



BP OIL

BP Oil Company
Environmental Resources Management
Building 13, Suite N
295 SW 41st Street
Renton, Washington 98055-4931
(206) 251-0667

April 10, 1995

RECEIVED

APR 12 1995

DEPT. OF ECOLOGY

MR BEN AMOAH-FORSON
WASHINGTON DEPT OF ECOLOGY
NORTHWEST REGIONAL OFFICE
3190 160TH AVE SE
BELLEVUE WA 98008-5452

**RE: BP OIL FACILITY #11096
7601 Ballenger Way
Edmonds, WA**

Attached please find our **GROUNDWATER MONITORING AND SAMPLING REPORT, FOURTH QUARTER 1994** for the above referenced facility.

If you should have any questions regarding this site, I may be reached at (206) 251-8209.

Respectfully,

Peter J. DeSantis
Environmental Resources Management

PJD:mu msword\ERM11096

cc: Mr. Larry Silva, TOSCO Northwest Co., 601 Union Street, Suite 2500, Seattle, WA 98101

David Cooper, Charles A Gove & Associates, PO Box 3963, Bellevue WA 98009-3963

Site File



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

APR 10 1995

BP OIL CO
ENVIRONMENTAL
WEST COAST REGION

3 March 1995

RECEIVED

APR 12 1995

DEPT. OF ECOLOGY

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

Attention: Mr. Peter DeSantis

SR 2/16/95 DM		DEPARTMENT OF ECOLOGY NWRO/TCP TANK UNIT		2107
INTERIM CLEANUP REPORT				☐
SITE CHARACTERIZATION				☐
FINAL CLEANUP REPORT				☒
OTHER _____				☐
AFFECTED MEDIA: SOIL				☒
OTHER _____ GW				☒
INSPECTOR (INIT.) <i>HR</i>		DATE 4/7/95		

**Subject: Groundwater Monitoring and Sampling Report
4th Quarter 1994**

BP Service Station No. 11096

7601 Ballinger Way
Edmonds, Washington

This report presents the results of groundwater monitoring and sampling activities performed on 9 December 1994 at the above site.

Introduction

The property is an operating service station, located on the northwest corner of the intersection of 244th St. SW and 76th Ave W in Edmonds, Washington (Figure 1).

Presently, the following groundwater wells exist on site:

- Three two-inch ID groundwater monitoring wells.

The wells were completed as vapor extraction points within vaults. Blank PVC lines running from these vaults stub up west of the service station. No system is in operation.

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 47 to 49 feet below ground surface, relative elevations are based on an arbitrary datum of 100.00 feet (Table 1). The inferred groundwater migration direction is to the northwest, similar to last quarter. This determination is based upon groundwater measurements from the monitoring wells on the site.

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 the site monitoring wells on 9 December 1994 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.

Each groundwater sample was analyzed for the following:

- 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 were below method detection limits for all samples. 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.

Summary

No LPH has been present at this site since monitoring began in 1993. Dissolved TPH and BTEX concentrations in groundwater samples continue to be below Washington State Action Levels.

GROUNDWATER MONITORING REPORT
BP SERVICE STATION NO. 11096
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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. 11096
3 MAR 95
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Table 1: **Summary of Fluid Level Measurements**
BP Service Station No. 11096
7601 Ballinger Way
Edmonds, Washington

Well Number	Top of Casing Elevation (ft)	Date Collected	Product Thickness (ft)	Depth to Water (ft)	Groundwater Elevation (ft)*
MW-1	97.64	19-Oct-93	0	50.24	47.40
		19-May-93	0	46.78	50.86
		16-Aug-93	0	46.76	50.88
		08-Mar-94	0	47.36	50.28
		22-Jun-94	0	47.44	50.20
		23-Sep-94	0	47.74	49.90
		9-Dec-94	0	47.85	49.79
MW-2	99.46	19-Oct-93	0	48.43	51.03
		19-May-93	0	49.08	50.38
		16-Aug-93	0	49.07	50.39
		08-Mar-94	0	49.24	50.22
		22-Jun-94	0	47.00	52.46
		23-Sep-94	0	49.60	49.86
		9-Dec-94	0	49.73	49.73
MW-3	97.26	19-Oct-93	0	48.02	49.24
		19-May-93	0	47.24	50.02
		16-Aug-93	0	47.20	50.06
		8-Mar-94	0	46.92	50.34
		22-Jun-94	0	49.30	47.96
		23-Sep-94	0	47.30	49.96
		9-Dec-94	0	47.41	49.85

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. 11096
3 MAR 95
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Table 2: Summary of Analytical Results: Groundwater
BP Service Station No. 11096
7601 Ballinger Way
Edmonds, 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-1	19-Oct-93	<250	<50	<0.5	<0.5	<0.5	<1	43	<2	3,600	
	19-May-93	1,500	<50	<0.5	<0.5	<0.5	<1	4	<3	230	
	16-Aug-93	<50	<50	<0.5	<0.5	<0.5	<0.5	16	<3	550	
	08-Mar-94	NT	<100	<0.5	<0.5	<0.5	<0.5	6.1	<3	520	
	22-Jun-94	<250	<100	<0.5	<0.5	<0.5	<0.5	NT	NT	NT	56
	23-Sep-94	NT	<100	<0.5	<0.5	<0.5	<0.5	NT	NT	NT	5
	9-Dec-94	NT	<100	<0.5	<0.5	<0.5	<0.5	NT	NT	NT	79
MW-2	19-Oct-93	<250	<50	<0.5	<0.5	<0.5	<1	54	<2	8,300	
	19-May-93	4,200	<50	<0.5	<0.5	<0.5	<1	4	<3	70	
	16-Aug-93	<50	<50	<0.5	<0.5	<0.5	<0.5	14	<3	270	
	08-Mar-94	NT	<100	<0.5	<0.5	<0.5	<0.5	6.6	<3	410	
	22-Jun-94	<250	<100	<0.5	<0.5	<0.5	<0.5	NT	NT	NT	53
	23-Sep-94	NT	<100	<0.5	<0.5	<0.5	<0.5	NT	NT	NT	4
	9-Dec-94	NT	<100	<0.5	<0.5	<0.5	<0.5	NT	NT	NT	73
MW-3	19-Oct-93	<250	<50	<0.5	<0.5	<0.5	<1	111	4.9	3,400	
	19-May-93	1,700	<50	<0.5	<0.5	<0.5	<1	9	5	78	
	16-Aug-93	<50	<50	<0.5	<0.5	<0.5	<0.5	18	<3	650	
	08-Mar-94	NT	<100	<0.5	<0.5	<0.5	<0.5	6.2	<3	410	
	22-Jun-94	<250	<100	<0.5	<0.5	<0.5	<0.5	NT	NT	NT	70
	23-Sep-94	NT	<100	<0.5	<0.5	<0.5	<0.5	NT	NT	NT	5
	9-Dec-94	NT	<100	<0.5	<0.5	<0.5	<0.5	NT	NT	NT	82

Notes:

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

WTPH-D = total petroleum hydrocarbons - diesel, by Ecology Method WTPH-D.

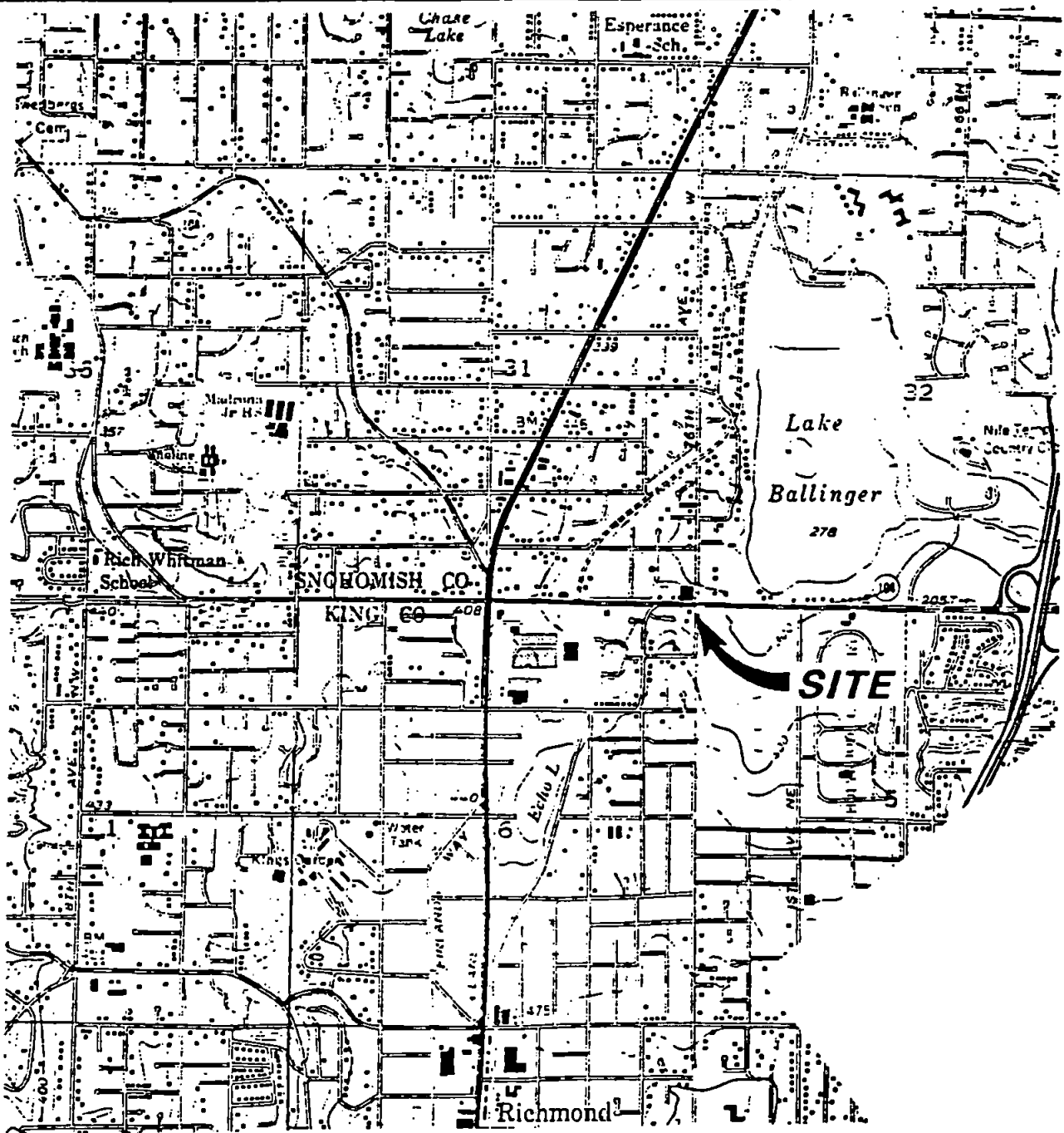
Benzene, Toluene, Ethyl Benzene and Total Xylenes (BTEX) were analyzed by EPA Method 8020.

Total and dissolved lead by EPA Method 7421.

NT = Not tested.

All concentrations are expressed in micrograms per liter (ug/l).

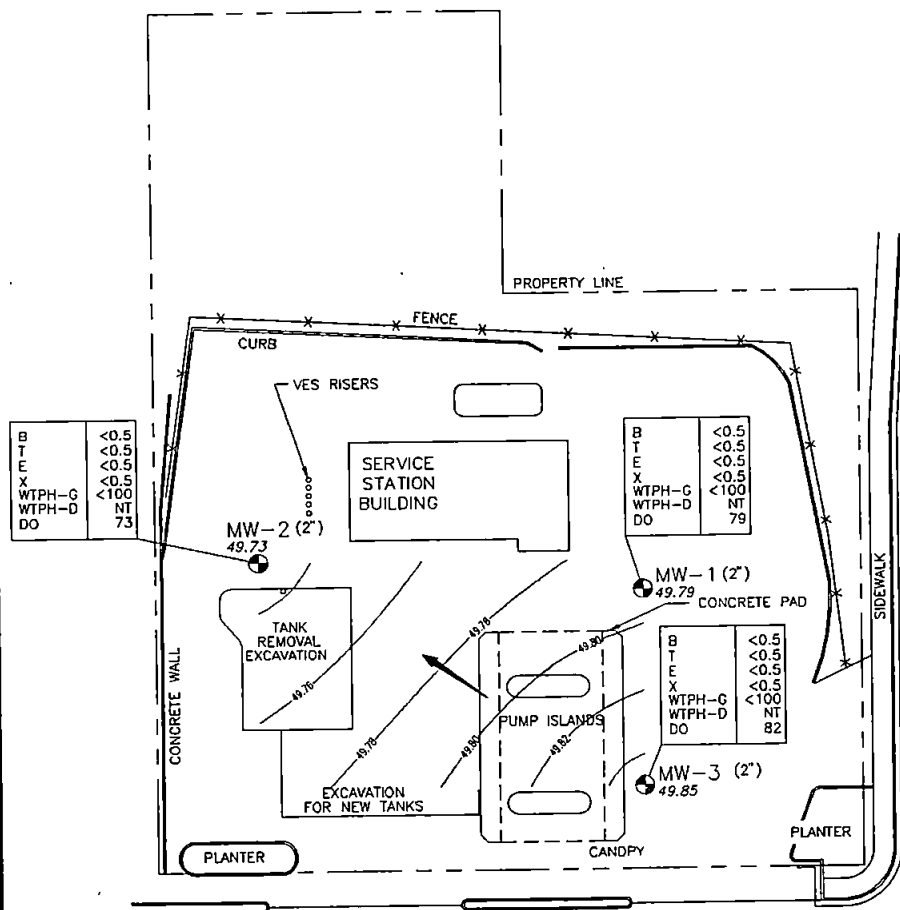
Concentrations preceded by a "<" are laboratory method detection limits. The method detection limit may vary depending on the laboratory used and sample characteristics.



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

LOCATION MAP — FIGURE 1
BP SITE #11096
EDMONDS, WASHINGTON

Date	8/22/94	Scale	NTS	FILE:	JOB#: 94095
------	---------	-------	-----	-------	-------------



LEGEND

- MW-3
● MONITORING WELL NUMBER AND LOCATION
- 20.10
SPOT GROUNDWATER SURFACE ELEVATION IN FEET
- 18.56—
INFERRED GROUNDWATER SURFACE ELEVATION CONTOUR IN FEET
- ←
INFERRED DIRECTION OF GROUNDWATER FLOW

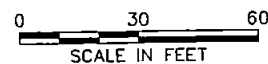
GROUND WATER TEST RESULTS 9 DEC 94

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



SOURCE OF BASE MAP:- AGRA INC.

REV.	DATE	BY	DESCRIPTION

CAG 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) 451-8858

SITE & EXPLORATION PLAN FIGURE - 2
BP SITE #11096
EDMONDS, WASHINGTON

Drawn	Scale 1"=30'-0"
Approved	Date 3/3/95
SHEETS	SHEET

CAD FILE: 11096.DWG JOB#: 94095

Location BP 11096, Edmonds

Method of Collection STAINLESS BAILER

Sampled By: _____

Weather Fair
36° F.

JOB # 96095

Page / of /

Date 9th Dec '94

[illegible]

**TOTAL
PURGED**

20.

COMMENTS:

NOTE:- WATER CHEMISTRY READINGS TAKEN AFTER
BAILING AS WELLS ARE TOO DEEP.

3 WELL VOLUMES:

2" ID = 0.5 gal/ft

4" ID = 2.0 gal/ft

6" ID = 4.4 gal/ft



Analytical**Technologies**, Inc.

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

Karen L. Mixon, Laboratory Manager

ATI I.D. # 412066

December 23, 1994

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

Attention : David Cooper

Project Number : BP# 11096/ G342790

Project Name : BP# 11096/Edmonds

Dear Mr. Cooper:

On December 9, 1994, 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,

Diana Spence
Project Manager

DS/hal/elf

Enclosure



SAMPLE CROSS REFERENCE SHEET

CLIENT : CHARLES A. GOVE & ASSOCIATES
PROJECT # : BP# 11096/ G342790
PROJECT NAME : BP# 11096/EDMONDS

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
412066-1	MW 2	12/09/94	WATER
412066-2	MW 1	12/09/94	WATER
412066-3	MW 3	12/09/94	WATER
412066-4	TRIP BLANK	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.



ANALYTICAL SCHEDULE

CLIENT : CHARLES A. GOVE & ASSOCIATES
PROJECT # : BP# 11096/ G342790
PROJECT NAME : BP# 11096/EDMONDS

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. # 412066

BETX - GASOLINE
DATA SUMMARY

CLIENT	: CHARLES A. GOVE & ASSOCIATES	DATE SAMPLED	: N/A
PROJECT #	: BP# 11096/ G342790	DATE RECEIVED	: N/A
PROJECT NAME	: BP# 11096/EDMONDS	DATE EXTRACTED	: N/A
CLIENT I.D.	: METHOD BLANK	DATE ANALYZED	: 12/12/94
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	102	76 - 120
TRIFLUOROTOLUENE	95	50 - 150



ATI I.D. # 412066

BETX - GASOLINE
DATA SUMMARY

CLIENT	: CHARLES A. GOVE & ASSOCIATES	DATE SAMPLED	: N/A
PROJECT #	: BP# 11096/ G342790	DATE RECEIVED	: N/A
PROJECT NAME	: BP# 11096/EDMONDS	DATE EXTRACTED	: N/A
CLIENT I.D.	: METHOD BLANK	DATE ANALYZED	: 12/13/94
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	93	50 - 150



BETX - GASOLINE
DATA SUMMARY

CLIENT	: CHARLES A. GOVE & ASSOCIATES	DATE SAMPLED	: 12/09/94
PROJECT #	: BP# 11096/ G342790	DATE RECEIVED	: 12/09/94
PROJECT NAME	: BP# 11096/EDMONDS	DATE EXTRACTED	: N/A
CLIENT I.D.	: MW 2	DATE ANALYZED	: 12/12/94
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	82	50 - 150



ATI I.D. # 412066-2

BETX - GASOLINE
DATA SUMMARY

CLIENT	: CHARLES A. GOVE & ASSOCIATES	DATE SAMPLED	: 12/09/94
PROJECT #	: BP# 11096/ G342790	DATE RECEIVED	: 12/09/94
PROJECT NAME	: BP# 11096/EDMONDS	DATE EXTRACTED	: N/A
CLIENT I.D.	: MW 1	DATE ANALYZED	: 12/12/94
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	92	50 - 150



ATTI I.D. # 412066-3

BETX - GASOLINE
DATA SUMMARY

CLIENT	: CHARLES A. GOVE & ASSOCIATES	DATE SAMPLED	: 12/09/94
PROJECT #	: BP# 11096/ G342790	DATE RECEIVED	: 12/09/94
PROJECT NAME	: BP# 11096/EDMONDS	DATE EXTRACTED	: N/A
CLIENT I.D.	: MW 3	DATE ANALYZED	: 12/12/94
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	93	50 - 150



BETX - GASOLINE
DATA SUMMARY

CLIENT	: CHARLES A. GOVE & ASSOCIATES	DATE SAMPLED	: N/A
PROJECT #	: BP# 11096/ G342790	DATE RECEIVED	: 12/09/94
PROJECT NAME	: BP# 11096/EDMONDS	DATE EXTRACTED	: N/A
CLIENT I.D.	: TRIP BLANK	DATE ANALYZED	: 12/12/94
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	105	76 - 120
TRIFLUOROTOLUENE	92	50 - 150

ATI I.D. # 412066

BETX - GASOLINE
QUALITY CONTROL DATA

CLIENT	: CHARLES A. GOVE & ASSOCIATES	SAMPLE I.D. #	: BLANK
PROJECT #	: BP# 11096/ G342790	DATE EXTRACTED	: N/A
PROJECT NAME	: BP# 11096/EDMONDS	DATE ANALYZED	: 12/12/94
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	20.3	102	N/A	N/A	N/A
TOLUENE	<0.500	20.0	21.4	107	N/A	N/A	N/A
TOTAL XYLENES	<0.500	40.0	42.5	106	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	94	N/A	50 - 150

ATI I.D. # 412066

BETX - GASOLINE
QUALITY CONTROL DATA

CLIENT	: CHARLES A. GOVE & ASSOCIATES	SAMPLE I.D. #	: BLANK
PROJECT #	: BP# 11096/ G342790	DATE EXTRACTED	: N/A
PROJECT NAME	: BP# 11096/EDMONDS	DATE ANALYZED	: 12/13/94
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	20.4	102	N/A	N/A	N/A
TOLUENE	<0.500	20.0	21.0	105	N/A	N/A	N/A
TOTAL XYLENES	<0.500	40.0	42.0	105	N/A	N/A	N/A
GASOLINE	<100	1000	1070	107	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	102	N/A	76 - 120
TRIFLUOROTOLUENE	96	N/A	50 - 150



ATI I.D. # 412066

BETX - GASOLINE
QUALITY CONTROL DATA

CLIENT	: CHARLES A. GOVE & ASSOCIATES	SAMPLE I.D. #	: 412057-1
PROJECT #	: BP# 11096/ G342790	DATE EXTRACTED	: N/A
PROJECT NAME	: BP# 11096/EDMONDS	DATE ANALYZED	: 12/13/94
SAMPLE MATRIX	: WATER	UNITS	: ug/L
METHOD	: WA DOE WTPH-G/8020 (BETX)		

COMPOUND	SAMPLE RESULT	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		93		50 - 150	

NC = Not calculable.



ATI I.D. # 412066

BETX - GASOLINE
QUALITY CONTROL DATA

CLIENT	: CHARLES A. GOVE & ASSOCIATES	SAMPLE I.D. #	: 412052-1
PROJECT #	: BP# 11096/ G342790	DATE EXTRACTED	: N/A
PROJECT NAME	: BP# 11096/EDMONDS	DATE ANALYZED	: 12/12/94
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	20.1	101	20.1	101	0
TOLUENE	<0.500	N/A	N/A	20.0	20.9	105	20.8	104	0
TOTAL XYLENES	<0.500	N/A	N/A	40.0	41.6	104	41.1	103	1
GASOLINE	<100	<100	NC	1000	1020	102	970	97	5

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	101	76 - 120
TRIFLUOROTOLUENE	94	91	50 - 150

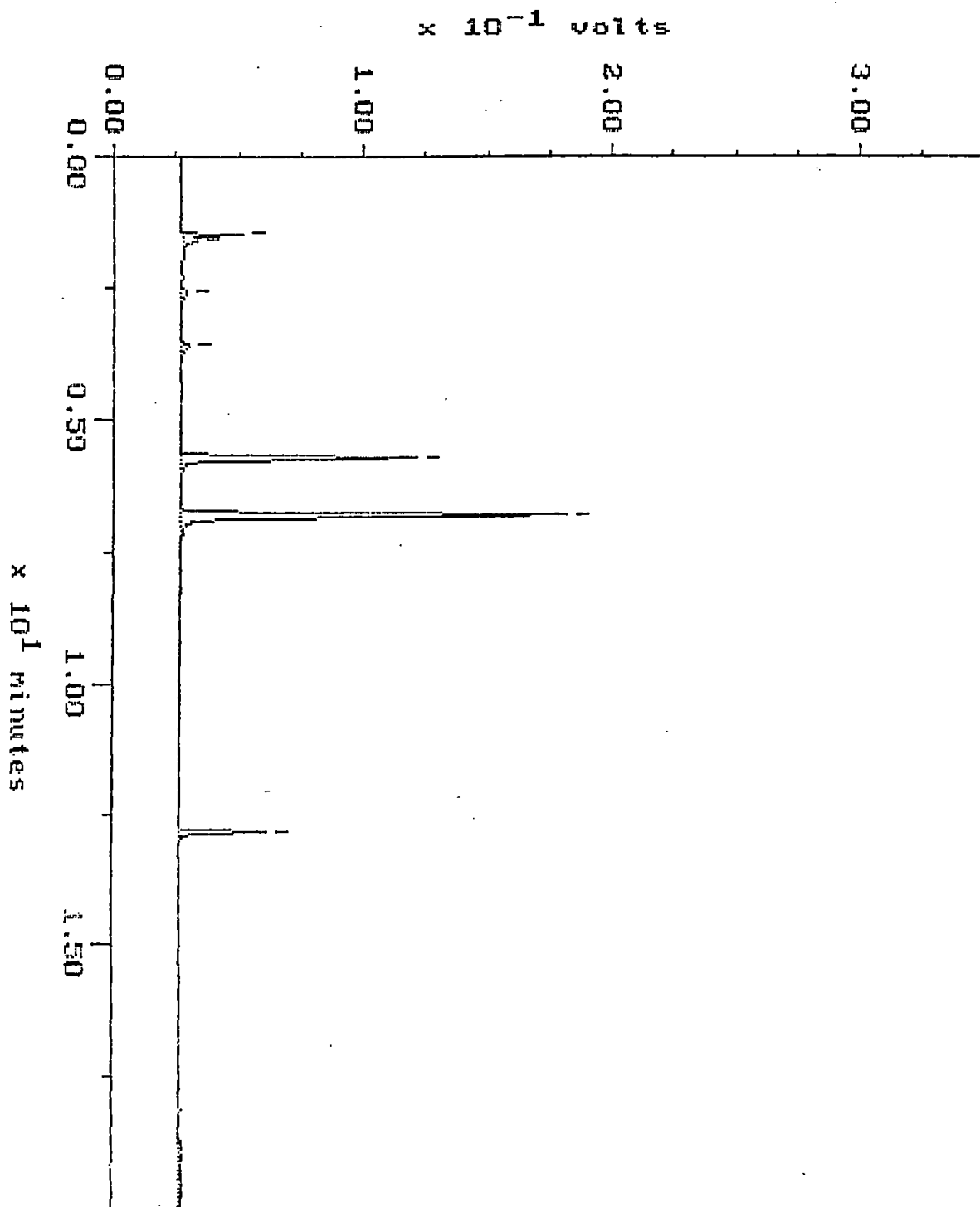
NC = Not calculable.

WA DO WTPH-G

Blank

Sample: WRB 12-12 Channel: FID
Acquired: 12-DEC-94 8:55 Method: X:\MAXDATA\PICARD\121294PC
Comments: ATI FUELS: A MISSION OF EXCELLENCE IN ANALYTICAL CHROMATOGRAPHY.

Filename: RC129P03
Operator: ATI

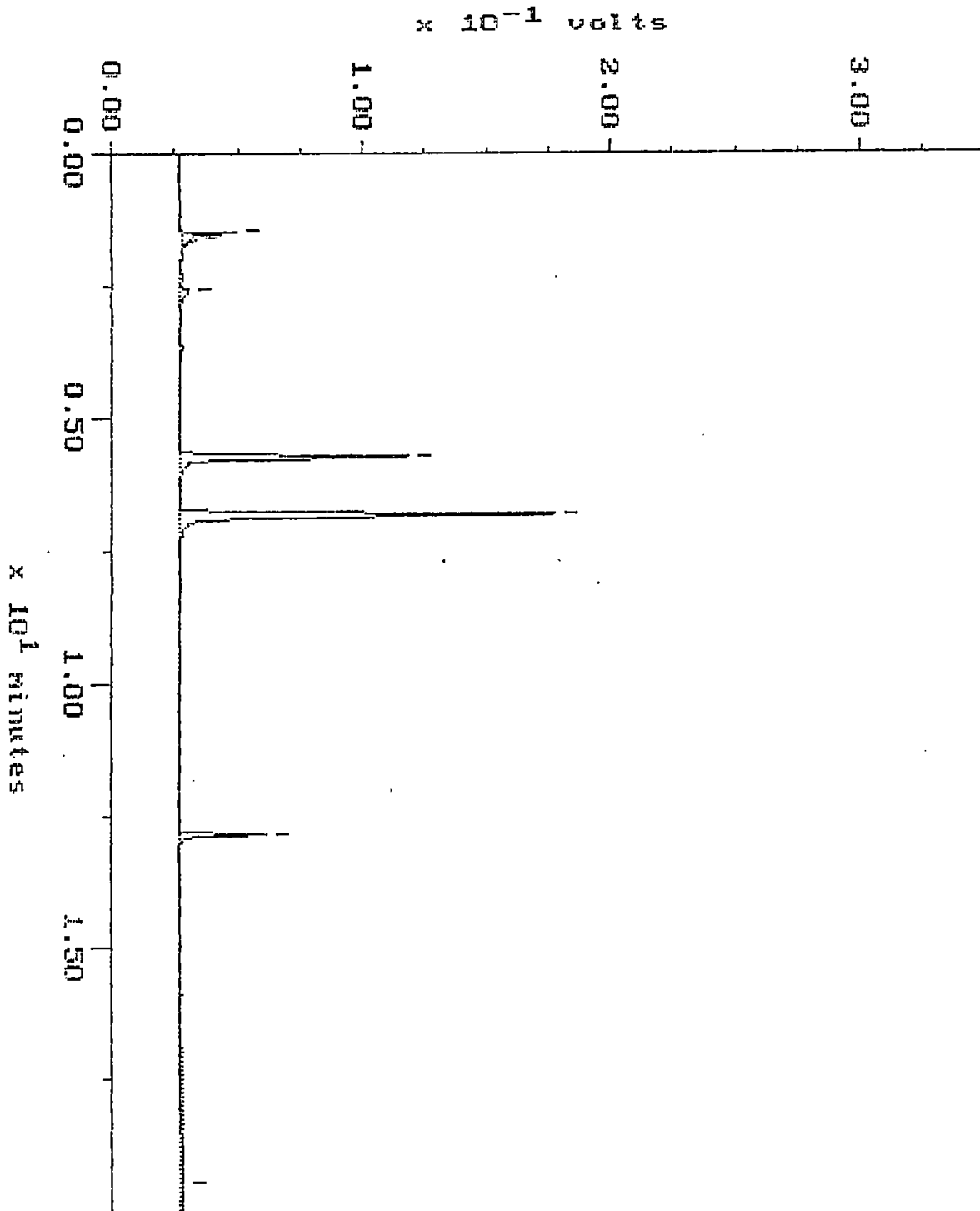


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WA DOE WTPH-G

Sample: WRB 12-13 Channel: FID
Acquired: 13-DEC-94 9:32 Method: X:\MAXDATA\PICARD\121394PC
Comments: ATI FUELS: A MISSION OF EXCELLENCE IN ANALYTICAL CHROMATOGRAPHY.

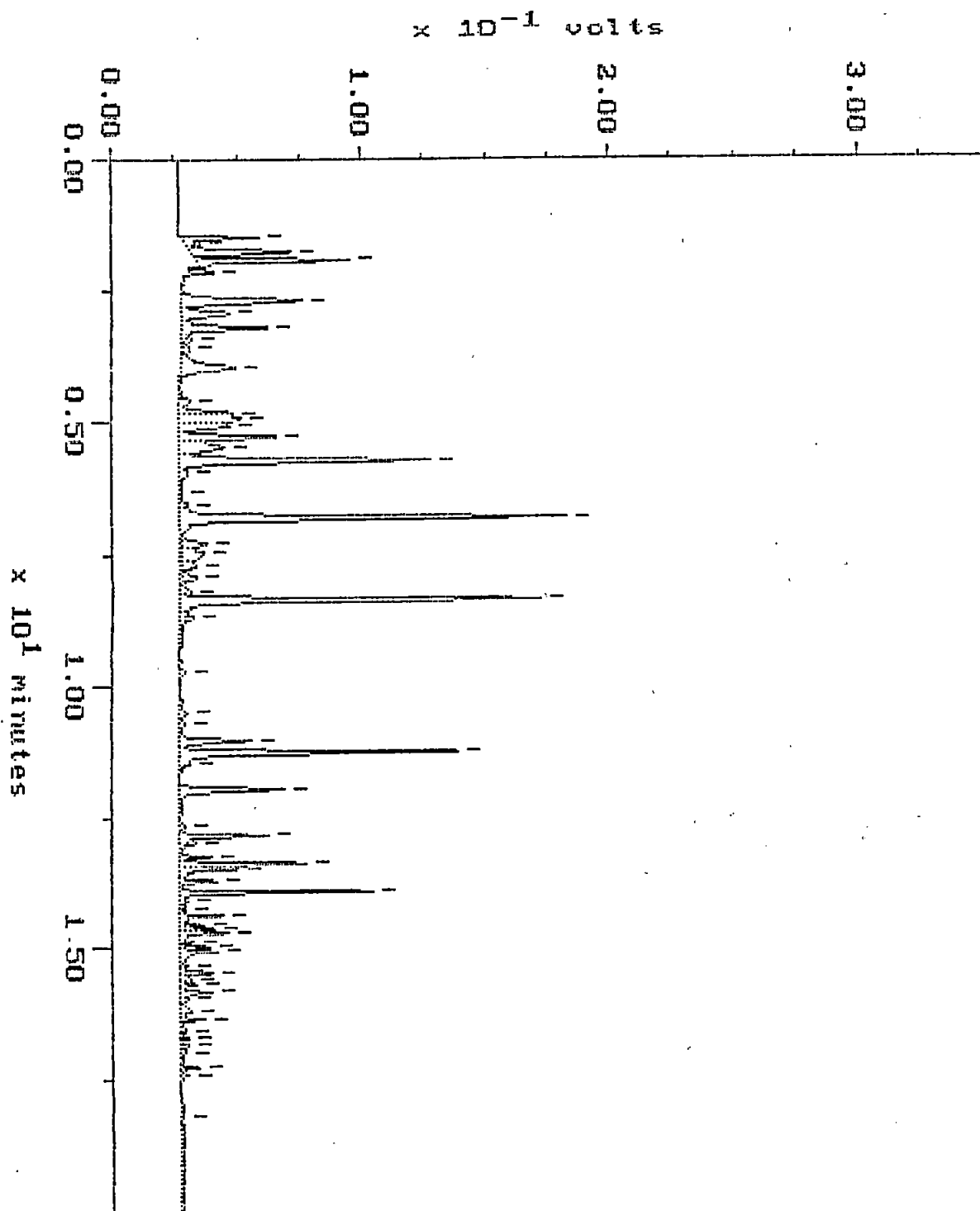
Filename: RC139P01
Operator: ATI



CONTINUING CALIBRATION

Sample: STD-C 6 Channel: FID
Acquired: 12-DEC-94 7:54 Method: X:\MAXDATA\PICARD\121294PC
Comments: ATI FUELS: A MISSION OF EXCELLENCE IN ANALYTICAL CHROMATOGRAPHY.

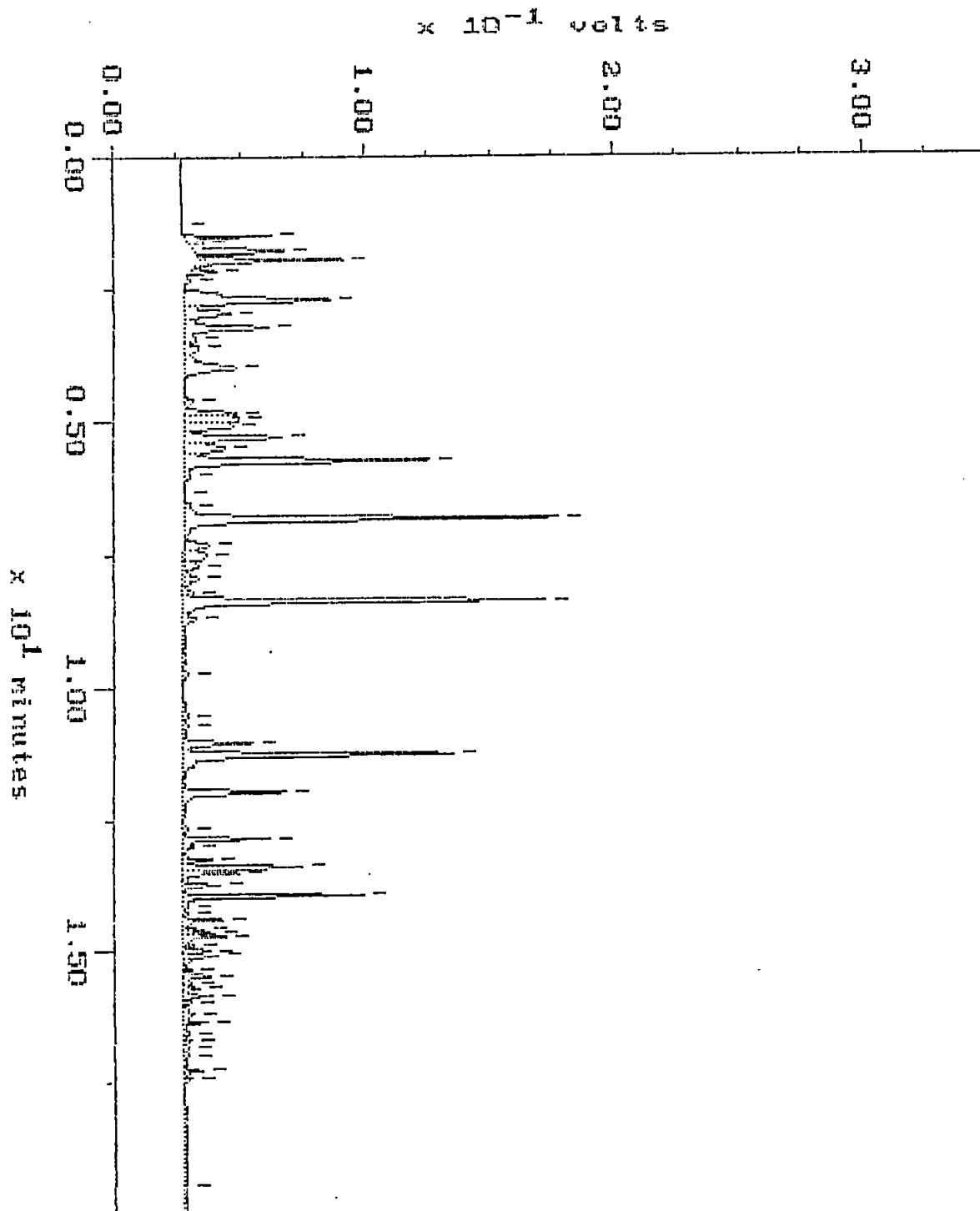
Filename: RC129P01
Operator: ATI



CONTINUING CALIBRATION

Sample: STD-C 6 Channel: FID
Acquired: 13-DEC-94 7:46 Method: X:\MAXDATA\PICARD\121294FC
Comments: ATI FUELS: A MISSION OF EXCELLENCE IN ANALYTICAL CHROMATOGRAPHY.

Filename: RC129P49
Operator: ATI



413066

CHAIN OF CUSTODY

No. 063286

Page 1 of 1

CONSULTANT'S NAME Charles A Gove & Assoc		ADDRESS PO Box 3963		CITY Bellevue	STATE WA	ZIP CODE 98006
BP SITE NUMBER 11096		BP CORNER ADDRESS/CITY 7601 Ballinger Way, Edmonds			CONSULTANT PROJECT NUMBER 94095	
CONSULTANT PROJECT MANAGER David Cooper		PHONE NUMBER (206) 451 1212	FAX NUMBER (206) 451 8856		CONSULTANT CONTRACT NUMBER G342790	
BP CONTACT Peter DeSantis		BP ADDRESS 295 SW 41st. Pl., Renton	PHONE NUMBER (206) 251 8909		FAX NO. (206) 451 0736	
LAB CONTACT Diana Spence		LABORATORY ADDRESS 560 Naches NW, Renton	PHONE NUMBER (206) 228 8335		FAX NO. (206) 363 1742	
SAMPLED BY (Please Print Name) Bruce Lomer		SAMPLED BY (Signature) 	SHIPMENT DATE 9th Dec '96		SHIPMENT METHOD Express	

TAT: ☐ 24 Hours ☐ 48 Hours ☐ 1 Week ☐ Standard 2 Weeks	ANALYSIS REQUIRED	AIRBILL NUMBER
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[illegible]

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	ADDITIONAL COMMENTS
G. B. Love / CAG	9/12/94	5:30	W. A. 898	12/9	1730	W. A.
			St. for	12/9/94	1350	