monitoring wells except wells MW-4 and MW-8.
- TPH-d was detected in all monitoring wells except wells MW-8. MW-4 was not analyzed for TPH-d.
- Benzene was detected in all monitoring wells except MW-4.

- Toluene was detected in all monitoring wells except MW-4 and MW-8.

- Ethylbenzene was detected in all monitoring wells except MW-3, MW-4, MW-8 and MW-10.

- Xylenes was detected in all monitoring wells except MW-4 and MW-8.

3.3 Discussion

SECTION 4

NEXT QUARTER ACTIVITIES

4.1 WORK PLAN MODIFICATIONS

No modifications were made to the workplan.

4.2 PROPOSED ACTIVITIES

The following activities will be conducted in Q2/91:

(1) Continue quarterly monitoring and groundwater sampling.

(2) Expand remedial investigation offsite.

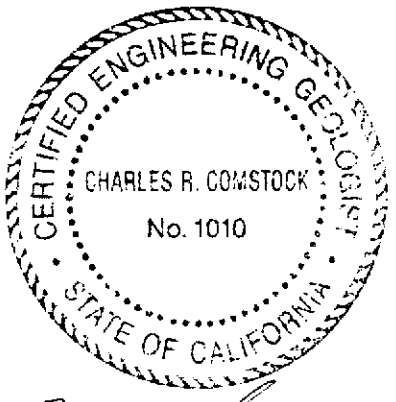
(3) Continue detailed cost and technical analyses and support for Shell to proceed with source area soils remedial activities.

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,



CHARLES R. COMSTOCK
Principal Geologist

PRIMARY CONTACTS

Shell Oil Company Facility
285 Hegenberger Road
Oakland, California

Quarter 1, 1991

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Site Owner:	Shell Oil Company

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APPENDIX A

CHRONOLOGICAL SUMMARY

CHRONOLOGICAL SUMMARY

The following chronological summary is based on information provided to Converse Environmental West (CEW) by Shell Oil Company (Shell). CEW 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, geometry of the excavation created during tank removal, if any, 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 CEW.
02/15/89	CEW drilled and sampled MW-1 to MW-3 and SB-1 and SB-2.
04/28/89	CEW installed MW-4 through MW-8.
05/26/89	CEW drilled, sampled and abandoned borings SB-3, SB-4 and SB-5.
07/13/89	CEW drilled, sampled and abandoned borings SB-6 through SB-11.
9/20-21/89	CEW conducted a tidal influence test.
10/17/89	Loma Prieta Earthquake struck.
10/26/89	CEW performed slug tests on existing wells.
11/16/89	CEW drilled, sampled and abandoned SB-12 and SB-13.
11/16/89	CEW installed MW-10.
12/15/89	CEW developed MW-10 and collected Q4/89 groundwater samples.
1/17/90 and 2/02/90	CEW performed offsite survey and survey calculations of property adjacent to site.
2/7/90	CEW sampled wells MW-1, MW-2, MW-5, MW-6, MW-7, MW-9.
2/8/90	CEW sampled wells MW-5, MW-7, MW-9.
3/8/90	CEW sampled wells MW-3, MW-4, MW-8, MW-10.
4/90	CEW applied for an encroachment permit from the City of Oakland.
4/18/90 and 4/19/90	CEW sampled wells MW-1, MW-2, MW-3, MW-5, MW-7, MW-9, MW-10.

CHRONOLOGICAL SUMMARY (continued)

Date	Description of Activity
7/24/90 and 7/25/90	CEW 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	CEW drilled and sampled SG-1 through SG-13.
9/07/90	CEW performed constant head test on monitoring wells MW-1, MW-5, MW-6, MW-7, MW-9, and MW-10.
9/13/90	CEW drilled and sampled SG-14 through SG-17.
9/27/90 - 10/01/90	CEW monitored and sampled monitoring wells MW-1 through MW-10.
1/2-3/91	**CEW monitored and sampled monitoring wells MW-1 through MW-10.**

Boldface items were conducted during this quarter

TABLE 1. ACTIVITY SUMMARY - QUARTER 1, 1991

Shell Oil Company Facility
285 Hegenberger Road
Oakland, California

	PERCENT COMPLETE			
	Quarter 1, 1991		Total to Date	
Activity	Onsite	Offsite	Onsite	Offsite
Soil Characterization	0	5%	60%	20%
Groundwater Characterization (Dissolved Product)	0	0	75%	0
Groundwater Characterization (Floating Product)	NA	NA	NA	NA
Soil Remediation	0	0	0	0
Groundwater Remediation (Dissolved Product)	0	0	0	0
Groundwater Remediation (Floating Product)	NA	NA	NA	NA

NOTE:

NA Not Applicable

TABLE 2. WELL INSTALLATION INFORMATION

Shell Oil Company Facility
285 Hegenberger Road
Oakland, California

Well No.	Date Installed	Well Diameter (Inches)	Total Depth of Well (ft bgs)	Screened Interval* (ft bgs)	Bentonite Seal Interval (ft bgs)	Grout Seal Interval (ft bgs)
MW-1	2/14/89	4	16.5	10.0 - 5.5	4.0 - 3.0	3.0 - 0
MW-2	2/15/89	4	16.5	10.0 - 5.5	4.0 - 3.0	3.0 - 0
MW-3	2/1590	4	16.5	10.0 - 5.5	4.0 - 3.0	3.0 - 0
MW-4	4/28/89	4	14.0	10.0 - 5.5	5.0 - 4.0	4.0 - 0
MW-5	4/27/89	4	14.0	10.0 - 4.5	4.5 - 3.5	3.5 - 0
MW-6	4/28/89	4	12.0	11.0 - 5.0	5.0 - 4.0	4.0 - 0
MW-7	4/27/89	4	14.0	10.0 - 5.0	5.0 - 4.0	4.0 - 0
MW-8	4/28/89	4	12.0	10.0 - 5.0	5.0 - 4.0	4.0 - 0
MW-9	7/13/89	4	10.5	10.0 - 5.0	4.5 - 3.5	3.5 - 0
MW-10	11/16/89	4	13.0	10.0 - 5.0	4.5 - 4.0	4.0 - 0

NOTES:

* Bentonite seals were placed from TDs to the base of the screened intervals.
ft bgs Feet below ground surface
MW Groundwater monitoring wells

TABLE 3. RECOMMENDED MINIMUM VERIFICATION ANALYSES FOR UNDERGROUND TANK LEAKS

FROM: Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites

HYDROCARBON LEAK	SOIL ANALYSIS		WATER ANALYSIS	
Unknown Fuel	TPH-g	GCFID (5030)	TPH-g	GCFID (5030)
	TPH-d	GCFID (3550)	TPH-d	GCFID (3510)
	BTEX	8020 or 8240	BTEX	602, 624 or 8260
	TPH & BTEX 8260		BTEX	602, 624 or 8260
Leaded Gas	TPH-g	GCFID (5030)	TPH-g	GCFID (5030)
	BTEX	8020 or 8240	BTEX	602, 625 or 8260
	TPH & BTEX 8260		BTEX	602, 624 or 8260
	TOTAL LEAD AA		TOTAL LEAD AA	
		OPTIONAL		
	TEL	DHS-LUFT	TEL	DHS-LUFT
	EDB	DHS-AB1803	EDB	DHS-AB1803
Unleaded Gas	TPH-g	GCFID (5030)	TPH-g	GCFID (5030)
	BTEX	8020 or 8240	BTEX	602, 624 or 8260
	TPH & BTEX 8260			
Diesel	TPH-d	GCFID (3550)	TPH-d	GCFID (3510)
	BTEX	8020 or 8240	BTEX	602, 624 or 8260
	TPH & BTEX 8260			
Jet Fuel	TPH-d	GCFID (3550)	TPH-d	GCFID (3510)
	BTEX	8020 or 8240	BTEX	602, 624 or 8260
	TPH & BTEX 8260			
Kerosene	TPH-d	GCFID (3550)	TPH-d	GCFID (3510)
	BTEX	8020 or 8240	BTEX	602, 624 or 8260
Fuel/Heating Oil	TPH-d	GCFID (3550)	TPH-d	GCFID (3510)
	BTEX	8020 or 8240	BTEX	602, 624 or 8260
Chlorinated Solvents	CL HC	8010 or 8240	CL HC	601 or 624
	BTEX	8020 or 8240	BTEX	602 or 624
	CL HC & BTEX	8260	CL HC & BTEX	8260
Non Chlorinated Solvents	TPH-d	GCFID (3550)	TPH-d	GCFID (3510)
	BTEX	8020 or 8240	BTEX	602 or 624
	TPH & BTEX 8260		TPH & BTEX 8260	
Waste and Used Oil and Unknown	TPH-g	GCFID (5030)	TPH-g	5520 C&F
	TPH-d	GCFID (3550)	TPH-d	GCFID (3510)
	TPH & BTEX 8260			
	O & G	5520 D&F	O & G	5520 C&F
	BTEX	8020 or 8240	BTEX	602, 624 or 8260
	CL HC	8010 or 8240	CL HC	601 or 624
	ICAP or AA TO DETECT METALS: Cd, Cr, Pb, Zn, Ni			
	METHOD 8270 FOR SOIL OR WATER TO DETECT:			
	PCB*		PCB*	
	PCP*		PCP*	
	PNA		PNA	
	CREOSOTE		CREOSOTE	

TABLE 4. 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-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**	**1.80**	**0.83**	**0.056**	**0.0044**	**0.0048**	**0.092**
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-4	05/23/89	<0.05	NA	<0.0005	<0.0005	<0.0015	<0.0015
MW-4*	08/04/89	<0.05	<0.05	<0.0005	<0.0005	<0.0015	<0.0015
MW-4	12/15/89	<0.05	0.09	<0.0005	<0.0005	<0.0005	<0.0005
MW-4[1]	03/08/90	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
MW-4	07/25/90	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
MW-4	09/28/90	<0.05	NA	<0.0005	<0.0005	<0.0005	<0.0005
MW-4	**01/03/91**	**<0.05**	**NA**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**

TABLE 4 (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-5	05/23/89	26.0	7.0	1.5	0.28	<0.0015	8.1
MW-5	08/04/89	12.0	8.7	0.86	0.094	<0.0015	2.6
MW-5	12/15/89	1.00	0.71	0.022	0.035	0.018	0.044
MW-5	02/08/90	<0.05	0.62	0.0008	<0.0005	<0.0005	<0.0005
MW-5	04/19/90	19.0	5.0	4.5	0.85	0.097	8.0
MW-5	07/24/90	23.0	2.7	3.6	0.400	0.160	6.50
MW-5	09/28/90	5.4	0.55	1.40	0.026	0.013	1.30
MW-5	**01/03/91**	**0.86**	**0.56**	**0.280**	**0.0028**	**0.0008**	**0.045**
MW-6	05/23/89	22.0	7.0	0.016	0.0065	0.0066	3.4
MW-6	08/04/89	28.0	8.8	1.2	0.13	2.1	2.8
MW-6	12/15/89	16.0	5.5	0.37	0.092	0.20	0.18
MW-6	02/07/90	22.0	2.6	0.52	0.085	0.63	0.77
MW-6	04/18/90	21.0	5.7	0.9	0.077	2.7	2.7
MW-6	07/24/90	24.0	3.0	1.00	0.094	3.40	2.70
MW-6	10/01/90	22.0	<0.05	0.70	0.093	2.50	2.40
MW-6	**01/03/91**	**25.0**	**0.96**	**1.00**	**0.088**	**2.60**	**3.70**
MW-7	05/23/89	47.0	11	3.5	5.0	1.5	7.8
MW-7	08/04/89	68.0	22	6.2	6.6	3.6	8.8
MW-7	12/15/89	100.0	12	4.5	5.3	1.3	5.3
MW-7	02/08/90	96.0	8.1	15.0	15.0	2.5	14.0
MW-7	04/19/90	94.0	10.0	25.0	13.0	3.3	13.0
MW-7	07/24/90	84.0	3.8	26.0	13.0	3.0	12.0
MW-7	09/28/90	43.0	<0.05	25.0	6.10	2.40	9.00
MW-7	**01/03/91**	**78.0**	**3.10**	**26.0**	**16.0**	**3.00**	**14.00**
MW-7[2]	**01/03/91**	**77.0**	**3.60**	**29.00**	**19.00**	**3.00**	**15.00**
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-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**

TABLE 4 (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-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**

NOTES:

*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)
Bold Indicates work completed this quarter
[1]Analyzed semi-annually
[2]Duplicate sample

TABLE 5. 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-1	02/16/89	3.83	2.81	Slight	0	----
El. 6.64	05/23/89	3.59	3.05	Slight	0	No sheen
	08/03/89	4.04	2.06	Slight	0	----
	12/15/89	4.22	2.42	Slight	0	----
	02/07/90	4.60	2.58	Slight	0	----
	04/18/90	4.02	2.62	None	0	Yellow
	07/23/90	4.17	2.47	None	0	Floating sludge
	09/27/90	4.60	2.04	Slight	0	Yellow in color
	01/02/91	**4.88**	**1.76**	**Slight**	**0**	
MW-2	02/16/89	5.33	2.35	Slight	0	----
El. 7.68	05/23/89	5.23	2.45	Slight	0	----
	08/03/89	6.03	1.65	Slight	0	----
	12/15/89	6.43	1.25	Strong	0	----
	02/07/90	5.82	1.86	Slight	0	No sheen
	04/18/90	5.88	1.80	None	0	Yellow
	07/23/90	6.05	1.63	Slight	0	
	09/27/90	6.82	0.86	Strong	0	None
	01/02/91	**6.66**	**1.02**	**Slight**	**0**	**Yellow tint**
MW-3	02/16/89	5.17	2.64	None	0	----
El. 7.81	05/23/89	5.09	2.72	None	0	----
	08/03/89	5.34	2.47	Slight	0	----
	12/15/89	6.02	1.79	None	0	----
	02/07/90	4.95	2.86	Moderate	0	Cloudy
	04/18/90	5.55	2.26	Slight	0	Clear
	07/23/90	5.81	2.00	None	0	Floating sludge
	09/27/90	6.86	0.95	None	0	None
	01/02/91	**6.84**	**0.97**	**None**	**0**	**Yellow tint**
MW-4	05/23/89	5.60	1.78	None	0	----
El. 7.38	08/03/89	6.37	1.01	None	0	----
	12/15/89	6.91	0.47	Slight	0	----
	03/08/90	6.06	1.32	Moderate	0	Greenish
	04/18/90	5.84	1.54	None	0	Clear
	07/23/90	6.92	0.46	None	0	No sample taken
	07/23/90	6.92	0.46	None	0	No sample taken
	09/27/90	8.03	-.065	None	0	None
	01/02/91	**7.54**	**0.16**	**Slight**	**0**	**Yellow tint**

TABLE 5 (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-5	05/23/89	5.47	2.71	Moderate	0	No sheen
El. 8.18	08/03/89	5.94	2.24	None	0	----
	12/15/89	6.75	1.43	None	0	----
	02/07/90	6.03	2.15	Slight	0	Clear
	04/18/90	5.80	2.38	Slight	0	Clear
	07/23/90	6.00	2.18	None	0	
	09/23/90	7.18	1.00	Slight	0	Putrid odor
	01/02/91	**7.17**	**1.01**	**Slight**	**0**	**Putrid odor**
MW-6	05/23/89	5.47	2.74	Strong	0	Sheen
El. 8.21	08/03/89	5.91	2.30	None	0	
	12/15/89	5.98	2.23	Moderate	0	----
	02/07/90	5.47	2.74	Moderate	0	----
	04/18/90	5.80	2.41	Slight	0	Clear
	07/23/90	5.85	2.36	Slight	0	
	09/27/90	6.42	1.79	Slight	0	Putrid odor
	01/02/91	**6.73**	**1.48**	**Slight**	**0**	**Putrid odor**
MW-7	05/23/89	5.48	1.96	Moderate	0	Slight sheen
El. 744	08/03/89	4.22	3.22	None	0	----
	12/15/89	4.58	2.86	Slight	0	----
	02/07/90	5.34	2.10	Slight	0	Brownish
	04/18/90	4.92	2.52	Slight	0	Organic, Dark Yellow
	07/23/90	4.99	2.45	Slight	0	Floating sludge, putrid odor
	09/27/90	6.16	1.28	Slight	0	Decaying odor
	01/02/91	**4.96**	**2.48**	**Slight**	**0**	**Decaying odor**
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**
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	Organic Odor	0	Yellow
	04/18/90	5.34	2.29	Slight	0	Yellowish
	07/23/90	5.65	1.98	Organic Odor	0	
	09/27/90	5.96	1.67	Organic Odor	0	Yellowish
	01/02/91	**6.23**	**1.40**	**Organic Odor**	**0**	**Yellowish**

TABLE 5 (cont'd). GROUNDWATER MONITORING INFORMATION

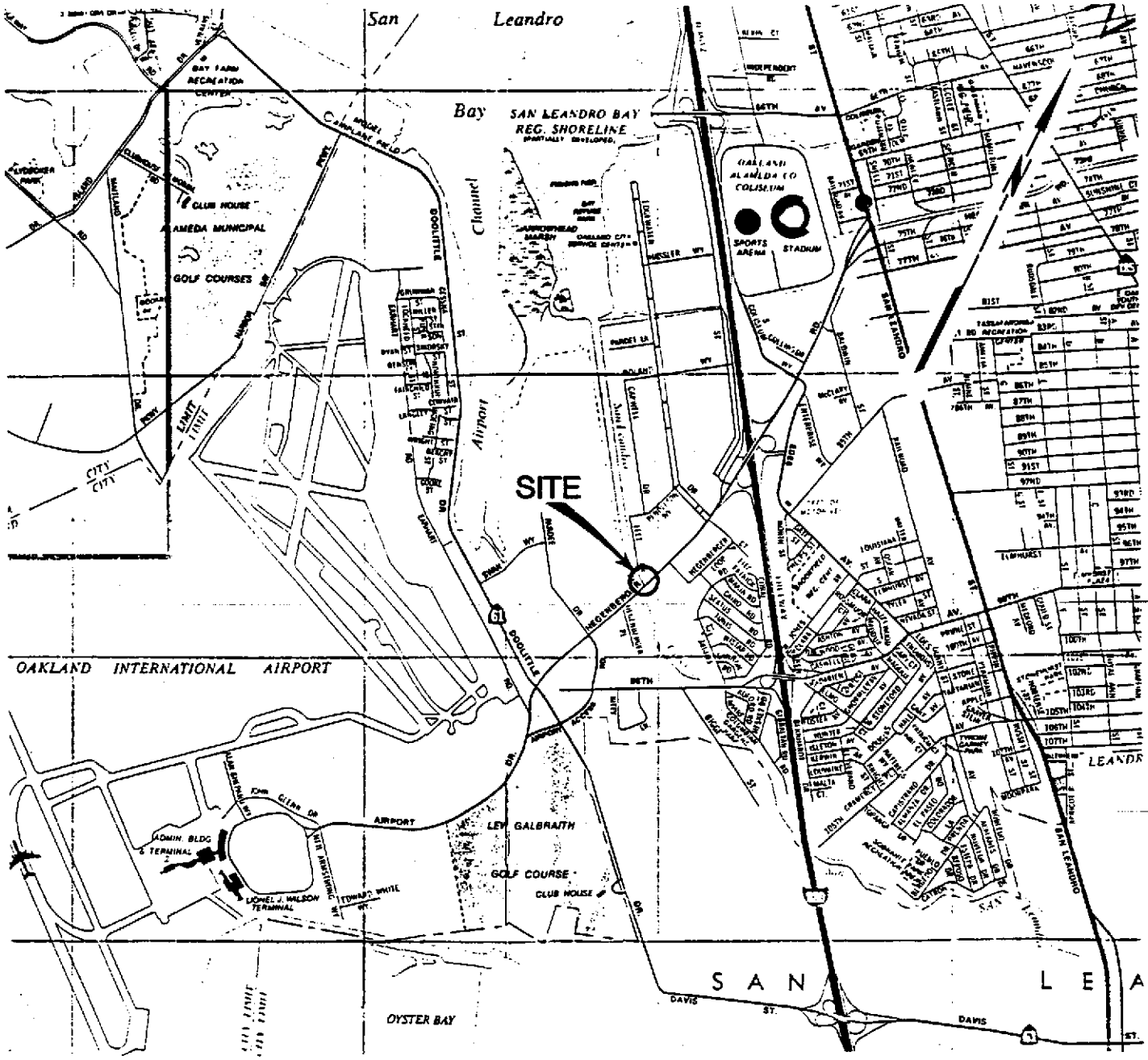
Shell Oil Company Facility
285 Hegenberger Road
Oakland, California

Well No.	Date Monitored	Depth to Water (ft bgs)	Groundwater Elevation (msl)	Petroleum Odor in Water	Floating Product Thickness (inches)	Comments
MW-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**

NOTES:

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

DRAWINGS



SOURCE: California State Automobile Association

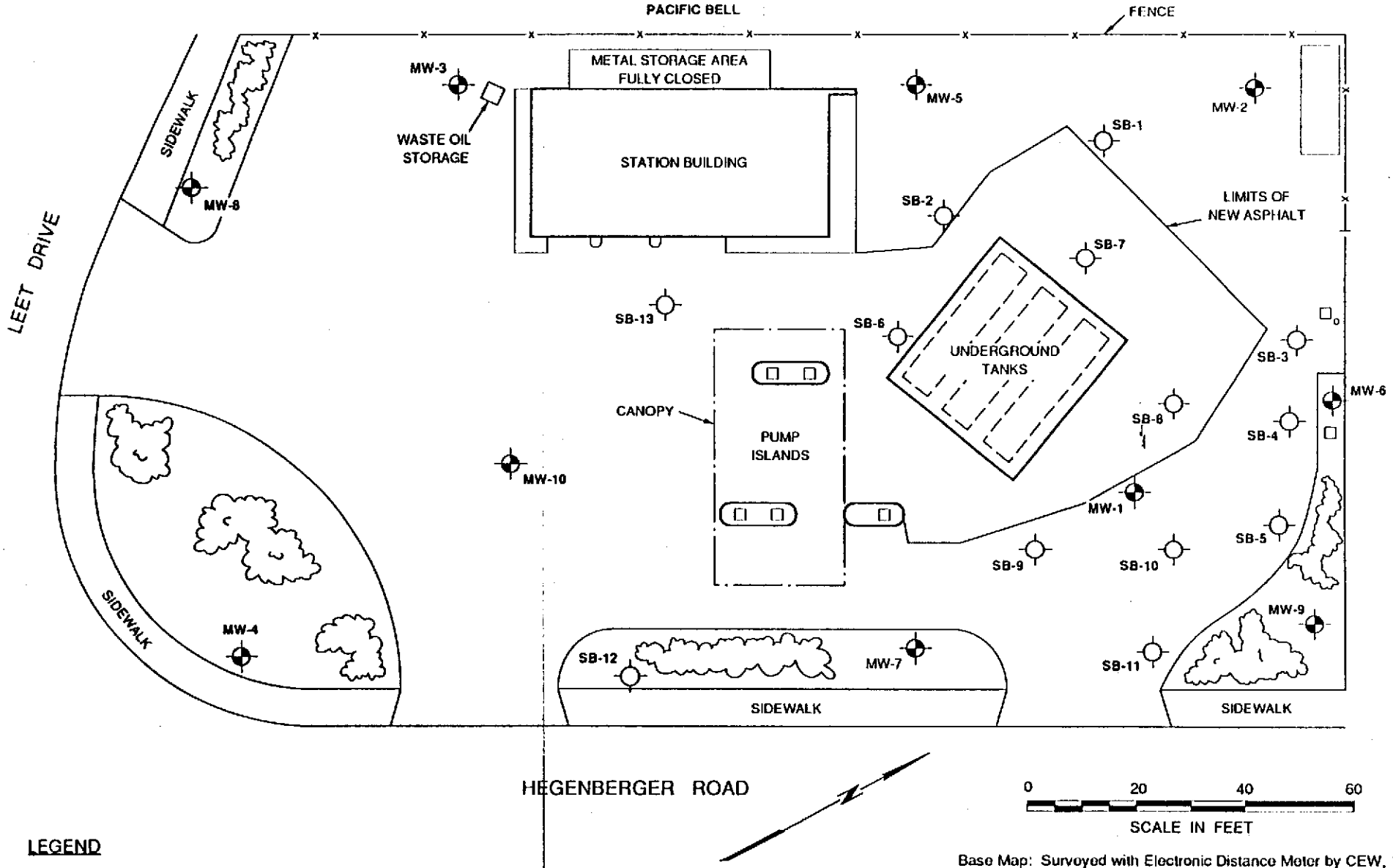
WIC No. 204-5508-5504

SITE LOCATION

SHELL OIL COMPANY
285 Hegenberger Road
Oakland, California

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

Converse Environmental West



LEGEND

SB-1 ⊕ SOIL BORING (locations approximate)

MW-1 ⊕ GROUNDWATER MONITORING WELL

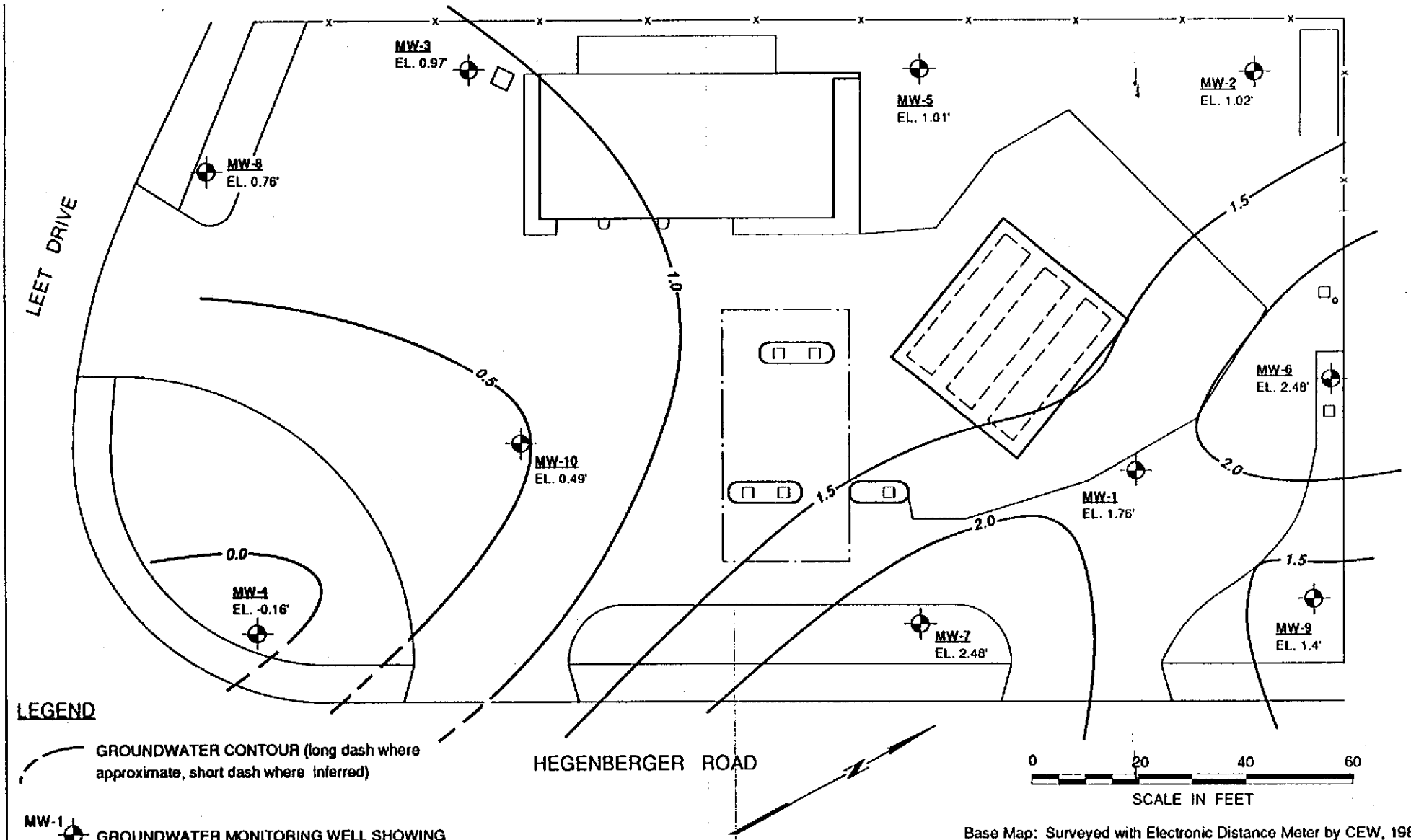
Base Map: Surveyed with Electronic Distance Meter by CEW, 1989.

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 Q1/91

SHELL OIL COMPANY
285 Hegenberger Road
Oakland, California

Converse Environmental West

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

APPENDIX A

CHRONOLOGICAL SUMMARY

CHRONOLOGICAL SUMMARY

The following chronological summary is based on information provided to Converse Environmental West (CEW) by Shell Oil Company (Shell). CEW 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, geometry of the excavation created during tank removal, if any, 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 CEW.
02/15/89	CEW drilled and sampled MW-1 to MW-3 and SB-1 and SB-2.
04/28/89	CEW installed MW-4 through MW-8.
05/26/89	CEW drilled, sampled and abandoned borings SB-3, SB-4 and SB-5.
07/13/89	CEW drilled, sampled and abandoned borings SB-6 through SB-11.
9/20-21/89	CEW conducted a tidal influence test.
10/17/89	Loma Prieta Earthquake struck.
10/26/89	CEW performed slug tests on existing wells.
11/16/89	CEW drilled, sampled and abandoned SB-12 and SB-13.
11/16/89	CEW installed MW-10.
12/15/89	CEW developed MW-10 and collected Q4/89 groundwater samples.
1/17/90 and 2/02/90	CEW performed offsite survey and survey calculations of property adjacent to site.
2/7/90	CEW sampled wells MW-1, MW-2, MW-5, MW-6, MW-7, MW-9.
2/8/90	CEW sampled wells MW-5, MW-7, MW-9.
3/8/90	CEW sampled wells MW-3, MW-4, MW-8, MW-10.
4/90	CEW applied for an encroachment permit from the City of Oakland.
4/18/90 and 4/19/90	CEW sampled wells MW-1, MW-2, MW-3, MW-5, MW-7, MW-9, MW-10.

CHRONOLOGICAL SUMMARY (continued)

Date	Description of Activity
7/24/90 and 7/25/90	CEW 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	CEW drilled and sampled SG-1 through SG-13.
9/07/90	CEW performed constant head test on monitoring wells MW-1, MW-5, MW-6, MW-7, MW-9, and MW-10.
9/13/90	CEW drilled and sampled SG-14 through SG-17.
9/27/90 - 10/01/90	CEW monitored and sampled monitoring wells MW-1 through MW-10.
1/2-3/91	**CEW monitored and sampled monitoring wells MW-1 through MW-10.**

Boldface items were conducted during this quarter

APPENDIX B

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

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

Date: 01-15-91
NET Client Acct. No: 18.02
NET Pacific Log No: 5519
Received: 01-04-91 0800

Client Reference Information

SHELL, 285 Hegenberger; 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

Enclosure(s)

NET Pacific, Inc.

Client Acct: 18.02
Client Name: Converse Consultants
NET Log No: 5519

Date: 01-15-91
Page: 2

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

SAMPLE DESCRIPTION: MW-4 01-03-91 0935
LAB Job No: (-71607)

Parameter	Method	Reporting Limit	Results	Units
PETROLEUM HYDROCARBONS			--	
VOLATILE (WATER)			--	
DILUTION FACTOR *			1	
DATE ANALYZED			01-07-91	
METHOD GC FID/5030			--	
as Gasoline		0.05	ND	mg/L
METHOD 602			--	
DILUTION FACTOR *			1	
DATE ANALYZED			01-07-91	
Benzene		0.5	ND	ug/L
Ethylbenzene		0.5	ND	ug/L
Toluene		0.5	ND	ug/L
Xylenes, total		0.5	ND	ug/L

NET Pacific, Inc.

Client Acct: 18.02
Client Name: Converse Consultants
NET Log No: 5519

Date: 01-15-91
Page: 3

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

SAMPLE DESCRIPTION: trip blank 01-03-91
LAB Job No: (-71608)

Parameter	Method	Reporting Limit	Results	Units
PETROLEUM HYDROCARBONS			--	
VOLATILE (WATER)			--	
DILUTION FACTOR *			1	
DATE ANALYZED			01-07-91	
METHOD GC FID/5030			--	
as Gasoline		0.05	ND	mg/L
METHOD 602			--	
DILUTION FACTOR *			1	
DATE ANALYZED			01-07-91	
Benzene		0.5	ND	ug/L
Ethylbenzene		0.5	ND	ug/L
Toluene		0.5	ND	ug/L
Xylenes, total		0.5	ND	ug/L
PETROLEUM HYDROCARBONS			--	
EXTRACTABLE (WATER)			--	
DILUTION FACTOR *			1	
DATE EXTRACTED			01-08-91	
DATE ANALYZED			01-09-91	
METHOD GC FID/3510			--	
as Diesel		0.05	ND	mg/L
as Motor Oil		0.5	ND	mg/L

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

SAMPLE DESCRIPTION: MW-10 01-03-91 0950
LAB Job No: (-71609)

Parameter	Method	Reporting Limit	Results	Units
PETROLEUM HYDROCARBONS			--	
VOLATILE (WATER)			--	
DILUTION FACTOR *			10	
DATE ANALYZED			01-08-91	
METHOD GC FID/5030			--	
as Gasoline		0.05	4.3	mg/L
METHOD 602			--	
DILUTION FACTOR *			10	
DATE ANALYZED			01-08-91	
Benzene		0.5	3700	ug/L
Ethylbenzene		0.5	ND	ug/L
Toluene		0.5	9.7	ug/L
Xylenes, total		0.5	110	ug/L
PETROLEUM HYDROCARBONS			--	
EXTRACTABLE (WATER)			--	
DILUTION FACTOR *			1	
DATE EXTRACTED			01-08-91	
DATE ANALYZED			01-09-91	
METHOD GC FID/3510			--	
as Diesel		0.05	0.63	mg/L
as Motor Oil		0.5	ND	mg/L

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

SAMPLE DESCRIPTION: MW-8 01-03-91 1010
LAB Job No: (-71610)

Parameter	Method	Reporting Limit	Results	Units
PETROLEUM HYDROCARBONS			--	
VOLATILE (WATER)			--	
DILUTION FACTOR *			1	
DATE ANALYZED			01-07-91	
METHOD GC FID/5030			--	
as Gasoline		0.05	ND	mg/L
METHOD 602			--	
DILUTION FACTOR *			1	
DATE ANALYZED			01-07-91	
Benzene		0.5	1.3	ug/L
Ethylbenzene		0.5	ND	ug/L
Toluene		0.5	ND	ug/L
Xylenes, total		0.5	ND	ug/L
PETROLEUM HYDROCARBONS			--	
EXTRACTABLE (WATER)			--	
DILUTION FACTOR *			1	
DATE EXTRACTED			01-08-91	
DATE ANALYZED			01-09-91	
METHOD GC FID/3510			--	
as Diesel		0.05	ND	mg/L
as Motor Oil		0.5	ND	mg/L

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

SAMPLE DESCRIPTION: MW-3 01-03-91 1025
LAB Job No: (-71611)

Parameter	Method	Reporting Limit	Results	Units
PETROLEUM HYDROCARBONS			--	
VOLATILE (WATER)			--	
DILUTION FACTOR *			10	
DATE ANALYZED			01-08-91	
METHOD GC FID/5030			--	
as Gasoline		0.05	4.8	mg/L
METHOD 602			--	
DILUTION FACTOR *			10	
DATE ANALYZED			01-08-91	
Benzene		0.5	920	ug/L
Ethylbenzene		0.5	ND	ug/L
Toluene		0.5	8.8	ug/L
Xylenes, total		0.5	190	ug/L
PETROLEUM HYDROCARBONS			--	
EXTRACTABLE (WATER)			--	
DILUTION FACTOR *			1	
DATE EXTRACTED			01-08-91	
DATE ANALYZED			01-09-91	
METHOD GC FID/3510			--	
as Diesel		0.05	0.63	mg/L
as Motor Oil		0.5	ND	mg/L

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

SAMPLE DESCRIPTION: MW-7 01-03-91 1040
LAB Job No: (-71612)

Parameter	Method	Reporting Limit	Results	Units
PETROLEUM HYDROCARBONS			--	
VOLATILE (WATER)			--	
DILUTION FACTOR *			100	
DATE ANALYZED			01-08-91	
METHOD GC FID/5030			--	
as Gasoline		0.05	78	mg/L
METHOD 602			--	
DILUTION FACTOR *			1,000	
DATE ANALYZED			01-09-91	
Benzene		0.5	26,000	ug/L
Ethylbenzene		0.5	3,000	ug/L
Toluene		0.5	16,000	ug/L
Xylenes, total		0.5	14,000	ug/L
PETROLEUM HYDROCARBONS			--	
EXTRACTABLE (WATER)			--	
DILUTION FACTOR *			1	
DATE EXTRACTED			01-08-91	
DATE ANALYZED			01-09-91	
METHOD GC FID/3510			--	
as Diesel		0.05	3.1	mg/L
as Motor Oil		0.5	ND	mg/L

NET Pacific, Inc.

Client Acct: 18.02
Client Name: Converse Consultants
NET Log No: 5519

Date: 01-15-91
Page: 8

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

SAMPLE DESCRIPTION: 910103 01-03-91 1045
LAB Job No: (-71613)

Parameter	Method	Reporting Limit	Results	Units
PETROLEUM HYDROCARBONS			--	
VOLATILE (WATER)			--	
DILUTION FACTOR *			100	
DATE ANALYZED			01-08-91	
METHOD GC FID/5030			--	
as Gasoline		0.05	77	mg/L
METHOD 602			--	
DILUTION FACTOR *			1,000	
DATE ANALYZED			01-09-91	
Benzene		0.5	29,000	ug/L
Ethylbenzene		0.5	3,000	ug/L
Toluene		0.5	19,000	ug/L
Xylenes, total		0.5	15,000	ug/L
PETROLEUM HYDROCARBONS			--	
EXTRACTABLE (WATER)			--	
DILUTION FACTOR *			1	
DATE EXTRACTED			01-08-91	
DATE ANALYZED			01-09-91	
METHOD GC FID/3510			--	
as Diesel		0.05	3.6	mg/L
as Motor Oil		0.5	ND	mg/L

NET Pacific, Inc.

Client Acct: 18.02
Client Name: Converse Consultants
NET Log No: 5519

Date: 01-15-91
Page: 9

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

SAMPLE DESCRIPTION: MW-9 01-03-91 1100
LAB Job No: (-71614)

Parameter	Method	Reporting Limit	Results	Units
PETROLEUM HYDROCARBONS			--	
VOLATILE (WATER)			--	
DILUTION FACTOR *			100	
DATE ANALYZED			01-08-91	
METHOD GC FID/5030			--	
as Gasoline		0.05	34	mg/L
METHOD 602			--	
DILUTION FACTOR *			100	
DATE ANALYZED			01-08-91	
Benzene		0.5	9,200	ug/L
Ethylbenzene		0.5	770	ug/L
Toluene		0.5	3200	ug/L
Xylenes, total		0.5	7000	ug/L
PETROLEUM HYDROCARBONS			--	
EXTRACTABLE (WATER)			--	
DILUTION FACTOR *			1	
DATE EXTRACTED			01-08-91	
DATE ANALYZED			01-09-91	
METHOD GC FID/3510			--	
as Diesel		0.05	2.5	mg/L
as Motor Oil		0.5	ND	mg/L

NET Pacific, Inc.

Client Acct: 18.02
Client Name: Converse Consultants
NET Log No: 5519

Date: 01-15-91
Page: 10

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

SAMPLE DESCRIPTION: MW-1 01-03-91 1120
LAB Job No: (-71615)

Parameter	Method	Reporting Limit	Results	Units
PETROLEUM HYDROCARBONS			--	
VOLATILE (WATER)			--	
DILUTION FACTOR *			100	
DATE ANALYZED			01-08-91	
METHOD GC FID/5030			--	
as Gasoline		0.05	43	mg/L
METHOD 602			--	
DILUTION FACTOR *			100	
DATE ANALYZED			01-08-91	
Benzene		0.5	10,000	ug/L
Ethylbenzene		0.5	1900	ug/L
Toluene		0.5	3400	ug/L
Xylenes, total		0.5	11,000	ug/L
PETROLEUM HYDROCARBONS			--	
EXTRACTABLE (WATER)			--	
DILUTION FACTOR *			1	
DATE EXTRACTED			01-08-91	
DATE ANALYZED			01-09-91	
METHOD GC FID/3510			--	
as Diesel		0.05	3.1	mg/L
as Motor Oil		0.5	ND	mg/L

NET Pacific, Inc.

Client Acct: 18.02
Client Name: Converse Consultants
NET Log No: 5519

Date: 01-15-91
Page: 11

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

SAMPLE DESCRIPTION: MW-6 01-03-91 1135
LAB Job No: (-71616)

Parameter	Method	Reporting Limit	Results	Units
PETROLEUM HYDROCARBONS			--	
VOLATILE (WATER)			--	
DILUTION FACTOR *			100	
DATE ANALYZED			01-08-91	
METHOD GC FID/5030			--	
as Gasoline		0.05	25	mg/L
METHOD 602			--	
DILUTION FACTOR *			100	
DATE ANALYZED			01-08-91	
Benzene		0.5	1000	ug/L
Ethylbenzene		0.5	2600	ug/L
Toluene		0.5	88	ug/L
Xylenes, total		0.5	3700	ug/L
PETROLEUM HYDROCARBONS			--	
EXTRACTABLE (WATER)			--	
DILUTION FACTOR *			1	
DATE EXTRACTED			01-08-91	
DATE ANALYZED			01-09-91	
METHOD GC FID/3510			--	
as Diesel		0.05	0.96	mg/L
as Motor Oil		0.5	ND	mg/L

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

SAMPLE DESCRIPTION: MW-2 01-03-91 1200
LAB Job No: (-71617)

Parameter	Method	Reporting Limit	Results	Units
PETROLEUM HYDROCARBONS			--	
VOLATILE (WATER)			--	
DILUTION FACTOR *			2	
DATE ANALYZED			01-08-91	
METHOD GC FID/5030			--	
as Gasoline		0.05	1.8	mg/L
METHOD 602			--	
DILUTION FACTOR *			2	
DATE ANALYZED			01-08-91	
Benzene		0.5	56	ug/L
Ethylbenzene		0.5	48	ug/L
Toluene		0.5	4.4	ug/L
Xylenes, total		0.5	92	ug/L
PETROLEUM HYDROCARBONS			--	
EXTRACTABLE (WATER)			--	
DILUTION FACTOR *			1	
DATE EXTRACTED			01-08-91	
DATE ANALYZED			01-09-91	
METHOD GC FID/3510			--	
as Diesel		0.05	0.83	mg/L
as Motor Oil		0.5	ND	mg/L

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

SAMPLE DESCRIPTION: MW-5 01-03-91 1220
LAB Job No: (-71618)

Parameter	Method	Reporting Limit	Results	Units
PETROLEUM HYDROCARBONS			--	
VOLATILE (WATER)			--	
DILUTION FACTOR *			1	
DATE ANALYZED			01-07-91	
METHOD GC FID/5030			--	
as Gasoline		0.05	0.86	mg/L
METHOD 602			--	
DILUTION FACTOR *			1	
DATE ANALYZED			01-07-91	
Benzene		0.5	280	ug/L
Ethylbenzene		0.5	0.8	ug/L
Toluene		0.5	2.8	ug/L
Xylenes, total		0.5	45	ug/L
PETROLEUM HYDROCARBONS			--	
EXTRACTABLE (WATER)			--	
DILUTION FACTOR *			1	
DATE EXTRACTED			01-08-91	
DATE ANALYZED			01-09-91	
METHOD GC FID/3510			--	
as Diesel		0.05	0.56	mg/L
as Motor Oil		0.5	ND	mg/L

Ref: SHELL, 285 Hegenberger; 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	111	ND	46	46	< 1
Motor Oil	0.5	mg/L	72	ND	N/A	N/A	N/A
Gasoline	0.05	mg/L	87	ND	66	66	< 1
Benzene	0.5	ug/L	96	ND	88	86	2.3
Toluene	0.5	ug/L	96	ND	106	106	< 1
Gasoline	0.05	mg/L	89	ND	84	88	4.7
Benzene	0.5	ug/L	98	ND	100	100	< 1
Toluene	0.5	ug/L	100	ND	97	100	3.0
Gasoline	0.05	mg/L	92	ND	95	89	6.5
Toluene	0.5	ug/L	96	ND	107	100	6.8
Benzene	0.5	ug/L	92	ND	100	96	4.1
Benzene	0.5	ug/L	90	ND	96	100	4.1
Toluene	0.5	ug/L	90	ND	96	100	4.1

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, wet-weight basis (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, wet-weight basis (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, 16th Edition, APHA, 1985.

CONVERSE ENVIRONMENTAL

CHAIN OF CUSTODY RECORD

AFE # 204-5508-5504
WIC # 0866662
P.M. = CRC (5519)
ExpCode - 5440

PROJECT NO.: 88-44-359-20
PROJECT NAME / CROSS STREET: 285 Hegenberger SHELL
SAMPLERS: (Signature) Richard P. Clarke

STATION NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NUMBER OF CONTAINERS	ANALYSES: Tph-d	Tph-g	BTEX	REMARKS
MW-4	1/3/91	9:35		✓	40 ml. VOA	3		✓	✓	Standard Turnaround
Trip Blank				✓	1 litre Amber	1	✓			
Trip Blank				✓	40 ml. VOA	1		✓	✓	Detection Limits
MW-10		9:50		✓	1 litre Amber	2	✓			
MW-10		9:50		✓	40 ml. VOA	3		✓	✓	Tph-d = 0.05ppm
MW-8		10:10		✓	1 litre Amber	2	✓			Tph-g = 0.05ppm
MW-8		10:10		✓	40 ml. VOA	3		✓	✓	BTEX = 0.0005ppm
MW-3		10:25		✓	1 litre Amber	3	✓			
MW-3		10:25		✓	40 ml. VOA	4		✓	✓	Trip blanks have no prep. date.
MW-7		10:40		✓	1 litre Amber	2	✓			
MW-7		10:40		✓	40 ml. VOA	3		✓	✓	CUSTODY SEALED 1/3/91
910103		10:45		✓	1 litre Amber	2	✓			@ 19:00 J.W. initials
910103	✓	10:45		✓	40 ml. VOA	3		✓	✓	

RELINQUISHED BY: (Signature) Richard P. Clarke	DATE: 1/3/91 TIME: 14:50	RECEIVED BY: (Signature) Jeff Wickham	RELINQUISHED BY: (Signature) Jeff Wickham	DATE: TIME:	RECEIVED BY: (Signature)
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 (VIA NWS)		SHIPPED BY: (Signature)	RECEIVED FOR LAB: (Signature) L Temple	DATE: 1/4/91 TIME: 0800	COURIER FROM AIRPORT: (Signature)

Wic # 204-5508-5504
AFE # 086662
Exp Code 5440 (5519)
P.M. - CRC

CONVERSE ENVIRONMENTAL

CHAIN OF CUSTODY RECORD

PROJECT NO.: 88-44.359-20
PROJECT NAME / CROSS STREET: 285 Hegenberger SHELL
SAMPLERS: (Signature) Richard P. Lewis

STATION NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NUMBER OF CONTAINERS	ANALYSES: Tph-d	Tph-g	BTEX				REMARKS
MW-9	1/3/91	11:00			1 litre Amber	2	✓						Standard Turnaround
MW-9		11:00			40 ml. VOA	3		✓	✓				
MW-1		11:20			1 litre Amber	2	✓						Detection Limits
MW-1		11:20			40 ml. VOA	3		✓	✓				
MW-6		11:35			1 litre Amber	2	✓						Tph-d = 0.05 ppm
MW-6		11:35			40 ml. VOA	3		✓	✓				Tph-g = 0.05 ppm
MW-2		12:00			1 litre Amber	2	✓						BTEX = 0.0005 ppm
MW-2		12:00			40 ml. VOA	3		✓	✓				
MW-5		12:20			1 litre Amber	2	✓						
MW-5	∨	12:20			40 ml. VOA	3		✓	✓				

RELINQUISHED BY: (Signature) Richard P. Lewis	DATE: 1/3/91	RECEIVED BY: (Signature) Jeff Winkler	RELINQUISHED BY: (Signature) Jeff Winkler	DATE: 1/3	RECEIVED BY: (Signature)		
	TIME: 14:50			TIME:			
RELINQUISHED BY: (Signature)	DATE:	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE:	RECEIVED BY: (Signature)		
	TIME:			TIME:			
RELINQUISHED BY COURIER: (Sign.)	DATE:	RECEIVED BY MOBILE LAB: (Sign.)	RELINQ. BY MOBILE LAB: (Signature)	DATE:	RECEIVED BY COURIER: (Signature)		
	TIME:			TIME:			
METHOD OF SHIPMENT (VEHICLE)		SHIPPED BY: (Signature)	RECEIVED FOR LAB: (Signature)	DATE: 1/4/91	COURIER FROM AIRPORT: (Signature)		
				TIME: 0800			