



**Chevron U.S.A. Inc.**

2410 Camino Ramon, San Ramon, California • Phone (415) 842-9500  
Mail Address PO Box 5004, San Ramon, CA 94583-0804

91 MAY 31 11:23

Marketing Operations

R B Bellinger  
Manager, Operations  
S L Patterson  
Area, Manager, Operations  
C G Trimbach  
Manager, Engineering

May 29, 1991

*Swanson Hugo*  
Mr. ~~Gil Wister~~  
Alameda County  
Environmental Health  
80 Swan Way, Room 200  
Oakland, California 94621

Re: Chevron Service Station #9-1583  
5509 Martin Luther King Way  
Oakland, CA 94609

Dear Mr. Wister:

Enclosed we are forwarding the results of the Quarterly Ground-water Sampling performed by our consultant Geraghty & Miller, Inc. dated May 20, 1991, for the above referenced site. As indicated in the report, groundwater samples collected were analyzed for total petroleum hydrocarbons as gasoline (TPH-G) and BTEX. Benzene concentrations were detected in monitor wells #1, #2, and #3 at 200, 5, and 2100 ppb, respectively. These concentrations are significantly lower than the previous concentrations reported last quarter. Depth to water is approximately 9 to 13 feet, and the direction of flow is to the west-northwest.

Chevron will sample this site two (2) additional quarters. At this time we will evaluate the data to assess if the on-site wells have been purged of any surface contamination that may have infiltrated into the wells prior to the well head replacement. At that time we will recommend appropriate next actions.

If you have any questions or comments please do not hesitate to contact me at (415) 842-9581.

Very truly yours,  
CHEVRON U.S.A. INC.

*Nancy Vukelich*  
Nancy Vukelich  
Environmental Engineer

Enclosure

cc: Mr. Rich Hiett, RWQCB-Bay Area  
Mr. W.T. Scudder  
File (#9-1583Q3 Listing)

May 20, 1991  
Project No. RC02604

Ms. Nancy Vukelich  
Chevron U.S.A., Inc.  
West Central Marketing  
2410 Camino Ramon  
San Ramon, California 94583-0804

**SUBJECT:** Quarterly Ground-Water Sampling Results, May 1991, Service Station #9-1583, 5509 Martin Luther King Jr., Way, Oakland, California.

Dear Ms. Vukelich:

This letter presents the quarterly ground-water sampling results for the Chevron U.S.A. Inc. (Chevron) service station referenced above (see Figure 1). The scope of work for this project was presented to Chevron in a previous letter from Geraghty & Miller, Inc. (Geraghty & Miller) dated January 11, 1991.

#### **FIELD AND LABORATORY PROCEDURES**

The quarterly ground-water sampling was performed on May 8, 1991. Water samples were collected from each of the seven existing monitor wells (Monitor Wells #1 through #3, MW-4, MW-5, and MW-6). Prior to sampling, depth-to-water and total well depth measurements were obtained and each well was checked for the presence of liquid-phase hydrocarbons. Liquid-phase hydrocarbons were not observed during the quarterly sampling. A minimum of three casing volumes of water was purged from each well prior to sampling using a surface diaphragm pump. All equipment that entered the well was washed in a solution of tri-sodium phosphate (TSP) and water then triple rinsed in de-ionized water prior to sampling each well. Purged water was monitored for pH, temperature, and specific conductance. The field sampling results are presented in Table 1. Following purging, ground-water samples were collected using a polyethylene disposable bailer. A new bailer was used for each well. The purged water was stored in 55-gallon drums and retained on-site for subsequent disposal by Chevron.

Ground-water samples for laboratory analysis were placed in the appropriate USEPA approved containers, placed on ice, and transported to Superior Analytical Laboratories, Inc., located in Martinez, California. One trip blank consisting of laboratory grade water which accompanied the sample bottles from the laboratory, into the field, and back to the laboratory was also analyzed. The water samples were analyzed for total petroleum hydrocarbons (TPH) as gasoline (USEPA Method 8015, modified) and benzene, toluene, ethylbenzene, and xylenes (BTEX) (USEPA Method 8020).

## RESULTS OF QUARTERLY SAMPLING

### DEPTH TO WATER

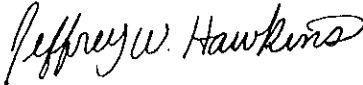
A summary of the depth-to-water measurements is presented in Table 2. A ground-water contour map is presented in Figure 2. Based on the data collected during May 1991, the direction of shallow ground-water flow in the vicinity of the site is toward the west-northwest.

### GROUND-WATER ANALYTICAL RESULTS

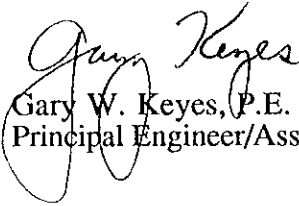
A summary of the ground-water analytical results is presented in Table 3. Copies of the certified laboratory reports and chain-of-custody documentation are included in Attachment 1.

If you have any questions regarding this letter report, please do not hesitate to call.

Sincerely,  
GERAGHTY & MILLER, INC.



Jeffrey W. Hawkins, R.G.  
Senior Geologist



Gary W. Keyes, P.E.  
Principal Engineer/Associate

Attachments	Table 1	Summary of Field Sampling Data
	Table 2	Summary of Depth-to-Water and Water Elevation Data
	Table 3	Ground-Water Analytical Results
	Figure 1	Site Location Map
	Figure 2	Ground-Water Contour Map, May 1991
Attachment 1	Copies of Certified Analytical Reports and Chain of Custody Documentation	

Table 1 - Summary of Field Sampling Data  
Chevron Service Station #9-1583, Oakland, California

Well	Date	Calculated Purge Volume (B) (gallons)	Actual Purge Volume (gallons)	pH	-----Stabilized-----		Depth to Water (A) (feet)	Measured Depth of Well (A) (feet)	Casing Diameter (inches)
					SC (ms/cm)	Temperature (F)			
Well #1	12-Mar-90	10.83	13	6.61	62	73.4	10.08	19.13	3
	8-Feb-91	11.00	19	6.35	69	65	10.11	19.30	
	8-May-91	10.77	10.5	6.32	6330	63.5	10.45	19.45	
Well #2	12-Mar-90	9.58	13	6.28	51	74.4	11.02	19.02	3
	8-Feb-91	9.53	15	6.70	61	67	11.05	19.01	
	8-May-91	9.59	10	6.79	4790	66.6	11.36	19.37	
Well #3	12-Mar-90	8.45	13	6.48	75	75.6	12.14	19.20	3
	8-Feb-91	9.13	23	6.70	88	67	12.18	19.81	
	8-May-91	8.77	9	6.53	6400	64.8	12.52	19.85	
MW-4	31-Oct-90	5.81	3 (C)	8.10	93	78	13.90	24.82	2
	8-Feb-91	6.69	9	7.90	59	65	12.32	24.90	
	8-May-91	6.90	6.5	6.63	5570	68.8	12.23	25.20	
MW-5	31-Oct-90	4.87	16	7.20	35	81	10.63	19.79	2
	8-Feb-91	5.69	10	6.90	46	64	9.17	19.87	
	8-May-91	6.08	7	7.21	3990	63.2	8.68	20.11	
MW-6 (D)	31-Oct-90	5.35	13	7.80	36	78	9.69	19.74	2
	8-Feb-91	—	NA	NA	NA	NA	NA	NA	
	8-May-91	5.64	9	6.68	4220	62.6	9.54	20.15	

**Notes:**

- (A) Measured from top of PVC casing.  
 (B) Based on three casing volumes.  
 (C) Monitor Well MW-4 was dry after pumping 3 gallons during purging, October 31, 1990.  
 (D) Access to well was prevented by parked automobile.  
 NA = Not Analyzed.  
 SC = Specific conductance.

Table 2 - Summary of Depth-to-Water and Water Elevation Data  
Chevron Service Station #9-1583, Oakland, California

Well	Date	Depth to Water (1) (feet)	Top of Casing Elevation (feet)		Water Level Elevation (feet)
Well #1	22-Dec-83	10.25	81.97	(A)	71.72
	30-Dec-83	9.17			72.80
	12-Mar-90	10.08			71.90
	25-Mar-90	10.46			71.51
	16-Nov-90	11.58	82.42	(B)	70.84
	8-Feb-91	10.11			72.31
	8-May-91	10.45			71.97
Well #2	22-Dec-83	10.50	83.48	(A)	72.98
	30-Dec-83	9.92			73.56
	12-Mar-90	11.02			72.46
	25-Mar-90	11.33			72.15
	16-Nov-90	12.31	83.48	(B)	71.17
	8-Feb-91	11.05			72.43
	8-May-91	11.36			72.12
Well #3	22-Dec-83	11.58	84.36	(A)	72.22
	30-Dec-83	11.17			71.81
	12-Mar-90	12.14			70.74
	25-Mar-90	12.55			72.18
	16-Nov-90	13.62	84.38	(B)	70.76
	8-Feb-91	12.18			72.20
	8-May-91	12.52			71.86
MW-4	18-Oct-90	15.75	84.25	(B)	68.50
	31-Oct-90	13.90			70.35
	16-Nov-90	14.25			70.00
	8-Feb-91	12.32			71.93
	8-May-91	12.23			72.02
MW-5	18-Oct-90	10.78	81.95	(B)	71.17
	31-Oct-90	10.63			71.32
	16-Nov-90	10.68			71.27
	8-Feb-91	9.17			72.78
	8-May-91	8.68			73.27

Table 2 - Summary of Depth-to-Water and Water Elevation Data  
Chevron Service Station #9-1583, Oakland, California

Well	Date	Depth to Water (1) (feet)	Top of Casing Elevation (feet)	Water Level Elevation (feet)
MW-6	18-Oct-90	9.79	80.60 (B)	70.81
	31-Oct-90	9.69		70.91
	16-Nov-90	9.74		70.86
	8-Feb-91	NA		—
	8-May-91	9.54		71.06

**Notes:**

(1) Measured from top of casing.

(A) Surveyed March 26, 1990, by Geraghty & Miller Inc..

(B) Surveyed November 30, 1990, by Bates & Bailey Land Surveyors.

-- Elevations are reported in feet above mean sea level.

-- Elevations were measured relative to City of Oakland Bench Mark #1967 located on at the southwest corner of 55th Street and Martin Luther King Way. Reported elevation of bench mark is 84.457 feet above mean sea level.

Table 3 - Ground-Water Analytical Results  
Chevron Service Station #9-1583, Oakland, California.

Sample	Date	TPH (A) µg/l	Benzene (B) µg/l	Toluene (B) µg/l	Xylenes (B) µg/l	Ethylbenzene (B) µg/l
Well #1 (C)	12-Mar-90	50,000	3,000	7,300	18,000	1,900
	8-Feb-91	100,000	4,200	8,400	2,600	16,000
	8-May-91	31,000	200	66	2,000	670
Well #2	12-Mar-90	800	400	22	55	18
	8-Feb-91	4,600	820	440	210	720
	8-May-91	ND(<50)	5	ND(<0.5)	ND(<0.5)	ND(<0.5)
Well #3	12-Mar-90	47,000	1,000	9,900	9,800	1,700
	8-Feb-91	58,000	4,900	5,200	2,000	9,500
	8-May-91	50,000	2,100	1,400	9,400	2,000
Well MW-4	31-Oct-90	ND(<50)	ND(<0.5)	ND(<0.5)	1	ND(<0.5)
	8-Feb-91	60	17	2	ND<0.5	12
	8-May-91	65	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)
Well MW-5	31-Oct-90	110	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)
	8-Feb-91	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)
	8-May-91	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)
Well MW-6	31-Oct-90	ND(<50)	ND(<0.5)	ND(<0.5)	3	ND(<0.5)
	8-Feb-91	NC	NC	NC	NC	NC
	8-May-91	56	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)

Table 3 - Ground-Water Analytical Results  
Chevron Service Station #9-1583, Oakland, California.

Sample	Date	TPH (A) μg/l	Benzene (B) μg/l	Toluene (B) μg/l	Xylenes (B) μg/l	Ethylbenzene (B) μg/l
Trip Blank	12-Mar-90	ND(<50)	ND(<0.3)	ND(<0.3)	ND(<0.6)	ND(<0.3)
	8-Feb-91	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)
	8-May-91	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)
Field Blank	31-Oct-90	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)
	8-Feb-91	NC	NC	NC	NC	NC

**Notes:**

(A) TPH - Total petroleum hydrocarbons as gasoline. Analyzed by USEPA 8015, modified.

(B) BTEX analyzed by USEPA 8020.

(C) Wells #1, #2, and #3 were installed by Gettler Ryan, Inc., December 1983.

ND - Not detected

NC - Not Collected.

( ) = Detection limit.

*Project No. RC02604*





Contour Interval 40 Feet  
 Contours and Elevations in Feet



Reference: USGS 7.5' Quadrangle; Oakland West, California

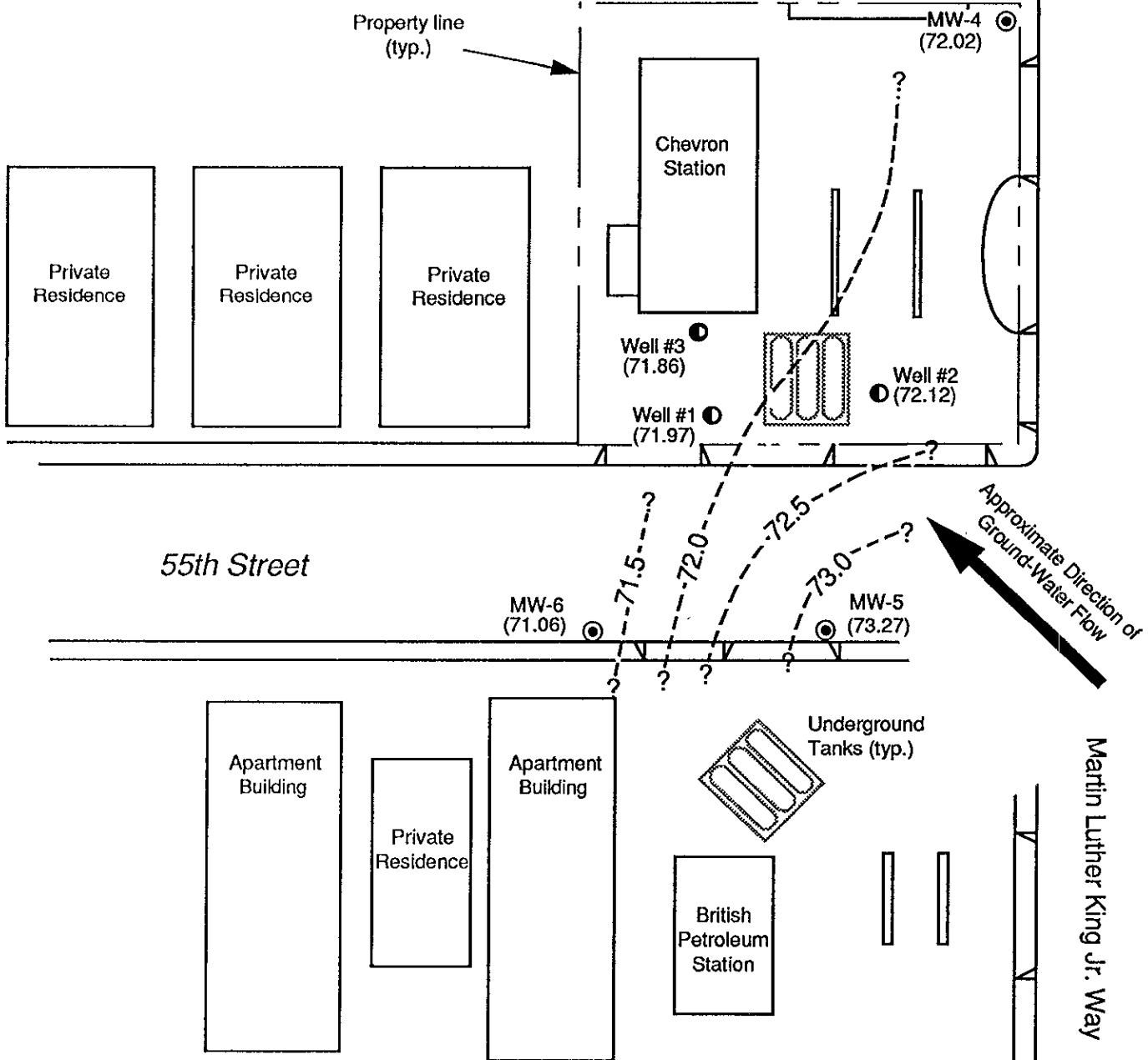


Proj. No. RCO2604

**SITE LOCATION MAP**  
 CHEVRON STATION #9-1583  
 5509 Martin Luther King Way  
 Oakland, California

FIGURE

1



**EXPLANATION**

- MW-1 ● Monitor Well installed by Gettler-Ryan, 1983
- MW-6 ● Monitor Well installed by Geraghty & Miller, October 18, 1990.
- (73.27) Ground-water surface elevation (in feet), measured 5/8/91.
- 71.5 - Ground-water surface elevation (feet, MSL); Contour interval equals 0.5 feet. Dashed where inferred. Queried where uncertain.



**GROUND-WATER CONTOUR MAP**  
**MAY 1991**  
 CHEVRON STATION #9-1583  
 5509 Martin Luther King Way  
 Oakland, California

FIGURE  
**2**



Proj. No. RCO2604

**ATTACHMENT 1**

**COPIES OF CERTIFIED ANALYTICAL REPORTS AND CHAIN OF  
CUSTODY DOCUMENTATION**

# SUPERIOR ANALYTICAL LABORATORY, INC.

1555 BURKE, UNIT I • SAN FRANCISCO, CA 94124 • PHONE (415) 647-2081

DHS #1332

## C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 11832  
 CLIENT: Geraghty & Miller Inc.  
 CLIENT JOB NO.: RCO2604

DATE RECEIVED: 05/08/91  
 DATE REPORTED: 05/16/91

Page 1 of 2

Lab Number	Customer Sample Identification	Date Sampled	Date Analyzed
11832- 1	MW-4	05/08/91	05/14/91
11832- 2	MW-6	05/08/91	05/14/91
11832- 3	MW-5	05/08/91	05/14/91
11832- 4	MW-2	05/08/91	05/14/91
11832- 5	MW-1	05/08/91	05/14/91
11832- 6	MW-3	05/08/91	05/14/91
11832- 7	TRIP BLANK	05/08/91	05/15/91

Laboratory Number:	11832	11832	11832	11832	11832
	1	2	3	4	5

ANALYTE LIST	Amounts/Quantitation Limits (ug/L)				
OIL AND GREASE:	NA	NA	NA	NA	NA
TPH/GASOLINE RANGE:	65*	56*	ND<50	ND<50	31000
TPH/DIESEL RANGE:	NA	NA	NA	NA	NA
BENZENE:	ND<0.5	ND<0.5	ND<0.5	5	200
TOLUENE:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	66
ETHYL BENZENE:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	670
XYLENES:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	2000

Laboratory Number:	11832	11832
	6	7

ANALYTE LIST	Amounts/Quantitation Limits (ug/L)	
OIL AND GREASE:	NA	NA
TPH/GASOLINE RANGE:	50000	ND<50
TPH/DIESEL RANGE:	NA	NA
BENZENE:	2100	ND<0.5
TOLUENE:	1400	ND<0.5
ETHYL BENZENE:	2000	ND<0.5
XYLENES:	9400	ND<0.5

# SUPERIOR ANALYTICAL LABORATORY, INC.

1555 BURKE, UNIT I • SAN FRANCISCO, CA 94124 • PHONE (415) 647-2081

DHS #1332

## C E R T I F I C A T E O F A N A L Y S I S

### ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

Page 2 of 2  
QA/QC INFORMATION  
SET: 11832

NA = ANALYSIS NOT REQUESTED  
ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT  
ug/l = part per billion (ppb)

OIL AND GREASE ANALYSIS By Standard Methods Method 503E:  
Minimum Detection Limit in Water: 5000ug/L

Modified EPA-SW846 Method 8015 for Extractable Hydrocarbons:  
Minimum Quantitation Limit for Diesel in Water: 50ug/l  
Standard Reference: NA

EPA-SW846 Method 8015/5030 Total Purgable Petroleum Hydrocarbons:  
Minimum Quantitation Limit for Gasoline in Water: 50ug/l  
Standard Reference: 08/24/90

SW-846 Method 8020/BTXE  
Minimum Quantitation Limit in Water: 0.5ug/l  
Standard Reference: 04/09/91

ANALYTE	REFERENCE	SPIKE LEVEL	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Oil & Grease	NA	NA	NA	NA	NA
Diesel	NA	NA	NA	NA	NA
Gasoline	08/24/90	200ng	93/97	4.1	63-111
Benzene	04/09/91	200ng	73/85	15.2	72-119
Toluene	04/09/91	200ng	72/85	16.0	70-116
Ethyl Benzene	04/09/91	200ng	74/87	16.3	73-119
Total Xylene	04/09/91	600ng	74/87	16.8	71-118

\* Does not match typical gasoline pattern.

Richard Srna, Ph.D.

*Onyx A. Nwagwu (for)*  
Laboratory Director

OUTSTANDING QUALITY AND SERVICE

Chevron U.S.A. Inc.  
 P.O. BOX 5004  
 San Ramon, CA 94583  
 FAX (415)842-9591

Chevron Facility Number 9-1583 11832  
 Facility Address 5509 Martin Luther King Jr. way  
 Consultant Project Number RC02604  
 Consultant Name Geraghty & Miller  
 Address 1050 Marina Way South, Richmond, CA 94804  
 Project Contact (Name) JEFF HAWKINS  
 (Phone) (415) 233-3200 Fax Number 415 233-3204

Chevron Contact (Name) \_\_\_\_\_  
 (Phone) \_\_\_\_\_  
 Laboratory Name Superior Labs  
 Laboratory Release Number 4446580  
 Samples Collected by (Name) Ricky Spencer  
 Collection Date 5-8-91  
 Signature Ricky J. Spencer

Sample Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	Analysis To Be Performed											Remarks				
							ETEX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Grease (5520)	Chlorinated HC (8010)	Non Chlorinated HC (8020)	Total Lead (AA)	Metals Cd, Cr, Pb, Zn, Ni (ICAP or AA)									
MW-4	3	W	G	1351	HCL	YES	✓															
MW-6	3	W	G	1454	HCL	YES	✓															
MW-5	3	W	G	1530	HCL	YES	✓															
MW-2	3	W	G	1610	HCL	YES	✓															
MW-1	3	W	G	1647	HCL	YES	✓															
MW-3	3	W	G	1725	HCL	YES	✓															
TRIP BLANK	2	W	G	—	—	YES	✓															

Please Initial: \_\_\_\_\_  
 Sample Stored in ice. \_\_\_\_\_  
 Appropriate containers, \_\_\_\_\_  
 Samples preserved, \_\_\_\_\_  
 VOA's without headspace, \_\_\_\_\_  
 Comments: \_\_\_\_\_  
 Custody Seals in Tank

— CHECK Custody SEALS —

Relinquished By (Signature) <u>Ricky J. Spencer</u>	Organization <u>GM</u>	Date/Time <u>10:25</u> <u>5-9-91</u>	Received By (Signature) <u>[Signature]</u>	Organization <u>EXPRESS-77</u>	Date/Time <u>5/9/91 10:25</u>	Turn Around Time (Circle Choice)  24 Hrs. 48 Hrs. 5 Days 10 Days <u>As Contracted</u>
Relinquished By (Signature) <u>[Signature]</u>	Organization <u>EXPRESS IT</u>	Date/Time <u>5-9-91 12:15</u>	Received By (Signature) <u>[Signature]</u>	Organization <u>EXPRESS IT</u>	Date/Time <u>5/9/91 11:17</u>	
Relinquished By (Signature) <u>[Signature]</u>	Organization <u>EXPRESS-175</u>	Date/Time <u>5/9/91/1140</u>	Received For Laboratory By (Signature) <u>[Signature]</u>	Organization <u>EXPRESS-175</u>	Date/Time <u>5/9 12:05</u>	