REPORT OF ACTIVITIES QUARTER 1, 1991

SHELL OIL COMPANY FACILITY 630 HIGH STREET OAKLAND, CALIFORNIA

Prepared for:

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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 630 High Street, Oakland, California (Drawing 1). This report is prepared to fulfill the quarterly reporting requirements as specified in the Work Plan prepared by CEW (March 20, 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 Southeast corner of High Street and Jensen Street in Oakland, California (Drawing 2). The site is approximately 240 feet long by 180 feet wide. Shell operated a retail fuel sales operation on the site, under lease from the property owner, the City of Oakland.

Available data provided by Shell indicates that soil and groundwater contamination by petroleum hydrocarbons exists on the property. This condition has been established by preliminary and advanced remedial investigations conducted by consultants since 1985. A chronological summary of environmental activities conducted at the site is presented in Appendix A. A general description of site conditions is included in previous quarterly reports on file with the LIAs.

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 site. The work completed during Q1/91 consisted of the following activities:

- Collecting groundwater samples from MW-1 through MW-10.
- Evaluating the findings from field activities and preparing this report.

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 closure of the site 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 compilation of 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, at which point a final, best hypothesis will be provided and fully explained to the regulatory agencies in closure documentation.

SECTION 2

WORK COMPLETED THIS QUARTER

Work initiated and completed during Q1/91 followed the task descriptions of the CEW Work Plan (March, 1989) and the CEW protocols on file with the regulatory agencies of jurisdiction. A Quarter 1, 1991 Activity Summary is presented in Table 1.

2.1 SOIL SAMPLING AND ANALYSES

No soil samples were taken during Q1/91. Previous soil boring information and analytical results are presented in Tables 2 and 3.

2.2 GROUNDWATER SAMPLING AND ANALYSES

Well installation information is presented in Table 4. Groundwater samples were collected on January 28 and 29, 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, following appropriate chain-of-custody. The samples were analyzed for TPH-g, TPH-d, TPH-mo, and BTEX following the recommended analytical methods listed in Table 5. Additional analytical tests were performed for consideration of remediation alternatives. Analytical data for the water samples collected from the monitoring wells are summarized in Table 6 and Table 7. Laboratory reports and chain-of-custody forms are provided in Appendix B.

2.3 PHYSICAL MONITORING

During Q1/91, wells MW-1 through MW-10 were each tested once for depth to water table and observed for floating product. No measurable thickness of floating product was present. A summary of these results is presented in Table 7.

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2.4 EXISTING HYDROGEOLOGIC DATA

CEW is in the process of obtaining records on file with the Alameda County Health Department. Alameda County has not provided CEW with any of this information to date. This research may provide background hydrogeologic information for the site vicinity as well as potential for offsite sources.

SECTION 3

FINDINGS AND DISCUSSION

3.1 SOIL

Stratigraphy is discussed in detail in previous quarterly reports/on file with the LIA.

3.2 GROUNDWATER

3.2.1. Physical Parameters

Floating product was not present in the wells monitored during Q1/91. Petroleum hydrocarbon odors were noted in water collected from wells MW-1, MW-4 and MW-5 (Table 7).

3.2.2 Elevation and Gradient

Reported Q1/91

The groundwater table is approximately eight to thirteen feet below ground surface (bgs), with a flow direction that is variable (Drawing 3).

3.2.3 Results of Chemical Analyses

Q1/91 Groundwater Chemistry Data

- TPH-mo was not detected in any of the water samples taken during Q1/91.
- TPH-g was detected in water samples taken from MW-1, MW-3, MW-4 and MW-5. The value of TPH-g detected at MW-1 was 11.0 ppm (Table 6).

- TPH-d was detected in water samples taken from MW-1, MW-3, MW-4, MW-5, and MW-6. The value of TPH-d detected at MW-1 was 21.0 ppm (Table 6).
- BTEX was detected in the water samples taken from MW-1, MW-3, MW-4 and MW-5. The values of BTEX detected at MW-1 were 0.31 ppm, 0.041 ppm, 0.5 ppm and 0.4 ppm, respectively (Table 6).

3.2.4 Discussion

The presence of TPH-d, TPH-g and BTEX in groundwater is centered near MW-1, which is located near the former underground fuel and waste oil tanks (Drawing 2 and Table 6).

SECTION 4

NEXT QUARTER ACTIVITIES

4.1 WORK PLAN MODIFICATIONS

Based on the information collected to date, no modifications to the Work Plan are proposed for Q2/91:

4.2 PROPOSED ACTIVITIES

The following activities will be conducted in Q2, 1991:

- (1) Continue monitoring groundwater conditions.
- (2) Submit Q2/91 Report.

CERTIFICATION

This report of activities for the Shell Oil Company facility at 630 High Street, 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,

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Quarter 1, 1991

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TABLES

TABLE 1. ACTIVITY SUMMARY - QUARTER 1, 1991

Shell Oil Company Facility 630 High Street Oakland, California

PERCENT COMPLETE

Quarter 1, 1991

Total to Date

Activity	Onsite	Offsite	Onsite	Offsite
Soil Characterization	85	•••	85	
Groundwater Characterization (Dissolved Product)	70	•••	70	***
Groundwater Characterization (Floating Product)	NA	NA	. NA	NA
Soil Remediation	0		0	
Groundwater Remediation (Dissolved Product)	0		0	
Groundwater Remediation (Floating Product)	NA	NA	NA	NA

NOTES:

NA

Not Applicable

TABLE 2. SOIL BORING INFORMATION

Shell oil Company 630 High Street Oakland, California

Boring No.	Date Drilled	Total Depth of Well (ft bgs)	Completion	Unsaturated Soil Samples (ft bgs)	Saturated Soil Samples (ft bgs)	Highest OVM Reading (ppm)
SB-1	4/27/89	10	Abandoned	5	None	NR
SB-2	4/27/89	10	Abandoned	5,10	None	NR
SB-3	8/17/89	10	Abandoned	5,10	None	1300 @ 5'
SB-4	11/15/89	9	Abandoned	5,9	None	0

NOTES:

NR

Not Recorded

TABLE 3. RESULTS OF SOIL CHEMICAL ANALYSIS

Shell Oil Company 630 High Street Oakland, California

Concentration (mg/kg)

		Sample				(33)		Total		Total
Boring No.	Date Sampled	Depth (ft bgs)	TPH-g	TPH-d	TPH-mo	Benzene	Toluene	Oil & Grease	Xylenes	Lead
SB-1	04/27/89	5	12	27	85	<0.025	0.10	NA	0.14	71
SB-2	04/27/89	5	<10	<10	<10	0.042	0.054	NA	<0.075	16
SB-2	04/27/89	5,10 ^{**}	<10	<10	130	<0.025	0.04	NA	<0.075	10
SB-3	08/17/89	5	<10	<10	<10	<0.025	0.22	290	<0.075	66
SB-3	08/17/89	10	<10	<10	<10	<0.025	0.045	<50	<0.075	4.2
SB-4	11/15/89	5	<1	16	77	<0.025	0.032	NA	<0.0025	220
SB-4	11/15/89	9	<1	<1	11	<0.025	0.056	NA	<0.0025	3.9
MW-1	04/25/89	5	11	<10	<10	<0.025	0.11	NA	<0.075	9.6
MW-1	04/25/89	5,10 ^{**}	63	<10	<10	0.042	0.14	NA	0.16	7.6
MW-2	04/25/89	5	<10	<10	<10	<0.025	0.34	NA	<0.075	13
MW-2	04/25/89	5,10,15**	<10	<10	<10	<0.025	0.15	NA	<0.075	4.0
MW-3	04/26/89	10	<10	<10	<10	<0.025	<0.025	NA	<0.075	3.9
MW-3	04/26/89	5,10**	<10	<10	<10	<0.025	0.068	NA	<0.075	5.1
MW-4	04/26/89	5	<10	<10	<10	0.046	0.21	NA	<0.075	26
MW-4	04/26/89	5,10 ^{**}	<10	<10	<10	<0.025	0.066	NA	<0.075	27
MW-5	08/17/89	5	<10	<10	<10	<0.025	<0.025	<50	<0.075	14
MW-5	08/17/89	10	<10	<10	<10	<0.025	<0.025	<50	<0.075	5.9
MW-6 MW-6 NOTE:	08/16/89 08/16/89	5 10	<10 <10	<10 <10	<10 <10	<0.025 <0.025	0.057 <0.025	220 <50	<0.075 <0.075	5.6 4.3

Sample contains higher boiling hydrocarbons not characteristic with gasoline

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Composite sample Not analyzed

TABLE 3 (cont'd). RESULTS OF SOIL CHEMICAL ANALYSIS

Shell Oil Company 630 High Street Oakland, California

Concentration (mg/kg)

Boring No.	Date Sampled	Sample Depth (ft bgs)	TPH-g	TPH-d	TPH-mo	Benzene	Toluene	Total Oil & Grease	Xylenes	Total Lead
MW-7	08/15/89	5	<10	<10	<10	<0.025	0.040	<50	<0.075	9.8
MW-7	08/15/89	10	<10	<10	<10	<0.025	<0.025	<50	<0.075	3.7
MW-8	08/15/89	5	<10	<10	<10	<0.025	<0.025	<50	<0.075	5.1
MW-8	08/15/89	10	<10	<10	<10	<0.025	<0.025	<50	<0.075	2.6
MW-9	11/15/89	5	<1	<1	10	<0.025	0.013	NA	<0.025	170
MW-10	11/16/89	5	<1	<1	240	<0.025	0.049	NA	<0.025	120
MW-10	11/16/89	9	<1	380	3.1	<0.025	<0.025	NA	<0.025	3.1

NOTE:

Sample contains higher boiling hydrocarbons not characteristic with gasoline Composite sample Not analyzed

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TABLE 4. WELL INSTALLATION INFORMATION

Shell Oil Company 630 High Street Oakland, California

Well No.	Date Drilled	Well Diameter (Inches)	Initial Water Table (ft bgs)	Static Water Table [*] (ft bgs)	Total Depth of Well (ft bgs)	Screen (ft bgs)	Bentonite Seal (ft bgs)	Grout Seal (ft bgs)
MW-1	4/25/89	4	10.0	10.43	20	13 - 9	9 - 6	6-0
MW-2	4/25/89	4	14.5	11.67	25	20 - 10	10 - 8	8 - 0
MW-3	4/26/89	4	11.5	10.36	20	17 - 8	8 - 6	6 - 0
MW-4	4/26/89	4	10.0	10.91	22	17 - 7	7 - 6	6 - 0
MW-5	8/17/89	4	12.0	11.34	18	8 - 18	5 - 7	1 - 5
MW-6	8/16/89	4	15.0	10.58	20	10 - 20	7-9	1 - 7
MW-7	8/15/89	4	17.5	9.76	20	10 - 20	7-9	1 - 7
MW-8	8/15/89	4	9.0	9.01	21	9 - 21	6 - 8	1 - 6
MW-9	11/15/89	4	10.0	11.52	12	6 - 12	4 - 5	1 - 4
MW-10	11/16/89	4	11.0	9.55	13	7 - 13	5 - 6	1 - 5

NOTES:

ft bgs

Feet below ground surface

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TABLE 5. RECOMMENDED MINIMUM VERIFICATION ANALYSES FOR UNDERGROUND TANK LEAKS

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

1	н	V	ח	R	a	C	Δ	R	R	O	N
	п		u	п	u	•	~	гъ		v	14

HYDROCARBON LEAK	SOIL A	NALYSIS	WATER	WATER ANALYSIS			
Unknown Fuel	TPH-g	GCFID (5030)	TPH-g	GCFID (5030)			
<u>Other out</u>	TPH-d	GCFID (3550)	TPH-d	GCFID (3510)			
	BTEX	8020 or 8240	BTEX	602, 624 or 8260			
		TEX 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 & B	TEX 8260	BTEX	602, 624 or 8260			
	TOTAL L	EAD AA	TOTAL L	TOTAL LEAD AA			
		OPTIONAL	_				
	TEL	DHS-LUFT	TEL	DHS-LUFT			
	EDB	DHS-AB1803	EDB	DHS-AB1803			
<u>Unleaded Gas</u>	TPH-g	GCFID (5030)	TPH-g	GCFID (5030)			
	BTEX	8020 or 8240	BTEX	602, 624 or 8260			
		TEX 8260					
Diesel	TPH-d	GCFID (3550)	TPH-d	GCFID (3510)			
	BTEX	8020 or 8240	BTEX	602, 624 or 8260			
1.4 5		TEX 8260					
<u>Jet Fuel</u>	TPH-d	GCFID (3550)	TPH-d	GCFID (3510)			
	BTEX	8020 or 8240	BTEX	602, 624 or 8260			
Vore an ma		TEX 8260	TOU	00515 (55.0)			
Kerosene	TPH-d	GCFID (3550)	TPH-d	GCFID (3510)			
Euol/Hosting Oil	BTEX	8020 or 8240	BTEX	602, 624 or 8260			
Fuel/Heating Oil	TPH-d BTEX	GCFID (3550)	TPH-d	GCFID (3510)			
Chlorinated Solvents	CL HC	8020 or 8240 8010 or 8240	BTEX	602, 624 or 8260			
Chloridated Solvents	BTEX		CL HC	601 or 624			
	CL HC &	8020 or 8240 BTEX 8260	BTEX	602 or 624			
Non Chlorinated Solvents	TPH-d	GCFID (3550)	CL HC & E				
Non Chlorinated Solvents	BTEX	8020 or 8240	BTEX	GCFID (3510)			
		TEX 8260		602 or 624 EX 8260			
Waste and Used Oil and Unknown	TPH-g	GCFID (5030)	TPH-g	5520 C&F			
THE STATE OF THE S	TPH-d	GCFID (3550)	TPH-d	GCFID (3510)			
		TEX 8260	1FTI-U	GCFID (3310)			
	0&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			
		AA TO DETECT METAI					
		8270 FOR SOIL OR V					
	PCB*		PCB*				
	PCP*		PCP*				
	PNA		PNA				
	CREOSC	DTE	CREOSOTI	E			

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TABLE 6. RESULT OF GROUNDWATER CHEMICAL ANALYSES

Shell Oil Company 630 High Street Oakland, California

Concentration (mg/L)

Well No.	Date Sampled	TPH-g	TPH-d	TPH-mo	Benzene	Toluene	Ethyl- benzene	Xylenes	Lead
MW-1 MW-1	05/25/89 08/29/89	11 17	7.1 7.2	1.6 1.9	0.006 0.20	0.023 0.18	0.023 0.059	0.180 0.55	NA <0.002
MW-1	12/12/89	13	4.4	<0.05	0.250	0.036	0.270	0.380	NA
MW-1	02/20/90	11	3.8	<0.05	0.24	0.034	0.35	0.57	NA
MW-1	04/25/90	9.4	3.8	<0.05	0.17	0.035	0.0086	0.39	NA
MW-1	08/02/90	10.0	4.0	<0.5	0.25	0.03	0.0055	0.38	NA
MW-1	10/18/90	8.6	5.9	<0.5	0.22	0.028	0.31	0.27	NA
MW-1	01/29/91	11.0	21.0*	<0.5	0.31	0.041	0.5	0.4	NA
MW-2	05/25/89	<0.05	<0.05	<0.05	<0.0005	<0.0005	<0.0015	<0.0015	NA
MW-2	08/29/89	< 0.05	< 0.05	< 0.05	< 0.0005	<0.0005	< 0.0015	<0.0015	<0.002
MW-2	12/11/89	< 0.05	0.081	0.22	<0.0005	<0.0005	<0.0005	<0.0005	NA
MW-2 MW-2 ¹	02/20/90	<0.05	<0.05	<0.05	<0.0005	0.0006	<0.0005	<0.0005	NA
MW-2	08/02/90	<0.05	<0.05	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	NA
MW-2 ¹									
MW-2	01/29/91	<0.05	<0.05	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	N A
MW-3	05/25/89	1.2	0.40	0.088	< 0.0005	<0.0005	< 0.0015	< 0.0015	NA
MW-3	08/29/89	2.5	0.81	< 0.05	0.025	0.01	0.0065	0.0055	< 0.02
MW-3	12/15/89	2.8	0.81	<0.05	0.015	0.008	0.004	0.012	NA
MW-3	02/15/90	2.6	0.53	<0.05	0.016	0.0019	0.0076	0.0041	NA
MW-3	04/24/90	2.6	0.48	<0.05	0.028	0.007	0.007	0.015	NA
MW-3	08/02/90	2.6	3.6	<0.5	0.035	0.0052	0.0091	0.0094	NA
MW-3	10/18/90	2.5	0.94	<0.5	0.042	0.0072	0.013	0.027	NA
MW-3	01/29/91	2.3	0.41*	<0.5	0.017	0.0041	0.01	0.023	N A
MW-4	05/25/89	2.9	1.1	0.29	<0.005	0.0094	<0.0015	0.0034	NA
MW-4	08/29/89	2.9	1.5	0.79	0.029	<0.0005	0.012	0.0016	<0.002
MW-4	12/12/89	4.6	1.0	< 0.05	0.170	0.026	0.011	0.020	NA
MW-4	02/13/90	1.9	0.86	< 0.05	0.055	0.0091	0.0047	0.0026	NA
MW-4	04/24/90	3.0	1.1	<0.05	0.17	0.020 0.015	0.0067	0.016	NA NA
MW-4	08/01/90	4.2	1.0	< 0.5	0.22 0.21	0.015	0.0093 0.013	0.018 0.032	NA NA
MW-4	10/18/90	3.4 2.6	1.9	<0.5 <0.5	0.083	<0.0005	<0.005	0.032	N A
MW-4	01/29/91	2.0	1.3*	<0.5	0.003	<0.0005	<0.0003	0.011	NA
MW-5	08/30/89	1.4	0.30	<0.05	0.0049	0.00079	0.0056	0.0068	<0.002
MW-5	12/05/89	1.4	0.33	<0.05	0.0049	0.0038	0.0091	0.008	NA
MW-5	02/15/90	<0.05	0.18	< 0.05	0.0042	0.00076	0.0024	0.0033	NA
MW-5	04/24/90	0.42	0.16	<0.05	0.0056	0.001	0.0006	0.0041	NA NA
MW-5	08/02/90	0.88	0.22	< 0.5	0.013	0.002	0.0041	0.0081	NA
MW-5	10/18/90	5.0	1.1	< 0.5	0.15	0.013	0.033 0.024	0.04	NA NA
MW-5	01/28/91	3.1	0.72	<0.5	0.086	<0.0005	0.024	0.028	N A

TABLE 6 (cont'd). RESULT OF GROUNDWATER CHEMICAL ANALYSES

Shell Oil Company 630 High Street Oakland, California

Concentration (mg/L)

Well	Date						Ethyl-		
No.	Sampled	TPH-g	TPH-d	TPH-mo	Benzene	Toluene	benzene	Xylenes	Lead
						· · · · · · · · · · · · · · · · · · ·			
MW-6	08/29/89	<0.05	0.32	0.45	<0.0005	< 0.0005	< 0.0015	< 0.0015	<0.002
MW-6	12/05/89	< 0.05	0.60	< 0.05	< 0.0005	<0.0005	< 0.0005	< 0.0005	NA
MW-6	02/15/90	< 0.05	0.55	< 0.05	<0.0005	< 0.0005	< 0.0005	0.0045	NA
MW-6	04/23/90	0.18	1.2	< 0.05	< 0.0005	<0.0005	< 0.0005	< 0.0005	NA
MW-6	08/02/90	<0.05	0.90	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	NA
MW-6	10/18/90	<0.05	0.96	<0.5	<0.0005	<0.0005	< 0.0005	<0.0005	NA
MW-6	01/28/91	<0.05	0.86	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	NA
MW-7	08/29/89	<0.05	<0.05	< 0.05	<0.0005	<0.0005	<0.0015	<0.0015	< 0.002
MW-7	12/05/89	<0.05	< 0.05	< 0.05	< 0.0005	< 0.0005	< 0.0005	< 0.0005	NA
MW-7	02/13/90	< 0.05	< 0.05	<0.05	<0.0005	0.00056	< 0.0005	< 0.0005	NA
MW-7	04/24/90	< 0.05	< 0.05	<0.05	<0.0005	< 0.0005	< 0.0005	< 0.0005	NA
MW-7	08/01/90	< 0.05	< 0.05	<0.05	<0.0005	<0.0005	< 0.0005	<0.0005	NA
MW-7	10/18/90	<0.05	<0.05	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	NA
MW-7 ²	10/18/90	<0.05	<0.05	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	NA
MW-7	01/28/91	<0.05	<0.05	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	NA
MW-8	08/29/89	<0.05	<0.05	<0.05	<0.0005	<0.0005	<0.0015	<0.0015	< 0.002
MW-8	12/11/89	< 0.05	< 0.05	0.0011	<0.0005	< 0.0005	< 0.0005	< 0.0005	NA
MW-8	02/13/90	< 0.05	< 0.05	< 0.05	<0.0005	0.00056	< 0.0005	< 0.0005	NA
MW-8	04/2390	0.18	< 0.05	< 0.05	<0.0005	<0.0005	< 0.0005	< 0.0005	NA
8-WM	08/01/90	< 0.05	< 0.05	<0.5	<0.0005	<0.0005	< 0.0005	<0.0005	NA
MW-8	10/18/90	<0.05	< 0.05	< 0.5	<0.0005	<0.0005	< 0.0005	<0.0005	NA
MW-8	01/28.91	<0.05	<0.05	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	NA
MW-9	12/13/89 [*]	<0.05	0.23	0.54	<0.0044	<0.006	<0.0072	<0.005	NA
MW-9	02/20/90	< 0.05	< 0.05	< 0.05	< 0.0005	< 0.0005	< 0.0005	< 0.0005	NA
MW-9	04/24/90	< 0.05	< 0.05	< 0.05	< 0.0005	< 0.0005	< 0.0005	< 0.0005	NA
MW-9	08/02/90	< 0.05	< 0.05	< 0.05	< 0.0005	< 0.0005	< 0.0005	< 0.0005	NA
MW-9	10/18/90	< 0.05	< 0.05	< 0.5	< 0.0005	< 0.0005	< 0.0005	< 0.0005	NA
MW-9	01/29/91	<0.05	<0.05	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	NA
MW-10	12/13/89*	<0.05	0.11	0.30	<0.0044	<0.006	<0.0072	<0.005	NA
MW-10	02/20/90	<0.05	0.06	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	NA
MW-10	04/25/90	<0.05	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	NA NA
MW-10	08/02/90	<0.05	<0.05	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	NA NA
MW-10	10/18/90	<0.05	0.24	<0.5	<0.0005	<0.0005	<0.0005	<0.0005	NA
MW-10 NOTES:	01/30/91	<0.05	ΝA	NA	<0.0005	<0.0005	<0.0005	<0.0005	NA

TPH-d detected appears to be a lighter hydrocarbon

NA Not analyzed

BTEX Analyses by GCMS (EPA Method 624)

MW-2 analyzed semi-annually

Duplicate

TPH-d and TPH-mo analyses omitted accidently next analyses Q3/90

Bold Samples analyzed during this quarter

TABLE 7. GROUNDWATER MONITORING INFORMATION

Shell Oil Company 630 High Street Oakland, California

Well No.	Date Monitored	Depth to Water (ft bgs)	Petroleum Odor In Water	Thickness Floating Product (inches)	Comments
MW-1	05/25/89	10.43	Yes	None	Gray sheen
EL 99.35	08/29/89	10.94	Yes	None	Sheen
	12/05/89	10.32	Yes	None	No sheen
	02/20/90	9.94	Yes	None	None
	04/23/90	10.50	Strong	None	Light sheen
	08/01/90	10.50	• • •	None	Slight sheen
	10/18/90	11.02	Yes	None	Slight sheen
	01/29/91	10.79	Moderate	None	None
MW-2	05/25/89	11.63	None	None	No sheen
EL 101.15	08/29/89	12.62	None	None	No sheen
	12/05/89	11.83	None	None	No sheen
	02/01/90	11.50	None	None	None
	04/23/90	11.76			No sample taken
	08/01/90	11.98	None	None	Clear
	10/17/90	12.96			No sample taken
	01/29/91	13.25	None	None	Clear
MW-3	05/25/89	10.43	None	None	No sheen
EL 99.49	08/29/89	10.90	None	None	No sheen
	12/05/89	10.46	Yes	None	No sheen
	02/01/90	10.15	None	None	None
	04/23/90	10.43	Slight	None	
	08/01/90	10.54	Slight	None	Clear
	10/17/90	11.13	None	None	Clear
	01/29/91	11.09	Slight	None	Clear
MW-4	05/25/89	10.72	Yes	None	Sheen
EL 99.24	08/29/89	11.28	Yes	None	No sheen
	12/05/89	10.53	Yes	None	No sheen
	02/01/90	10.15	Yes	None	None
	04/23/90	10.65	None	None	None
	08/01/90	10.87	None	None	Clear
	10/17/90	11.35	Strong	None	Clear
	01/29/91	10.76	Slight	None	Clear
MW-5	08/29/89	11.38	Yes	None	No sheen
EL 100.08	12/05/89	11.27	Yes	None	No sheen
00.00# ***	02/01/90	10.81	Yes	None	None
	04/23/90	11.06	Slight	None	Clear
	08/01/90	11.29	Slight	None	Clear
	10/17/90	11.70	Slight	None	Clear
	01/29/91	11.72		None	None
NOTES:					

NOTES:

Bold

Samples analyzed in Quarter 4, 1990 Feet below ground surface

All elevations are tied into a temporary benchmark elevation of 100.00 feet

Converse Environmental West

630 HIGH ST\Q1_91.TBS March 29, 1991 CEW Project No. 88-44-369-20

TABLE 7 (cont'd). GROUNDWATER MONITORING INFORMATION

Shell Oil Company 630 High Street Oakland, California

Well No.	Date Monitored	Depth to Water (ft bgs)	Petroleum Odor In Water	Thickness Floating Product (Inches)	Comments
MW-6	08/29/89	10.59	Yes	None	No sheen
EL 98.56	12/05/89	8.23	None	None	No sheen
LL 30.30	02/01/90	9.43	None	None	None
	04/23/90	9.97	None	None	None
	08/01/90	10.14	None	None	Solvent odor
	10/18/90	10.61	None	None	Clear
	01/28/91	10.23	None	None	Clear
MW-7	08/29/89	9.75	None	None	No sheen
EL 97.53	12/05/89	9.29	None	None	No sheen
	02/13/90	8.65	None	None	None
	04/23/90	9.28	None	None	None
	08/01/90	9.28	None	None	Clear
	10/17/90	9.38	None	None	Clear
	01/28/91	8.91	None	None	Clear
MW-8	08/29/89	9.02	None	None	No sheen
EL. 97.13	12/05/89	9.87	None	None	No sheen
	02/13/90	7.73	None	None	None
	04/23/90	7.83	None	None	Clear
	04/23/90	9.28	None	None	Clear
	08/01/90	8.44	None	None	Clear
	10/17/90	9.06	None	None	Clear
	01/28/91	8.47	None	None	Clear
MW-9	12/05/89	11.52	None	None	No sheen
EL 99.72	02/20/90	7.94	None	None	
	04/23/90	8.15	None	None	Clear
	08/01/90	8.33	None	None	Clear
	10/17/90	8.65	None	None	Clear
	01/29/91	8.27	None	None	None
MW-10	12/05/89	9.55	None	None	No sheen
EL 98.99	02/20/90	10.69	None	None	None
	04/23/90	10.00	None	None	Clear
	08/01/90	9.99	None	None	Clear
	10/17/90	10.83	None	None	Clear
	01/29/91	10.81			None

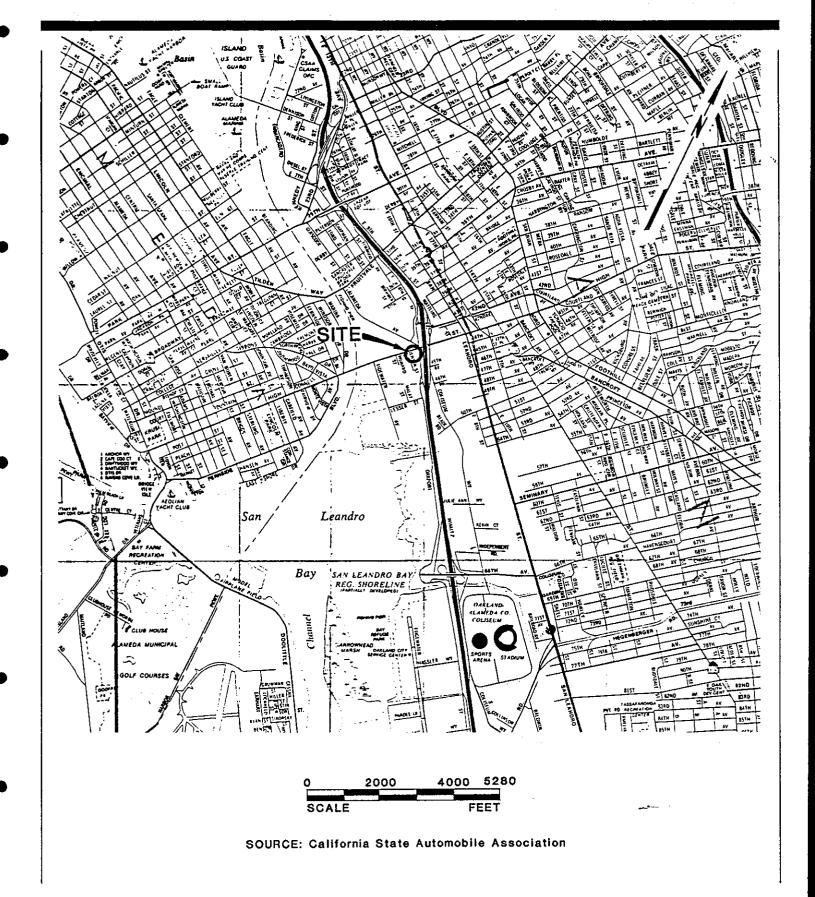
NOTES:

Bold

Samples analyzed in Quarter 4, 1990

ft bgs Feet below ground surface
All elevations are tied into a temporary benchmark elevation of 100.00 feet

DRAWINGS



SHELL OIL COMPANY 630 High Street Oakland, California Converse Environmental West Stale Approved by CRC Scale AS SHOWN AS SHOWN Prepared by KGC Checked by RMB Approved by CRC Project No. 88-44-369-20 Date 6/5/90 Drawing No.

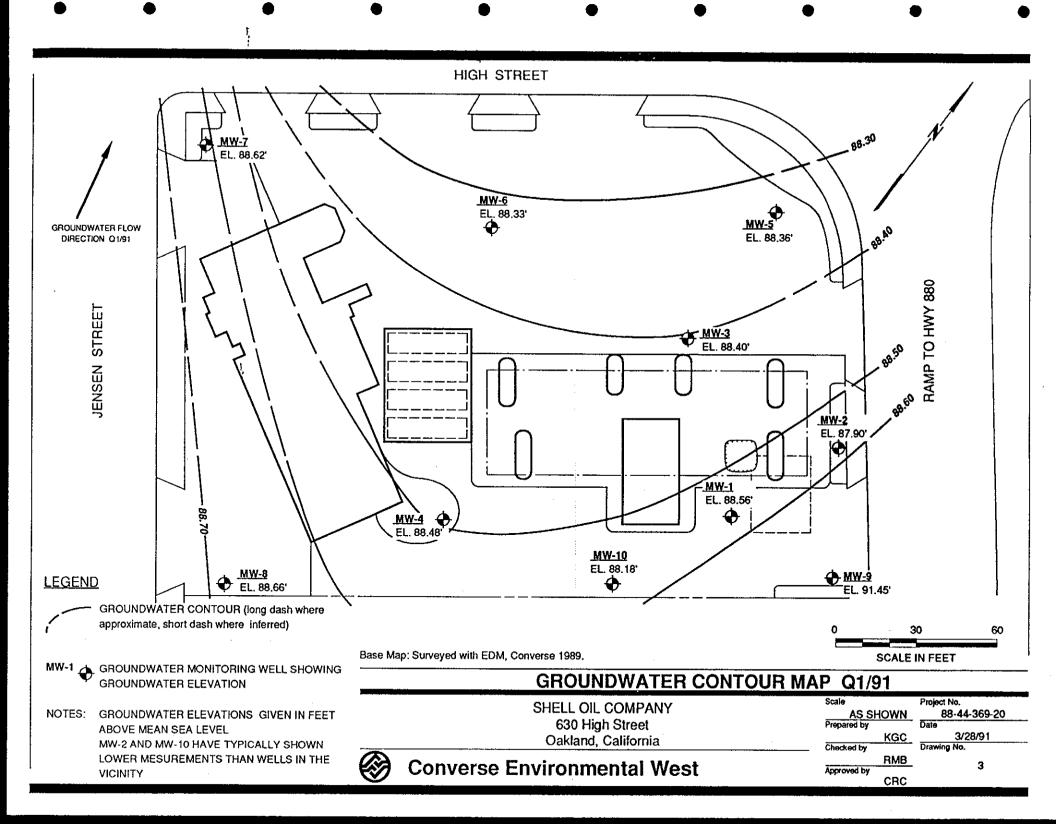
JENSEN STREET

LEGEND

RMB Approved by CRC



Converse Environmental West



APPENDIX A CHRONOLOGICAL SUMMARY

CHRONOLOGICAL SUMMARY

For Shell Property at 630 High Street, Oakland, California

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 site. 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 site.

Date	Description of Activity
01/85	Re-modernization of gas station. Armor Norman dismantled and removed all fuel dispensing facilities and excavated certain areas near former pump islands, product lines and areas which smelled of gasoline.
01/26/89	Blaine Technical Services collected and analyzed (10) excavation soil samples. The inspector from the Alameda County Health Department specified sampling locations. Soil were analyzed for TPH-g, BTEX and organic lead.
02/03/89	Blaine Technical Services collected and analyzed soil samples in areas of product dispensing pump islands after additional excavation in these areas and in areas of former waste oil and gasoline tank pits (Sample No. 10-75 ppm and No. 12-600 ppm TPH-g).
02/03/89	Further excavation in former waste oil tank pit. Soil and groundwater samples were collected and analyzed in the area around Sample No. 12 of February 3, 1989 sampling event. These soil sample contained less than 50 ppm TPH-d. Groundwater Sample No. 3 from that area contained 1,800 ppm TPH-g and 200 ppm TPH-d.
02/24/89	Alameda County Environmental Health Department notified Shell that site conditions indicated a confirmed release, which required an investigation Work Plan within 25 days of the letter date.
03/89	Shell transferred project to CEW.
03/20/89	CEW submitted Revised Work Plan to agencies.
04/26/89	CEW installed wells MW-1 to MW-4 and soil borings SB-1 and SB-2.
05/19/89	CEW developed wells MW-1 through MW-4.
05/25/89	CEW surveyed site and well head elevations (MW-1 through MW-4) to arbitrary.
05/26/89	CEW sampled groundwater from wells MW-1 through MW-4.
08/15/89	CEW installed wells MW-5 through MW-8 and boring SB-3.
08/22/89	CEW surveyed wells MW-5 through MW-8 to arbitrary datum.

CHRONOLOGICAL SUMMARY (cont'd) 630 High Street, Oakland, California

Date	Description of Activity
08/29/89	CEW sampled and developed wells MW-5 through MW-8.
10/17/89	Loma Prieta Earthquake struck.
11/15/89	CEW installed wells MW-9 and MW-10 and boring SB-4.
11/22/89	CEW developed wells MW-9 and MW-10.
12/11/89	CEW sampled and surveyed wells MW-9 and MW-10.
01/31/90	CEW submitted Addendum to Quarterly Report Q4/89.
02/13, 02/14 02/15 & 02/20/90 04/23 through 04/25/90	CEW sampled and surveyed wells MW-1 through MW-10, performed slug tests on wells MW-5 through MW-9. CEW sampled wells MW-1 through MW-10. CEW applied for offsite well permit with the City of Oakland.
08/01/90 & 08/02/90	CEW sampled wells MW-1 through MW-10.
12/28/90	CEW submitted Q4/90 Report of Activities.
01/28-29/91	CEW sampled wells MW-1 through MW-10.
03/28/91	CEW submitted Q1/91 Report of Activities.

Boldface items were conducted during this quarter.

APPENDIX B LABORATORY REPORTS AND CHAIN-OF-CUSTODY FORMS



NET Pacific, Inc. 435 Tesconi Circle Santa Rosa, CA 95401

Tel: (707) 526-7200 Fax: (707) 526-9623

Robin Breuer Converse Consultants 55 Hawthorne St, Ste 500 San Francisco, CA 94105 Date: 02-08-91

NET Client Acct No: 18.02 NET Pacific Log No: 5856 Received: 01-30-91 0800

CONVERGE EMPROVICENTAL

Client Reference Information

SHELL, 630 High Street; Project: 88-44-369-20

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)



Client No: 18.02

§ Client Name: Converse Consultants

NET Log No: 5856

Date: 02-08-91

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Ref: SHELL, 630 High Street; Project: 88-44-369-20

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3 Units
4-91
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4-91
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ug/L
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2-91
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mg/L



Client No: 18.02

® Client Name: Converse Consultants

NET Log No: 5856

5956

Date: 02-08-91

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Ref: SHELL, 630 High Street; Project: 88-44-369-20

		-			
		Parautia.	MW-6 01-28-91 1530	MW-7 01-28-91 1630	
Parameter	Method	Reporting Limit	73684**	73685	Units
rat anie ter	Mechod	Dimit	75004		UNICE
PETROLEUM HYDROCARBONS					
VOLATILE (WATER)					
DILUTION FACTOR *			1	1	
DATE ANALYZED			02-03-91	02-03-91	
METHOD GC FID/5030					
as Gasoline		0.05	ND	ND	mg/L
METHOD 602					٠,
DILUTION FACTOR *			1	1	
DATE ANALYZED			02-03-91	02-03-91	
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			02-02-91	02-02-91	
DATE ANALYZED			02-02-91	02-02-91	
METHOD GC FID/3510					
as Diesel		0.05	0.86	ND	mg/L
as Motor Oil		0.5	ND	ND	mg/L

^{**} Note: The positive response for the PETROLEUM HYDROCARBONS as diesel on this samples appears to be a lighter hydrocarbon.



Client No: 18.02

Client Name: Converse Consultants

NET Log No: 5856 Date: 02-08-91

Page:

Ref: SHELL, 630 High Street; Project: 88-44-369-20

Parameter	Method	Reporting Limit	MW-5 01-28-91 1700 73686**	trip blank	Units	
Falameter	Mechod	TITMEC	,5000	75007	OHICS	
				· · · · · · · · · · · · · · · · · · ·	·	
PETROLEUM HYDROCARBONS						
VOLATILE (WATER)						
DILUTION FACTOR *			10	1		
DATE ANALYZED			02-04-91	02-03-91		
METHOD GC FID/5030						
as Gasoline		0.05	3.1	ND	mg/L	
METHOD 602					•	
DILUTION FACTOR *			10	1		
DATE ANALYZED			02-04-91	02-03-91		
Benzene		0.5	86	ND	ug/L	
Ethylbenzene		0.5	24	ND	ug/L	
Toluene		0.5	ND	ND	ug/L	
Xylenes, total		0.5	28	ND	ug/L	
ny renes, cocur		0.5	20	1122	ug/1	
PETROLEUM HYDROCARBONS						
EXTRACTABLE (WATER)						
DILUTION FACTOR *			1	1		
DATE EXTRACTED			02-02-91	02-02-91		
DATE ANALYZED			02-02-91	02-02-91		
METHOD GC FID/3510				02 02 J1		
as Diesel		0.05	0.72	ND	mg/L	
as Motor Oil		0.05	ND	ND ND		
as motor off		0.5	ND	ND	mg/L	

Note: The positive response for the PETROLEUM HYDROCARBONS as diesel on this samples appears to be a lighter hydrocarbon.



Client No: 18.02

Client Name: Converse Consultants

NET Log No: 5856

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Ref: SHELL, 630 High Street; Project: 88-44-369-20

			91-01-28 01-28-91	MW-2 01-29-91	
		Reporting		0920	
Parameter	Method	Limit	73688	73689	Units
PETROLEUM HYDROCARBONS					
VOLATILE (WATER)					
DILUTION FACTOR *			1	1	•
DATE ANALYZED			02-03-91	02-03-91	
METHOD GC FID/5030					
as Gasoline		0.05	ND	ND	mg/L
METHOD 602					3
DILUTION FACTOR *			1	1	
DATE ANALYZED			02-03-91	02-03-91	
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			02-02-91	02-02-91	
DATE ANALYZED			02-02-91	02-02-91	
METHOD GC FID/3510					•
as Diesel		0.05	. ND	ND	mg/L
as Motor Oil		0.5	ND	ND	mg/L



Client No: 18.02

© Client Name: Converse Consultants

NET Log No: 5856

Date: 02-08-91

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Ref: SHELL, 630 High Street; Project: 88-44-369-20

		Reporting	MW-1 01-29-91 1145	MW-4 01-29-91 1250		
Parameter	Method	Limit	73690**	73691	Units	
PETROLEUM HYDROCARBONS					· · · · · · · · · · · · · · · · · · ·	
VOLATILE (WATER)						
DILUTION FACTOR *			10	5		
DATE ANALYZED			02-03-91	02-04-91		
METHOD GC FID/5030						
as Gasoline		0.05	11	2.6	mg/L	
METHOD 602					mg/ L	
DILUTION FACTOR *			10	5		
DATE ANALYZED			02-03-91	02-04-91		
Benzene		0.5	310	83	ug/L	
Ethylbenzene		0.5	500	ND	ug/L	
Toluene		0.5	41	ND	ug/L	
Xylenes, total		0.5	400	11	ug/L	
PETROLEUM HYDROCARBONS						
EXTRACTABLE (WATER)						
DILUTION FACTOR *			5	1		
DATE EXTRACTED			02-02-91	02-02-91		
DATE ANALYZED			02-02-91	02-02-91		
METHOD GC FID/3510						
as Diesel		0.05	21	1.3	mg/L	
as Motor Oil	•	0.5	ND	ND	mg/L	

^{**} Note: The positive response for the PETROLEUM HYDROCARBONS as diesel on this samples appears to be a lighter hydrocarbon.



Client No: 18.02

© Client Name: Converse Consultants

Date: 02-08-91

NET Log No:

5856

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Ref: SHELL, 630 High Street; Project: 88-44-369-20

		Reporting	MW-3 01-29-91 1430	MW-9 01-29-91 1455	-	
Parameter	Method	Limit	73692**	73693	Units	
PETROLEUM HYDROCARBONS		· · · · · · · · · · · · · · · · · · ·				
VOLATILE (WATER)						
DILUTION FACTOR *			1	1		
DATE ANALYZED			02-04-91	02-03-91		
METHOD GC FID/5030						
as Gasoline		0.05	2.3	ND	mg/L	
METHOD 602					9/ 1	
DILUTION FACTOR *			1	1		
DATE ANALYZED			02-04-91	02-03-91		
Benzene		0.5	17	ND	ug/L	
Ethylbenzene		0.5	10	ND	ug/L	
Toluene		0.5	4.1	ND	ug/L	
Xylenes, total		0.5	23	ND	ug/L	
PETROLEUM HYDROCARBONS				wa		
EXTRACTABLE (WATER)						
DILUTION FACTOR *			1	1		
DATE EXTRACTED			02-02-91	02-02-91		
DATE ANALYZED			02-02-91	02-02-91		
METHOD GC FID/3510						
as Diesel		0.05	0.41	ND	mg/L	
as Motor Oil		0.5	ND	ND	mg/L	

Note: The positive response for the PETROLEUM HYDROCARBONS as diesel on this samples appears to be a lighter hydrocarbon.



Client Acct: 18.02

Client Name: Converse Consultants

NET Log No: 5856

Date: 02-06-91 Page: 8

Ref: SHELL, 630 High Street; Project: 88-44-369-20

QUALITY CONTROL DATA

Parameter	Reporting Limits	Units	Cal Verf Stand % Recovery	Blank Data	Spike % Recovery	Duplicate Spike % Recovery	RPD
Diesel	0.05	mg/L	103	ND	69	70	< 1
Motor Oil	0.5	mg/L	110	ND	N/A	N/A	N/A
Gasoline Benzene Toluene	0.05 0.5 0.5	mg/L ug/L ug/L	96 98 103	ND ND	96 97 102	92 100 99	4.6 3.0 3.0
Gasoline	0.05	mg/L	98	ND	100	90	10
Benzene	0.5	ug/L	86	ND	103	86	18
Toluene	0.5	ug/L	90	ND	106	96	10
Gasoline	0.05	mg/L	101	ND	97	105	8.4
Benzene	0.5	ug/L	101	ND	95	101	6.1
Toluene	0.5	ug/L	107	ND	98	101	2.7

COMMENT: Blank Results were ND on other analytes tested.



CHAIN OF CUSTODY RECORD

1910,01 4<u>2</u>

						_	P.M. Rosen BROWER
PROJECT NO.: ごど-49 -367-マン	PROJECT NAME / CROSS STREET: 630/HIGH St AT JUXSUX			AN	ALYSE	S	
SAMPLERS: (Signature)	CARLAND CAL	A OF NERS	γ	×	104-		REMARKS
STATION DATE TIME & WOO	STATION LOCATION	NUMBER OF CONTAINERS	J-441	BTEX	HOL		S.TA.P
HW & 1255	VOA'S	4	1	/			DETECTION LIMITS
nu & / 1255	AMBER LITER	3		7	1		7011-6 0,05 PAG
FIELD) 1510	VÖΑ	(/ \	<			BTEX O. COUS POUS
13-11-12	AMBER LITER .	1		,	< *		TP14-P 0.05 PP49
MWL) 1532	UOA -	3	1	X			TRH-MO 015 PAM.
MW6 / 153	AMBELLITER .			7	< X		
MW7 / 16.2	UOA.	3	X	X			
MU7 /1632	AMBER LITER	2		/	< >		CUSTODY SEALED 1/29/3/
MW5 1 120	UOA .	3	X.		_		
14 w 5 Box 1720	AIMBER CITER "	2			< <u> </u>		@ 19:00 J.W.
TRINBEREN.	NET 1/21/91 UUA .	1	×				J.W.
TRWBUNK	NeT 121/91 LITER -				11		-> Amber not labeled W/proj. #
91-01-28-1/28/91	UOA ·	3	f i	×			
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CHAIN OF CUSTODY RECORD

PROJECT NO.: PROJECT NAME / CROSS STREET :								ANALYSES							
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CHAIN OF CUSTODY RECORD



P.M. Roser Brewer

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