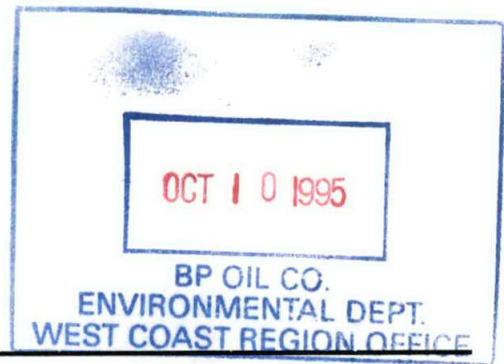




Charles A. Gove & Associates, Inc.
Consulting Engineers

11-105th Ave S.E., Suite 8, Bellevue, WA 98004
P.O. Box 3963, Bellevue, WA 98009-3963
PH. (206) 451-1212 FAX. (206) 451-8856



29 September 1995

BP Oil Company
295 SW 41st Street
Building 13, Suite N
Renton, Washington 98055

Attention: Mr. Peter DeSantis

RECEIVED
NOV 29 1995
DEPT. OF ECOLOGY

**Subject: Groundwater Monitoring and Sampling Report
3rd Quarter 1995**

BP Service Station No. 11066

2421 148th NE
Bellevue, Washington

This report presents the results of groundwater monitoring and sampling activities performed on 25 August 1995 at the above site.

Introduction

The property is an operating service station, located on the northwest corner of the intersection of NE 24th and 14th NE in Bellevue, Washington (Figure 1).

Presently, the following groundwater wells exist on site:

- Four four-inch inside diameter (ID) groundwater monitoring wells;
- Three two-inch ID groundwater monitoring wells.
- One four-inch diameter recovery well (MW-7).
- Two two-inch diameter wells/sparge points.

A pneumatic skimmer was installed but not operating in MW-7 at the time of sampling. Passive product skimmers were present in monitoring wells MW-1, 2 & 8.

The approximate site boundaries, locations of existing buildings and underground storage tanks, approximate locations of existing monitoring wells, and other pertinent site information are presented on the Site and Exploration Plan, Figure 2.

Groundwater Monitoring

Fluid level measurements in each monitoring well were completed with an interface probe to indicate thickness of liquid petroleum hydrocarbons (LPH), if present, and depth to groundwater relative to the top of the well casings (TOC). Groundwater measurements in the site wells ranged from 22 to 24 feet below ground surface, relative elevations are based on an arbitrary datum (Table 1). The inferred groundwater migration direction is to the south. This determination is based upon groundwater measurements from the monitoring wells on site, corrected for the presence of LPH.

Thicknesses ranging from a sheen to 0.40 feet of phase separated liquid petroleum hydrocarbons (LPH) were measured in five monitoring wells.

Dissolved oxygen levels were measured directly in the well using a cable-mounted polarographic probe, correcting for temperature and salinity (Table 2).

Sampling Procedures and Analyses

Groundwater samples were collected from two the seven site monitoring wells 25 August 1995 for analytical laboratory testing. To obtain a sample representative of the surrounding formation, each well was purged of at least three well volumes of groundwater prior to sampling. A new disposable bailer for each well was used to obtain discrete and representative groundwater samples. The samples were then decanted into laboratory prepared containers, labeled, and immediately placed into a chilled cooler for transport to Analytical Technologies, Inc. (Renton, WA). Chain-of-custody procedures were followed to track sample possession from the time of collection until receipt by the analytical laboratory.

The following analyses were performed on select groundwater samples:

- Washington Total Petroleum Hydrocarbons-Gasoline range with Benzene, Toluene, Ethylbenzene, and total Xylenes distinction using Washington Department of Ecology (Ecology) test method WTPH-G/BTEX;

Analytical Laboratory Results

In general, petroleum hydrocarbon concentrations ranged from below method detection limits up to 26 ug/l benzene for samples MW-4, 5 & 9. The remaining site wells were not sampled due to the presence of LPH ranging up to 0.40 feet in thickness.

A summary of the results of analytical tests performed on groundwater samples collected at the subject site to date are presented in Table 2. The analytical results for this sampling event are also presented on Figure 2. The ATI report and complete Chain of Custody form is also attached.

GROUNDWATER MONITORING REPORT
BP SERVICE STATION NO. 11066
29 SEPT 95-
PAGE 3

Summary

Thicknesses ranging from a sheen up to 0.40 feet of phase separated liquid petroleum hydrocarbons (LPH) were measured in Five monitoring wells. A pneumatic skimmer was present but not operating in MW-7 at the time of sampling. Passive skimmers were present in monitoring wells MW-1, 2 & 8. Passive skimmers in MW-2 & 8 were full of product. An additional 3 gallons of LPH was bailed out of the wells at the time of our visit. The passive skimmer in MW-2 was readjusted to place the hydrophobic membrane at the water/product interface. Dissolved TPH and BTEX concentrations in groundwater samples were similar to previous sampling events.

We appreciate this opportunity to be of service to BP Oil Company. If you have any questions or comments regarding this letter report or other aspects of this project, please do not hesitate to call at your earliest convenience.

Respectfully submitted,

Charles A. Gove & Associates



David G. Cooper, P.G.
Environmental Geologist

Enclosures: Table 1 - Summary of Fluid Level Measurements
Table 2 - Summary of Analytical Results: Groundwater
Figure 1 - Location Map
Figure 2 - Site and Exploration Plan
CAG Groundwater Sampling/Monitoring Field Form
ATI Report and Chain of Custody

GROUNDWATER MONITORING REPORT
BP SERVICE STATION NO. 11066
29 SEPT 95
PAGE 4

Table 1: **Summary of Fluid Level Measurements**
BP Service Station No. 11066
2421 148th NE
Bellevue, Washington

Well Number	Top of Casing Elevation (ft)	Date Collected	Product Thickness (ft)	Depth to Water (ft)	Groundwater Elevation (ft)*
MW-1	313.08	2-Mar-92	0.03	23.42	289.68
		4-Apr-92	0.18	23.52	289.70
		12-May-92	0.23	23.49	289.77
		11-Jun-92	0.53	23.95	289.55
		26-May-93	0.07	24.62	288.52
		28-Jun-94	1.03	24.72	289.18
		29-Sep-94	0.68	25.08	288.54
		13-Dec-94	0.82	25.10	288.64
		3-Mar-95	0.47	23.27	290.19
		8-Jun-95	SHEEN	22.50	290.58
		30-Aug-95	0.17	23.40	289.82
MW-2	312.13	2-Mar-92	1.55	24.35	289.02
		4-Apr-92	1.59	24.34	289.06
		12-May-92	1.61	24.26	289.16
		11-Jun-92	0.36	23.75	288.67
		26-May-93	0.43	24.45	288.02
		28-Jun-94	0.93	24.40	288.47
		29-Sep-94	0.92	25.02	287.85
		13-Dec-94	1.51	25.46	287.88
		3-Mar-95	0.18	23.95	288.32
		8-Jun-95	0.22	22.53	289.78
		30-Aug-95	0.14	23.25	288.99
MW-3	313.70	2-Mar-92	0.04	23.50	290.23
		4-Apr-92	0.2	23.50	290.36
		12-May-92	0.21	23.43	290.44
		11-Jun-92	1.47	24.39	290.49
		26-May-93	0.19	24.50	289.35
		28-Jun-94	0.45	23.95	290.11
		29-Sep-94	0.43	24.79	289.25
		13-Dec-94	0.36	24.67	289.32
		3-Mar-95	0.41	23.07	290.96
		8-Jun-95	0.15	22.42	291.40
		30-Aug-95	0.22	23.52	290.36
MW-4	314.21	26-May-93	0	24.63	289.58
		28-Jun-94	0	23.88	290.33
		29-Sep-94	0	24.83	289.38
		13-Dec-94	0	24.61	289.60
		3-Mar-95	0	22.92	291.29
		8-Jun-95	0	22.25	291.96
		30-Aug-95	0	23.37	290.84

GROUNDWATER MONITORING REPORT
BP SERVICE STATION NO. 11066
29 SEPT 95 -
PAGE 5

Table 1: **Summary of Fluid Level Measurements**
BP Service Station No. 11066
2421 148th NE
Bellevue, Washington

Well Number	Top of Casing Elevation (ft)	Date Collected	Product Thickness (ft)	Depth to Water (ft)	Groundwater Elevation (ft)*
MW-5	315.62	26-May-93	0	25.27	290.35
		28-Jun-94	0	24.52	291.10
		29-Sep-94	0	25.51	290.11
		13-Dec-94	0	25.34	290.28
		3-Mar-95	0	23.57	292.05
		8-Jun-95	0	22.96	292.66
		30-Aug-95	0	24.14	291.48
MW-6	314.82	26-May-93	0	25.21	289.61
		28-Jun-94	0.12	24.76	290.16
		29-Sep-94	0.43	25.80	289.36
		13-Dec-94	0.33	25.83	289.25
		3-Mar-95	0.09	24.02	290.87
		8-Jun-95	0.1	23.30	291.60
		30-Aug-95	0.36	24.51	290.60
MW-7	311.95	26-May-93	3.91	27.16	287.92
		28-Jun-94	Not measured due to installed pump.		
		29-Sep-94	"		
		13-Dec-94	"		
		8-Jun-95	"		
		30-Aug-95	"		
MW-8	310.82	26-May-93	0	23.03	287.79
		28-Jun-94	0.48	23.33	287.87
		29-Sep-94	0.36	23.75	287.36
		13-Dec-94	2.56	25.46	287.41
		3-Mar-95	2.32	23.72	288.96
		8-Jun-95	0.65	22.06	289.28
		30-Aug-95	0.4	22.58	288.56
MW-9	314.9	8-Jun-95	0	22.81	292.09
		30-Aug-95	0	23.90	291.00

Notes:

Groundwater elevation established relative to an arbitrary datum of 100.00 feet.

* = Groundwater elevation is corrected for the effects of LPH using the following formula:

$TOC - (DTW - (PT)(0.80))$ were TOC=Top of Casing, DTW=Depth to Water,

PT=Product Thickness, and 0.80=Typical Specific Gravity for Gasoline.

** = Groundwater elevation was not measured on this date.

GROUNDWATER MONITORING REPORT
BP SERVICE STATION NO. 11066
29 SEPT 95
PAGE 6

Table 2: Summary of Analytical Results: Groundwater
BP Service Station No. 11066
2421 148th Avenue NE
Bellevue, Washington

Well Number	Date Collected	WTPH-D (ug/l)	WTPH-G (ug/l)	Benzene (ug/l)	Toluene (ug/l)	Ethyl Benzene (ug/l)	Total Xylenes (ug/l)	Total Lead (ug/l)	Dissolved Lead (ug/l)	Turbidity (NTU)	Dissolved Oxygen (%)
MW-4	23-May-93	<50	<50	0.9	<0.5	<0.5	<1	6	NT	NT	
	28-Jun-94		<100	0.7	<0.5	<0.5	<0.5	NT	NT	NT	14
	29-Sep-94	NT	<100	0.8	<0.5	<0.5	<0.5	NT	NT	NT	4
	13-Dec-94	NT	<100	0.9	<0.5	<0.5	<0.5	NT	NT	NT	14
	3-Mar-95	NT	<100	1.1	<0.5	<0.5	<0.5	NT	NT	NT	8
	8-Jun-95	NT	<100	1.3	<0.5	<0.5	<0.5	NT	NT	NT	5
	30-Aug-95	NT	<100	0.58	<0.5	<0.5	<0.5	NT	NT	NT	8
MW-5	23-May-93	<50	110	2	0.9	4.9	10	28	NT	NT	
	28-Jun-94		<100	<0.5	<0.5	<0.5	<0.5	NT	NT	NT	1
	29-Sep-94	NT	<100	<0.5	<0.5	<0.5	<0.5	NT	NT	NT	33
	13-Dec-94	NT	<100	0.9	<0.5	<0.5	<0.5	NT	NT	NT	40
	3-Mar-95	NT	<100	<0.5	<0.5	<0.5	<0.5	NT	NT	NT	37
	8-Jun-95	NT	<100	<0.5	<0.5	<0.5	<0.5	NT	NT	NT	6
	30-Aug-95	NT	<100	<0.5	<0.5	<0.5	<0.5	NT	NT	NT	16
MW-6	23-May-93	2,100	70,000	6,600	12,000	880	6,800	31	NT	NT	
	28-Jun-94	Not sampled due to presence of LPH.									
	29-Sep-94	Not sampled due to presence of LPH.									
	13-Dec-94	Not sampled. LPH present.									
	3-Mar-95	Not sampled. LPH present.									
	8-Jun-95	Not sampled. LPH present.									
	30-Aug-95	Not sampled. LPH present.									
MW-9	8-Jun-95	NT	<100	8	<0.5	0.58	1.1	NT	NT	NT	9
	30-Aug-95	NT	<100	26	<0.5	1.9	2.3	NT	NT	NT	4

Notes:

WTPH-G = total petroleum hydrocarbons - gasoline, by Ecology Method WTPH-G.

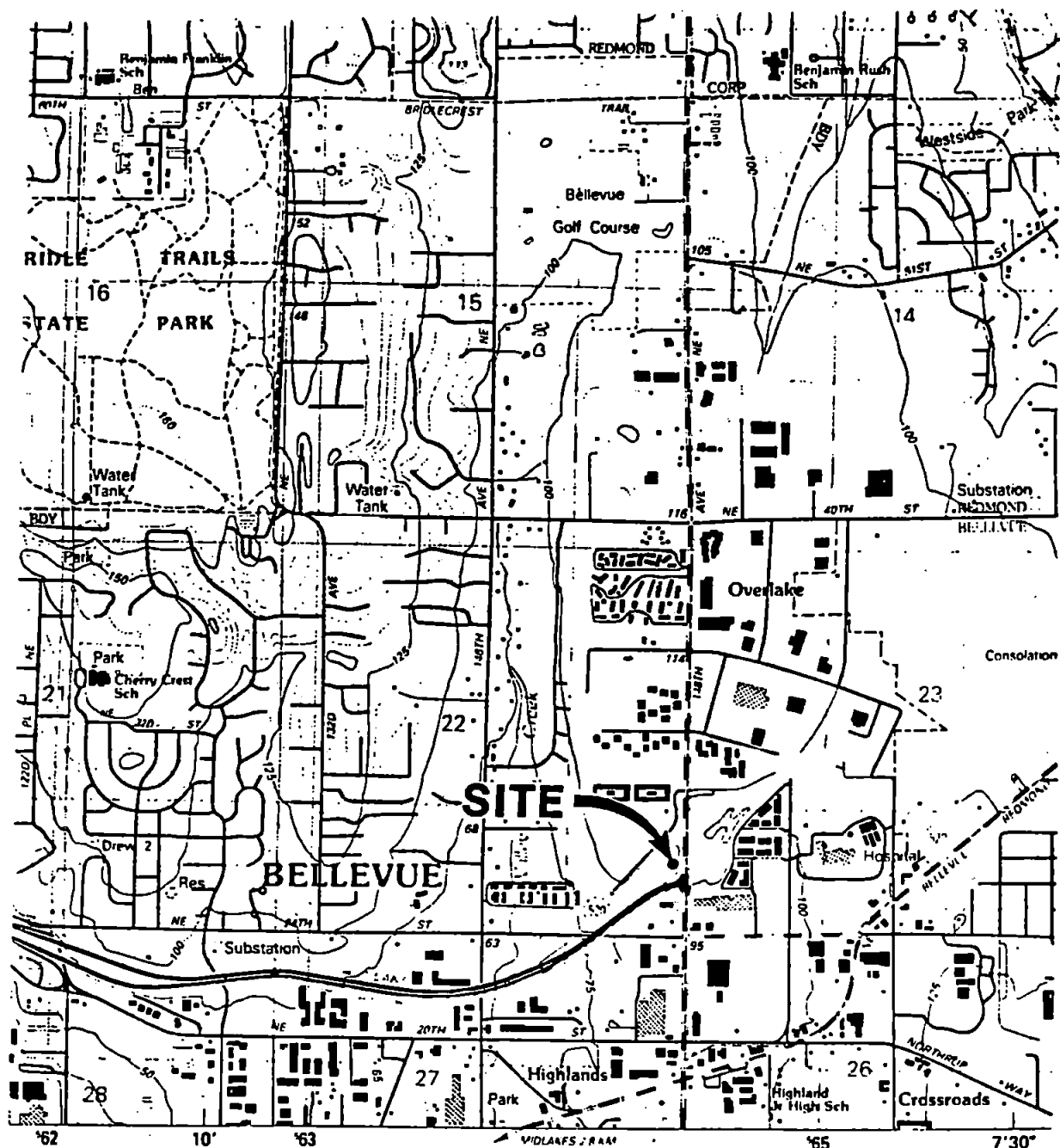
Benzene, Toluene, Ethyl Benzene and Total Xylenes (BTEX) were analyzed by EPA Method 8020.

Total and dissolved lead by EPA Method 7421.

NT = Not tested.

All concentrations are expressed in ug/l.

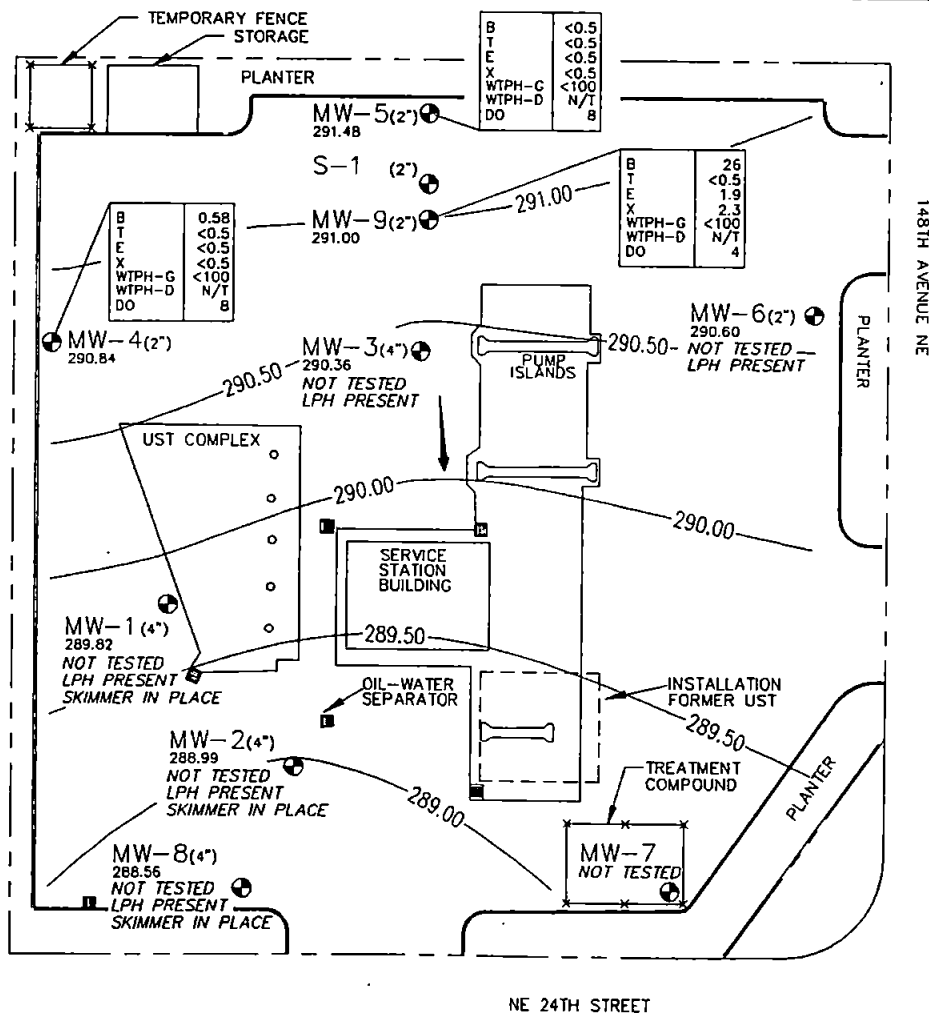
Concentrations preceded by a "<" are laboratory method detection limits. The method detection limit may vary depending on the laboratory used and sample characteristics.



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 Consulting Engineers
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 P.O. Box 3963, Bellevue, WA 98009-3963
 PH. (206) 451-1212 FAX. (206) 451-8856

LOCATION MAP - FIGURE 1
 BP SITE #11066
 BELLEVUE, WASHINGTON

Date	8/22/94	Scale	NTS	FILE:	JOB#: 94081
------	---------	-------	-----	-------	-------------



LEGEND

MW-2
● MONITORING WELL LOCATION

20.10
SPOT GROUNDWATER SURFACE
ELEVATION IN FEET

-18.56-
INFERRED GROUNDWATER SURFACE
ELEVATION CONTOUR IN FEET

←
INFERRED DIRECTION OF
GROUNDWATER FLOW

GROUND WATER TEST RESULTS 8-30-95

CONCENTRATIONS IN PARTS PER BILLION (PPB)
(OR METHOD DETECTION LIMIT IF PRECEDED BY "<")

B BENZENE BY EPA METHOD 8020
T TOLUENE BY EPA METHOD 8020
E ETHYLBENZENE BY EPA METHOD 8020
X XYLENES BY EPA METHOD 8020
WTPH-G WASHINGTON TOTAL PETROLEUM HYDROCARBONS
FOR GASOLINE (EPA METHOD WTPH-G)
WTPH-D WASHINGTON TOTAL PETROLEUM HYDROCARBONS
FOR DIESEL (EPA METHOD WTPH-D)
DO DISSOLVED OXYGEN (%)
N/T NOT TESTED

B	<0.5
T	<0.5
E	<0.5
X	<0.5
WTPH-G	<100
WTPH-D	N/T
DO	35

COMPOUNDS

CONCENTRATIONS OR
DETECTION LIMITS

0 30 60
SCALE IN FEET

SOURCE OF BASE MAP:- Geraghty & Miller, Inc.

REV.	DATE	BY	DESCRIPTION
Charles A. Gove & Associates, Inc. Consulting Engineers 11-105th Ave S.E., Suite 8, Bellevue, WA 98004 P.O. Box 3963, Bellevue, WA 98008-3963 Ph. (206) 451-1212 FAX. (206) 451-8556			

SITE & EXPLORATION PLAN FIGURE - 2
BP SITE #11066
BELLEVUE, WASHINGTON

Drawn	Scale	1"=30'-0"
Approved	Date	3/3/95
SHEETS SHEET		
CAD FILE: 11066 JOB# 94081		

Charles A. Gove & Associates, Inc.
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 11-100th Ave S.E., Bellevue, WA 98000-3903
 P.O. Box 3903, Bellevue, WA 98000-3903
 PH: (206) 451-1212 FAX: (206) 451-8056



Location 11066, 2nd + 14th / Bellevue

JOB # 94081

Method of Collection Direct, AB. Weather Sunny, 75°

Sampled By: Bill Dougherty

Date 8/30/95

SAMPLE #	WELL TYPE	DEPTH TO PRODUCT	DEPTH TO WATER	PRODUCT THICKNESS	DEPTH TO BOTTOM	VOLUME PURGED	DRY?	% SAT	COND. US	TEMP °C	PH	SAMPLED TIME
----------	-----------	------------------	----------------	-------------------	-----------------	---------------	------	-------	----------	---------	----	--------------

MW5	2	-	24.14	-	33.4	5	13	16	22.4	14.9	6.32	10:55
MW4	2	-	23.37	-	34.5	6	13	8	38.5	14.4	5.95	11:20
VW9	2	-	23.90	-	28.6	2	Y	4	300	14.7	6.33	11:45

MW6	2	24.15	24.51	13.6	27.1	1/4						
MW3	4	23.30	23.52	1.22	27.1	1/2						
MW1	4	23.22	23.40	1.17	27.1	1/4						
MW2	4	23.11	23.25	1.14	27.1	1/2						
MW8	4	22.18	22.58	1.40	27.1	3/4						

TOTAL
PURGED

13

2 1/2

COMMENTS:

Depth measurements made at least one hour after pumping
 skimmers
 Clear product in wells
 Moved skimmer from MW-1 (empty) to MW-3, adjust
 skimmers in MW-2 & MW-5 water full, adjust

Treatment System Not Operative

2 wells and 2 cells in series

3 WELL VOLUMES:

2" ID = 0.5 gal/H

4" ID = 2.0 gal/H

6" ID = 4.4 gal/H



Analytical**Technologies, Inc.**

560 Naches Avenue, S.W., Suite 101, Renton, WA 98055 (206) 228-8335

John M. Buerger, Laboratory Manager

ATI I.D. # 509002

September 11, 1995

Charles A. Gove & Associates
11 105th Ave. S.E.
Suite 8
Bellevue WA 98004

Attention : David Cooper

Project Number : BP# 11066/G342740

Project Name : N.E. 24th & 148th, Bellevue

Dear Mr. Cooper:

On September 1, 1995, Analytical Technologies, Inc. (ATI), received four samples for analysis. The samples were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. The results, sample cross reference, and quality control data are enclosed.

Sincerely,

Victoria L. Bayly
Project Manager

VLB/hal/mrj

Enclosure

ATI I.D. # 509002

SAMPLE CROSS REFERENCE SHEET

CLIENT : CHARLES A. GOVE & ASSOCIATES
PROJECT # : BP# 11066/G342740
PROJECT NAME : N.E. 24TH & 148TH, BELLEVUE

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
509002-1	MW5	08/30/95	WATER
509002-2	MW4	08/30/95	WATER
509002-3	MW9	08/30/95	WATER
509002-4	TRIP BLANKS	N/A	WATER

----- TOTALS -----

MATRIX	# SAMPLES
WATER	4

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of the report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.



ATI I.D. # 509002

ANALYTICAL SCHEDULE

CLIENT : CHARLES A. GOVE & ASSOCIATES
PROJECT # : BP# 11066/G342740
PROJECT NAME : N.E. 24TH & 148TH, BELLEVUE

ANALYSIS	TECHNIQUE	REFERENCE	LAB
BETX	GC/PID	EPA 8020	R
TOTAL PETROLEUM HYDROCARBONS	GC/FID	WA DOE WTPH-G	R

R = ATI - Renton
SD = ATI - San Diego
PHX = ATI - Phoenix
PTL = ATI - Portland
ANC = ATI - Anchorage
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

ATI I.D. # 509002

BETX - GASOLINE
DATA SUMMARY

CLIENT	: CHARLES A. GOVE & ASSOCIATES	DATE SAMPLED	: N/A
PROJECT #	: BP# 11066/G342740	DATE RECEIVED	: N/A
PROJECT NAME	: N.E. 24TH & 148TH, BELLEVUE	DATE EXTRACTED	: N/A
CLIENT I.D.	: METHOD BLANK	DATE ANALYZED	: 09/05/95
SAMPLE MATRIX	: WATER	UNITS	: ug/L
METHOD	: WA DOE WTPH-G/8020 (BETX)	DILUTION FACTOR	: 1

COMPOUNDSRESULTS

BENZENE	<0.5
ETHYLBENZENE	<0.5
TOLUENE	<0.5
TOTAL XYLENES	<0.5

FUEL HYDROCARBONS	<100
HYDROCARBON RANGE	TOLUENE TO DODECANE
HYDROCARBON QUANTITATION USING	GASOLINE

SURROGATE PERCENT RECOVERY

LIMITS

BROMOFLUOROBENZENE	103	76 - 120
TRIFLUOROTOLUENE	100	50 - 150



ATI I.D. # 509002

 BETX - GASOLINE
 DATA SUMMARY

CLIENT	: CHARLES A. GOVE & ASSOCIATES	DATE SAMPLED	: N/A
PROJECT #	: BP# 11066/G342740	DATE RECEIVED	: N/A
PROJECT NAME	: N.E. 24TH & 148TH, BELLEVUE	DATE EXTRACTED	: N/A
CLIENT I.D.	: METHOD BLANK	DATE ANALYZED	: 09/06/95
SAMPLE MATRIX	: WATER	UNITS	: ug/L
METHOD	: WA DOE WTPH-G/8020 (BETX)	DILUTION FACTOR	: 1

 COMPOUNDS

 RESULTS

BENZENE	<0.5
ETHYLBENZENE	<0.5
TOLUENE	<0.5
TOTAL XYLENES	<0.5
FUEL HYDROCARBONS	<100
HYDROCARBON RANGE	TOLUENE TO DODECANE
HYDROCARBON QUANTITATION USING	GASOLINE

SURROGATE PERCENT RECOVERY

LIMITS

BROMOFLUOROBENZENE	107	76 - 120
TRIFLUOROTOLUENE	99	50 - 150

ATI I.D. # 509002-1

BETX - GASOLINE
DATA SUMMARY

CLIENT	: CHARLES A. GOVE & ASSOCIATES	DATE SAMPLED	: 08/30/95
PROJECT #	: BP# 11066/G342740	DATE RECEIVED	: 09/01/95
PROJECT NAME	: N.E. 24TH & 148TH, BELLEVUE	DATE EXTRACTED	: N/A
CLIENT I.D.	: MW5	DATE ANALYZED	: 09/05/95
SAMPLE MATRIX	: WATER	UNITS	: ug/L
METHOD	: WA DOE WTPH-G/8020 (BETX)	DILUTION FACTOR	: 1

COMPOUNDS

RESULTS

BENZENE	<0.5
ETHYLBENZENE	<0.5
TOLUENE	<0.5
TOTAL XYLENES	<0.5

FUEL HYDROCARBONS	<100
HYDROCARBON RANGE	TOLUENE TO DODECANE
HYDROCARBON QUANTITATION USING	GASOLINE

SURROGATE PERCENT RECOVERY

LIMITS

BROMOFLUOROBENZENE	103	76 - 120
TRIFLUOROTOLUENE	94	50 - 150



ATI I.D. # 509002-2

BETX - GASOLINE
DATA SUMMARY

CLIENT	: CHARLES A. GOVE & ASSOCIATES	DATE SAMPLED	: 08/30/95
PROJECT #	: BP# 11066/G342740	DATE RECEIVED	: 09/01/95
PROJECT NAME	: N.E. 24TH & 148TH, BELLEVUE	DATE EXTRACTED	: N/A
CLIENT I.D.	: MW4	DATE ANALYZED	: 09/05/95
SAMPLE MATRIX	: WATER	UNITS	: ug/L
METHOD	: WA DOE WTPH-G/8020 (BETX)	DILUTION FACTOR	: 1

COMPOUNDSRESULTS

BENZENE	0.58
ETHYLBENZENE	<0.5
TOLUENE	<0.5
TOTAL XYLENES	<0.5
FUEL HYDROCARBONS	<100
HYDROCARBON RANGE	TOLUENE TO DODECANE
HYDROCARBON QUANTITATION USING	GASOLINE

SURROGATE PERCENT RECOVERY

LIMITS

BROMOFLUOROBENZENE	103	76 - 120
TRIFLUOROTOLUENE	94	50 - 150



ATI I.D. # 509002-3

 BETX - GASOLINE
 DATA SUMMARY

CLIENT	: CHARLES A. GOVE & ASSOCIATES	DATE SAMPLED	: 08/30/95
PROJECT #	: BP# 11066/G342740	DATE RECEIVED	: 09/01/95
PROJECT NAME	: N.E. 24TH & 148TH, BELLEVUE	DATE EXTRACTED	: N/A
CLIENT I.D.	: MW9	DATE ANALYZED	: 09/06/95
SAMPLE MATRIX	: WATER	UNITS	: ug/L
METHOD	: WA DOE WTPH-G/8020 (BETX)	DILUTION FACTOR	: 1

 COMPOUNDS

 RESULTS

BENZENE	26
ETHYLBENZENE	1.9
TOLUENE	<0.5
TOTAL XYLENES	2.3
FUEL HYDROCARBONS	<100
HYDROCARBON RANGE	TOLUENE TO DODECANE
HYDROCARBON QUANTITATION USING	GASOLINE

SURROGATE PERCENT RECOVERY

LIMITS

BROMOFLUOROBENZENE	103	76 - 120
TRIFLUOROTOLUENE	96	50 - 150



ATI I.D. # 509002-4

 BETX - GASOLINE
 DATA SUMMARY

CLIENT	: CHARLES A. GOVE & ASSOCIATES	DATE SAMPLED	: N/A
PROJECT #	: BP# 11066/G342740	DATE RECEIVED	: 09/01/95
PROJECT NAME	: N.E. 24TH & 148TH, BELLEVUE	DATE EXTRACTED	: N/A
CLIENT I.D.	: TRIP BLANKS	DATE ANALYZED	: 09/05/95
SAMPLE MATRIX	: WATER	UNITS	: ug/L
METHOD	: WA DOE WTPH-G/8020 (BETX)	DILUTION FACTOR	: 1

 COMPOUNDS

 RESULTS

BENZENE	<0.5
ETHYLBENZENE	<0.5
TOLUENE	<0.5
TOTAL XYLENES	<0.5

FUEL HYDROCARBONS	<100
HYDROCARBON RANGE	TOLUENE TO DODECANE
HYDROCARBON QUANTITATION USING	GASOLINE

SURROGATE PERCENT RECOVERY

LIMITS

BROMOFLUOROBENZENE	104	76 - 120
TRIFLUOROTOLUENE	97	50 - 150



ATI I.D. # 509002

 BETX - GASOLINE
 QUALITY CONTROL DATA

CLIENT	: CHARLES A. GOVE & ASSOCIATES	SAMPLE I.D. #	: BLANK
PROJECT #	: BP# 11066/G342740	DATE EXTRACTED	: N/A
PROJECT NAME	: N.E. 24TH & 148TH, BELLEVUE	DATE ANALYZED	: 09/05/95
SAMPLE MATRIX	: WATER	UNITS	: ug/L
METHOD	: WA DOE WTPH-G/8020 (BETX)		

COMPOUNDS	SAMPLE RESULT	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
BENZENE	<0.500	20.0	21.3	107	N/A	N/A	N/A
TOLUENE	<0.500	20.0	21.5	108	N/A	N/A	N/A
TOTAL XYLENES	<0.500	40.0	43.4	109	N/A	N/A	N/A
GASOLINE	<100	1000	1010	101	N/A	N/A	N/A

CONTROL LIMITS	% REC.	RPD
BENZENE	89 - 110	10
TOLUENE	89 - 113	10
TOTAL XYLENES	89 - 111	10
GASOLINE	78 - 116	20

SURROGATE RECOVERIES	SPIKE	DUP. SPIKE	LIMITS
BROMOFLUOROBENZENE	101	N/A	76 - 120
TRIFLUOROTOLUENE	94	N/A	50 - 150



ATI I.D. # 509002

 BETX - GASOLINE
 QUALITY CONTROL DATA

CLIENT	: CHARLES A. GOVE & ASSOCIATES	SAMPLE I.D. #	: BLANK
PROJECT #	: BP# 11066/G342740	DATE EXTRACTED	: N/A
PROJECT NAME	: N.E. 24TH & 148TH, BELLEVUE	DATE ANALYZED	: 09/06/95
SAMPLE MATRIX	: WATER	UNITS	: ug/L
METHOD	: WA DOE WTPH-G/8020 (BETX)		

COMPOUNDS	SAMPLE RESULT	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
BENZENE	<0.500	20.0	20.7	103	N/A	N/A	N/A
TOLUENE	<0.500	20.0	21.7	109	N/A	N/A	N/A
TOTAL XYLENES	<0.500	40.0	43.9	110	N/A	N/A	N/A
GASOLINE	<100	1000	1040	104	N/A	N/A	N/A

CONTROL LIMITS	% REC.	RPD
BENZENE	89 - 110	10
TOLUENE	89 - 113	10
TOTAL XYLENES	89 - 111	10
GASOLINE	78 - 116	20

SURROGATE RECOVERIES	SPIKE	DUP. SPIKE	LIMITS
BROMOFLUOROBENZENE	104	N/A	76 - 120
TRIFLUOROTOLUENE	97	N/A	50 - 150



Analytical Technologies, Inc.

ATI I.D. # 509002

BETX - GASOLINE
QUALITY CONTROL DATA

CLIENT	: CHARLES A. GOVE & ASSOCIATES	SAMPLE I.D. #	: 509002-2
PROJECT #	: BP# 11066/G342740	DATE EXTRACTED	: N/A
PROJECT NAME	: N.E. 24TH & 148TH, BELLEVUE	DATE ANALYZED	: 09/06/95
SAMPLE MATRIX	: WATER	UNITS	: ug/L
METHOD	: WA DOE WTPH-G/8020 (BETX)		

COMPOUND	SAMPLE RESULT	SAMPLE DUP. RESULT	RPD	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED RESULT	DUP. % REC.	RPD
GASOLINE	<100	<100	NC	N/A	N/A	N/A	N/A	N/A	N/A
CONTROL LIMITS						% REC.			RPD
GASOLINE						N/A			20
SURROGATE RECOVERIES				SAMPLE		SAMPLE DUP.		LIMITS	
TRIFLUOROTOLUENE				94		95		50 - 150	

NC = Not calculable.

ATI I.D. # 509002

BETX - GASOLINE
QUALITY CONTROL DATA

CLIENT	: CHARLES A. GOVE & ASSOCIATES	SAMPLE I.D. #	: 509001-3
PROJECT #	: BP# 11066/G342740	DATE EXTRACTED	: N/A
PROJECT NAME	: N.E. 24TH & 148TH, BELLEVUE	DATE ANALYZED	: 09/05/95
SAMPLE MATRIX	: WATER	UNITS	: ug/L
METHOD	: WA DOE WTPH-G/8020 (BETX)		

COMPOUND	SAMPLE RESULT	SAMPLE DUP. RESULT	RPD	SPIKE ADDED	SPIKED RESULT	% REC.	DUP. SPIKED RESULT	DUP. % REC.	RPD
BENZENE	<0.500	N/A	N/A	20.0	21.1	106	21.1	106	0
TOLUENE	<0.500	N/A	N/A	20.0	21.6	108	21.4	107	1
TOTAL XYLENES	<0.500	N/A	N/A	40.0	43.1	108	43.0	108	0
GASOLINE	<100	<100	NC	1000	989	99	968	97	2

CONTROL LIMITS	% REC.	RPD
BENZENE	86 - 113	10
TOLUENE	87 - 114	10
TOTAL XYLENES	85 - 113	10
GASOLINE	80 - 113	20

SURROGATE RECOVERIES	SPIKE	DUP. SPIKE	LIMITS
BROMOFLUOROBENZENE	103	103	76 - 120
TRIFLUOROTOLUENE	95	95	50 - 150

NC = Not calculable.

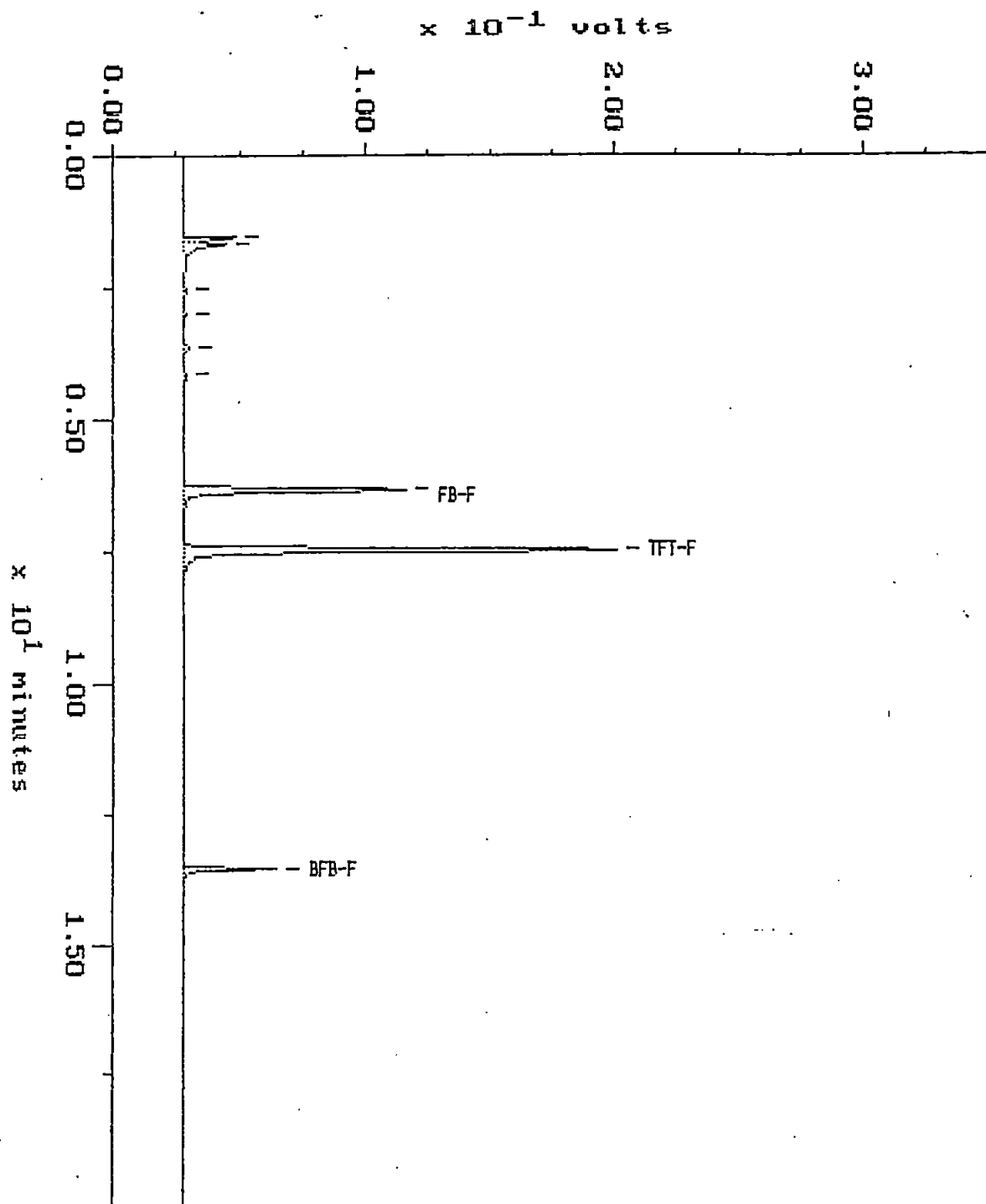
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WA DOE WTPH-G

Sample: WRB 9-5
Acquired: 05-SEP-95 10:41
Comments: ATI FUELS: A MISSION OF EXCELLENCE IN ANALYTICAL CHROMATOGRAPHY.

Channel: FID
Method: X:\MAXDATA\PICARD\090595PC

Filename: R9059P03
Operator: ATI

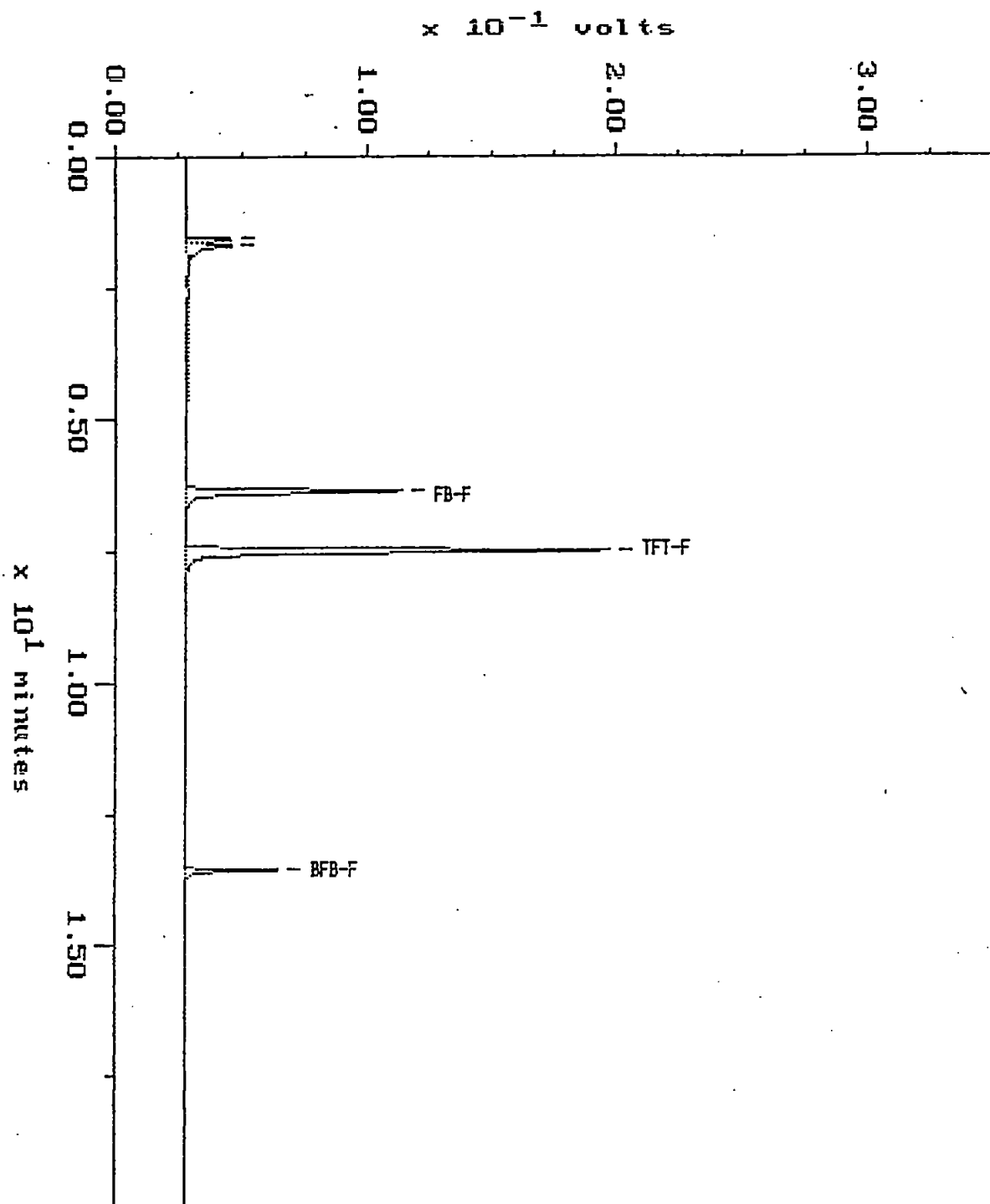


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WA DOE WTPH-G

Sample: WRB 9-6 Channel: FID
Acquired: 06-SEP-95 9:02 Method: X:\MAXDATA\PICARD\090695PC
Comments: ATI FUELS: A MISSION OF EXCELLENCE IN ANALYTICAL CHROMATOGRAPHY.

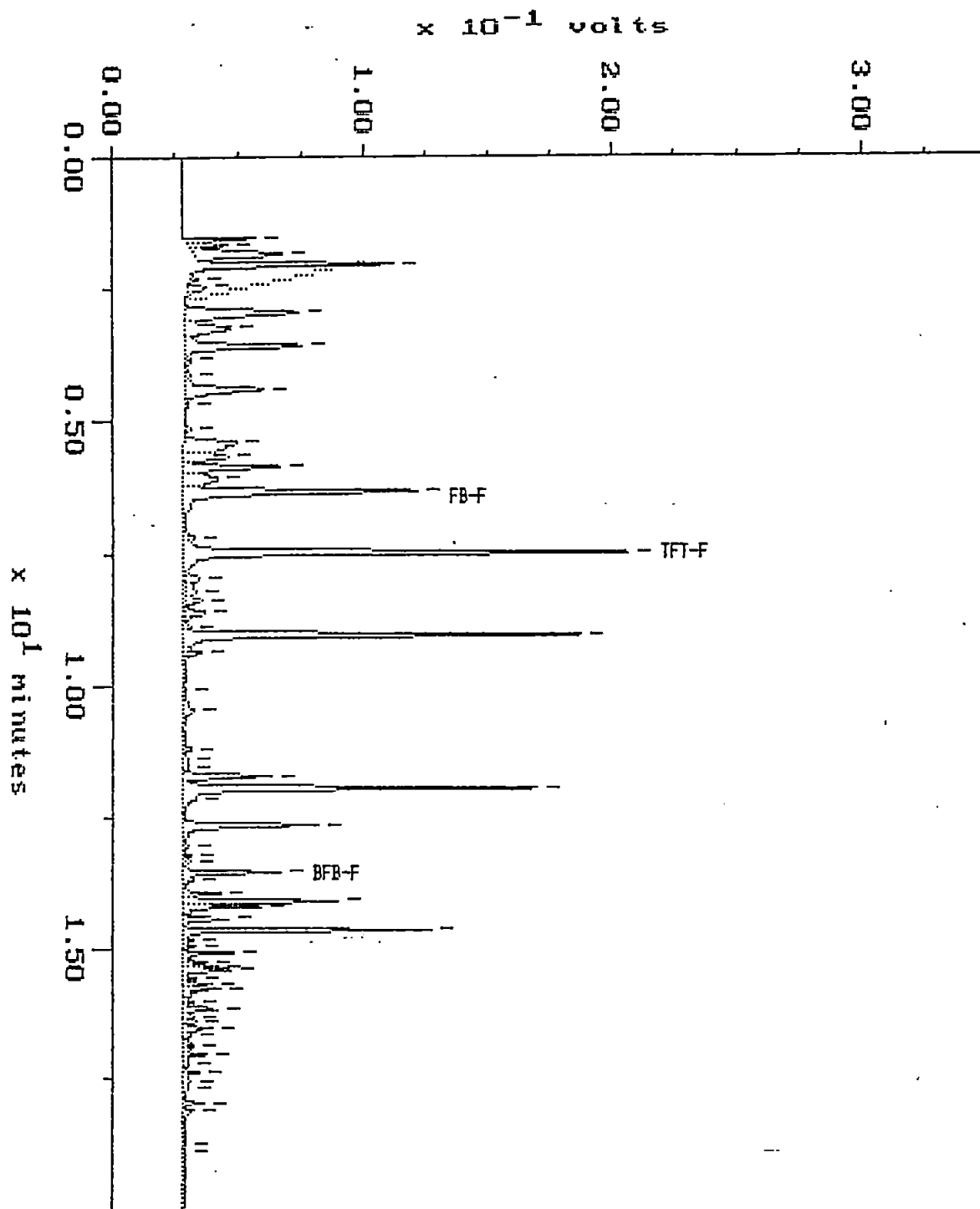
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Operator: ATI



INUING CALIBRATION

Sample: STD-C 6 Channel: FID
Acquired: 05-SEP-95 9:02 Method: X:\MAXDATA\PICARD\090595PC
Comments: ATI FUELS: A MISSION OF EXCELLENCE IN ANALYTICAL CHROMATOGRAPHY.

Filename: R9059P01
Operator: ATI



CONTINUING CALIBRATION

Sample: STD-C 6 Channel: FID
Acquired: 06-SEP-95 7:45 Method: X:\MAXDATA\PICARD\090595PC
Comments: ATI FUELS: A MISSION OF EXCELLENCE IN ANALYTICAL CHROMATOGRAPHY.

Filename: R9059P40
Operator: ATI

