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Engineering & sciences applied to the earth & its environment

April 5, 1996
92C0414A

Mr. Andrew Clark-Clough, R.G.
City of Oakland
Office of Public Works
1333 Broadway, Suite 300
Oakland, California 94614

Re: City of Oakland - Municipal Service Center, 7101 Edgewater Drive, Oakland, California

Subject: February 1996 Groundwater Monitoring Report

Dear Mr. Clark-Clough:

Enclosed are five copies of Baseline Environmental Consulting's February 1996 Groundwater Monitoring Report, dated March 7, 1996, for you to distribute as appropriate. The report includes the analytical results from the February 1996 and past sampling events as well as a groundwater flow direction and gradient map using February 21, 1996 water level data. Items for you to consider are outlined below:

Future Groundwater Monitoring

Groundwater monitoring and reporting are currently scheduled to continue quarterly. Future 1996 quarterly monitoring events are scheduled in May, August and November.

Recommended Modifications to Quarterly Groundwater Sample Analyses

Evaluation of the February 1996 groundwater sample results indicates this is the fourth consecutive quarter that some of the analytes were not detected (ND). The analytical results for metals or petroleum and organic compounds are included in Tables 2 and 3, respectively, of the February 1996 Groundwater Monitoring report. Four consecutive quarters of ND is considered sufficient to reasonably conclude that a metal, petroleum or organic compound of concern is no longer present in groundwater at and nearby the monitoring well. Accordingly, we recommend modifying future groundwater sampling events as follows:

- Discontinue gasoline analysis (EPA Method 5030/8015M) on groundwater samples from monitoring wells MW-2 and MW-7;
- Discontinue diesel fuel analysis (EPA Method 5030/8015M) on groundwater samples from MW-7;

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510-893-3600 Fax 510-874-3268

- Discontinue lead analysis (EPA Method 6010) on groundwater samples from MW-1, MW-5, and MW-7; and
- Discontinue cadmium, chromium, and nickel analysis (EPA Method 6010) on groundwater samples from MW-5.

Silica Gel Cleanup of Groundwater Samples

During the last four monitoring events the analytical laboratory has identified unknown hydrocarbons in either the diesel or kerosene range. According to the laboratory, the unknown hydrocarbons did not match any of the standard petroleum hydrocarbon profiles. As such, these unknown hydrocarbons could represent a combination of gasoline and weathered diesel or biogenic material. We therefore recommend a silica gel cleanup (EPA Method 3630M) of future water samples being analyzed for total extractable hydrocarbons (kerosene, diesel, and motor oil). The silica gel cleanup is recommended to evaluate whether biogenic materials are interfering with extractable hydrocarbon analyses.

The recommended analytical modifications for future quarterly groundwater samples are summarized in Attachment A.

Please call Al Ridley (510)874-3125 or George Muehleck (510)874-3080 if you have any questions on this letter or the February 1996 Groundwater Monitoring Report.

Sincerely,

Albert P Ridley, C.E.G.
Project Manager

George Muehleck, R.G.
Senior Project Hydrogeologist

Attachment A: Analytical Modifications for Future Quarterly Groundwater Samples

Enclosures: February 1996 Groundwater Monitoring Report - City of Oakland Municipal Service Center, Baseline Environmental Consulting, dated March 7, 1996

cc: Rhodora Del Rosario, Baseline Environmental Consulting
File

Attachment A
Andrew Clark-Clough
April 5, 1996

ANALYTICAL MODIFICATIONS FOR FUTURE QUARTERLY GROUNDWATER SAMPLES
Oakland Municipal Service Center

	TOTAL PETROLEUM HYDROCARBONS					METALS[3]				
Location	Gasoline (5030/8015)	Diesel[1] (3510/8015)	Kerosene[1] (3510/8015)	Motor Oil[1] (3510/8015)	BTEX[2] (8020)	Cadmium (6010)	Chromium (6010)	Lead (6010)	Nickel (6010)	Zinc (6010)
MW-1	✓	--	--	--	✓	--	--	--	--	--
MW-2	--	--	--	--	✓	--	--	✓	--	--
MW-5	✓	✓	✓	✓	✓	--	--	--	--	✓
MW-6	✓	✓	--	--	✓	✓	✓	✓	✓	✓
MW-6A[4]	✓	✓	--	--	✓	✓	✓	✓	✓	✓
MW-7	--	--	--	--	✓	✓	✓	--	✓	✓
Trip Blank[5]	✓	--	--	--	✓	--	--	--	--	--

Notes: -- = Not analyzed
Number shown in parentheses indicates the EPA method used for analysis.

[1] EPA Method 3630M Silica Gel Cleanup
[2] BTEX = Benzene, toluene, ethylbenzene, and xylenes
[3] All samples for metals analyses are to be filtered in the laboratory
[4] Duplicate sample of MW-6
[5] Labeled MW-500 on chain-of-custody form

BASELINE

ENVIRONMENTAL CONSULTING

7 March 1996
93333-B0

Mr. George Muehleck
Woodward-Clyde Consultant
500 12th Street, Suite 100
Oakland, CA 94607-4014

Subject: Groundwater Monitoring Event at the City of Oakland, Municipal Service Center, 7101 Edgewater Drive - February 1996

Dear Mr. Muehleck:

This letter documents the groundwater monitoring activities performed by BASELINE at the Municipal Service Center (MSC) in February 1996 (Figure 1). All field work was performed by a BASELINE geologist. Sampling procedures and analytical results are summarized below.

GROUNDWATER SAMPLING AND ANALYSES

Groundwater Sampling

Groundwater samples were collected from groundwater monitoring wells MW-1, MW-2, MW-5, MW-6, and MW-7 (Figure 2) on 21 February 1996. Sample bottles were provided by the analytical laboratory. Groundwater sampling forms are provided in Attachment A. Sampling procedures were performed as follows:

- Monitored vapor in well casing using an HNu instrument upon opening well cap.
- Measured product/water level and total depth of well from top of casing using dual-interface probe; decontaminated probe by washing in TSP solution and rinsing with DI water.
- Purged monitoring wells MW-1, MW-5, MW-6, and MW-7 using double diaphragm pump and new disposable hose; the purge water was discharged into a 55-gallon drum.
- Purged monitoring well MW-2 using a new disposable PVC bailer; the purge water was discharged into a 55-gallon drum.
- Measured temperature, pH, and conductivity of the purged water.
- Purged a minimum of 3.5 well volumes until parameters had stabilized.
- Collected groundwater samples using new disposable PVC bailers after the water level had recovered to at least 97 percent of original level.
- Filled sample bottles for volatile organic analyses using volatile organic compound attachments to minimize turbulence and to prevent air bubbles; filled other sample bottles directly from bottom of bailer.
- Collected duplicate sample from MW-6 (labeled sample MW-6A).

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Emeryville Petaluma San Francisco

- Submitted trip blank with samples (labeled MW-500).
- Stored labeled sample bottles in plastic cooler with blue ice; samples were picked up by Chromalab laboratory using chain-of-custody procedures.
- Labeled and secured 55-gallon drums containing purge and decontamination water.

Petroleum odor was identified during purging of MW-6.

Analytical Results

The analyses performed on each sample is summarized in Table 1. The samples were analyzed by Chromalab, Inc., a State-certified laboratory located in Pleasanton. Analytical results for groundwater monitoring events performed in April 1995, July 1995, November 1995, and February 1996 are included in Tables 2 and 3. The laboratory report for this groundwater monitoring event is provided in Attachment B.

Groundwater Level Measurements

Groundwater level measurements were collected from monitoring wells MW-1, MW-2, MW-4, MW-5, MW-6, and MW-7 during groundwater sampling activities on 21 February 1996. The groundwater gradient was calculated to be 0.03 ft/ft at the northern portion of the site (MW-1 through MW-4), with a flow direction toward the northwest at approximately N53W. The groundwater flow gradient was calculated to be 0.01 ft/ft at the southern portion of the site (MW-5 through MW-7), with a flow direction toward the southwest at approximately S24W. Groundwater levels in monitoring well MW-3 were not measured because the well box cover and vicinity were inundated with approximately four inches of standing water. The groundwater elevation data collected on 21 December 1995 (during low and high tide) and 21 February 1996 are shown on Table 4. Groundwater contours for the 21 February 1996 event are shown on Figure 3.

Please contact us at your convenience if you have any questions regarding these groundwater monitoring activities or need additional information.

Sincerely,

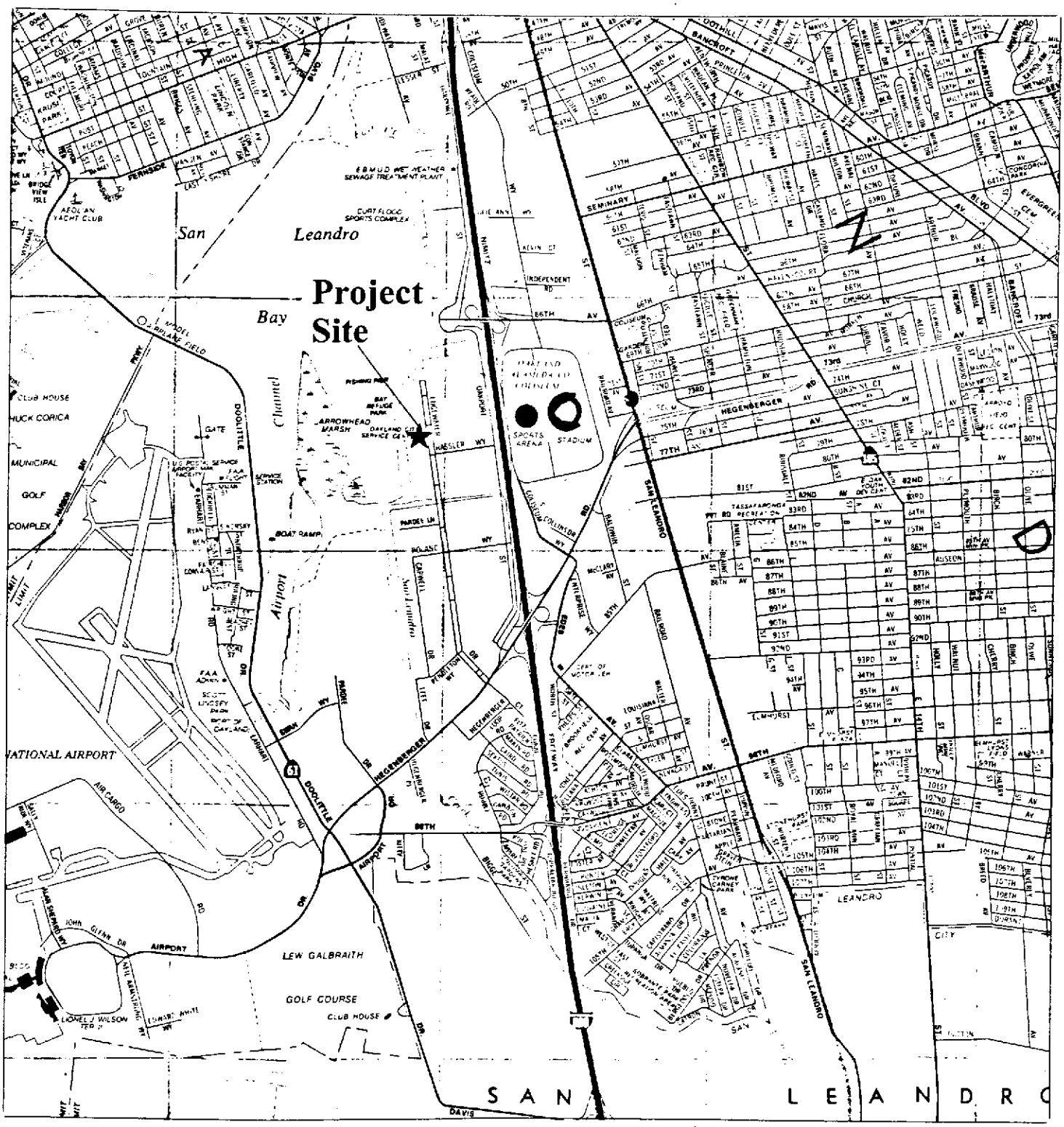
Yane Nordhav
Principal
Reg. Geologist No. 4009

Rhodora Del Rosario
Civil Engineer

RPD:YN:tt
Attachments
93333b-r.396-3/7/96

REGIONAL LOCATION

Figure 1



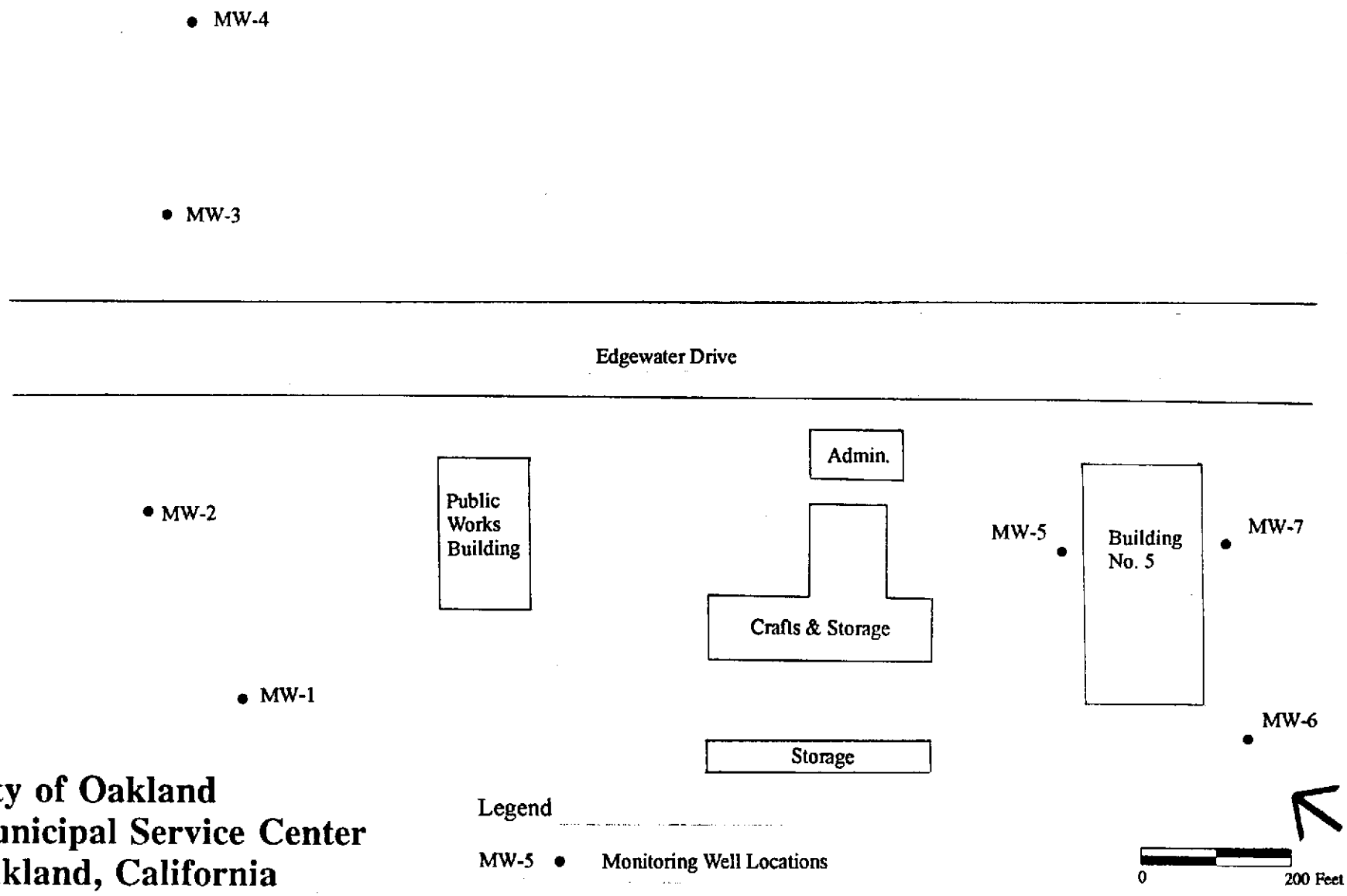
City of Oakland
Municipal Service Center
Oakland, California

BASELINE

93333-BO 6/2/95

SITE LAYOUT

Figure 2



City of Oakland
Municipal Service Center
Oakland, California

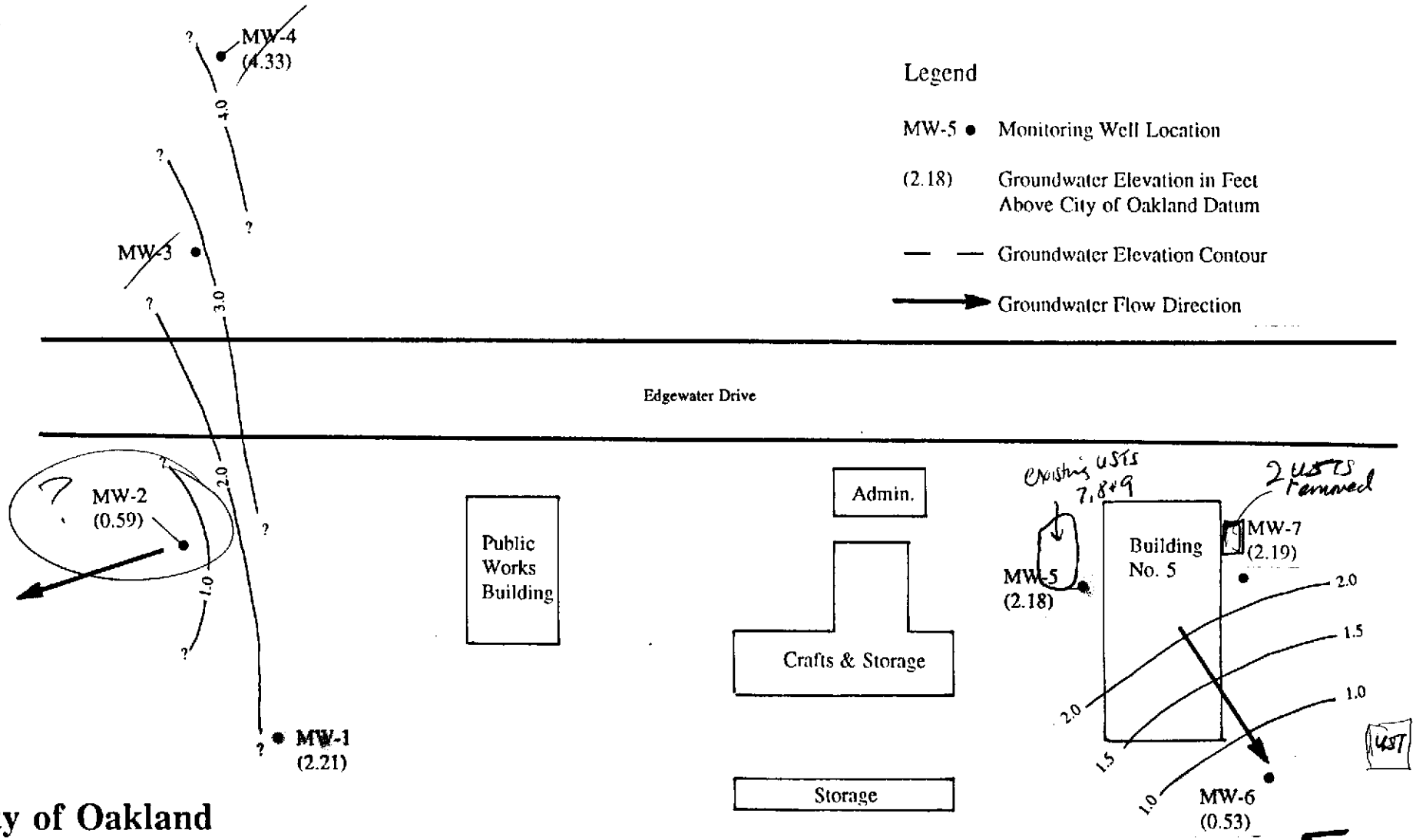
Source: City of Oakland, MSC Parking, 6/27/74; Bates & Bailey Survey Maps, 7/14/95 and 11/21/95.

BASELINE

93333-BO 11/30/95

GROUNDWATER ELEVATIONS
FEBRUARY 1996

Figure 3



City of Oakland
Municipal Service Center
Oakland, California

Note: Tabulated groundwater elevation data shown on Table 4.
Source: City of Oakland, MSC Parking, 6/27/74; Bates & Bailey Survey Maps, 7/14/95 and 11/21/95.

BASELINE

93333-BO 3/6/96

TABLE 1

LABORATORY ANALYSES PERFORMED ON GROUNDWATER SAMPLES

Oakland Municipal Service Center

February 1996

Location	TOTAL PETROLEUM HYDROCARBONS					METALS[2]				
	Gasoline (5030/8015)	Diesel (3510/8015)	Kerosene (3510/8015)	Motor Oil (3510/8015)	BTEX[1] (8020)	Cadmium (6010)	Chromium (6010)	Lead (6010)	Nickel (6010)	Zinc (6010)
MW-1	✓	--	--	--	✓	--	--	✓	--	--
MW-2	✓	--	--	--	✓	--	--	✓	--	--
MW-5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
MW-6	✓	✓	--	--	✓	✓	✓	✓	✓	✓
MW-6A[3]	✓	✓	--	--	✓	✓	✓	✓	✓	✓
MW-7	✓	✓	--	--	✓	✓	✓	✓	✓	✓
Trip Blank[4]	✓	--	--	--	✓	--	--	--	--	--

Notes: -- = Not analyzed.
Number shown in parenthesis indicates the EPA method used for analysis.

[1] BTEX = Benzene, toluene, ethylbenzene, and xylenes.
[2] All samples for metals analyses were filtered in the laboratory.
[3] Duplicate sample of MW-6.
[4] Labeled MW-500 on chain-of-custody form.

TABLE 2

METAL CONCENTRATIONS, GROUNDWATER

Oakland Municipal Service Center

(mg/L)

Sample	Date	Cadmium	Chromium	Lead	Nickel	Zinc
MW-1	4/19/95	--	--	<0.01	--	--
	7/27/95	--	--	<0.01	--	--
	11/20/95	--	--	<0.01	--	--
	2/21/96	--	--	<0.01	--	--
MW-2	4/19/95	--	--	**0.10**	--	--
	7/27/95	--	--	**0.07**	--	--
	11/20/95	--	--	<0.01	--	--
	2/21/96	--	--	<0.01	--	--
MW-5	4/19/95	<0.005	<0.01	<0.01	<0.01	**0.02**
	7/27/95	<0.005	<0.01	<0.01	<0.01	<0.01
	11/20/95	<0.005	<0.01	<0.01	<0.01	<0.01
	2/21/96	<0.005	<0.01	<0.01	<0.01	<0.01
MW-6	4/19/95	--	--	**0.41**	--	--
	7/27/95	--	--	<0.01	--	--
	11/20/95	<0.005	<0.01	<0.01	**0.01**	**0.01**
	2/21/96	<0.005	<0.01	<0.01	**0.02**	<0.01
MW-6A	4/19/95	--	--	**0.39**	--	--
	7/27/95	--	--	<0.01	--	--
	11/20/95	<0.005	<0.01	<0.01	**0.02**	<0.01
MW-7	4/19/95	**0.069**	**0.071**	<0.01	**0.08**	**0.04**
	7/27/95	<0.005	<0.01	<0.01	**0.08**	**0.11**
	11/20/95	<0.005	<0.01	<0.01	**0.14**	**0.02**
	2/21/96	<0.005	<0.01	<0.01	**0.24**	**0.06**

Notes: Groundwater samples were filtered by the laboratory prior to analysis.
Analyzed by EPA method 6010.
<x.x = Metal not identified at or above the laboratory reporting limit of x.x.
x.x = Concentrations detected above laboratory reporting limit.
Laboratory report is provided in Attachment B for the most recent sampling event.
Sampling locations are shown on Figure 2.
-- = No analyses performed.
6A = Duplicate sample of MW-6.

TABLE 3

PETROLEUM AND ORGANIC COMPOUND CONCENTRATIONS, GROUNDWATER

Oakland Municipal Service Center

(mg/L)

Sample	Date	TPH as Gasoline[1]	TPH as Kerosene[2]	TPH as Diesel[2]	TPH as Motor Oil[2]	TRPH[3]	Benzene[4]	Toluene[4]	Ethyl-benzene[4]	Xylenes[4]
MW-1	4/19/95	3.2	--	--	--	--	0.88	0.015	0.023	0.021
	7/27/95	0.98	--	--	--	--	0.13	0.0036	0.0014	0.0056
	11/20/95	0.40	--	--	--	--	0.099	0.0028	0.0011	0.0046
	2/21/96	1.7	--	--	--	--	0.34	0.0084	0.0053	0.016
MW-2	4/19/95	<0.05	--	--	--	--	0.0018	<0.0005	<0.0005	<0.0005
	7/27/95	<0.05	--	--	--	--	0.0023	<0.0005	<0.0005	<0.0005
	11/20/95	<0.05	--	--	--	--	0.0022	<0.0005	<0.0005	<0.0005
	2/21/96	<0.05	--	--	--	--	0.0017	<0.0005	<0.0005	<0.0005
MW-5	4/19/95	14	--	0.88[5]	--	4.7	0.49	0.051	0.61	1.2
	7/27/95	22	--	0.59[6]	--	5.0	1.3[7]	0.054[7]	1.5[7]	2.4[7]
	11/20/95	8.9	1.9[8]	<0.05	<0.5	--	0.43	0.031	0.61	0.88
	2/21/96	10	<0.05	0.48[9]	<0.5	--	0.54	0.065	0.7	0.97
MW-6	4/19/95	5.7	--	6.7[5]	--	--	0.04	<0.0008	0.0039	0.029
	7/27/95	6.1	--	3.9	--	--	0.43	0.015	0.2	0.6
	11/20/95[10]	6.8	--	0.85	--	--	0.16	0.0046	0.008	0.24
	2/21/96	2.8	--	1.7[9]	--	--	0.23	0.0028	0.0038	0.044
MW-6A	4/19/95	3.0	--	3.7[5]	--	--	0.31	0.0031	0.0027	0.1
	7/27/95	6.3	--	2.6	--	--	0.42	0.015	0.2	0.6
	11/20/95[10]	3.6	--	0.83	--	--	0.13	0.011	0.0044	0.2
	2/21/96	2.2	--	2.5[9]	--	--	0.28	0.003	0.004	0.046
MW-7	4/19/95	<0.05	--	<0.05	--	<1.0	<0.002	<0.002	<0.002	<0.002
	7/27/95	<0.05	--	<0.05	--	<1.0	<0.002[1]	<0.002[1]	<0.002[1]	<0.002[1]
	11/20/95	<0.05	--	<0.05	--	--	<0.0005	<0.0005	<0.0005	0.0015
	2/21/96	<0.05	--	<0.05	--	--	<0.0005	<0.0005	<0.0005	<0.0005
MW-500	4/19/95	<0.05	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005
	7/27/95	<0.05	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005
	11/20/95	<0.05	--	--	--	--	<0.0005	<0.0005	0.0005	<0.0005
	2/21/96	<0.05	--	--	--	--	<0.0005	<0.0005	<0.0005	<0.0005

Notes: TPH = Total Petroleum Hydrocarbons.
TRPH = Total Recoverable Petroleum Hydrocarbons.
-- = Compound not analyzed.
<x.x = Compound not identified at or above the laboratory reporting limit of x.x
x.x = Concentrations detected at or above laboratory reporting limit.
Laboratory report is provided in Attachment B for the most recent sampling event.
Sampling locations are shown on Figure 2.
MW-500 = Trip blank sample.

1 Analyzed by EPA Method 5030/8015M.
2 Analyzed by EPA Method 3510/8015M.
3 Analyzed by EPA Method 418.1.
4 Analyzed by EPA Method 8020.
5 Laboratory report indicated sample chromatogram did not resemble chromatogram of any of the petroleum standards. Quantification listed in the table was based on the laboratory's diesel standard.
6 Quantification listed in the table represents unknown hydrocarbon identified in the diesel range.
7 This sample was also analyzed for volatile organic compounds using EPA Method 8240. Only BTEX was identified above the reporting limits.
8 Quantification listed in the table represents unknown hydrocarbon identified in the kerosene range.
9 Unknown hydrocarbons in the diesel range did not match any of the laboratory petroleum hydrocarbon standard profiles. Quantification in the table represents unknown hydrocarbons compared with the laboratory diesel standard. The unknown hydrocarbons may represent a combination of gasoline and weathered diesel or biogenic material.
10 Unknown hydrocarbon in the kerosene range was identified by the laboratory.
11 This sample was analyzed for volatile organic compounds using EPA Method 8240. No compounds were identified above the laboratory reporting limits.

TABLE 4
GROUNDWATER ELEVATIONS
Oakland Municipal Service Center
February 1996

Location	Date	Time	Tide	Depth to Water (feet bgs)	Top of Casing Elevation (feet above COD)	Water Surface Elevation (feet above COD)
MW-1	12/21/96	10:25	High	6.29	6.83	0.54
	12/21/96	17:21	Low	6.30		0.53
	2/21/96	8:45	Intermediate[1]	4.62		2.21
MW-2	12/21/96	10:50	High	7.51	7.27	-0.24
	12/21/96	17:20	Low	7.48		-0.21
	2/21/96	8:10	Intermediate[1]	6.68		0.59
MW-3	12/21/96	10:40	High	4.48	3.94	-0.54
	12/21/96	17:38	Low	4.62		-0.68
	2/21/96[2]	--	--	--		--
MW-4	12/21/96	10:32	High	4.26	4.64	0.38
	12/21/96	17:32	Low	4.21		0.43
	2/21/96	8:08	Intermediate[1]	0.31[3]		4.33
MW-5	12/21/96	10:35	High	6.53	8.15	1.62
	12/21/96	17:26	Low	6.53		1.62
	2/21/96	8:31	Intermediate[1]	5.97		2.18
MW-6	12/21/96	10:40	High	7.88	7.93	0.05
	12/21/96	17:36	Low	7.84		0.09
	2/21/96	13:30	Intermediate[5]	7.40[4]		0.53
MW-7	12/21/96	10:50	High	6.94	8.48	1.54
	12/21/96	17:33	Low	6.90		1.58
	2/21/96	8:29	Intermediate[1]	6.29		2.19

Notes: bgs = below ground surface
COD = City of Oakland Datum.
Water levels were surveyed on 21 December 1995.
Monitoring wells were surveyed by Bates & Bailey.

[1] Water levels collected between 30 minutes to one hour after low tide.
[2] Unable to collect water level reading because well box cover and vicinity were inundated with approximately four inches of surface water.
[3] Monitoring well cap was loose.
[4] Water level reflects second water level reading. The water level was steadily rising during the collection of the initial water level reading at 8:50 a.m. A water level depth of 7.62 feet bgs was measured at 8:50.
[5] Water level collected about 30 minutes before high tide.

ATTACHMENT A

GROUNDWATER SAMPLING FORMS

GROUNDWATER SAMPLING

Project no.: 9393-10 | Well no.: MW-2 | Date: 2-21-96

Project name: WWC-Oakland MSC | Depth of well from TOC (feet): 15.8

Location: 7101 Edgewater Oakland, CA | Well diameter (inch): 2

Screened interval from TOC (feet): 6 - 15.8

Recorded by: WTS | TOC elevation (feet): 6.83 (City of Oakland Datum)

Weather: Rain | Water level from TOC (feet): 4.62 Time: 8:45

Precip in past 5 days (inch): 2.31" | Product level from TOC (feet): none Time: 8:45

Water level measurement device: Dual interface Probe

VOLUME OF WATER TO BE REMOVED BEFORE SAMPLING:

[(15.8 ft) - (11.6 ft)] × (0.083 ft)² × 3.14 × 7.48 = 1.9 gallons in one well volume

Well depth — Water level — Well radius

1.9 gallons in 5 well volumes

6.5 total gallons removed

CALIBRATION:

	Time	Temp (°C)	pH	EC (µmho/cm)
Calibration Standard:	9:10	—	7.00	1,000
Before Purging:	9:12	11.8	7.00	900
After Purging:	14:20	12.3	6.89	900

FIELD MEASUREMENTS:

Time	Temp (°C)	pH	EC (µmho/cm)	Cumulative Gallons Removed	Appearance
10:25	17.1	7.21	9000	1	clear
10:35	16.9	7.30	8,500	2.5	clear
10:45	16.9	7.20	8,500	4.5	clear
10:55	16.9	7.22	8,500	6.5	clear

Water level ~~after purging prior to~~ Before/after sampling (feet): 4.76 / 4.97 Time: 11:00

Appearance of sample: clear Time: 11:00

Duplicate/blank number: none Time: —

Purge method: Double diaphram pump

Sampling equipment: Disposable PVC bailer VOC attachment: used for VOA

Sample containers: 2 - 40ml VOA's, one liter plastic bottle

Sample analyses: TPH as gasoline, BTXE, lead Laboratory: Chromalab

Decontamination method: TSP and water, DI water rinse Rinsate disposal: Drum on site

(3/31/93)

GROUNDWATER SAMPLING

Project no.: 93273-10 | Well no.: MW-2 | Date: 2-21-96

Project name: WWC-Oakland MSC | Depth of well from TOC (feet): 15.7

Location: 7101 Edgewater, Oakland, CA | Well diameter (inch): 2

Screened interval from TOC (feet): 6-15.7

Recorded by: WTS | TOC elevation (feet): 9.27 (City of Oakland Datum)

Weather: Rain | Water level from TOC (feet): 6.68 Time: 8:10

Precip in past 5 days (inch): 5.3" | Product level from TOC (feet): none Time: 8:10

Water level measurement device: Dual interface probe

VOLUME OF WATER TO BE REMOVED BEFORE SAMPLING:

[(~~15.70~~ ft) - (~~6.68~~ ft)] × (0.083 ft)² × 3.14 × 7.48 =

Well depth Water level Well radius

15 gallons in one well volume

75 gallons in 5 well volumes

75 total gallons removed

CALIBRATION:

	Time	Temp (° C)	pH	EC (µmho/cm)
Calibration Standard:	9:10	—	7.00	1,000
Before Purging:	9:12	11.8	7.00	900
After Purging:	14:20	12.3	6.89	900

FIELD MEASUREMENTS:

Time	Temp (° C)	pH	EC (µmho/cm)	Cumulative Gallons Removed	Appearance
9:40	12.3	6.34	16,000	1.5	Slightly Turbid
9:46	12.2	6.56	20,000	3.0	
9:52	12.0	6.87	20,000	4.5	Slightly Turbid
10:10	12.0	6.90	20,000	7.5	Very Slightly Turbid
					Very Slightly Turbid

Water level ~~after purging prior to~~ Before/after sampling (feet): 6.75/6.98 Time: 10:15

Appearance of sample: Very Slightly Turbid Time: 10:15

Duplicate/blank number: none Time: —

Purge method: Bailer

Sampling equipment: Disposable PVC bailer VOC attachment: used for Voc

Sample containers: 2-40ml VOAs; One one liter plastic bottle

Sample analyses: TPH as Gasoline; BTEX, lead Laboratory: Chromalabs

Decontamination method: TSP and water, DI water rinse Rinsate disposal: Drum on site

(3/31/93)

GROUNDWATER SAMPLING

Project no.:	92273-10	Well no.:	MW-5 Date: 2-21-96
Project name:	WWC-Oakland MSC	Depth of well from TOC (feet):	14.30
Location:	7101 Edgewater OAKLAND, CA	Well diameter (inch):	2
		Screened interval from TOC (feet):	4-14.30
Recorded by:	WTS	TOC elevation (feet):	9.15 (City of Oakland Datum
Weather:	Rain	Water level from TOC (feet):	5.97 Time: 8:31
Precip in past 5 days (inch):	2.3"	Product level from TOC (feet):	none Time: 8:31
		Water level measurement device:	Dual interface probe

VOLUME OF WATER TO BE REMOVED BEFORE SAMPLING:

[(14.30 ft) - (5.97 ft)] × (0.083 ft)² × 3.14 × 7.48 =
Well depth Water level Well radius

1.2 gallons in one well volume
7.0 gallons in 5 well volumes
7.1 total gallons removed

CALIBRATION:

	Time	Temp (° C)	pH	EC (umho/cm)
Calibration Standard:	9:10	—	7.00	1,000
Before Purging:	9:12	11.8	7.00	900
After Purging:	14:20	12.3	6.89	900

FIELD MEASUREMENTS:

Time	Temp (° C)	pH	EC (umho/cm)	Cumulative Gallons Removed	Appearance
9:40	17.3	6.34	18,000	1.5	Slightly Turbid
9:46	13.8	6.56	20,000	3.0	Slightly Turbid
9:52	18.0	6.87	20,000	4.5	Very Slightly Turbid
10:10	18.0	6.90	20,000	>5	Very Slightly Turbid

NOTE: 6ppm Hnu reading in well.

Water level ~~after purging prior to~~ sampling (feet): Before/after 5.97/6.21 Time: 12:55
Appearance of sample: clear Time: 13:10
Duplicate/blank number: none Time: —
Purge method: Double diaphragm pump
Sampling equipment: Disposable PVC bailer VOC attachment: used for VOC
Sample containers: 2-40ml vials 3-one liter amber glass 1-one liter plastic
Sample analyses: TEH, TPHgasoline, BTEX, Cd, Cr, Pb, Ni, Zn Laboratory: Chromalab
Decontamination method: TSP and water, DI water rinse Rinsate disposal: Drum on site

(3/31/93)

GROUNDWATER SAMPLING

Project no.: 93393-20
Project name: WWC-Oakland MSC
Location: 7101 Edgewater
OAKLAND, CA
Recorded by: WKS
Weather: Rain
Precip in past 5 days (inch): ~3"

Well no.: MW-6
Date: 2-21-96
Depth of well from TOC (feet): 14.27
Well diameter (inch): 2
Screened interval from TOC (feet): 4-14.27
TOC elevation (feet): 7.93 (City of Oakland Datum)
Water level from TOC (feet): 7.40 Time: 13:30
Product level from TOC (feet): none Time: 13:30
Water level measurement device: Dual Interface probe

VOLUME OF WATER TO BE REMOVED BEFORE SAMPLING:

[(~~0.00~~ 14.27 ft) - (~~0.00~~ 7.38 ft)] × (0.083 ft)² × 3.14 × 7.48 =

Well depth Water level Well radius

1.1 gallons in one well volume
5.6 gallons in 5 well volumes
6 total gallons removed

CALIBRATION:

	Time	Temp (° C)	pH	EC (µmho/cm)
Calibration Standard:	9:10	–	7.00	1,000
Before Purging:	9:12	11.8	7.00	900
After Purging:	14:20	12.3	6.89	900

FIELD MEASUREMENTS:

Time	Temp (° C)	pH	EC (µmho/cm)	Cumulative Gallons Removed	Appearance
13:35	17.4	7.82	4,100	2	clear Petroleum odor
13:45	18.0	7.90	4,100	4	clear "
13:55	18.4	7.90	4,100	6	clear "

Note: Product reading close on dual interface probe & controller. 30 ppm then reading [illegible]

Water level ~~after purging prior to~~ Before/after sampling (feet): 7.42/7.53 Time: 14:10
Appearance of sample: clear Time: 14:15
Duplicate/blank number: MW-6a Time: 14:20
Purge method: double diaphragm pump
Sampling equipment: Disposable PVC bailer VOC attachment: used for VOC
Sample containers: 2 40ml VOA 2 one liter Amber glass, 2 one liter plastic
Sample analyses: TPH diesel, TPHgas, BTEX, Cd, Cr, Pb, Ni, Zn Laboratory: Chromalab
Decontamination method: TSP and water, DI water rinse Rinsate disposal: Drum on site

(3/31/93)

BASELINE · 5900 Hollis Street, Suite D · Emeryville, CA 94608 · (510) 420-8686 · Fax (510) 420-1707

GROUNDWATER SAMPLING

Project no.: 93333-BU
Project name: WWC-Oakland MSC
Location: 7101 Edgewater OAKLAND, CA
Recorded by: WKS
Weather: Rain
Precip in past 5 days (inch): ≈ 3"

Well no.: MW-7
Date: 2-21-96
Depth of well from TOC (feet): 14.3
Well diameter (inch): 2
Screened interval from TOC (feet): 4-14.3
TOC elevation (feet): 8.48 (City of Oakland Datum)
Water level from TOC (feet): 6.29 Time: 8:29
Product level from TOC (feet): none Time: 8:29
Water level measurement device: [illegible]

VOLUME OF WATER TO BE REMOVED BEFORE SAMPLING:

[(14.3 ft) - (6.29 ft)] × (0.083 ft)^2 × 3.14 × 7.48 =
Well depth Water level Well radius

1.3 gallons in one well volume
6.5 gallons in 5 well volumes
7.0 total gallons removed

CALIBRATION:

	Time	Temp (° C)	pH	EC (umho/cm)
Calibration Standard:	9:10	—	7.0	1,000
Before Purging:	9:12	11.8	7.0	900
After Purging:	14:20	12.3	6.87	900

FIELD MEASUREMENTS:

Time	Temp (° C)	pH	EC (umho/cm)	Cumulative Gallons Removed	Appearance
11:19	17.2	6.59	9,000	2.5	Clean
11:27	17.3	6.46	13,000	4.0	Clean
11:37	17.8	6.48	11,000	6.0	clean
11:40	17.9	6.47	11,000	7.0	clean

Note: [illegible]

Water level ~~after purging prior to~~ Before/after sampling (feet): 6.49/6.74 Time: 11:45
Appearance of sample: clean Time: 11:[illegible]
Duplicate/blank number: none Time:
Purge method: double diaphragm pump
Sampling equipment: Disposable PVC bailer
VOC attachment: used for VOC
Sample containers: 2-40ml VOAs, 2 [illegible] liter Amber glass, 2-[illegible] liter plastic
Sample analyses: TPH as diesel, TPH as gasoline, BTEX, Cd, Cr, Pb, [illegible]
Laboratory: Chromalabs
Decontamination method: TSP and water, DI water rinse
Rinsate disposal: Drum on site

(3/31/93)

ATTACHMENT B

LABORATORY REPORTS

CHROMALAB, INC.

Environmental Services (SDB)

February 28, 1996 *Submission #:* 9602159

BASELINE ENVIRONMENTAL/EMRYVL

Atten: Rhodora Del Rosario

Project: MSC 7101 EDGEWATER *Project#:* 93333-BO
Received: February 21, 1996

re: 7 samples for Gasoline and BTEX analysis.
Method: EPA 5030/8015M/602/8020

Sampled: February 21, 1996 *Matrix:* WATER
Run: 10508-2 *Analyzed:* February 26, 1996

Spl #	Sample ID	Gasoline (mg/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
118651	MW-2	N.D.	1.7	N.D.	N.D.	N.D.
118652	MW-5	10	540	65	700	970
	For above sample:	*Reporting limit : BTEX = 50 ug/l & gasoline = 5 mg/l.*				
118653	MW-6	2.8	230	2.8	3.8	44
	For above sample:	*Benzene reporting limit = 5 ug/l.*				

Sampled: February 21, 1996 *Matrix:* WATER
Run: 10508-2 *Analyzed:* February 27, 1996

Spl #	Sample ID	Gasoline (mg/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
118650	MW-1	1.7	340	8.4	5.3	16
	For above sample:	*Reporting limit : BTEX = 5 ug/l & gasoline = 0.5 mg/l.*				
118654	MW-7	N.D.	N.D.	N.D.	N.D.	N.D.
118655	MW-6A	2.2	280	3.0	4.0	46
	For above sample:	*Benzene reporting limit = 5 ug/l.*				
118656	MW-500	N.D.	N.D.	N.D.	N.D.	N.D.
	Reporting Limits	0.05	0.5	0.5	0.5	0.5
	Blank Result	N.D.	N.D.	N.D.	N.D.	N.D.
	Blank Spike Result (%)	107	124	121	124	100

Billy Thach
Chemist

Marianne Alexander
Gas/BTEX Supervisor

CHROMALAB, INC.

Environmental Services (SDB)

February 28, 1996 *Submission #:* 9602159

BASELINE ENVIRONMENTAL/EMRYVL

Atten: Rhodora Del Rosario
Project: MSC 7101 EDGEWATER *Project#:* 93333-BO
Received: February 21, 1996
re: 1 sample for Total Extractable Petroleum Hydrocarbons (TEPH) analysis.
Method: EPA 3510/8015M
Sampled: February 21, 1996 *Matrix:* WATER *Extracted:* February 22, 1996
Run: 10465-D *Analyzed:* February 26, 1996

Spl #	Sample ID	Kerosene (ug/L)	Diesel (ug/L)	Motor Oil (ug/L)
118652	MW-5	N.D.	N.D.	N.D.
	For above sample:	*Hydrocarbons in the Diesel range do not match any of our petroleum hydrocarbon standard profiles. Compared to our Diesel standard, amount is 480 ug/L.*		
Reporting Limits		50	50	500
Blank Result		N.D.	N.D.	N.D.
Blank Spike Result (%)		--	78	--

Dennis Mayugba
Chemist

Alex Tam
Semivolatiles Supervisor

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

February 28, 1996 *Submission #:* 9602159

BASELINE ENVIRONMENTAL/EMRYVL

Atten: Rhodora Del Rosario

Project: MSC 7101 EDGEWATER *Project#:* 93333-BO
Received: February 21, 1996

re: 3 samples for Diesel analysis.
Method: EPA 3510/8015M

Sampled: February 21, 1996 *Matrix:* WATER *Extracted:* February 22, 1996
Run: 10465-D *Analyzed:* February 23, 1996

Spl #	Sample ID	DIESEL (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
118653	MW-6	N.D.	50	N.D.	78
	For above sample:	*Hydrocarbons in the Diesel range do not match any of our petroleum hydrocarbon standard profiles. Compared to our Diesel standard, amount is 1700 ug/L.*			
118654	MW-7	N.D.	50	N.D.	78
118655	MW-6A	N.D.	50	N.D.	78
	For above sample:	*Hydrocarbons in the Diesel range do not match any of our petroleum hydrocarbon standard profiles. Compared to our Diesel standard, amount is 2500 ug/L.*			

Dennis Mayugba
Chemist

Alex Tam
Semivolatiles Supervisor

93333-BO
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CHROMALAB, INC.

Environmental Services (SDB)

February 27, 1996 *Submission #:* 9602159

BASELINE ENVIRONMENTAL/EMRYVL

Atten: Rhodora Del Rosario

Project: MSC 7101 EDGEWATER *Project#:* 93333-BO
Received: February 21, 1996

re: One sample for Soluble Metals analysis.
Method: EPA 3005A M/6010

SampleID: **MW-1**
Sample #: 118650 *Matrix:* WATER *Extracted:* February 23, 1996
Sampled: February 21, 1996 *Run:* 10477-C *Analyzed:* February 26, 1996

Analyte	RESULT (mg/L)	REPORTING LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE RESULT (%)
LEAD	N.D.	0.01	N.D.	108

Charles Woolley
Chemist

John S. Labash
Inorganic Supervisor

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MAR 7 1996
BASELINE

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Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

February 27, 1996 *Submission #:* 9602159

BASELINE ENVIRONMENTAL/EMRYVL

Atten: Rhodora Del Rosario

Project: MSC 7101 EDGEWATER *Project#:* 93333-BO
Received: February 21, 1996

re: One sample for Soluble Metals analysis.
Method: EPA 3005A M/6010

SampleID: **MW-2**
Sample #: 118651 *Matrix:* WATER *Extracted:* February 23, 1996
Sampled: February 21, 1996 *Run:* 10477-C *Analyzed:* February 26, 1996

Analyte	RESULT (mg/L)	REPORTING LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE RESULT (%)
LEAD	N.D.	0.01	N.D.	108

Charles Woolley
Chemist

John S. Labash
Inorganic Supervisor

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CHROMALAB, INC.

Environmental Services (SDB)

February 27, 1996 *Submission #:* 9602159

BASELINE ENVIRONMENTAL/EMRYVL

Atten: Rhodora Del Rosario

Project: MSC 7101 EDGEWATER *Project#:* 93333-BO
Received: February 21, 1996

re: One sample for Soluble Metals analysis.
Method: EPA 3005A M/6010

SampleID: **MW-5**
Sample #: 118652 *Matrix:* WATER *Extracted:* February 23, 1996
Sampled: February 21, 1996 *Run:* 10477-C *Analyzed:* February 26, 1996

Analyte	RESULT (mg/L)	REPORTING LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE RESULT (%)
CADMIUM	N.D.	0.005	N.D.	107
CHROMIUM	N.D.	0.01	N.D.	107
LEAD	N.D.	0.01	N.D.	108
NICKEL	N.D.	0.01	N.D.	106
ZINC	N.D.	0.01	N.D.	108

Charles Woolley
Chemist

John S. Labash
Inorganic Supervisor

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Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

February 27, 1996 *Submission #:* 9602159

BASELINE ENVIRONMENTAL/EMRYVL

Atten: Rhodora Del Rosario

Project: MSC 7101 EDGEWATER *Project#:* 93333-BO
Received: February 21, 1996

re: One sample for Soluble Metals analysis.
Method: EPA 3005A M/6010

SampleID: **MW-6**
Sample #: 118653 *Matrix:* WATER *Extracted:* February 23, 1996
Sampled: February 21, 1996 *Run:* 10477-C *Analyzed:* February 26, 1996

Analyte	RESULT (mg/L)	REPORTING LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE RESULT (%)
CADMIUM	N.D.	0.005	N.D.	107
CHROMIUM	N.D.	0.01	N.D.	107
LEAD	N.D.	0.01	N.D.	108
NICKEL	0.02	0.01	N.D.	106
ZINC	N.D.	0.01	N.D.	108

Charles Woolley
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John S. Labash
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CHROMALAB, INC.

Environmental Services (SDB)

February 27, 1996 *Submission #:* 9602159

BASELINE ENVIRONMENTAL/EMRYVL

Atten: Rhodora Del Rosario

Project: MSC 7101 EDGEWATER *Project#:* 93333-BO
Received: February 21, 1996

re: One sample for Soluble Metals analysis.
Method: EPA 3005A M/6010

SampleID: **MW-6A**
Sample #: 118655 *Matrix:* WATER *Extracted:* February 23, 1996
Sampled: February 21, 1996 *Run:* 10477-C *Analyzed:* February 26, 1996

Analyte	RESULT (mg/L)	REPORTING LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE RESULT (%)
CADMIUM	N.D.	0.005	N.D.	107
CHROMIUM	N.D.	0.01	N.D.	107
LEAD	N.D.	0.01	N.D.	108
NICKEL	0.02	0.01	N.D.	106
ZINC	N.D.	0.01	N.D.	108

Charles Woolley
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John S. Labash
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CHROMALAB, INC.

Environmental Services (SDB)

February 27, 1996 *Submission #:* 9602159

BASELINE ENVIRONMENTAL/EMRYVL

Atten: Rhodora Del Rosario

Project: MSC 7101 EDGEWATER *Project#:* 93333-BO
Received: February 21, 1996

re: One sample for Soluble Metals analysis.
Method: EPA 3005A M/6010

SampleID: **MW-7**
Sample #: 118654 *Matrix:* WATER *Extracted:* February 23, 1996
Sampled: February 21, 1996 *Run:* 10477-C *Analyzed:* February 26, 1996

Analyte	RESULT (mg/L)	REPORTING LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE RESULT (%)
CADMIUM	N.D.	0.005	N.D.	107
CHROMIUM	N.D.	0.01	N.D.	107
LEAD	N.D.	0.01	N.D.	108
NICKEL	0.24	0.01	N.D.	106
ZINC	0.06	0.01	N.D.	108

Charles Woolley
Chemist

John S. Labash
Inorganic Supervisor

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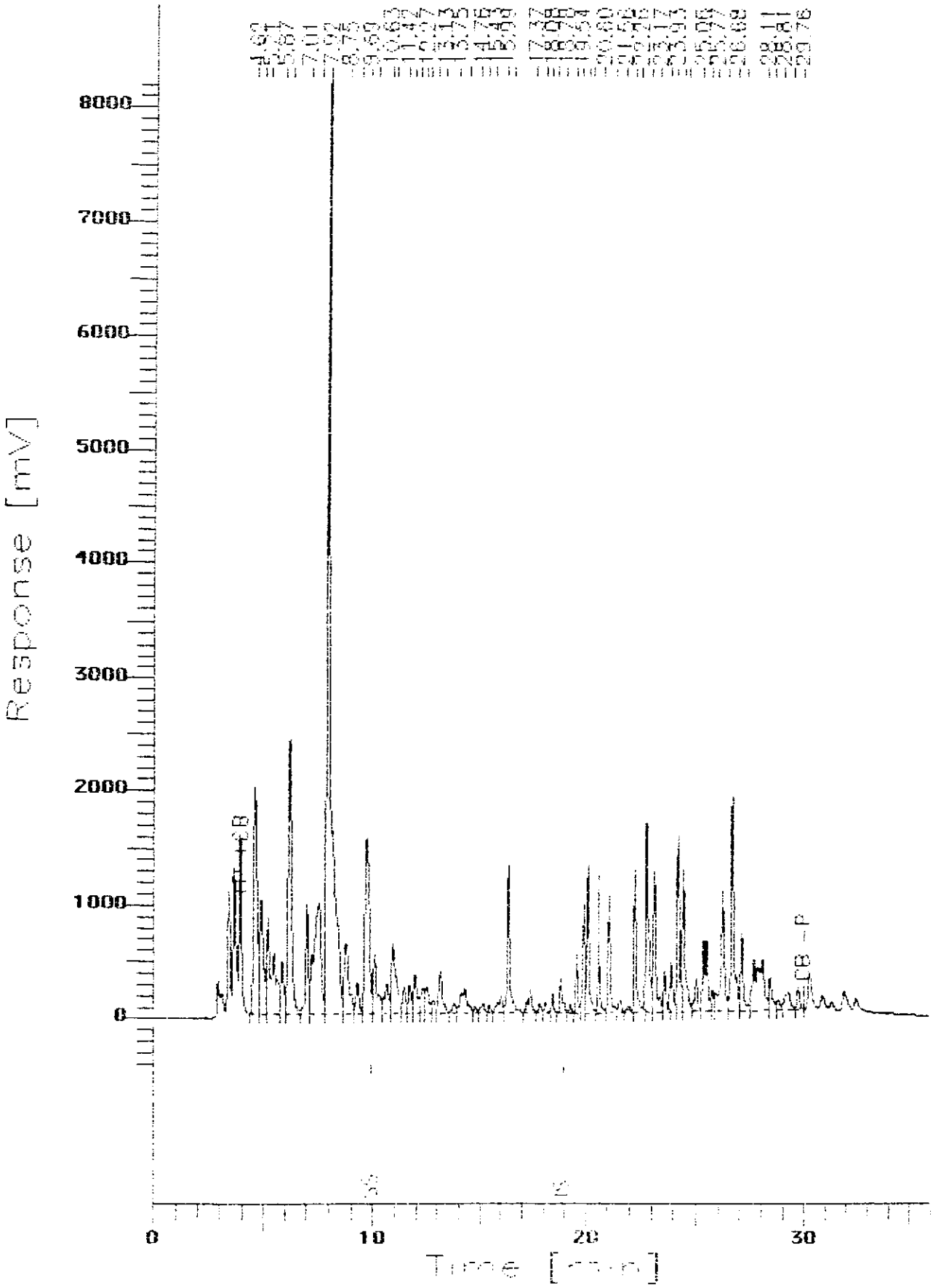
Federal ID #68-0140157

Gasoline Chromatogram

Sample Name : 960215S/MU-6
FileName : d:\3400-2\2g22621.raw
Method : 2BTEX06A.ins
Start Time : 0.00 min End Time : 36.00 min
Scale Factor: 1 Plot Offset: -404 mV

Sample #: 119653 Page 1 of 1
Date : 2/27/96 12:04 AM
Time of Injection: 2/26/96 11:28 PM
Low Point : -403.53 mV High Point : 8270.52 mV
Plot Scale: 8674 mV

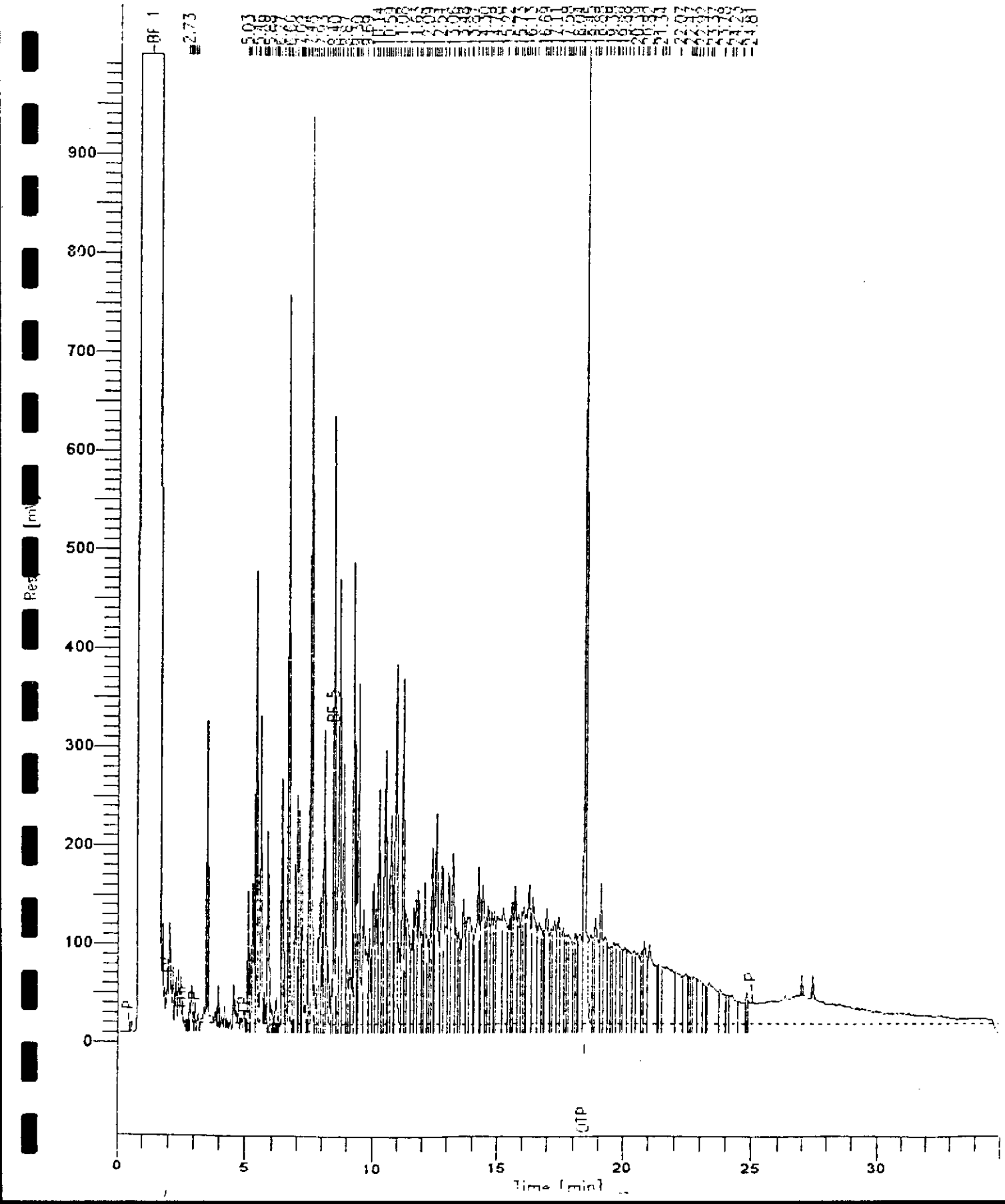


diesel analysis

mple Name : 2159/MW-6A
leName : D:\6500DIES\T222019.raw
Method : TDIESELB
Start Time : 0.00 min
ale Factor: 0.0

End Time : 35.00 min
Plot Offset: 0 mV

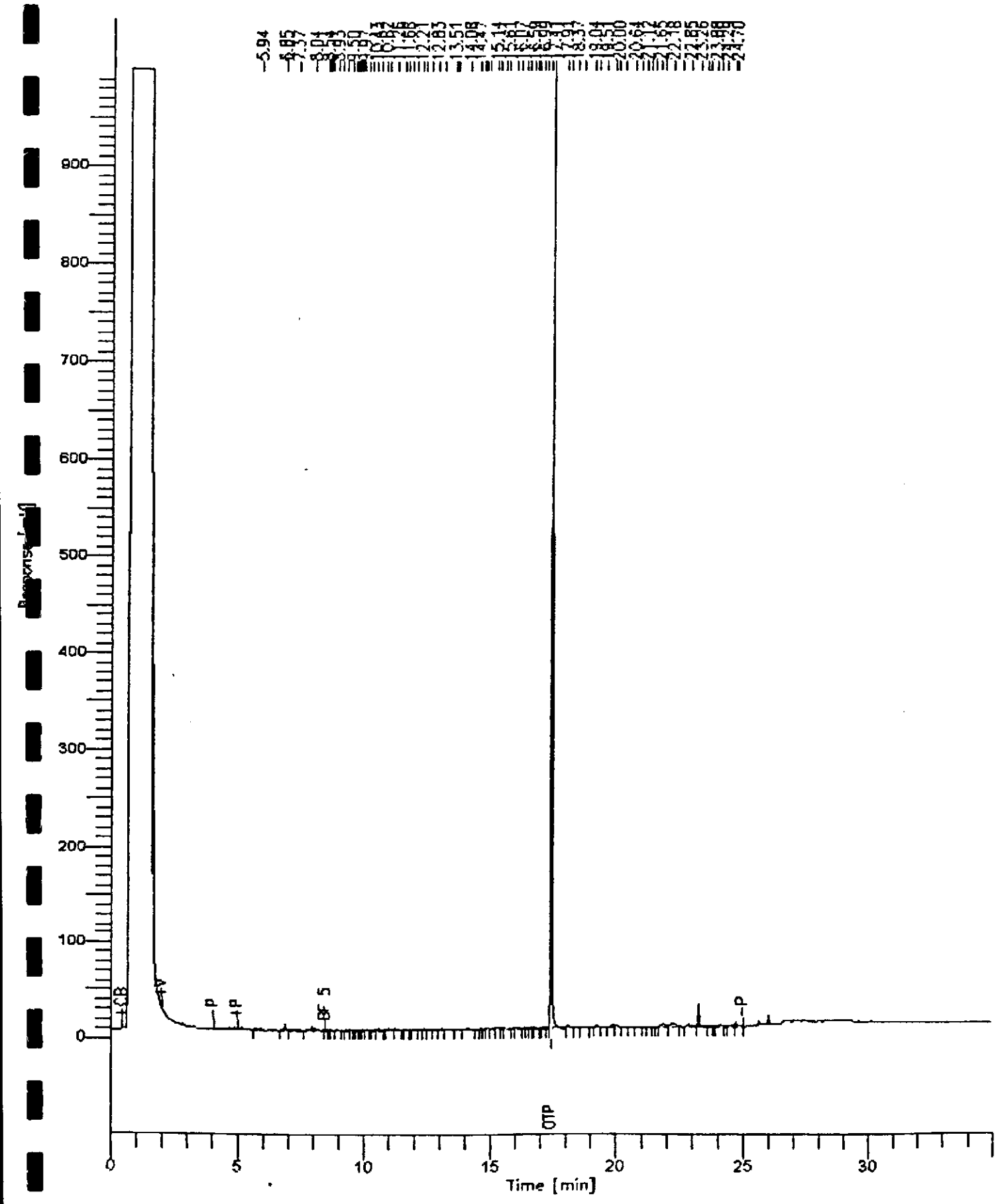
Sample #: 118655
Date : 2/23/96 08:47
Time of Injection: 2/23/96 08:11
Low Point : 0.00 mV
Plot Scale: 1000.0 mV



diesel analysis

Sample Name : 3159/MW-7
[redacted]eName : D:\[redacted]\G222045.raw
[redacted]thod : 8DIESEL8
[redacted]art Time : 0.00 min End Time : 35.00 min Low Point : 0.00 mV High Point : 1000.00 mV
Scale Factor: 0.0 Plot Offset: 0 mV Plot Scale: 1000.0 mV

Sample #: 118654 Page 1 of 1
Date : 2/27/96 12:56
Time of Injection: 2/23/96 17:37



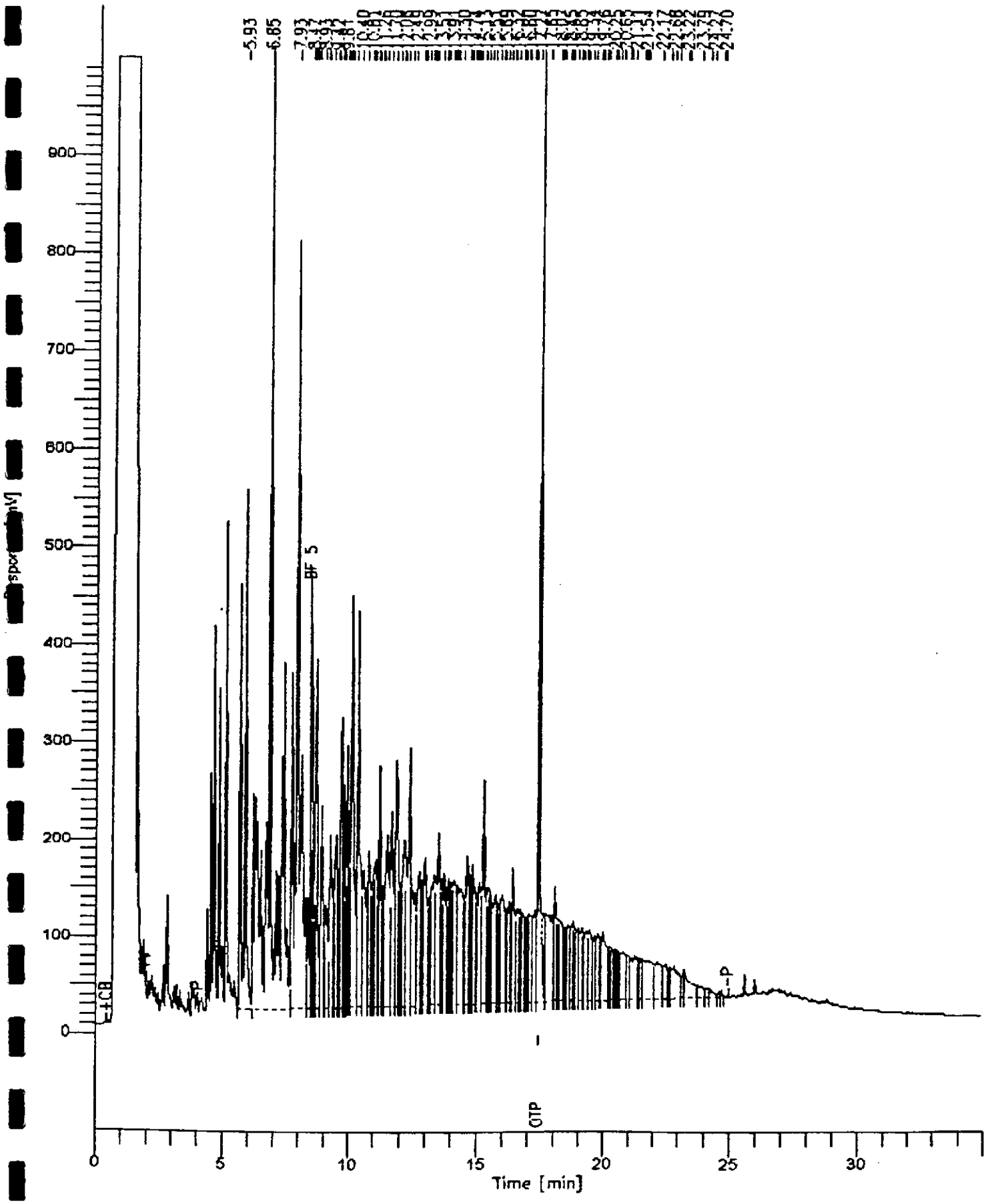
diesel analysis

Sample Name : 2159/MS-6
FileName : D:\[illegible]\s222044.raw
Method : 6DIESELB
Start Time : 0.00 min
Scale Factor: 0.0

End Time : 35.00 min
Plot Offset: 0 mV

Sample #: 118653
Date : 2/27/96 12:56
Time of Injection: 2/23/96 16:33
Low Point : 0.00 mV
Plot Scale: 1000.0 mV

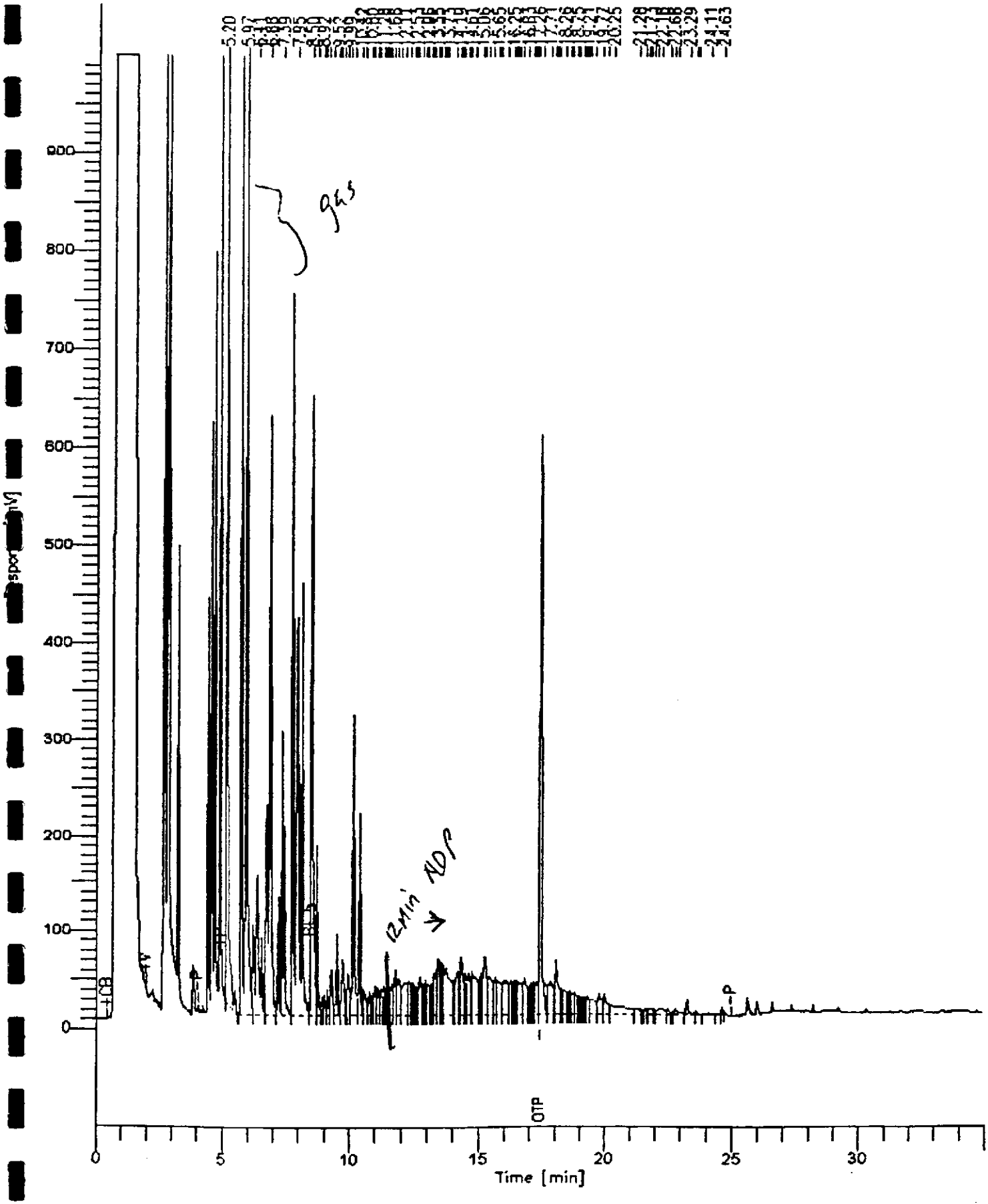
High Point : 1000.00 mV



diesel analysis

Sample Name : 2159/MW-5
FileName : D:\ELITE60\G226008.raw
Method : GOLESELB
Start Time : 0.00 min End Time : 35.00 min
Scale Factor: 0.0 Plot Offset: 0 mV

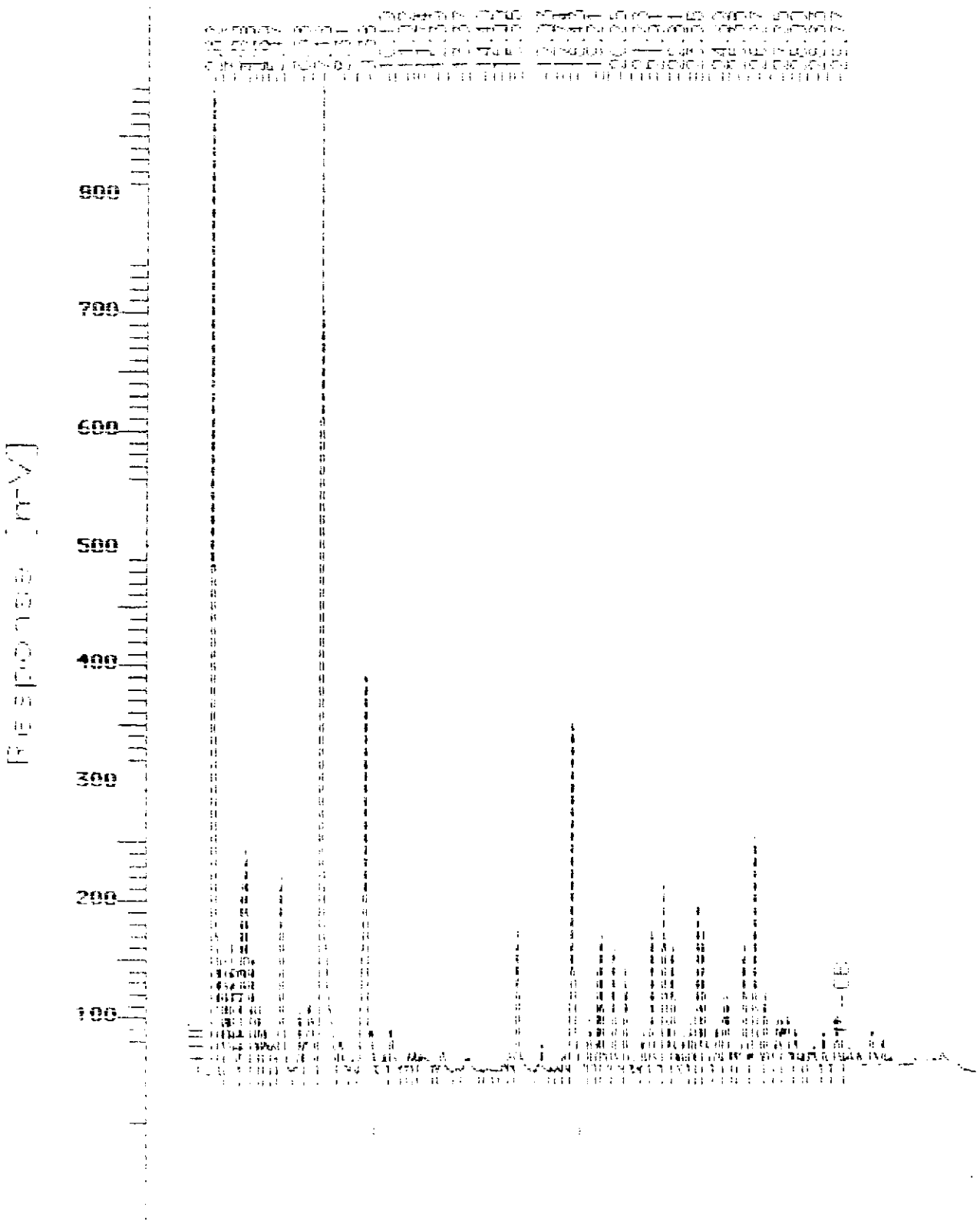
Sample #: 118632 Page 1 of 1
Date : 2/26/96 14:55
Time of Injection: 2/26/96 14:20
Low Point : 0.00 mV High Point : 1000.00 mV
Plot Scale: 1000.0 mV



Gasoline Chromatogram

Sample Name : 9602150/MW-6R
FileName : d:\3400-4\4022709.raw
Method : 4BTEX050.ins
Start Time : 0.00 min End Time : 36.00 min
Scale Factor: 1 Plot Offset: 0 nV

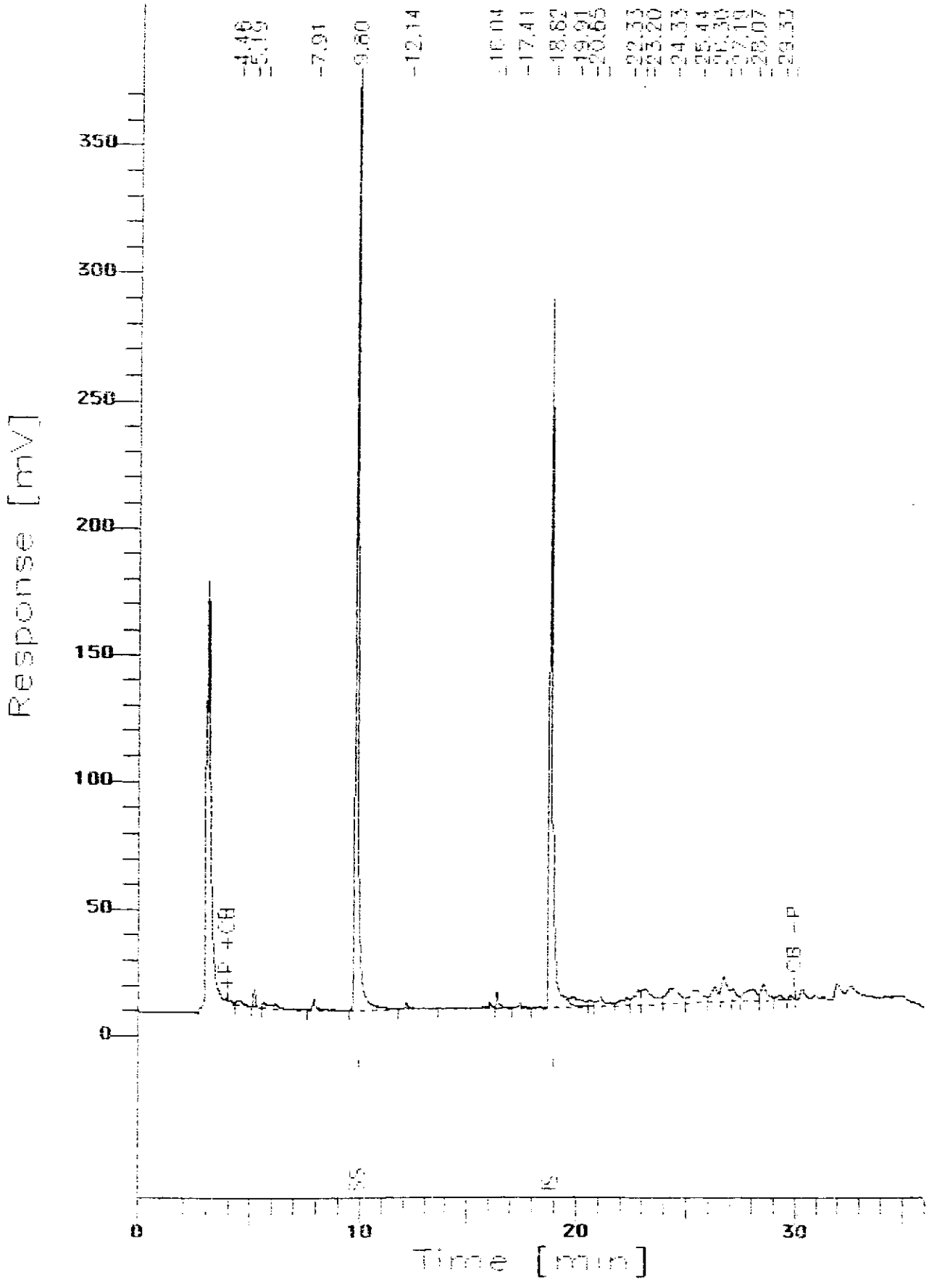
Sample #: 110655 Page 1 of 1
Date : 2/27/96 01:31 PM
Time of Injection: 2/27/96 12:54 PM
Low Point : 7.79 nV High Point : 895.71 nV
Plot Scale: 888 nV



Gasoline Chromatogram

Sample Name : 9602159/QC-7
FileName : d:\3400-2\2g22622.raw
Method : ZB1E2068.ins
Start Time : 0.00 min End Time : 36.00 min
Scale Factor: 1 Plot Offset: -9 mV

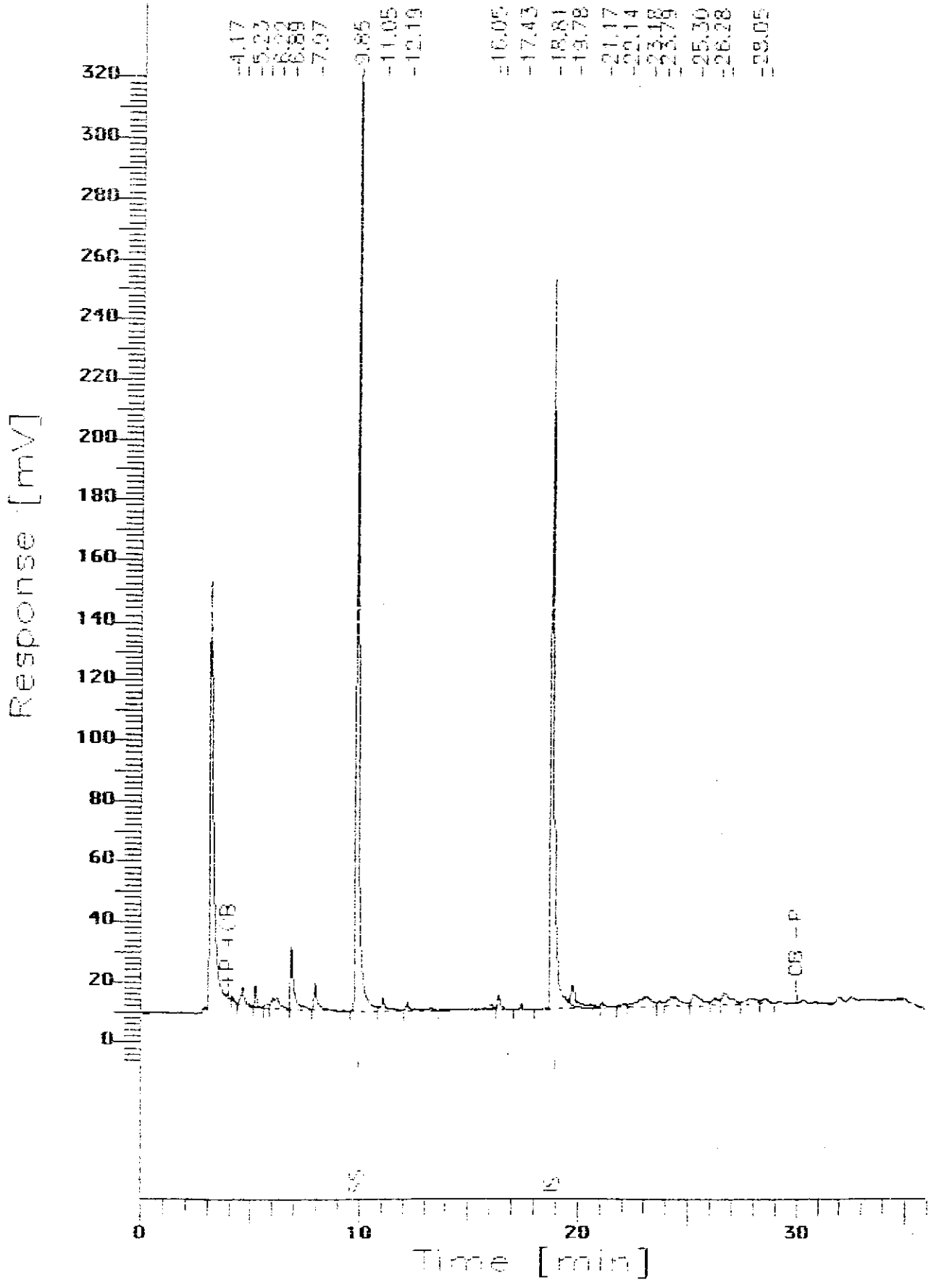
Sample # : 110654 Page 1 of 1
Date : 2/27/96 08:16 AM
Time of Injection: 2/27/96 12:08 PM
Low Point : -9.26 mV High Point : 377.51 mV
Plot Scale: 387 mV



Gasoline Chromatogram

Sample Name : 9602159/MU-500
FileName : d:\3400-2\2g22623.raw
Method : 291EX060.ins
Start Time : 0.00 min End Time : 36.00 min
Scale Factor: 1 Plot Offset: -6 mV

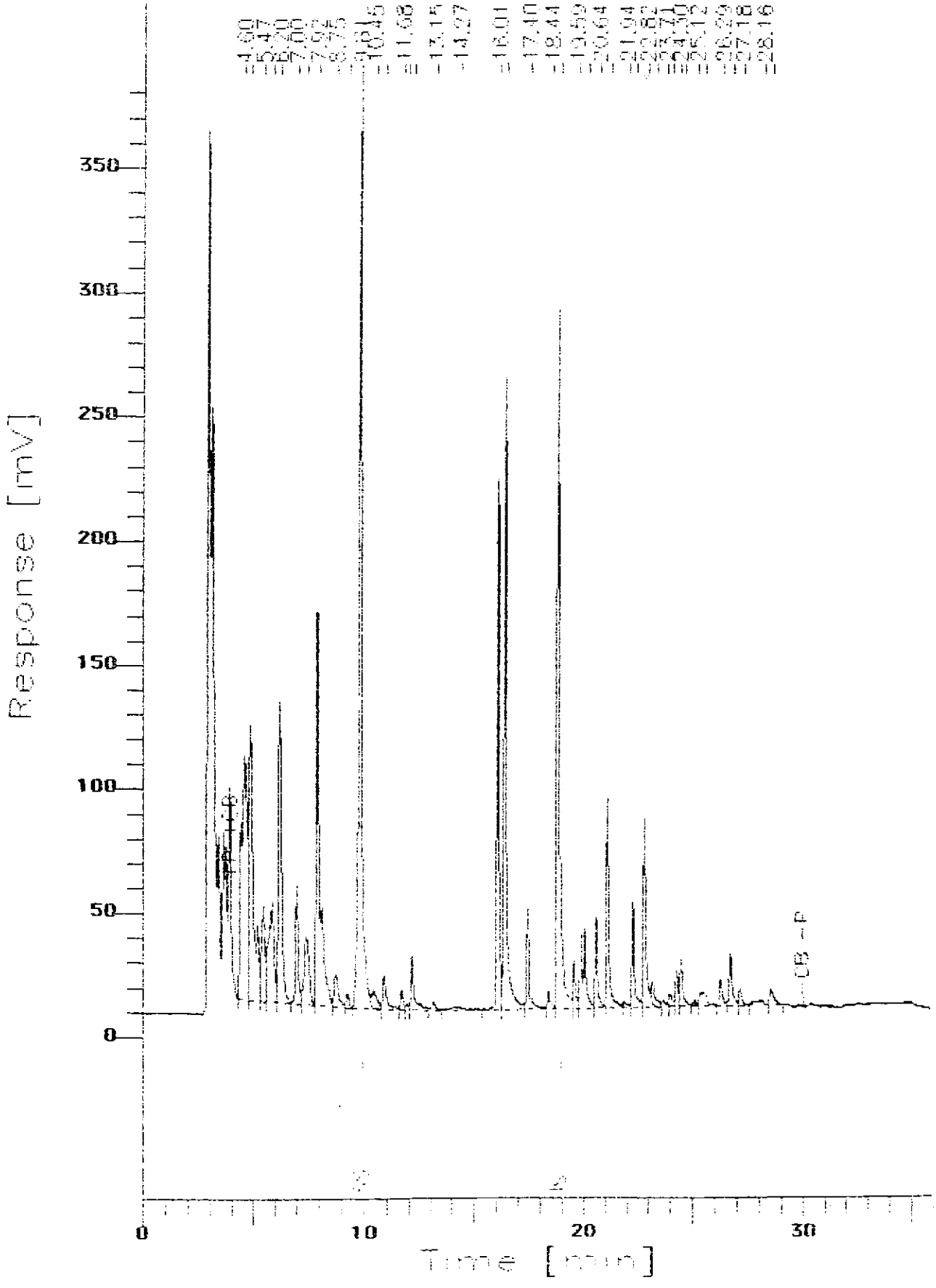
Sample #: 110656 Page 1 of 1
Date : 2/27/96 08:10 AM
Time of Injection: 2/27/96 12:19 PM
Low Point : -6.09 mV High Point : 320.67 mV
Plot Scale: 327 mV



Gasoline Chromatogram

Sample Name : 9602159/MW-5
FileName : d:\3400-2\2g22620.raw
Method : ZBTEX06R.ins
Start Time : 0.00 min End Time : 36.00 min
Scale Factor: 1 Plot Offset: -9 mV

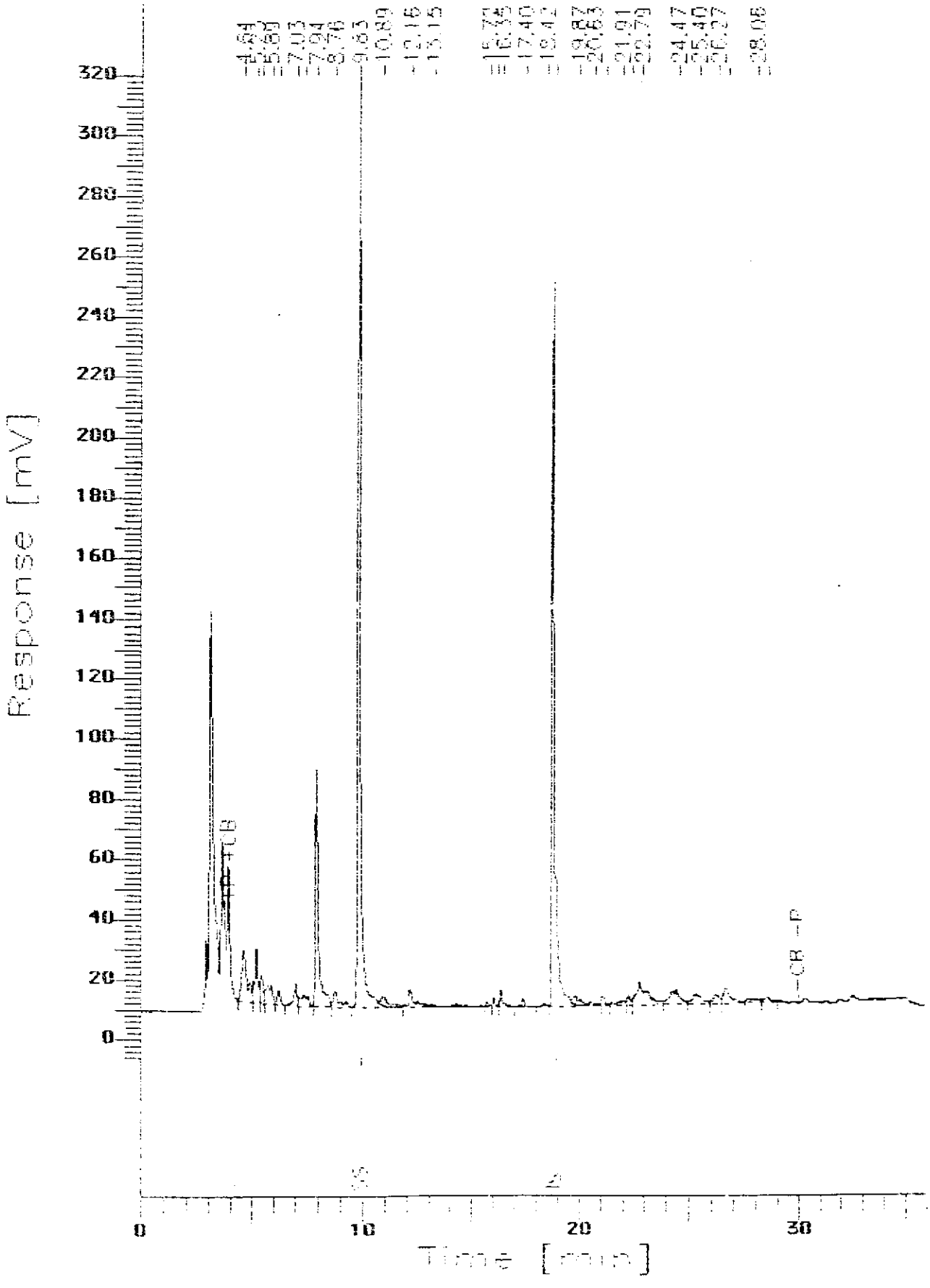
Sample #: 118652 Page 1 of 1
Date : 2/26/96 11:24 PM
Time of Injection: 2/26/96 10:10 PM
Low Point : -9.41 mV High Point : 387.84 mV
Plot Scale: 397 mV



Gasoline Chromatogram

Sample Name : 9602159/MB-2
FileName : d:\3400-2\2g22619.raw
Method : 2B1EX06R.ins
Start Time : 0.00 min End Time : 36.00 min
Scale Factor: 1 Plot Offset: -6 mV

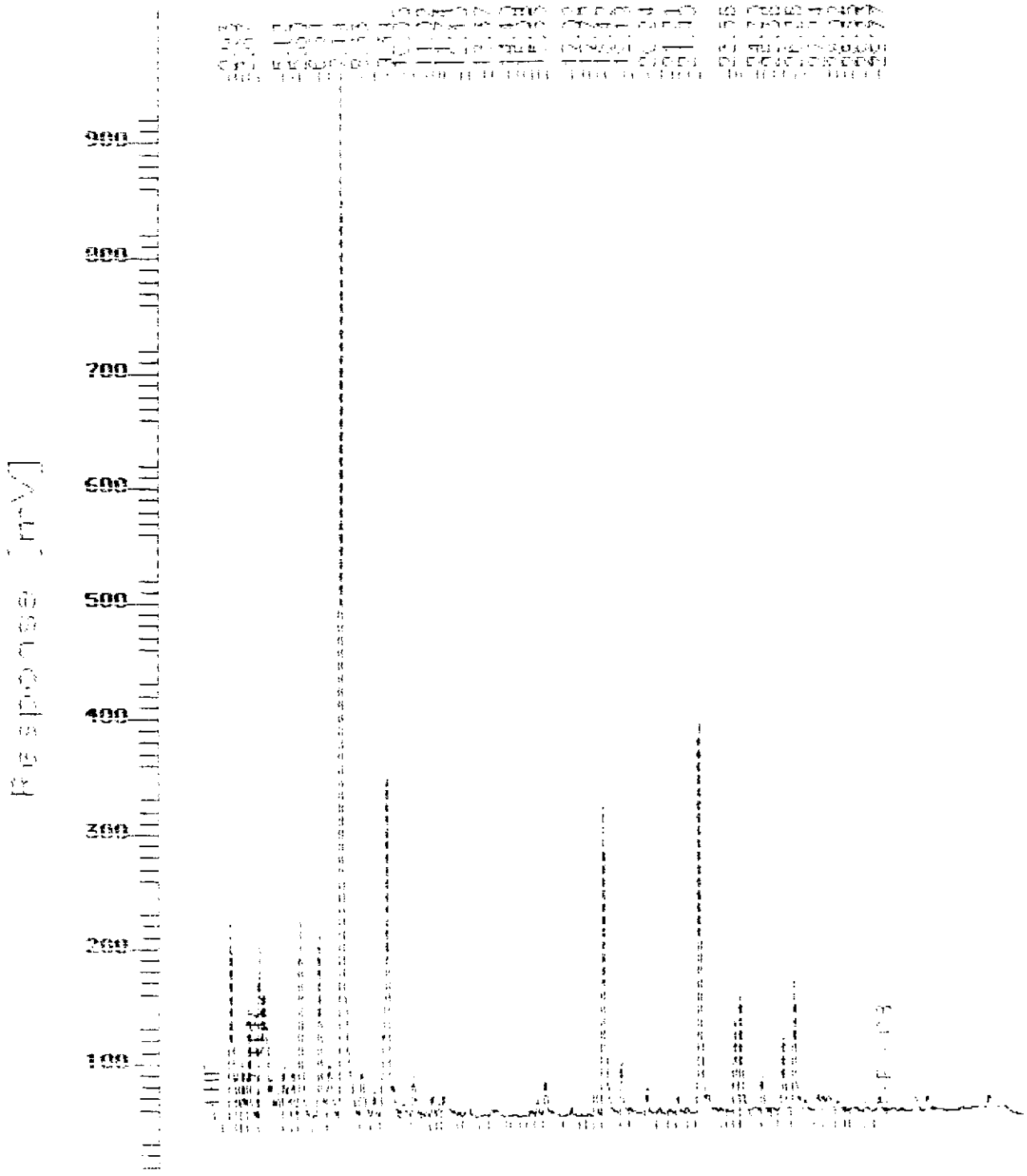
Sample #: 110651 Page 1 of 1
Date : 2/26/96 10:44 PM
Time of Injection: 2/26/96 10:08 PM
Low Point : -6.03 mV High Point : 320.29 mV
Plot Scale: 326 mV



Gasoline Chromatogram

Sample Name : 9602159/MW-1
FileName : d:\3400-4\4622708.raw
Method : 401EXMW50.ins
Start Time : 0.00 min End Time : 36.00 min
Scale Factor: 1 Plot Offset: 5 mV

Sample #: 118550 Page 1 of 1
Date : 2/27/96 12:47 PM
Time of Injection: 2/27/96 12:11 PM
Low Point : 5.13 mV High Point : 951.86 mV
Plot Scale: 947 mV



CHROMALAB, INC.
SAMPLE RECEIPT CHECKLIST

Client Name BASELINE Date/Time Received 2/21/96 1815

Project MSC 7101 EDGE WATER Received by (Date) BMorrow / (Time) MPark

Reference/Subm # 26534/9602159 Carrier name

Checklist completed by: CRowley (Signature) / 2/22/96 (Date) Logged in by (Initials) MP / 2/21/96 (Date)

Matrix H2O

Shipping container in good condition?			NA___	Yes___ No___
Custody seals present on shipping container?	Intact___	Broken___	Yes___	No___
Custody seals on sample bottles?	Intact___	Broken___	Yes___	No___
Chain of custody present?				Yes✓ No___
Chain of custody signed when relinquished and received?				Yes✓ No___
Chain of custody agrees with sample labels?				Yes✓ No___
Samples in proper container/bottle?				Yes✓ No___
Samples intact?				Yes✓ No___
Sufficient sample volume for indicated test?				Yes✓ No___
VOA vials have zero headspace?			NA___	Yes✓ No___
Trip Blank received?			NA___	Yes___ No✓
All samples received within holding time?				Yes✓ No___

Container temperature? 7.5°C

pH upon receipt 4 pH adjusted <2 Check performed by: CR NA___

Any NO response must be detailed in the comments section below. If items are not applicable, they should be marked NA.

Client contacted?_____ Date contacted?_____

Person contacted?_____ Contacted by?_____

Regarding?_____

Comments: pH adjusted for TEPH analysis only

Corrective Action:_____

SMPLRECD.CK

159/118650 110856 26534

BASELINE
5900 Hollis Street, Suite D
Emeryville, CA 94608
(510) 420-8686

CHAIN OF CUSTODY RECORD

Turn-around Time: Standard 5 day TAT
Lab: Chromalab
BASELINE Contact Person: Rhetora Del Rosario

Project No.	Project Name and Location
93333-B6	MSC 7161 Edgewater

Samplers (Signature): William K Scott

SUBM #: 9602159 REP: PM
CLIENT: BASELINE
DUE: 02/28/96
REF #: 26534

Sample ID No. Station	Date	Time	Media	Depth	No. of Containers	TEH - Diesel	TPH ~~with BTXE~~ gasoline BTEX	~~Oil & Grease~~ Kerosene	Motor Oil	PNAs	Title 26 Metals	Total Lead (6010)	Cadmium, Cr, Ni, Zn (6010)							Remarks/ Composite	Detection Limits
MW-1	2/21/96	11:00	Water		3		X					X									
MW-2	2/21/96	10:15	Water		3		X					X									
MW-5	2/21/96	13:10	Water		6	X	X	X	X			X	X								
MW-6	2/21/96	14:15	Water		3	X	X					X	X								
MW-7	2/21/96	11:55	Water		5	X	X					X	X								
MW-6a	2/21/96	14:20	Water		3	X	X					X	X								
MW-500	2/21/96	7:30	Water		2		X														

Relinquished by (Signature):	Date/Time	Received by (Signature):	Date/Time	Conditions of Samples upon Arrival at Laboratory:
William K Scott	2-21-96/16:42	[signature]	2-21-96 1648	
Relinquished by (Signature):	Date/Time	Received by (Signature):	Date/Time	Remarks: * Filter samples prior to analyzing for metals
Relinquished by (Signature):	Date/Time	Received by (Signature):	Date/Time	* Bill charges directly to Woodward-Clyde George Muehleck
[signature]	2-21-96 1815	Minnie Pak	2/21/96 1815	

chncstdy.frm-10/23/95