Chevron

Chevron U.S.A. Inc.
2410 Camino Ramon, San Ramon, California • Phone (510) 842-9500
Mail Address PO Box 5004, San Ramon, CA 94583 0804

Marketing Department

91 OCT -9 PM 2:17

October 2, 1991

Mr. Rafat Shahid
Alameda County Health Care Services
80 Swan Way, Room 200
Oakland, CA 94621

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

Dear Mr. Shahid:

Enclosed we are forwarding the Quarterly Ground Water Sampling Report dated September 25, 1991, prepared by our consultant Geraghty & Miller, Inc. for the above referenced site. As indicated in the report, ground water samples collected were analyzed for total petroleum hydrocarbons as gasoline and BTEX. Benzene was detected in monitor wells #1, #2 and #3 only at concentrations of 81, 5, and 1300 ppb, respectively. These concentrations are significantly lower than the previous concentrations reported last quarter. Depth to ground water was measured at approximately 10 to 14-feet below grade, and the direction of flow fluctuates from the west-northwest.

Chevron will continue to sample this site and report findings on a quarterly basis. It appears that subsequent sampling events of monitor wells #1, #2 and #3 continue to purge these wells of subsurface contaminants that infiltrated into the wells prior to the well head replacements.

If you have any questions or comments, please do not hesitate to contact me at (510) 842-9581.

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

Nancy Vukelich
Environmental Engineer

Enclosure

cc: Mr. Eddie So, RWQCB-Bay Area
Mr. W.T. Scudder
File (9-1583Q1)

GERAGHTY
& MILLER, INC.
Environmental Services

Ground Water *Engineering* *Hydrocarbon* *Remediation* *Education*

September 25, 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, August 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. 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 August 12, 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 was measured, 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. The equipment that entered the well was washed in a solution of tri-sodium phosphate 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 disposable polyethylene 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 Precision

Analytical, Inc., located in San Francisco, 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 1. Based on the data collected during August 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 the undersigned at (510) 233-3200.

Sincerely,
GERAGHTY & MILLER, INC.

JoEllen Kuszmaul
Senior Geologist/Project Manager

Gary W. Keyes, P.E.
Principal Engineer/Project Officer

Project No. RC02604

Enclosures:
- 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 Ground-Water Contour Map, August 1991

Attachment 1: Copies of Chain of Custody Documentation and Certified Analytical Reports

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

Well	Date	Calculated Purge Volume (a) (gallons)	Actual Purge Volume (gallons)	Final Readings			Depth to Water (b) (feet)	Measured Depth of Well (b) (feet)	Casing Diameter (inches)
				pH	SC (µmhos)	Temperature (degrees F)			
Well #1	12-Aug-91	9.2	9.5	6.93	1016	NA	11.23	19.5	3
Well #2	12-Aug-91	8.2	8.3	5.86	1035	71	11.97	19.4	3
Well #3	12-Aug-91	7.4	7.5	7.02	916	NA	13.27	19.9	3
MW-4	12-Aug-91	5.4	6.0	7.09	867	69.2	13.93	25.2	2
MW-5	12-Aug-91	4.7	4.8	5.75	293	66.6	10.33	20.1	2
MW-6	12-Aug-91	5.1	5.3	6.89	754	70.9	9.5	20.2	2

(a) Based on three casing volumes
(b) Measured from top of PVC casing.

NA = Not analyzed due to equipment malfunction
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 (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
	12-Aug-91	11.23			71.19
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
	12-Aug-91	11.97			71.51
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
	12-Aug-91	13.27			71.11
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
	12-Aug-91	13.93			70.32
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
	12-Aug-91	10.33			71.62

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

Well	Date	Depth to Water (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
	12-Aug-91	9.50			71.10

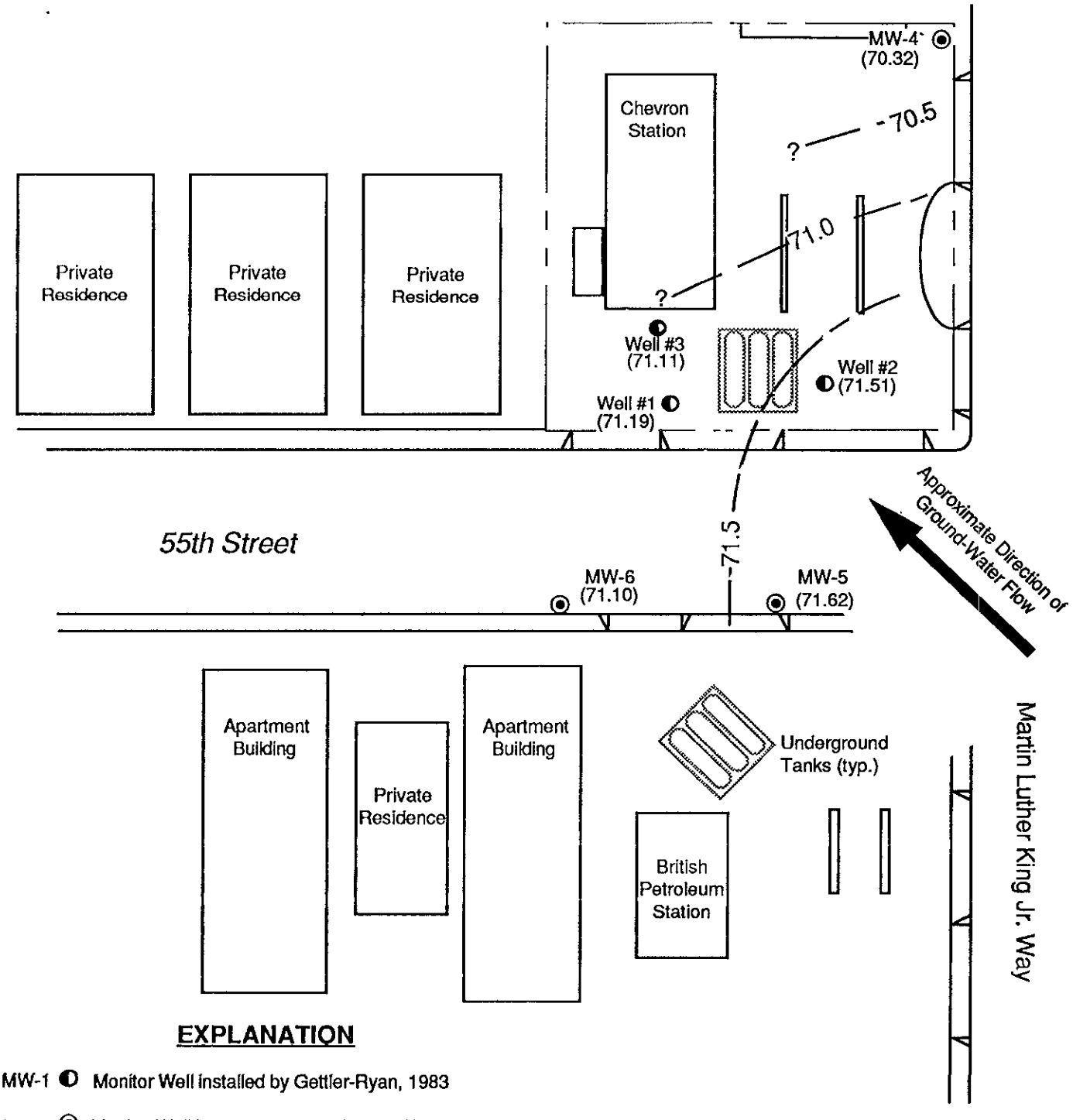
(a) Surveyed March 26, 1990, by Geraghty & Miller Inc..
(b) Surveyed November 30, 1990, by Bates & Bailey Land Surveyors.
Elevations are reported in feet above mean sea level.

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
	12-Aug-91	17,000	81	7	710	270
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)
	12-Aug-91	ND(<50)	ND(<0.5)	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
	12-Aug-91	15,000	1,300	160	1,900	920
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)
	12-Aug-91	ND(<50)	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)
	12-Aug-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)
	12-Aug-91	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)
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)
	12-Aug-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)

(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



EXPLANATION

MW-1 ◐ Monitor Well installed by Gettler-Ryan, 1983

MW-6 ◉ Monitor Well installed by Geraghty & Miller, October 18, 1990.

(71.62) Ground-water surface elevation (feet, MSL), measured 8/12/91.

-71.5 Ground-water surface elevation contour (feet, MSL). Contour interval equals 0.5 feet. Dashed where approximate; queried where uncertain.

0 50
Scale feet

N

GERAGHTY & MILLER, INC.
Environmental Services

Project No. RC02604

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

FIGURE
1

ATTACHMENT 1

COPIES OF CHAIN-OF-CUSTODY DOCUMENTATION AND CERTIFIED LABORATORY REPORTS

Fax copy of Lab Report and COC to Chevron Contact: ☐ Yes ☐ No 12/95

Chain-of-Custody-Record

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

Chevron Facility Number: # 9-1583
Facility Address: 5509 MARTIN LUTHER KING WAY
Consultant Project Number: RC02604
Consultant Name: GERAGHTY + MILLER INC.
Address: 1050 MARINA WAY SOUTH, RICHMOND CA 94804
Project Contact (Name): JO ELLEN KUSZMAUL
(Phone) (415) 233-3200 (Fax Number) (415) 233-3204

Chevron Contact (Name): NANCY VUKELICH
(Phone):
Laboratory Name: SUPERIOR
Laboratory Release Number: 4446580
Samples Collected by (Name): Rick Spencer
Collection Date: 8/12/91
Signature: [illegible]

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil A = Air W = Water C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	BTEX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd,Cr,Pb,Zn,Ni (ICAP or AA)						Remarks
MW-5		3	W	G	1419	HCL	YES	✓													
MW-2		↓	↓	↓	1508	↓	↓	✓													
MW-6		↓	↓	↓	1548	↓	↓	✓													
MW-4		↓	↓	↓	1629	↓	↓	✓													
MW-1		↓	↓	↓	1710	↓	↓	✓													
MW-3		↓	↓	↓	1741	↓	↓	✓													
TRIP BLANK		1	W	N/A	N/A	HCL	YES	✓													

Please initials: CAN
Samples stored in ice. yes
Appropriate containers. yes
Samples preserved. yes
VOA's without headspace. yes
Comments: OK

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Julie Penrod	G+M	8-13-91 900	[illegible]	Express [illegible]	8-13-91 900
Relinquished By (Signature) [illegible]	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Relinquished By (Signature)	Organization	Date/Time	Recieved For Laboratory By (Signature) [illegible]		Date/Time 8/13/91 10:25am

Turn Around Time (Circle Choice)
24 Hrs.
48 Hrs.
5 Days
10 Days
As Contracted

Superior Precision Analytical, Inc.
1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

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

LABORATORY NO.: 12195
CLIENT: Geraghty & Miller Inc.
CLIENT JOB NO.: RC02604

DATE RECEIVED: 08/13/91
DATE REPORTED: 08/20/91

Lab Number	Customer Sample Identification	Date Sampled	Date Analyzed
12195- 1	MW-5	08/12/91	08/15/91
12195- 2	MW-2	08/12/91	08/16/91
12195- 3	MW-6	08/12/91	08/15/91
12195- 4	MW-4	08/12/91	08/15/91
12195- 5	MW-1	08/12/91	08/15/91
12195- 6	MW-3	08/12/91	08/15/91
12195- 7	TRIP BLANK	08/12/91	08/15/91

Laboratory Number:	12195 1	12195 2	12195 3	12195 4	12195 5
ANALYTE LIST	Amounts/Quantitation Limits (ug/L)				
OIL AND GREASE:	NA	NA	NA	NA	NA
TPH/GASOLINE RANGE:	ND<50	ND<50	ND<50	ND<50	17000
TPH/DIESEL RANGE:	NA	NA	NA	NA	NA
BENZENE:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	81
TOLUENE:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	7.2
ETHYL BENZENE:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	270
XYLENES:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	710

Laboratory Number:	12195 6	12195 7
ANALYTE LIST	Amounts/Quantitation Limits (ug/L)	
OIL AND GREASE:	NA	NA
TPH/GASOLINE RANGE:	15000	ND<50
TPH/DIESEL RANGE:	NA	NA
BENZENE:	1300	ND<0.5
TOLUENE:	160	ND<0.5
ETHYL BENZENE:	920	ND<0.5
XYLENES:	1900	ND<0.5

Superior Precision Analytical, Inc.
1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

CERTIFICATE OF ANALYSIS

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

QA/QC INFORMATION
SET: 12195

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: 07/23/91

SW-846 Method 8020/BTXE
Minimum Quantitation Limit in Water: 0.5ug/l
Standard Reference: 06/13/91

ANALYTE	[illegible]	[illegible]	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Oil & Grease	NA	NA	NA	NA	NA
Diesel	NA	NA	NA	NA	NA
Gasoline	07/23/91	200ng	98/102	4.2	59-121
Benzene	06/13/91	200ng	97/104	6.5	70-125
Toluene	06/13/91	200ng	100/106	5.3	74-116
Ethyl Benzene	06/13/91	200ng	101/107	5.8	75-120
Total Xylene	06/13/91	600ng	102/107	5.1	75-119

Richard Srna, Ph.D.
Laboratory Director