3R - 285

GENERAL CORRESPONDENCE

YEAR(S):
1996 - 1995

District I
P.O. Box 1980, Hobbs, NM
District II
P.O. Drawer DD, Artesia, NM 88211
District III
1000 Rio Brazos Rd, Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

SUBMIT 1 COPY TO APPROPRIATE DISTRICT OFFICE AND 1 COPY TO SANTA FE OFFICE

(Revised 3/9/94)

PIT REMEDIATION AND CLOSURE REPORT

Operator: Meridian Oil Inc Telephone: 326-9700

Address: 3535 E. 30th., Farmington, NM 87401

Facility Or: Ramona ET NL #1
Well Name

Location: Unit or Qtr/Qtr Sec I Sec 13 T 27N R 9W County San Juan

Pit Type: Separator ___ Dehydrator ___ Other Tank

Land Type: BLM ___, State ___, Fee ___, Other Navajo Indian

Pit Location: (Attach diagram)
Pit dimensions: length 15', width 14', depth 2'
Reference: wellhead X, other ___
Footage from reference: 180'
Direction from reference: 140° Degrees ✓ East North ✓ of ___ West South ___

Depth To Ground Water: (Vertical distance from contaminants to seasonal high water elevation of ground water)	Less than 50 feet (20 points) 50 feet to 99 feet (10 points) Greater than 100 feet (0 Points)	20
Wellhead Protection Area: (Less than 200 feet from a private domestic water source, or; less than 1000 feet from all other water sources)	Yes (20 points) No (0 points)	0
Distance To Surface Water: (Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)	Less than 200 feet (20 points) 200 feet to 1000 feet (10 points) Greater than 1000 feet (0 points)	10
	RANKING SCORE (TOTAL POINTS):	30

Date Remediation Started: 7/24/95 **Date Completed:** 7/24/95

Remediation Method: (Check all appropriate sections) Excavation ✓ Approx. cubic yards 64

Landfarmed ✓ Insitu Bioremediation ___

Other ___

Remediation Location: (ie. landfarmed onsite, name and location of offsite facility) Onsite ✓ Offsite ___

General Description Of Remedial Action: Contaminated soils within the Pit area were removed & Placed on the Surface for remediation

Ground Water Encountered: No ___ Yes ✓ Depth 6'

Final Pit: Closure Sampling: (if multiple samples, attach sample results and diagram of sample locations and depths)

Sample location 4 point Composite Sample from the bottom of the excavation.

Sample depth 6'

Sample date 5/15/96 Sample time ___

Sample Results

Benzene(ppm) <0.25

Total BTEX(ppm) 25.3

Field headspace(ppm) —

TPH 160

Ground Water Sample: Yes ✓ No ___ (If yes, attach sample results) See attached Report

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF

DATE 5/31/96

SIGNATURE C A. Bock PRINTED NAME AND TITLE CRAIG A. Bock. Environmental Representative

District I
P.O. Box 1980, Hobbs, NM
District II
P.O. Drawer DD, Artesia, NM 88211
District III
1000 Rio Brazos Rd, Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

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P.O. Box 2088
Santa Fe, New Mexico 87504-2088

SUBMIT 1 COPY TO APPROPRIATE DISTRICT OFFICE AND 1 COPY TO SANTA FE OFFICE

(Revised 3/9/94)

PIT REMEDIATION AND CLOSURE REPORT

Operator: Meridian Oil Inc. Telephone: 326-9700

Address: 3535 E. 30th ST, Farmington, NM 87401

Facility Or: Ramental ET AL #1
Well Name

Location: Unit or Qtr/Qtr Sec J Sec 13 T 27N R 9W County San Juan

Pit Type: Separator ___ Dehydrator ___ Other Blow Pit

Land Type: BLM ___, State ___, Fee ___, Other Navajo Indian

Pit Location: (Attach diagram)
Pit dimensions: length 12', width 12', depth 1'
Reference: wellhead ✓, other ___
Footage from reference: 170'
Direction from reference: 186° Degrees ✓ East North ✓ of ___ West South ___

Depth To Ground Water: (Vertical distance from contaminants to seasonal high water elevation of ground water)	Less than 50 feet (20 points) 50 feet to 99 feet (10 points) Greater than 100 feet (0 Points)	20
Wellhead Protection Area: (Less than 200 feet from a private domestic water source, or; less than 1000 feet from all other water sources)	Yes (20 points) No (0 points)	0
Distance To Surface Water: (Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)	Less than 200 feet (20 points) 200 feet to 1000 feet (10 points) Greater than 1000 feet (0 points)	10
	RANKING SCORE (TOTAL POINTS):	30

Date Remediation Started: 7/24/95 **Date Completed:** 7/24/95

Remediation Method: (Check all appropriate sections) Excavation ✓ Approx. cubic yards 54

Landfarmed ✓ Insitu Bioremediation ___

Other ___

Remediation Location: (ie. landfarmed onsite, name and location of offsite facility) Onsite ✓ Offsite ___

General Description Of Remedial Action: Contaminated soils within the pit area were removed and placed on the surface for Remediation.

Ground Water Encountered: No ___ Yes ✓ Depth 10'

Final Pit: Closure Sampling: (if multiple samples, attach sample results and diagram of sample locations and depths)

Sample location 4 point composite from the bottom of the excavation.

Sample depth 10'

Sample date 5/15/96 Sample time ___

Sample Results

Benzene(ppm) ≤0.05

Total BTEX(ppm) 2.06

Field headspace(ppm) —

TPH ND

Ground Water Sample: Yes ✓ No ___ (If yes, attach sample results) See Attached report.

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF

DATE 5/31/96

SIGNATURE C A. Bock PRINTED NAME AND TITLE CRAIG A. Bock Environmental Representative

District I
P.O. Box 1980, Hobbs, NM
District II
P.O. Drawer DD, Artesia, NM 88211
District III
1000 Rio Brazos Rd, Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

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P.O. Box 2088
Santa Fe, New Mexico 87504-2088

SUBMIT 1 COPY TO APPROPRIATE DISTRICT OFFICE AND 1 COPY TO SANTA FE OFFICE

(Revised 3/9/94)

PIT REMEDIATION AND CLOSURE REPORT

Operator: Meridian Oil Inc. Telephone: 326-9700

Address: 3535 E. 30th St, Farmington, NM 87401

Facility Or: Ramanta ET AL #1
Well Name

Location: Unit or Qtr/Qtr Sec J Sec 13 T 27N R 9W County San Juan

Pit Type: Separator ✓ Dehydrator ___ Other ___

Land Type: BLM ___, State ___, Fee ___, Other Navajo Indian

Pit Location: (Attach diagram)
Pit dimensions: length 16', width 12', depth 1

Reference: wellhead ✓, other ___

Footage from reference: 140'

Direction from reference: 179 Degrees ✓ East North ___ of ___ West South ___

Depth To Ground Water: (Vertical distance from contaminants to seasonal high water elevation of ground water)	Less than 50 feet (20 points) 50 feet to 99 feet (10 points) Greater than 100 feet (0 Points)	20
Wellhead Protection Area: (Less than 200 feet from a private domestic water source, or; less than 1000 feet from all other water sources)	Yes (20 points) No (0 points)	0
Distance To Surface Water: (Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)	Less than 200 feet (20 points) 200 feet to 1000 feet (10 points) Greater than 1000 feet (0 points)	10
	RANKING SCORE (TOTAL POINTS):	30

Date Remediation Started: 7/24/95 **Date Completed:** 7/24/95

Remediation Method: (Check all appropriate sections) Excavation ✓ Approx. cubic yards 67

Landfarmed ✓ Insitu Bioremediation ___

Other ___

Remediation Location: (ie. landfarmed onsite, name and location of offsite facility) Onsite ✓ Offsite ___

General Description Of Remedial Action: Contaminated soils within the pit area were removed and Placed on the Surface for Remediation

Ground Water Encountered: No ___ Yes ✓ Depth 10'

Final Pit: Closure Sampling: (if multiple samples, attach sample results and diagram of sample locations and depths)

Sample location 4 point Composite Sample from the bottom of the excavation.

Sample depth 10'

Sample date 5/15/96 Sample time ___

Sample Results

Benzene(ppm) ___

Total BTEX(ppm) ___

Field headspace(ppm) < 100 ppm

TPH ND

Ground Water Sample: Yes ✓ No ___ (If yes, attach sample results) See attached Report

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF

DATE 5/31/96

SIGNATURE [signature] PRINTED NAME AND TITLE Craig Bock. Environmental Representative

Post-it® Fax Note 7671	Date 5/30/96	# of pages ▶ 2
To Craig Bock	From Sarah Kelly	
Co./Dept. Meridian	Co. Philip.	
Phone #	Phone #	
Fax #	Fax #	

Zenor
Envir
Labor

ZENON

Certificate of Analysis

CLIENT INFORMATION

Attention: Sarah Kelly
Client Name: Philip Environmental Inc.
Project: 15904
Project Desc: MOI Pits

Address: 4000 Monroe Road
Farmington, NM
87401
Fax Number: 505 326-2388
Phone Number: 505 326-2262

LABORATORY INFORMATION

Contact: Ada Blythe, B.Sc., C.Chem.
Project: AN960169
Date Received: 96/05/16
Date Reported: 96/05/24

Submission No.: 6E0481
Sample No.: 016359-016366

Regional Laboratories:
British Columbia
Ontario
Quebec

NOTES: *'-' = not analysed '<' = less than Method Detection Limit (MDL) 'NA' = no data available*
LOQ can by determined for all analytes by multiplying the appropriate MDL X 3.33
Solids data is based on dry weight except for biota analyses.
Organic analyses are not corrected for extraction recovery standards except for isotope dilution methods, (i.e. CARB 429 PAH, all PCDD/F and DBD/DBF analyses)

Methods used by Zenon are based upon those found in 'Standard Methods for the Examination of Water and Wastewater', Seventeenth Edition. Other methods are based on the principles of MISA or EPA methodologies.

All work recorded herein has been done in accordance with normal professional standards using accepted testing methodologies, quality assurance and quality control procedures except where otherwise agreed to by the client and testing company in writing. Any and all use of these test results shall be limited to the actual cost of the pertinent analysis done. There is no other warranty expressed or implied. Your samples will be retained at Zenon for a period of three weeks from receipt of data or as per contract.

COMMENTS:

(1) Diesel Range Organics

Certified by: ABlythe

Zenon Environmental Laboratories - Certificate of Analysis

Blow pit separator pit S/T Pit

			Method	M6	M6	M6	M6	M6	M6
	Client ID:		Blank	Z7196-2-V	29040A-1-2-V	29040A-2-2-V	29040A-3-2-A	28981A-2-V	28983A-1-2-V
	Zenon ID:		016359 96	016360 96	016361 96	016362 96	016363 96	016364 96	016365 96
	Date Sampled:		96/05/15	96/05/15	96/05/15	96/05/15	96/05/15	96/05/15	96/05/15
Component	**MDL**	**Units**							
BTEX via SW846 Method 8260									
Benzene	0.005	mg/kg	<	<	<0.050	-	<0.25	<0.050	-
Toluene	0.005	"	0.010	0.012	0.13	-	0.23	0.13	-
Ethylbenzene	0.005	"	<	<	<0.050	-	<0.25	0.20	-
m&p-Xylene	0.005	"	<	0.008	1.5	-	23	120	-
o-Xylene	0.005	"	<	<	0.33	-	1.6	24	-
Surrogate Recoveries		%							
d4-1,2-Dichloroethane			101	103	120	-	95	107	-
d8-Toluene			89	100	98	-	104	98	-
Bromofluorobenzene			90	115	83	-	103	95	-
							(1)	(1)	(1)
TPH via SW846 Method 8015 (mod.)	19	mg/kg	<	<	<	<	160	370	31
Extractable Petroleum Hydrocarbons		%							
Surrogate Recoveries			83	103	108	77	75	105	133
5-a-Androstane									

Rementa #1

DP# 29040A

See first page for explanation of symbols

OFF: (505) 325-8786

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-5667

TOTAL PETROLEUM HYDROCARBONS

Attn:	*Guy L. Garretson*	Date:	20-Nov-95
Company:	*Meridian Oil, Inc.*	*COC No.:*	*3686*
Address:	*P.O. Box 4289*	*Sample No.*	*9266*
City, State:	*Farmington, NM 87499*	*Job No.*	*2-1000*

Project Name:	***Meridian Oil - Ramenta #1 Landfarm***				
Project Location:	***Ramenta/1/1A/1LF***				
Sampled by:	GG	Date:	14-Nov-95	Time:	17:30
Analyzed by:	DC	Date:	17-Nov-95		
Type of Sample:	*Soil*				

Laboratory Analysis

Analyte	*Result*	*Units of Measure*	*Detection Limit*	*Units of Measure*
Gasoline Range (C5 - C9)	<5.0	*mg/kg*	5.0	*mg/kg*
Diesel Range (C10 - C28)	<5.0	*mg/kg*	5.0	*mg/kg*
TOTAL	<5.0	*mg/kg*		

Quality Assurance Report

GRO QC No.: *0429-STD*
DRO QC No.: *0435-STD*

Calibration Check

Analyte	*Method Blank*	*Units of Measure*	*True Value*	*Analyzed Value*	*% Diff*	*Limit*
Gasoline Range (C5 - C9)	*<50*	*ppb*	1,351	1,334	1.3	15%
Diesel Range (C10 - C28)	*<5*	*ppm*	2,000	2,044	2.2	15%

Matrix Spike

Analyte	*1- Percent Recovered*	*2 - Percent Recovered*	*Limit*	*%RSD*	*Limit*
Gasoline Range (C5-C9)	97	100	(70-130)	2	20%
Diesel Range (C10-C28)	102	111	(70-130)	6	20%

Method *- SW-846 EPA Method 8015A mod. - Nonhalogenated Volatile Hydrocarbons by Gas Chromatography*

Approved by: Dale
Date: 11/20/95

OFF: (505) 325-8786

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-5667

TOTAL PETROLEUM HYDROCARBONS

Attn:	*Guy L. Garretson*	Date:	20-Nov-95
Company:	*Meridian Oil, Inc.*	*COC No.:*	*3686*
Address:	*P.O. Box 4289*	*Sample No.*	*9265*
City, State:	*Farmington, NM 87499*	*Job No.*	*2-1000*

Project Name:	***Meridian Oil - Ramenta #1*** Land farm				
Project Location:	***Ramenta/1/1A/2LF***				
Sampled by:	GG	Date:	14-Nov-95	Time:	17:45
Analyzed by:	DC	Date:	17-Nov-95		
Type of Sample:	*Soil*				

Laboratory Analysis

Analyte	*Result*	*Units of Measure*	*Detection Limit*	*Units of Measure*
Gasoline Range (C5 - C9)	<5.0	*mg/kg*	5.0	*mg/kg*
Diesel Range (C10 - C28)	15.6	*mg/kg*	5.0	*mg/kg*
TOTAL	15.6	*mg/kg*		

Quality Assurance Report

GRO QC No.: *0429-STD*
DRO QC No.: *0435-STD*

Calibration Check

Analyte	*Method Blank*	*Units of Measure*	*True Value*	*Analyzed Value*	*% Diff*	*Limit*
Gasoline Range (C5 - C9)	*<50*	*ppb*	1,351	1,334	1.3	15%
Diesel Range (C10 - C28)	*<5*	*ppm*	2,000	2,044	2.2	15%

Matrix Spike

Analyte	*1- Percent Recovered*	*2 - Percent Recovered*	*Limit*	*%RSD*	*Limit*
Gasoline Range (C5-C9)	97	100	(70-130)	2	20%
Diesel Range (C10-C28)	102	111	(70-130)	6	20%

Method - *SW-846 EPA Method 8015A mod. - Nonhalogenated Volatile Hydrocarbons by Gas Chromatography*

Approved by: DaG
Date: 11/20/95

ON SITE
TECHNOLOGIES, LTD.

OFF: (505) 325-8786 LAB: (505) 325-5667

TOTAL PETROLEUM HYDROCARBONS

Attn:	*Guy L. Garretson*	Date:	20-Nov-95
Company:	*Meridian Oil, Inc.*	*COC No.:*	*3686*
Address:	*P.O. Box 4289*	*Sample No.*	*9264*
City, State:	*Farmington, NM 87499*	*Job No.*	*2-1000*

Project Name:	***Meridian Oil - Ramenta #1*** Sandfarm				
Project Location:	***Ramenta/1/1A/3LF***				
Sampled by:	GG	Date:	14-Nov-95	Time:	18:00
Analyzed by:	DC	Date:	17-Nov-95		
Type of Sample:	*Soil*				

Laboratory Analysis

Analyte	Result	Units of Measure	Detection Limit	Units of Measure
Gasoline Range (C5 - C9)	<5.0	*mg/kg*	5.0	*mg/kg*
Diesel Range (C10 - C28)	<5.0	*mg/kg*	5.0	*mg/kg*
TOTAL	<5.0	*mg/kg*		

Quality Assurance Report

GRO QC No.: *0429-STD*
DRO QC No.: *0435-STD*

Calibration Check

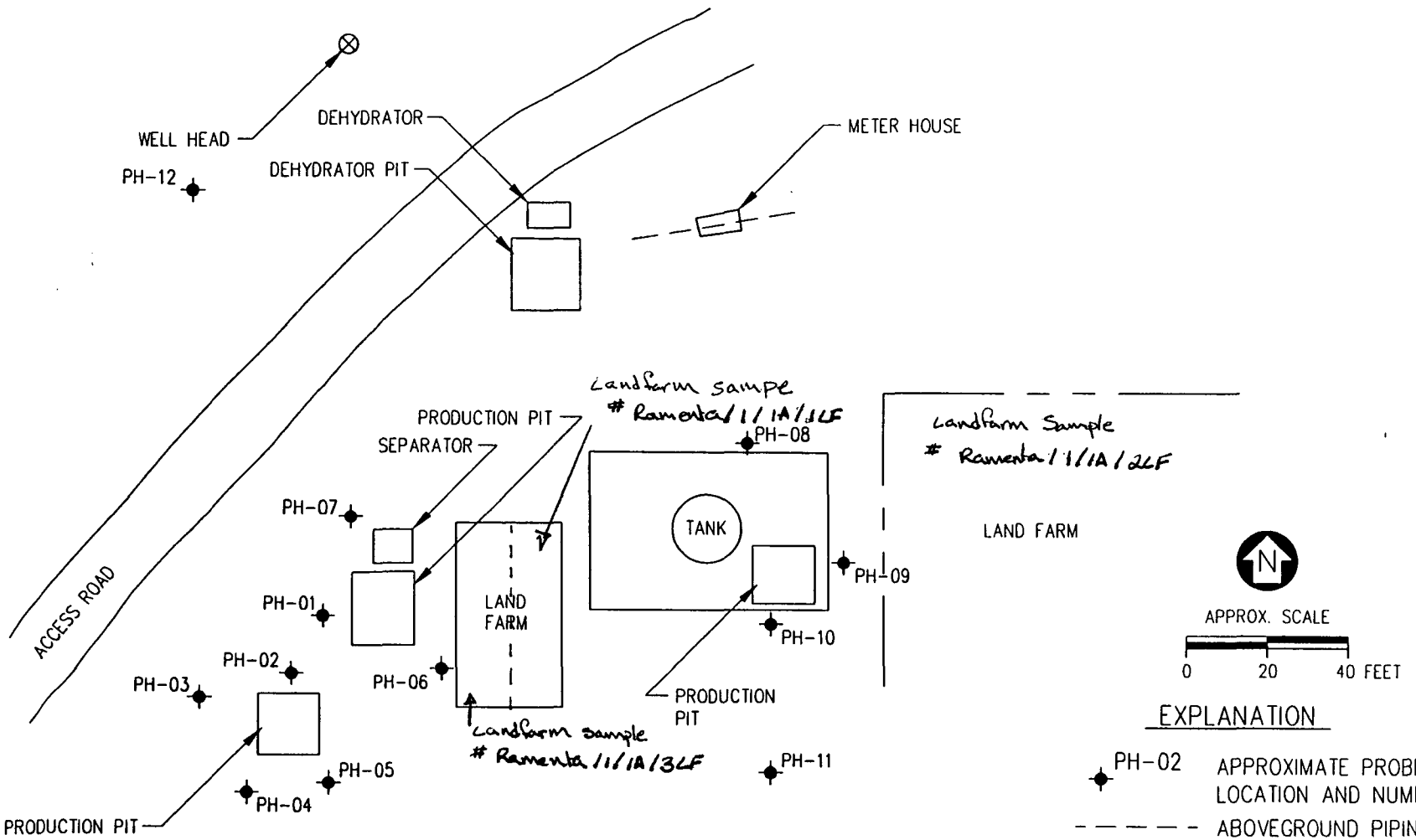
Analyte	Method Blank	Units of Measure	True Value	Analyzed Value	% Diff	Limit
Gasoline Range (C5 - C9)	*<50*	*ppb*	1,351	1,334	1.3	15%
Diesel Range (C10 - C28)	*<5*	*ppm*	2,000	2,044	2.2	15%

Matrix Spike

Analyte	1- Percent Recovered	2 - Percent Recovered	Limit	%RSD	Limit
Gasoline Range (C5-C9)	97	100	(70-130)	2	20%
Diesel Range (C10-C28)	102	111	(70-130)	6	20%

Method - *SW-846 EPA Method 8015A mod. - Nonhalogenated Volatile Hydrocarbons by Gas Chromatography*

Approved by: DaG
Date: 11/20/95



T27 R 9 SEC 13 UNIT J

PHILIP ENVIRONMENTAL

TITLE: REMENTA ET. AL. NO. 1

SCALE	AS NOTED	DATE
DWN:	M.R.W.	01/04/96
DES:		
CHKD:		
APPD:		

PROJECT NO: 15284
MOI-REMENTA RECON

FIGURE 1

REV: 1

COL. J:\15284\CIV\CL001

MERIDIAN OIL

February 23, 1996 *Certified - P 895 114 300*

James D. Walker
Environmental Engineer
Groundwater Pollution Control Program
P.O. Box 1979
Shiprock, New Mexico 87420

Re: Ramenta Et. Al. Groundwater Investigation
Investigation Results

Dear Mr. Walker:

During Meridian Oil Inc.'s (MOI) pit closure operations in 1995, groundwater was encountered on the Ramenta Et. Al. #1 production location. Consequently, MOI conducted a groundwater survey in the area of the production pits on November 16, 1995. The purpose of the survey was to determine the impact of MOI production operations to groundwater in the area of the unlined production pits.

Attached is a report that details the procedures and the results of the groundwater survey. Each sample taken from the groundwater was analyzed for Benzene, Toluene, Ethylbenze and Xylene (BTEX). An illustration of the boreholes where each sample was taken is shown in Figure 1 (Tab #1) of the report.

As shown in Appendix A (Tab A) of the report, none of the samples resulted in BTEX concentrations above New Mexico Water Quality Control Standards. The results of the groundwater survey shows that MOI operations on the Ramenta Et. Al. #1 did not impact groundwater. MOI would like the approval of the Navajo Nation EPA to backfill the excavated unlined production pits and consider the matter closed.

If you have any questions please call me at 326-9537.

Sincerely,

Craig A. Bock
Environmental Representative

Attachments: RECON Groundwater Survey, Ramenta ET. AL. No. 1 Well Site Report

cc: Steve Florez - MOI (w/o attachments)
William Olson - NMOCD-Santa Fe (w/attachments)

s:\craig\corresp\nav2396.doc

P.O. Box 4289, Farmington, New Mexico 87499-4289, Telephone 505-326-9700, Fax 505-326-9833
3535 East 30th St., 87402-8891

RECON® GROUNDWATER SURVEY
REMENTA ET. AL. NO. 1 WELL SITE
SAN JUAN BASIN, NEW MEXICO

JANUARY 1996

Prepared For

MERIDIAN OIL INC.
FARMINGTON, NEW MEXICO

Project 15284

PHILIP
ENVIRONMENTAL

RECON® GROUNDWATER SURVEY
REMENTA ET. AL. NO. 1 WELL SITE
SAN JUAN BASIN, NEW MEXICO

JANUARY 1996

Prepared For

MERIDIAN OIL INC.
FARMINGTON, NEW MEXICO

Project 15284

PHILIP
ENVIRONMENTAL

4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262

TABLE OF CONTENTS

FIGURES

APPENDICES

1.0 INTRODUCTION

At the request of Meridian Oil Inc. (Meridian), Philip Environmental Services Corporation (Philip) conducted a RECON® groundwater survey at the Rementa et. al. No.1 Well site, located in the San Juan Basin near Farmington, New Mexico. The RECON® survey was performed on November 16, 1995.

A total of 12 groundwater samples were collected from 12 probe-hole locations at the site. The 12 groundwater samples were analyzed on-site for the following constituents:

- benzene
- toluene
- ethylbenzene
- *meta*- and *para*-xylene
- *ortho*-xylene

The groundwater samples were collected at locations selected by the representatives from Meridian and Philip. The sampling locations were selected based on the location of on-site utilities, the inferred direction of groundwater flow, vehicle accessibility, and suspected presence of contamination. At the completion of sampling activities, the sample locations were recorded by Philip personnel (Figure 1).

The sample analytical results, chromatography field analysis work sheets, and sample chromatograms are contained in Appendices A, B, and C, respectively.

2.0 VOLATILE HYDROCARBON ANALYSIS

The samples were prepared and analyzed using field modifications to United States Environmental Protection Agency (USEPA) SW-846 Method 3810 (static headspace screening) and Method 8020 for aromatic volatile organic analysis. The field modifications provide USEPA Level II field screening data for establishing the identity and relative concentration of compounds detected.

A Hewlett-Packard Model 5890A Series II gas chromatograph (GC) was used for the analysis of the samples. Compound separation and detection were performed using a 30-meter, wide-bore DB-5 capillary column and a photoionization detector (PID). Each analysis was performed at 50° Centigrade (C) for two minutes with an increase of 10°C per minute to a final temperature of 95°C. The total analysis time for each sample was 6.5 minutes.

Sample component concentrations were measured based on an external standard calibration. Known concentrations of benzene, toluene, ethylbenzene, *meta*- and *para*-xylene, and *ortho*-xylene (BTEX) were injected as a calibration gas mixture into the GC. Compound peak areas versus standard concentrations were used to calculate sample concentrations. The computing integrator performs the calculation but will occasionally mislabel a peak, and the calculation must be performed by hand. Compound identification was based on comparison of target compound retention times with sample retention times. A reference peak compound, α,α,α-trifluorotoluene (α,α,α-TFT), was added to each sample as an internal standard to aid in target compound identification. Sample matrices and coeluting compounds can make peak recognition and identification difficult. Therefore, compounds are considered as tentatively identified.

The lower quantifiable limit (LQL) is the lowest concentration of a compound that can be practicably measured relative to the calibration standard. Quantifiable limits are a function of the injection volume and the detector sensitivity. The LQL is calculated from the current target compound response factor, sample size, and the estimated peak area that would have been detected under the given conditions. The LQL for BTEX was 1 microgram per liter (µg/L) for the duration of the project.

Analytical results for the samples analyzed by this technique will not necessarily be the same as those obtained by submitting the same samples for laboratory analysis. Different techniques are used in each case, and although method sensitivities and accuracies are comparable, different results are possible.

3.0 METHODOLOGIES

3.1 COLLECTION OF GROUNDWATER SAMPLES

A hydraulic-driving unit was used to drive and withdraw the groundwater sampling equipment. A hydraulic hammer was used, where necessary, to assist in driving the probes through unusually hard soil. The groundwater sampling equipment consisted of 3-foot sections of 1-inch diameter threaded-steel pipes fitted with a detachable drive point. After the groundwater sampling probe was driven to the desired sampling depth, a section of polyethylene tubing was inserted through the probe hole into the water table. The above ground end of the tubing was connected to a peristaltic pump which was used to draw the groundwater to the surface through the polyethylene tubing. The peristaltic pump was then turned off, the tubing pulled to the surface, the flow direction in the peristaltic pump reversed and the water in the tubing pumped into 40-milliliter (mL) glass vials, which were sealed with Teflon®-lined septum-screw lids. Two of the glass vials were subsequently given to the GC technician for on-site analysis. The remaining glass vials were given to the on-site representative from Meridian for off-site laboratory analysis.

Philip collected groundwater samples from 10 to 12 feet below land surface (bls) at each of the probe holes.

A 20-mL aliquot of the groundwater sample was placed into a headspace vial containing 3 grams of reagent grade sodium sulfate (Na_2SO_4) and shaken for two minutes. An internal standard of α, α,α-TFT was then added to the sample vial, and the vial was heated at 90°C for ten minutes to equilibrate the volatile components between the liquid and the air in the vial. An aliquot of up to 500 microliters (μL) of the headspace was collected by inserting a syringe through the septum of the vial and pulling the headspace sample into the syringe. The aliquot was then directly injected into the GC. The results of the groundwater analyses BTEX are presented in Appendix A.

To prevent cross contamination, clean decontaminated probe rods, a new detachable drive point, and new polyethylene tubing were used to collect each groundwater sample. Each probe hole was plugged from total depth to land surface with granular bentonite.

4.0 FIELD ANALYTICAL QUALITY CONTROL

4.1 STANDARDS AND CALIBRATION

The GC was calibrated, prior to sample analysis, using a single-point external standard calibration procedure. Known concentrations of the target compounds were prepared as a gas-phase standard.

A calibration check was performed periodically during the on-site analysis by analyzing an aliquot of the calibration standard. The calibration check is used to validate target compound retention times and sample recoveries.

An internal reference peak compound, α,α,α-TFT, is added to all samples to aid in target compound identification. This reference compound serves to increase the accuracy of target compound recognition and provides qualitative sample injection information. The α,α,α-TFT is used as an internal reference peak compound because of the unlikely detection of the compound in samples collected on-site.

4.2 SYSTEM BLANKS

A chromatographic system blank is analyzed at the beginning of each survey day prior to calibration and analysis of samples. In addition, a system blank is analyzed after every ten samples, or at least once daily for each survey. The system blank is used as a means of assuring that sample carryover has not occurred. If sample carryover has occurred, the concentration detected in the system blank indicates the levels at which carryover may have occurred. Analytical results for blanks are presented in Appendix A, with the sample results.

4.3 SAMPLE DUPLICATES

A duplicate sample analysis is performed after every ten samples, or at least once daily for each survey. The duplicate analysis serves to demonstrate analytical reproducibility. Duplicate sample results of plus or minus 20 percent of the original sample results are considered acceptable. Analytical results for duplicates are presented in Appendix A with the sample results.

5.0 ANALYTICAL QUALITY ASSURANCE

Quality assurance was performed by implementing the following procedures:

1. Review all raw data sheets, chromatograms, field sampling and analysis work sheets.

2. Note chromatographic abnormalities.

3. Correlate sample identification, injection volumes, and dilution multipliers on work sheets and chromatograms.

4. Tentatively identified target compounds are reviewed and reverse response factor evaluation performed to detect possible quantitative errors due to the computing integrator, target compound mismatch, manual calculations, or incorrect calibration parameters.

5. Archive raw data, work sheets, chromatograms, and the final report.

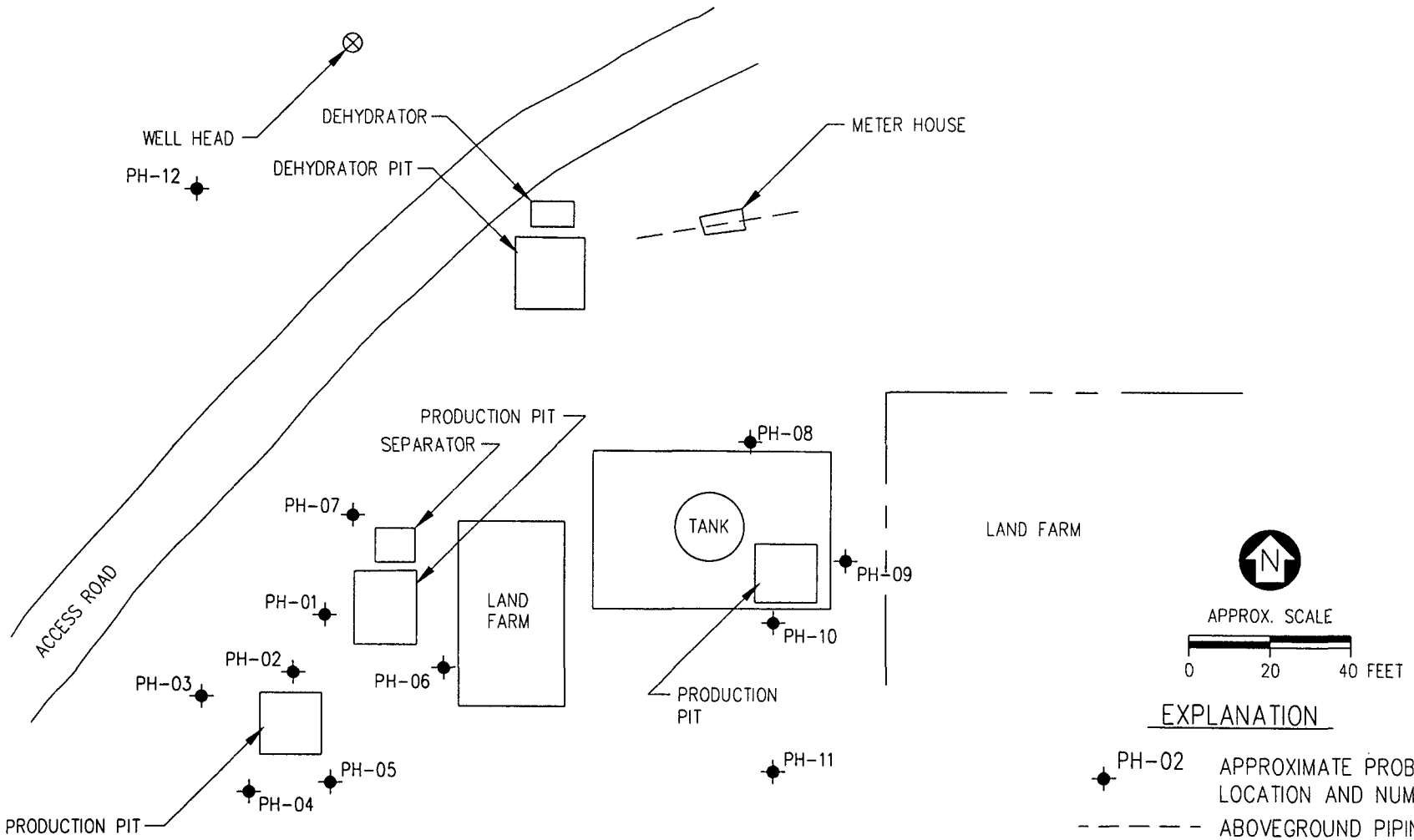
6.0 LIMITATIONS OF SCREENING SURVEY

This site-screening survey has been performed for Meridian for its use in evaluating potential subsurface contamination at the subject site. This report has been prepared to summarize the groundwater data that were generated during the survey.

Philip warrants that this work has been performed according to generally accepted practices for the screening of groundwater for hydrocarbons and according to the Scope of Work authorized by Meridian. This report has not been prepared for use by parties other than Meridian, or its agents, nor for uses other than those stated above.

FIGURE 1

Site Map and Probe Hole Locations



T27 R 9 SEC 13 UNIT J

PHILIP ENVIRONMENTAL

TITLE:
REMENTA ET. AL. NO. 1

SCALE	AS NOTED	DATE	
DWN:	M.R.W.	01/04/96	
DES:			
CHKD:			
APPD:			

PROJECT NO: 15284
MOI-REMENTA RECON

FIGURE 1

REV: 1

COL. J:\15284\CIV\CL001

APPENDIX A

Groundwater Field Analytical Results

PHILIP

RECON SAMPLE ANALYSIS

DRAFT DATA SUMMARY TABLE

Project: 15284

Sample I.D.	Probe Hole Number	Depth (feet)	Benzene (ug/L)	Toluene (ug/L)	Ethyl benzene (ug/L)	m+p-Xylene (ug/L)	o-Xylene (ug/L)	Comments
Blank-01	N/A	N/A	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	QC - System Blank
STD-1116	N/A	N/A	232	232	232	232	232	Calibration Standard
Blank-02	N/A	N/A	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	QC - System Blank
Blank-03	N/A	N/A	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	QC - Probe Rod Blank
REMENTA#1-01	PH-01	10-12	2	15	2	8	3	Groundwater
REMENTA#1-02	PH-02	10-12	<1	5	<1	3	1	Groundwater
REMENTA#1-03	PH-03	10-12	<1	5	<1	4	1	Groundwater
REMENTA#1-04	PH-04	10-12	<1	6	<1	3	1	Groundwater
REMENTA#1-05	PH-05	10-12	<1	9	1	5	2	Groundwater
REMENTA#1-06	PH-06	10-12	<1	4	<1	2	<1	Groundwater
REMENTA#1-07	PH-07	10-12	<1	6	1	5	2	Groundwater
REMENTA#1-08	PH-08	10-12	2	9	2	7	3	Groundwater
REMENTA#1-09	PH-09	10-12	1	6	1	5	3	Groundwater
REMENTA#1-10	PH-10	10-12	<1	4	<1	2	<1	Groundwater
REMENTA#1-11	PH-11	10-12	ND(1)	3	<1	3	<1	Groundwater
REMENTA#1-12	PH-12	10-12	<1	6	1	5	2	Groundwater
REMENTA#1-12-D	PH-12	10-12	<1	6	<1	4	2	QC - Duplicate
Blank-04	N/A	N/A	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	QC - System Blank
QCRT-01	N/A	N/A	216	267	298	298	299	QC - Retention Times

D = duplicate analysis.
QC = quality control.
ug/L = micrograms of compound detected per liter of headspace vapor analyzed.
ND = not detected at the lower quantifiable limit indicated in parenthesis.
NA = not applicable.

QA Review: Paul Sanderson

Review Date: 11-28-95

APPENDIX B

Chromatography Field Analysis Work Sheets

PHILIP

Sample Analysis Worksheet

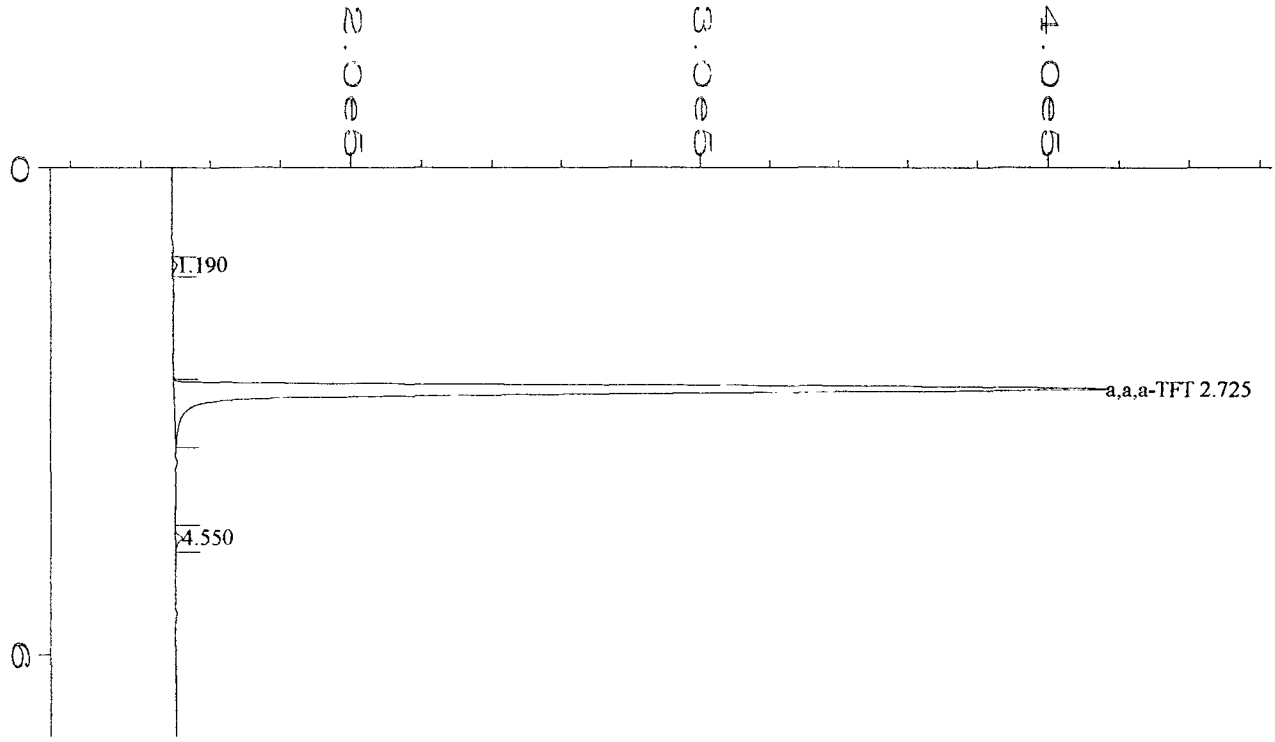
Sample I.D.	Probe Hole Number	Depth (Feet)	Analysis Time	Analysis Date	Injection Vol. (µL)	Multiplier	VAC in. Hg	Comments
Blank-01	N/A	N/A	0628	11/16/95	500	0.2	N/A	QC - System Blank
STD-1116	N/A	N/A	0655	11/16/95	100	1	N/A	Calibration Standard
Blank-02	N/A	N/A	0715	11/16/95	500	0.2	N/A	QC - System Blank
Blank-03	N/A	N/A	0824	11/16/95	500	0.2	N/A	QC - Probe Rod Blank
REMENTA#1-01	PH-01	10-12	0951	11/16/95	500	0.2	N/A	Groundwater
REMENTA#1-02	PH-02	10-12	1020	11/16/95	500	0.2	N/A	Groundwater
REMENTA#1-03	PH-03	10-12	1054	11/16/95	500	0.2	N/A	Groundwater
REMENTA#1-04	PH-04	10-12	1111	11/16/95	500	0.2	N/A	Groundwater
REMENTA#1-05	PH-05	10-12	1140	11/16/95	500	0.2	N/A	Groundwater
REMENTA#1-06	PH-06	10-12	1214	11/16/95	500	0.2	N/A	Groundwater
REMENTA#1-07	PH-07	10-12	1252	11/16/95	500	0.2	N/A	Groundwater
REMENTA#1-08	PH-08	10-12	1310	11/16/95	500	0.2	N/A	Groundwater
REMENTA#1-09	PH-09	10-12	1338	11/16/95	500	0.2	N/A	Groundwater
REMENTA#1-10	PH-10	10-12	1416	11/16/95	500	0.2	N/A	Groundwater
REMENTA#1-11	PH-11	10-12	1450	11/16/95	500	0.2	N/A	Groundwater
REMENTA#1-12	PH-12	10-12	1518	11/16/95	500	0.2	N/A	Groundwater
REMENTA#1-12-D	PH-12	10-12	1813	11/16/95	500	0.2	N/A	QC - Duplicate
Blank-04	N/A	N/A	1843	11/16/95	500	0.2	N/A	QC - System Blank
QCRT-01	N/A	N/A	1857	11/16/95	100	1	N/A	QC - Retention Times

NA - not applicable
QC - quality control
D - duplicate analysis

PEA 11-28-95

APPENDIX C

Sample Chromatograms



External Standard Report

Data File Name : C:\HPCHEM\1\DATA\NV-F0659.D
Operator : GWW
Instrument : RECON GC
Sample Name : BLANK-01
Run Time Bar Code:
Acquired on : 16 Nov 95 06:28 AM
Report Created on: 16 Nov 95 06:35 AM
Last Recalib on : 15 NOV 95 07:01 AM
Multiplier : 0.2
Sample Info : QC - SYSTEM BLANK

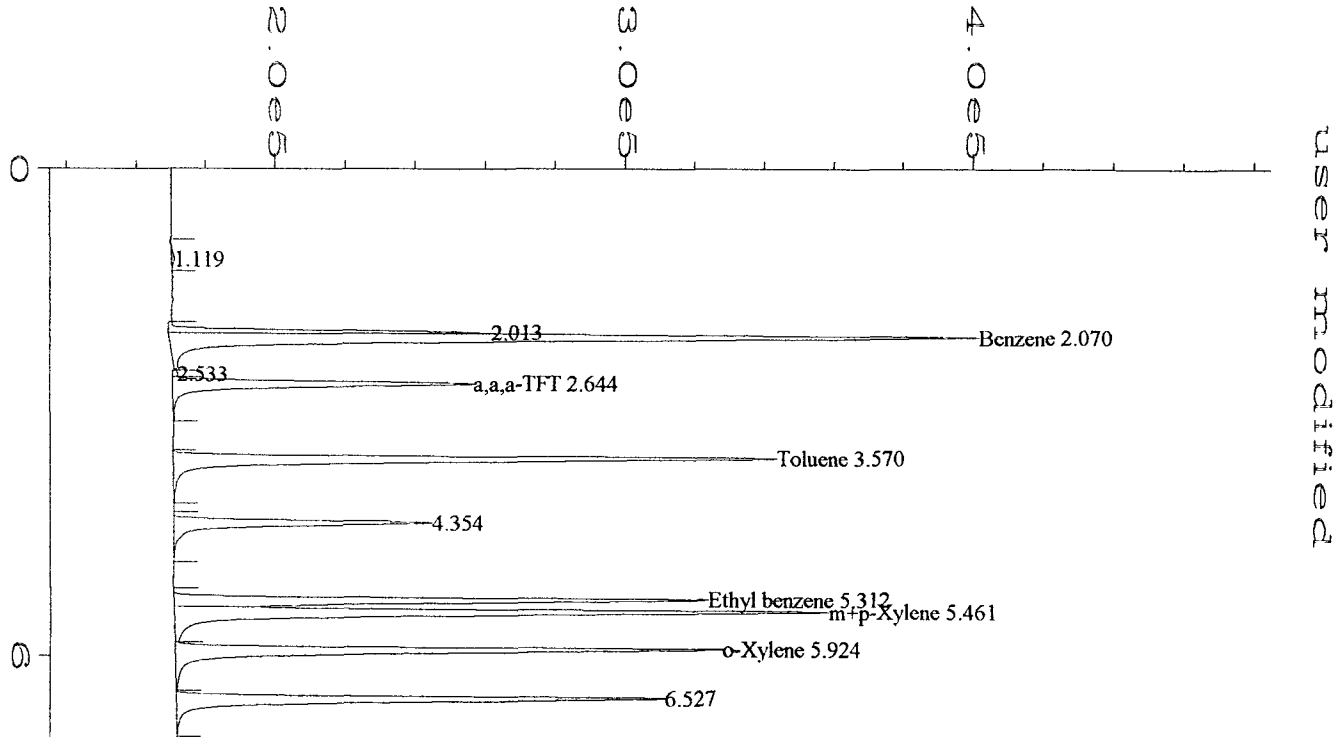
Page Number : 1
Vial Number :
Injection Number :
Sequence Line :
Instrument Method: 8020.MTH
Analysis Method : 8020.MTH
Sample Amount : 0
ISTD Amount :

Sig. 1 in C:\HPCHEM\1\DATA\NV-F0659.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
2.138	* not found *			1		Benzene
2.725	1838430	BB	0.109	1-R	255.785	a,a,a-TFT
3.664	* not found *			1		Toluene
5.500	* not found *			1		Ethyl benzene
5.550	* not found *			1		m+p-Xylene
6.100	* not found *			1		o-Xylene

Time Reference Peak	Expected RT	Actual RT	Difference
2	2.724	2.725	0.0%

Not all calibrated peaks were found



External Standard Report

Data File Name : C:\HPCHEM\1\DATA\NV-F0661.D
Operator : GWW
Instrument : RECON GC
Sample Name : STD-1116
Run Time Bar Code:
Acquired on : 16 Nov 95 06:55 AM
Report Created on: 16 Nov 95 07:04 AM
Last Recalib on : 16 Nov 95 07:04 AM
Multiplier : 1

Page Number : 1
Vial Number :
Injection Number :
Sequence Line :
Instrument Method: 8020.MTH
Analysis Method : 8020.MTH
Sample Amount : 0
ISTD Amount :

Sig. 1 in C:\HPCHEM\1\DATA\NV-F0661.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
2.070	1315033	MM	0.094	1	232.210	Benzene
2.644	443112	VB	0.077	1-R	232.050	a,a,a-TFT
3.570	869424	BB	0.075	1	232.210	Toluene
5.312	686311	BV	0.068	1	232.420	Ethyl benzene
5.461	970490	VV	0.077	1	232.030	m+p-Xylene
5.924	785004	VV	0.074	1	232.050	o-Xylene

Time Reference Peak	Expected RT	Actual RT	Difference
2	2.644	2.644	0.0%

User Modified

Calibration Report

Data File Name	: C:\HPCHEM\1\DATA\NV-F0661.D		
Operator	: GWW	Page Number	: 1
Instrument	: RECON GC	Vial Number	:
Sample Name	: STD-1116	Injection Number	:
Run Time Bar Code:		Sequence Line	:
Acquired on	: 16 Nov 95 06:55 AM	Instrument Method	: 8020.MTH
Report Created on	: 16 Nov 95 07:03 AM	Analysis Method	: 8020.MTH
Last Recalib on	: 15 NOV 95 07:01 AM	Sample Amount	: 0
Multiplier	: 1	ISTD Amount	:

Calibration Table

Pk#	RT	Lvl	ug/L	Amt/Area	Ref	Istd I#	Name
1	2.070	1	232.21	1.7658e-004		1	Benzene
2	2.644	1	232.05	5.2368e-004	Ref	1	a,a,a-TFT
3	3.570	1	232.21	2.6708e-004		1	Toluene
4	5.312	1	232.42	3.3865e-004		1	Ethyl benzene
5	5.461	1	232.03	2.3909e-004		1	m+p-Xylene
6	5.924	1	232.05	2.956e-004		1	o-Xylene

Calibration Settings

Title:

Reference window:	10.000 %
Non-reference window:	4.000 %
Units of amount:	ug/L
Multiplier:	1.0
RF uncal peaks:	0.0
ISTD# to adjust uncal peaks:	0
Sample Amount:	0.0

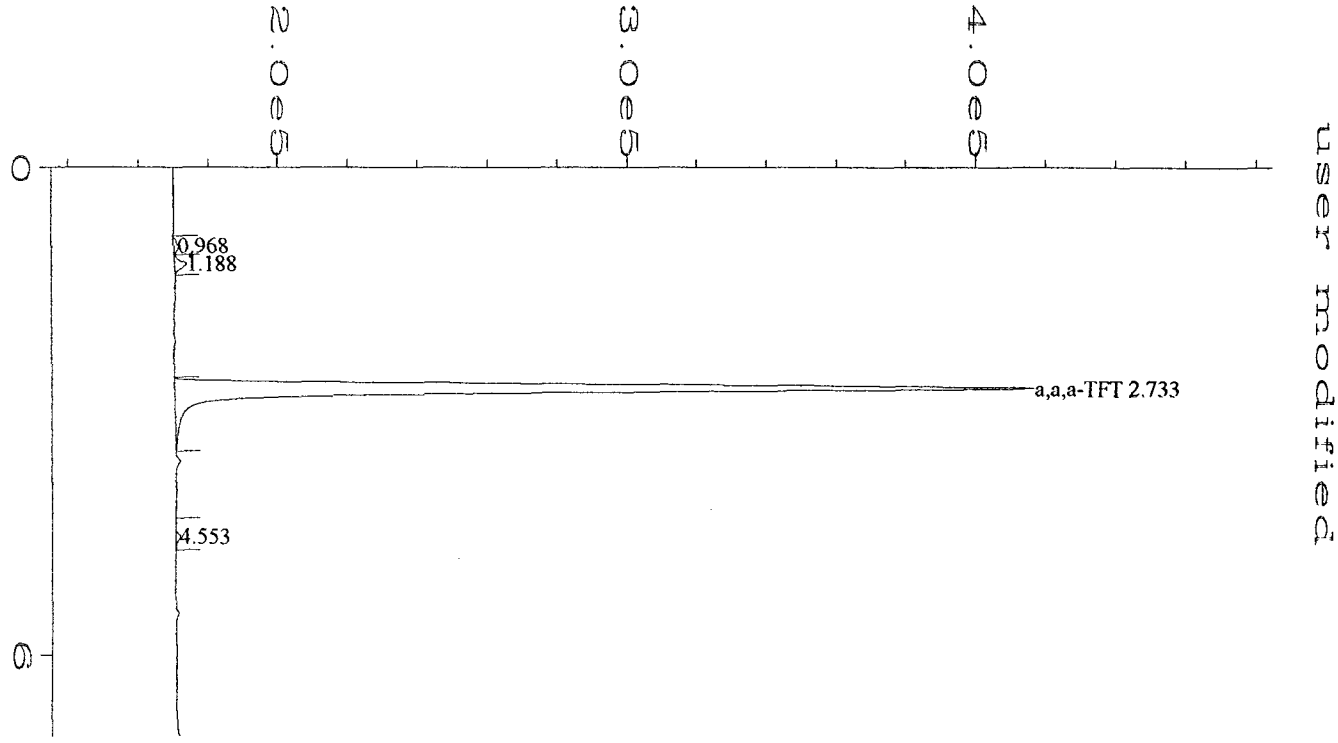
Sample ISTD Information

No Sample ISTD Amounts

Multilevel Information

Fit: Linear
Origin: Force

RECON SYSTEM						
GC LOWER QUANTIFIABLE LIMIT (LQL)						
DATE :	11/16/95		PROJECT #	15284	MERIDIAN OIL	
CALIBRATION STANDARD INJECTION VOLUME (uL):						100
MAXIMUM SAMPLE INJECTION VOLUME (uL):						500
AREA COUNT USED TO CALCULATE LQL:						1000
COMPOUND :		Benzene			AREA :	1315033
CONCENTRATION :		232.21	ug/L		RESPONSE FACTOR :	1.7658E-04
Sample IV =	500	LQL :	0.04	µg/ L		
Sample IV =	400	LQL :	0.04	µg/ L		
Sample IV =	300	LQL :	0.06	µg/ L		
Sample IV =	200	LQL :	0.09	µg/ L		
Sample IV =	100	LQL :	0.18	µg/ L		
COMPOUND :		Toluene			AREA :	869424
CONCENTRATION :		232.21	ug/L		RESPONSE FACTOR :	2.6708E-04
Sample IV =	500	LQL :	0.05	µg/ L		
Sample IV =	400	LQL :	0.07	µg/ L		
Sample IV =	300	LQL :	0.09	µg/ L		
Sample IV =	200	LQL :	0.13	µg/ L		
Sample IV =	100	LQL :	0.27	µg/ L		
COMPOUND :		Ethyl benzene			AREA :	686311
CONCENTRATION :		232.42	ug/L		RESPONSE FACTOR :	3.3865E-04
Sample IV =	500	LQL :	0.07	µg/ L		
Sample IV =	400	LQL :	0.08	µg/ L		
Sample IV =	300	LQL :	0.11	µg/ L		
Sample IV =	200	LQL :	0.17	µg/ L		
Sample IV =	100	LQL :	0.34	µg/ L		
COMPOUND :		m+p-Xylene			AREA :	970490
CONCENTRATION :		232.03	ug/L		RESPONSE FACTOR :	2.3909E-04
Sample IV =	500	LQL :	0.05	µg/ L		
Sample IV =	400	LQL :	0.06	µg/ L		
Sample IV =	300	LQL :	0.08	µg/ L		
Sample IV =	200	LQL :	0.12	µg/ L		
Sample IV =	100	LQL :	0.24	µg/ L		
COMPOUND :		o-Xylene			AREA :	785004
CONCENTRATION :		232.05	ug/L		RESPONSE FACTOR :	2.9560E-04
Sample IV =	500	LQL :	0.06	µg/ L		
Sample IV =	400	LQL :	0.07	µg/ L		
Sample IV =	300	LQL :	0.10	µg/ L		
Sample IV =	200	LQL :	0.15	µg/ L		
Sample IV =	100	LQL :	0.30	µg/ L		



External Standard Report

Data File Name : C:\HPCHEM\1\DATA\NV-F0662.D
Operator : GWW
Instrument : RECON GC
Sample Name : BLANK-02
Run Time Bar Code:
Acquired on : 16 Nov 95 07:15 AM
Report Created on: 16 Nov 95 07:23 AM
Last Recalib on : 16 Nov 95 07:04 AM
Multiplier : 0.2

Page Number : 1
Vial Number :
Injection Number :
Sequence Line :
Instrument Method: 8020.MTH
Analysis Method : 8020.MTH
Sample Amount : 0
ISTD Amount :

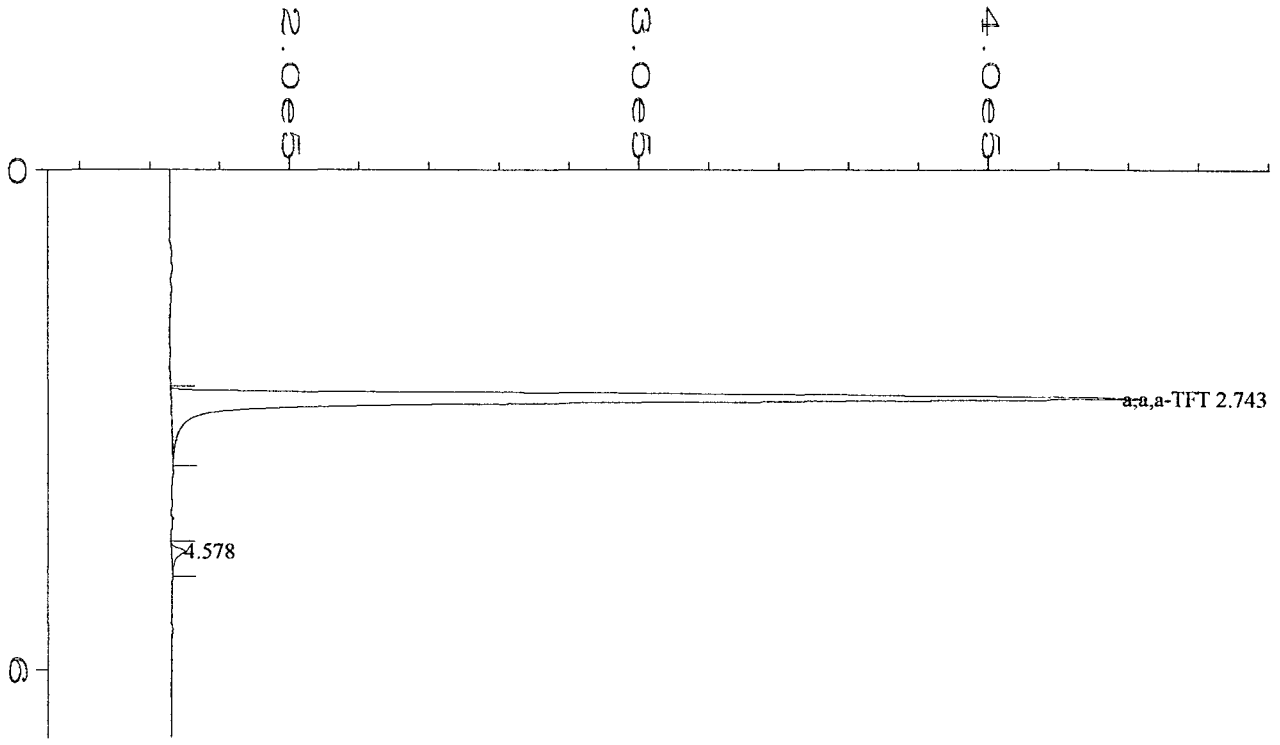
Sig. 1 in C:\HPCHEM\1\DATA\NV-F0662.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
2.070	* not found *			1		Benzene
2.733	1713003	BB	0.098	1-R	179.414	a,a,a-TFT
3.570	* not found *			1		Toluene
5.312	* not found *			1		Ethyl benzene
5.461	* not found *			1		m+p-Xylene
5.924	* not found *			1		o-Xylene

Time Reference Peak	Expected RT	Actual RT	Difference
2	2.644	2.733	3.4%

Not all calibrated peaks were found

User Modified



External Standard Report

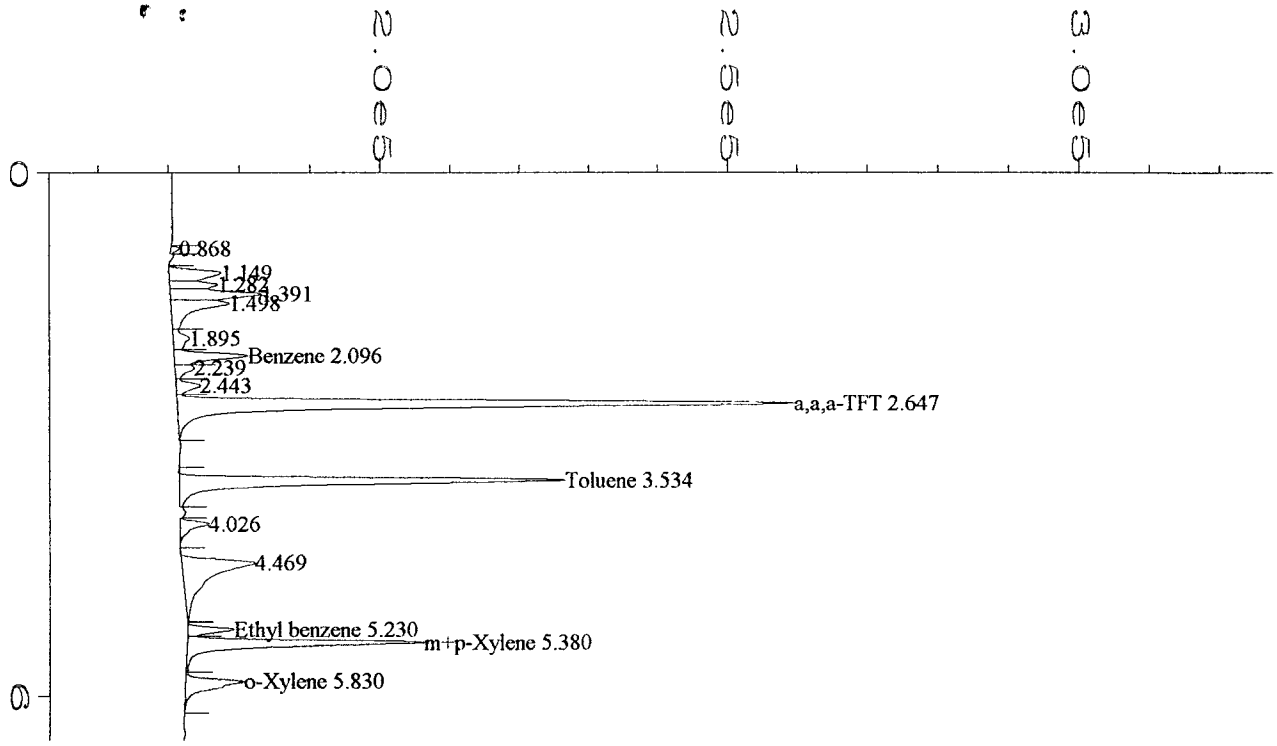
Data File Name	: C:\HPCHEM\1\DATA\NV-F0663.D		
Operator	: GWW	Page Number	: 1
Instrument	: RECON GC	Vial Number	:
Sample Name	: BLANK-03	Injection Number	:
Run Time Bar Code:		Sequence Line	:
Acquired on	: 16 Nov 95 08:24 AM	Instrument Method	: 8020.MTH
Report Created on	: 16 Nov 95 08:31 AM	Analysis Method	: 8020.MTH
Last Recalib on	: 16 Nov 95 07:04 AM	Sample Amount	: 0
Multiplier	: 0.2	ISTD Amount	:
Sample Info	: QC - PROBE ROD BLANK		

Sig. 1 in C:\HPCHEM\1\DATA\NV-F0663.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
2.070	* not found *			1		Benzene
2.743	2066845	BV	0.104	1-R	216.474	a,a,a-TFT
3.570	* not found *			1		Toluene
5.312	* not found *			1		Ethyl benzene
5.461	* not found *			1		m+p-Xylene
5.924	* not found *			1		o-Xylene

Time Reference Peak	Expected RT	Actual RT	Difference
2	2.644	2.743	3.7%

Not all calibrated peaks were found



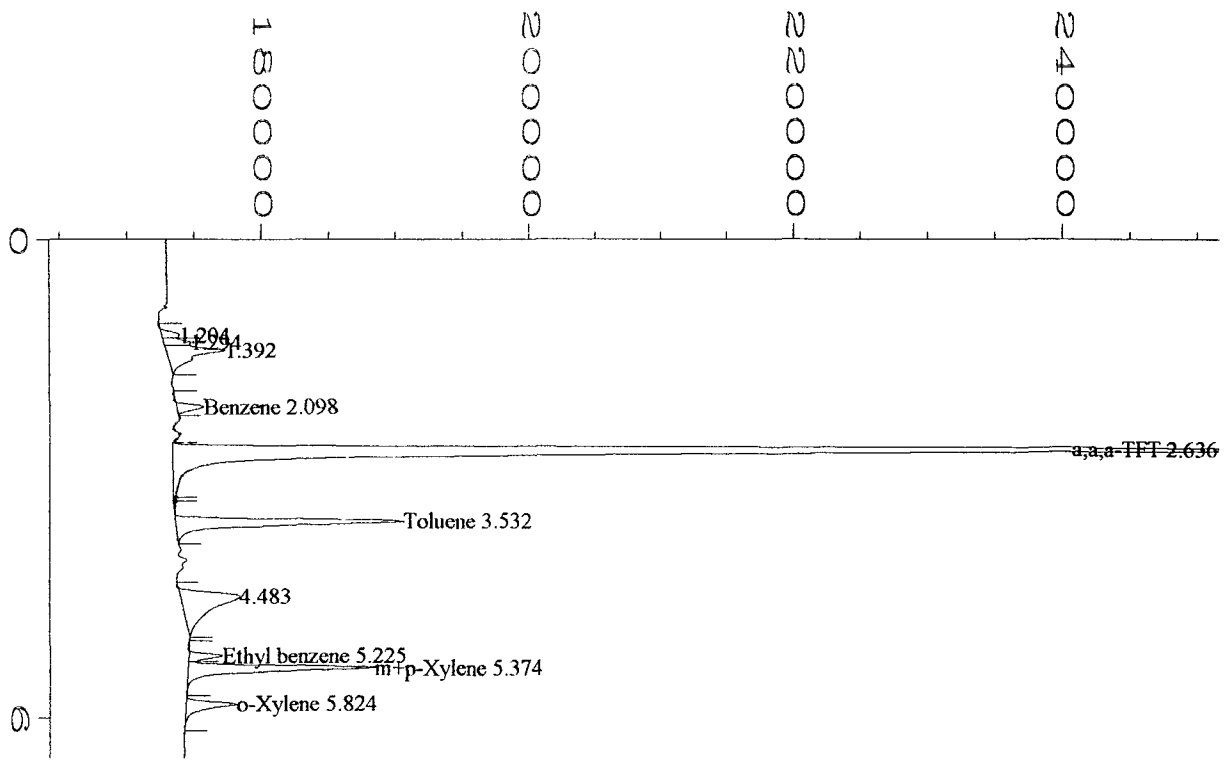
External Standard Report

Data File Name	: C:\HPCHEM\1\DATA\NV-F0664.D		
Operator	: GWW	Page Number	: 1
Instrument	: RECON GC	Vial Number	:
Sample Name	: REMENTA#1-01	Injection Number	:
Run Time Bar Code:		Sequence Line	:
Acquired on	: 16 Nov 95 09:51 AM	Instrument Method:	8020.MTH
Report Created on:	16 Nov 95 10:09 AM	Analysis Method	: 8020.MTH
Last Recalib on	: 16 Nov 95 07:04 AM	Sample Amount	: 0
Multiplier	: 0.2	ISTD Amount	:

Sig. 1 in C:\HPCHEM\1\DATA\NV-F0664.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
2.096	58437	VV	0.085	1	2.064	Benzene
2.647	512117	VV	0.089	1-R	53.637	a,a,a-TFT
3.534	281874	BV	0.077	1	15.057	Toluene
5.230	28967	BV	0.067	1	1.962	Ethyl benzene
5.380	169380	VV	0.074	1	8.099	m+p-Xylene
5.830	58111	VB	0.095	1	3.436	o-Xylene

Time Reference Peak	Expected RT	Actual RT	Difference
2	2.644	2.647	0.1%



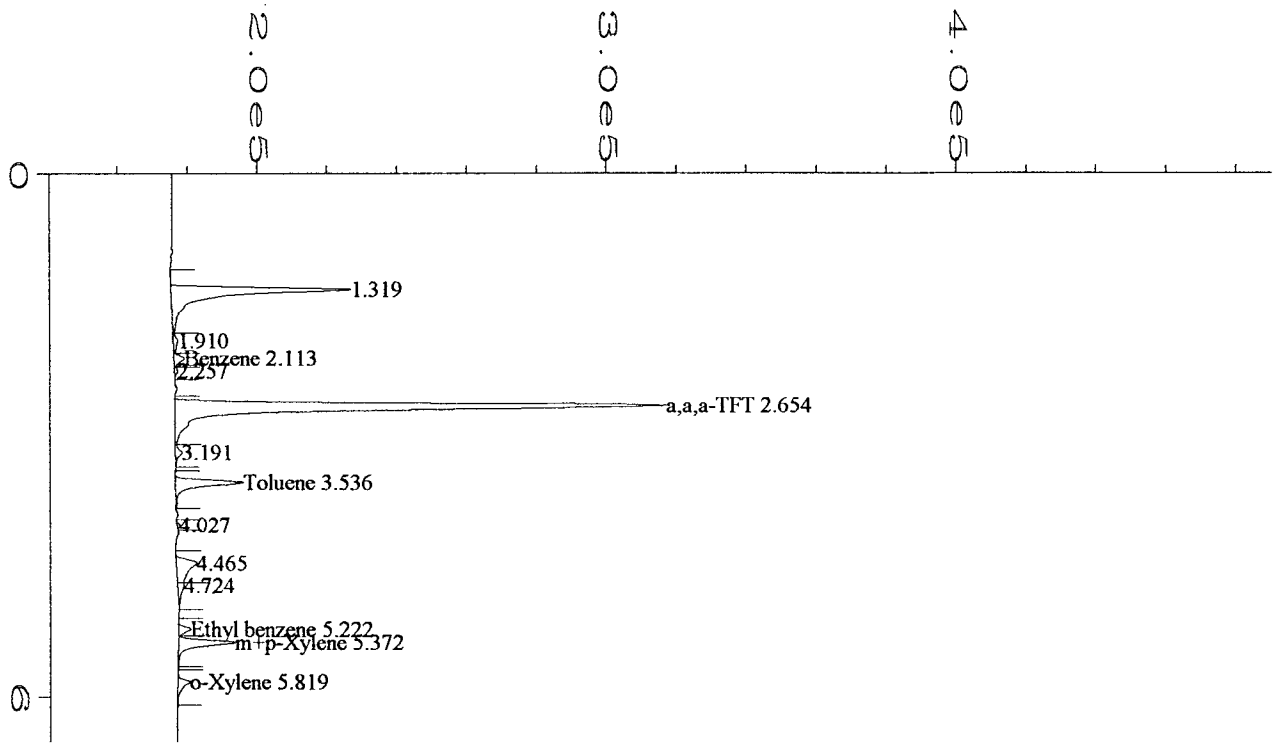
External Standard Report

Data File Name	: C:\HPCHEM\1\DATA\NV-F0665.D		
Operator	: GWW	Page Number	: 1
Instrument	: RECON GC	Vial Number	:
Sample Name	: REMENTA#1-02	Injection Number	:
Run Time Bar Code:		Sequence Line	:
Acquired on	: 16 Nov 95 10:20 AM	Instrument Method	: 8020.MTH
Report Created on	: 16 Nov 95 10:27 AM	Analysis Method	: 8020.MTH
Last Recalib on	: 16 Nov 95 07:04 AM	Sample Amount	: 0
Multiplier	: 0.2	ISTD Amount	:
Sample Info	: PH-02 GROUNDWATER AT 10-12 FEET BGS		

Sig. 1 in C:\HPCHEM\1\DATA\NV-F0665.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
2.098	9000	BV	0.072	1	0.318	Benzene
2.636	526334	VV	0.083	1-R	55.126	a,a,a-TFT
3.532	92196	PV	0.082	1	4.925	Toluene
5.225	10694	BV	0.066	1	0.724	Ethyl benzene
5.374	70203	VB	0.076	1	3.357	m+p-Xylene
5.824	22107	BB	0.083	1	1.307	o-Xylene

Time Reference Peak	Expected RT	Actual RT	Difference
2	2.644	2.636	-0.3%



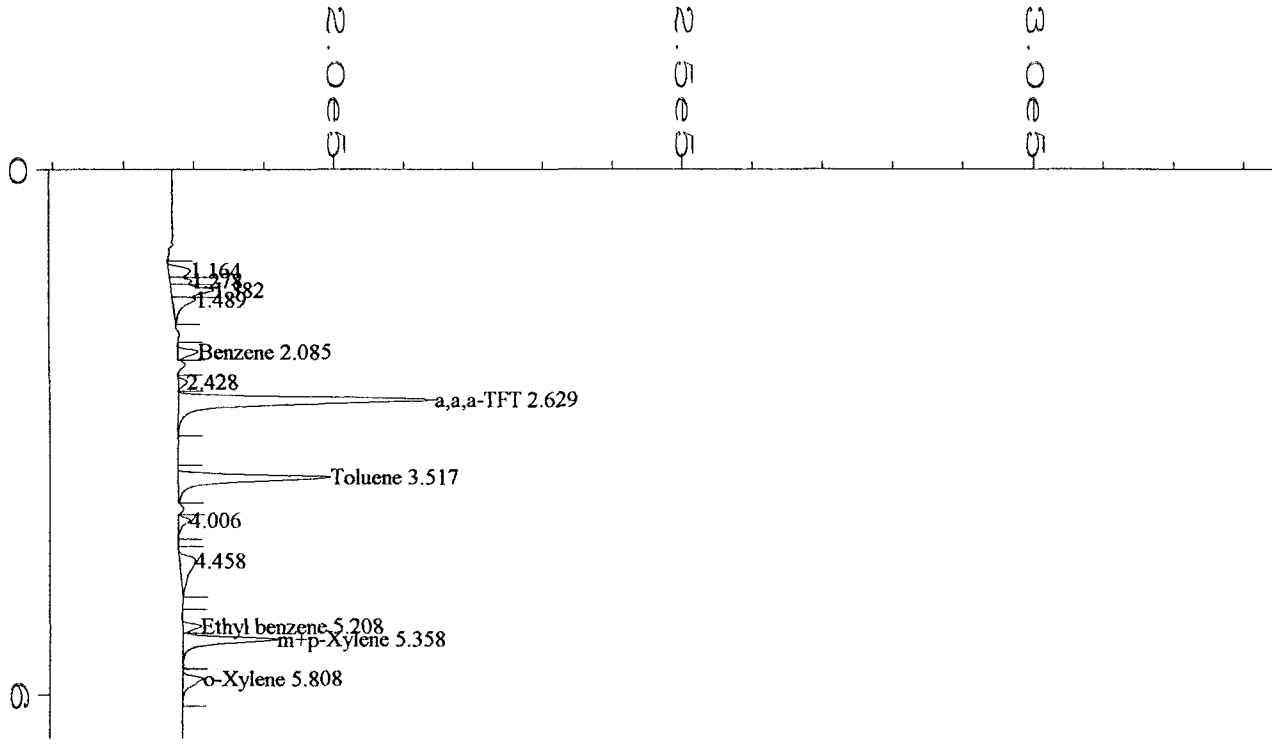
External Standard Report

Data File Name	: C:\HPCHEM\1\DATA\NV-F0666.D		
Operator	: GWW	Page Number	: 1
Instrument	: RECON GC	Vial Number	:
Sample Name	: REMENTA#1-03	Injection Number	:
Run Time Bar Code:		Sequence Line	:
Acquired on	: 16 Nov 95 10:54 AM	Instrument Method	: 8020.MTH
Report Created on	: 16 Nov 95 11:03 AM	Analysis Method	: 8020.MTH
Last Recalib on	: 16 Nov 95 07:04 AM	Sample Amount	: 0
Multiplier	: 0.2	ISTD Amount	:

Sig. 1 in C:\HPCHEM\1\DATA\NV-F0666.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
2.113	16000	VV	0.077	1	0.565	Benzene
2.654	789591	PV	0.084	1-R	82.699	a,a,a-TFT
3.536	94982	BB	0.073	1	5.074	Toluene
5.222	14422	BV	0.064	1	0.977	Ethyl benzene
5.372	77933	VB	0.071	1	3.727	m+p-Xylene
5.819	19791	BB	0.082	1	1.170	o-Xylene

Time Reference Peak	Expected RT	Actual RT	Difference
2	2.644	2.654	0.4%



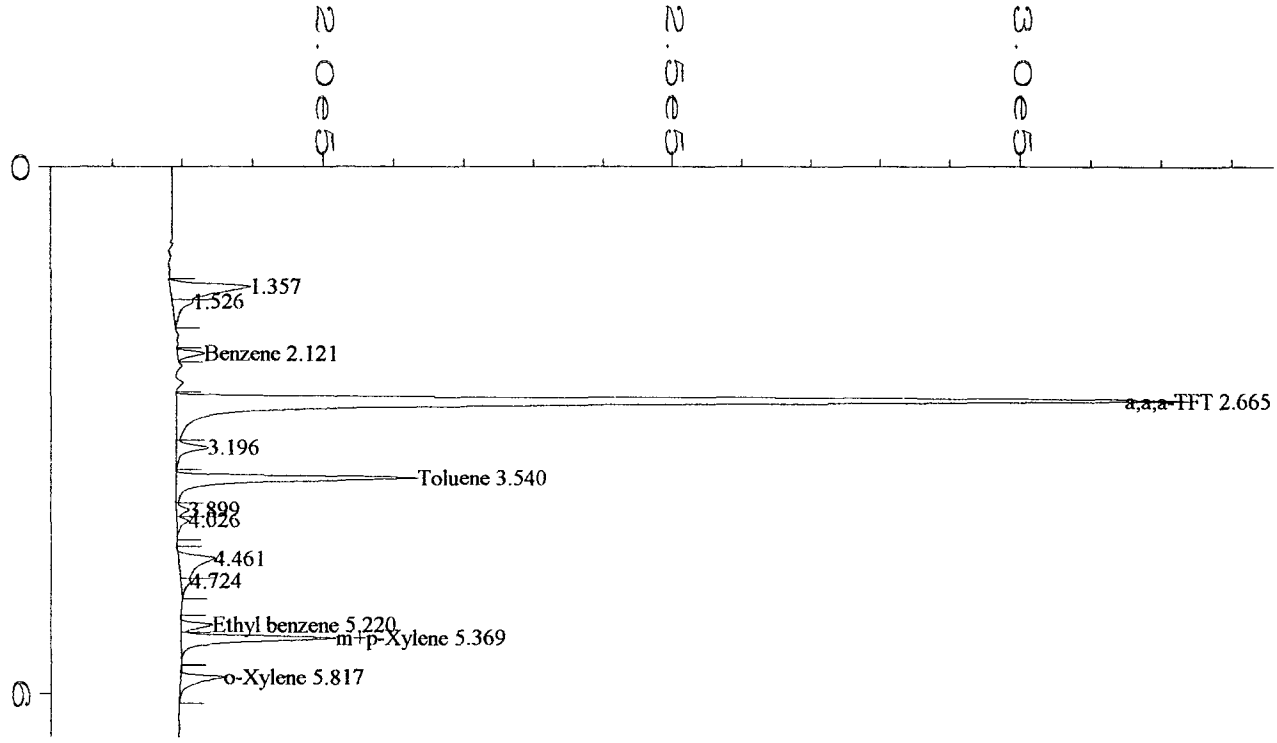
External Standard Report

Data File Name	: C:\HPCHEM\1\DATA\NV-F0667.D		
Operator	: GWW	Page Number	: 1
Instrument	: RECON GC	Vial Number	:
Sample Name	: REMENTA#1-04	Injection Number	:
Run Time Bar Code:		Sequence Line	:
Acquired on	: 16 Nov 95 11:11 AM	Instrument Method:	8020.MTH
Report Created on:	16 Nov 95 11:18 AM	Analysis Method	: 8020.MTH
Last Recalib on	: 16 Nov 95 07:04 AM	Sample Amount	: 0
Multiplier	: 0.2	ISTD Amount	:
Sample Info	: PH-04 GROUNDWATER AT 10-12 FEET BGS		

Sig. 1 in C:\HPCHEM\1\DATA\NV-F0667.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
2.085	14655	BV	0.076	1	0.518	Benzene
2.629	218341	VB	0.091	1-R	22.868	a,a,a-TFT
3.517	118085	BV	0.082	1	6.308	Toluene
5.208	11268	BV	0.067	1	0.763	Ethyl benzene
5.358	69481	VB	0.076	1	3.322	m+p-Xylene
5.808	20816	BB	0.095	1	1.231	o-Xylene

Time Reference Peak	Expected RT	Actual RT	Difference
2	2.644	2.629	-0.6%



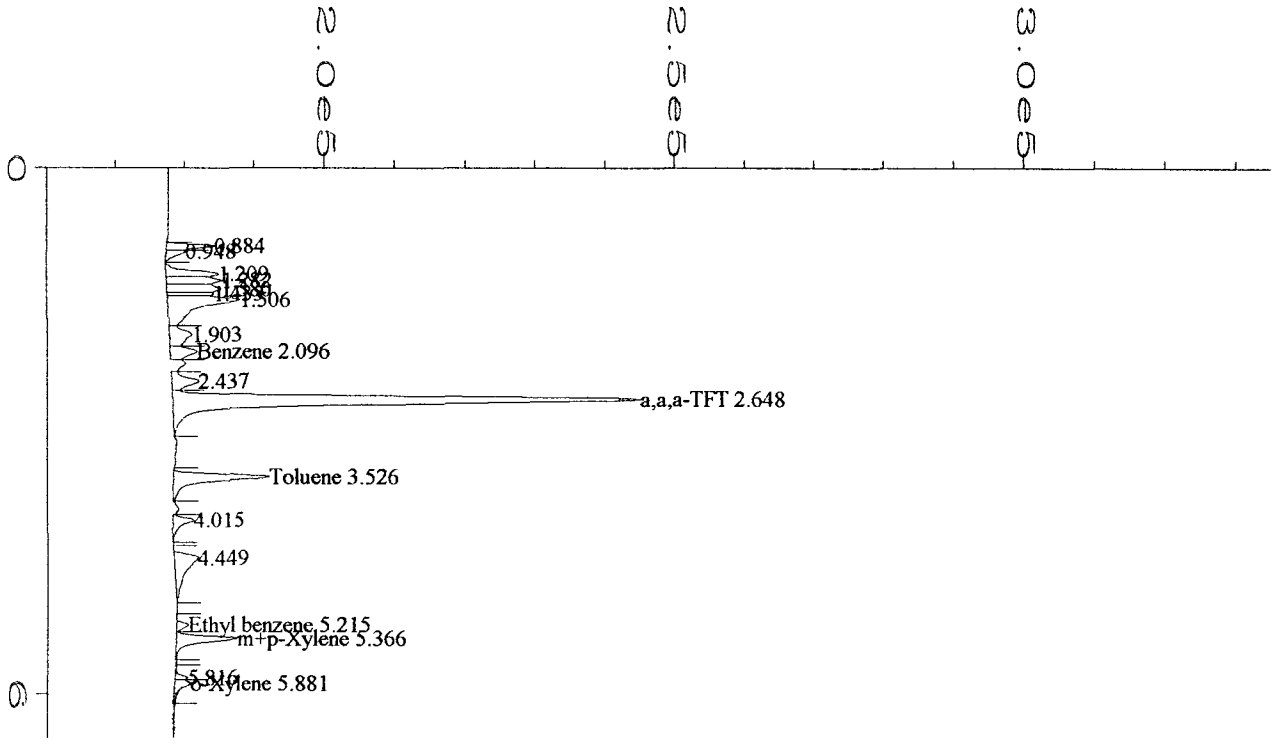
External Standard Report

Data File Name	: C:\HPCHEM\1\DATA\NV-F0668.D		
Operator	: GWW	Page Number	: 1
Instrument	: RECON GC	Vial Number	:
Sample Name	: REMENTA#1-05	Injection Number	:
Run Time Bar Code:		Sequence Line	:
Acquired on	: 16 Nov 95 11:40 AM	Instrument Method	: 8020.MTH
Report Created on	: 16 Nov 95 11:47 AM	Analysis Method	: 8020.MTH
Last Recalib on	: 16 Nov 95 07:04 AM	Sample Amount	: 0
Multiplier	: 0.2	ISTD Amount	:
Sample Info	: PH-05 GROUNDWATER AT 10-12 FEET BGS		

Sig. 1 in C:\HPCHEM\1\DATA\NV-F0668.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
2.121	15869	PV	0.064	1	0.560	Benzene
2.665	793195	VV	0.082	1-R	83.076	a,a,a-TFT
3.540	163063	VV	0.071	1	8.710	Toluene
5.220	18915	BV	0.064	1	1.281	Ethyl benzene
5.369	103067	VB	0.070	1	4.928	m+p-Xylene
5.817	33956	BB	0.078	1	2.008	o-Xylene

Time Reference Peak	Expected RT	Actual RT	Difference
2	2.644	2.665	0.8%



External Standard Report

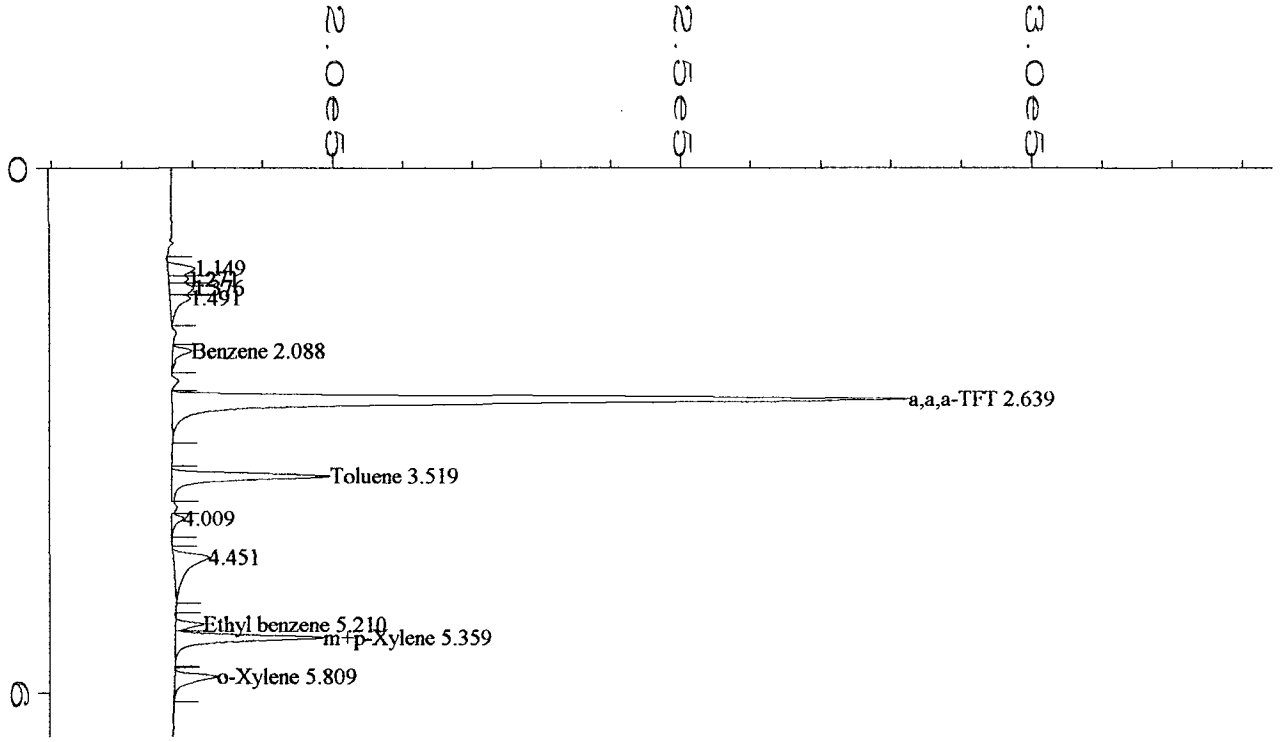
Data File Name : C:\HPCHEM\1\DATA\NV-F0669.D
Operator : GWW
Instrument : RECON GC
Sample Name : REMENTA#1-06
Run Time Bar Code:
Acquired on : 16 Nov 95 12:14 PM
Report Created on: 16 Nov 95 12:21 PM
Last Recalib on : 16 Nov 95 07:04 AM
Multiplier : 0.2
Sample Info : PH-06 GROUNDWATER AT 10-12 FEET BGS

Page Number : 1
Vial Number :
Injection Number :
Sequence Line :
Instrument Method: 8020.MTH
Analysis Method : 8020.MTH
Sample Amount : 0
ISTD Amount :

Sig. 1 in C:\HPCHEM\1\DATA\NV-F0669.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
2.096	24652	VV	0.094	1	0.871	Benzene
2.648	420519	VV	0.097	1-R	44.044	a,a,a-TFT
3.526	77694	PV	0.084	1	4.150	Toluene
5.215	7361	BV	0.066	1	0.499	Ethyl benzene
5.366	44915	VB	0.076	1	2.148	m+p-Xylene
5.881	15092	VB	0.087	1	0.892	o-Xylene

Time Reference Peak	Expected RT	Actual RT	Difference
2	2.644	2.648	0.2%



External Standard Report

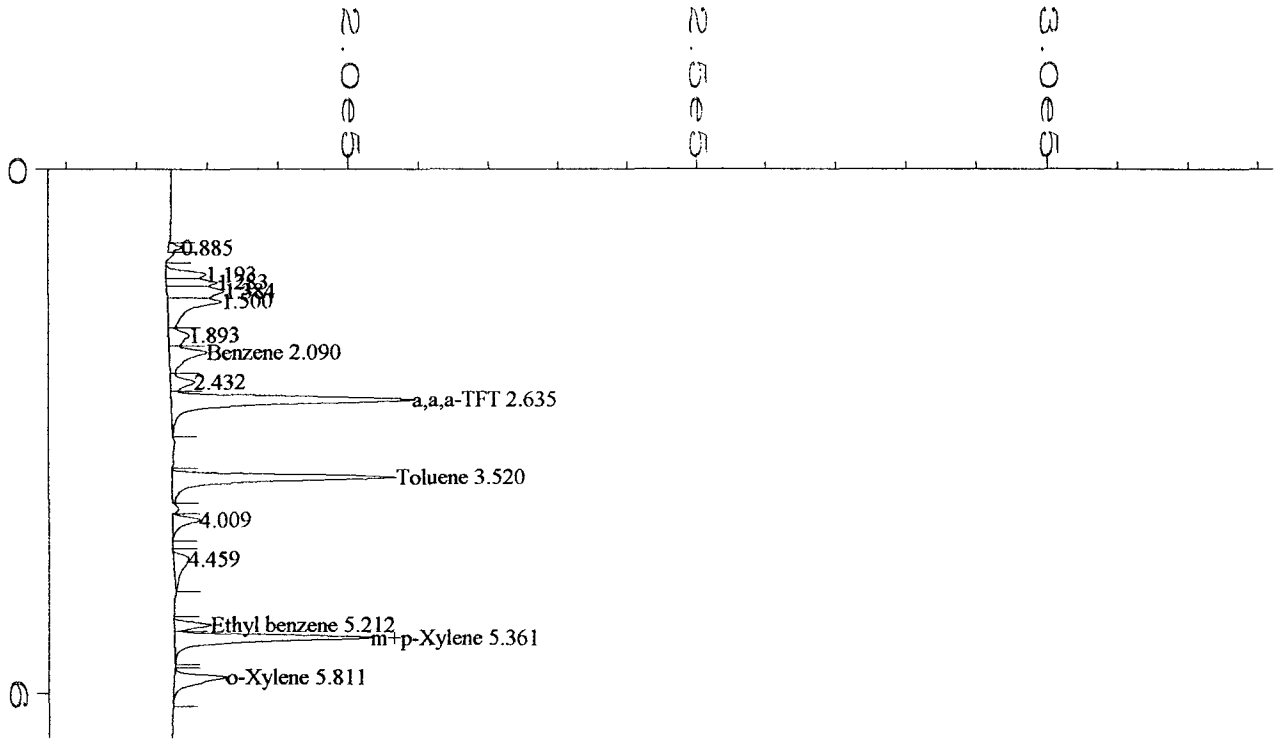
Data File Name : C:\HPCHEM\1\DATA\NV-F0670.D
Operator : GWW
Instrument : RECON GC
Sample Name : REMENTA#1-07
Run Time Bar Code:
Acquired on : 16 Nov 95 12:52 PM
Report Created on: 16 Nov 95 12:58 PM
Last Recalib on : 16 Nov 95 07:04 AM
Multiplier : 0.2
Sample Info : PH-07 GROUNDWATER AT 10-12 FEET BGS

Page Number : 1
Vial Number :
Injection Number :
Sequence Line :
Instrument Method: 8020.MTH
Analysis Method : 8020.MTH
Sample Amount : 0
ISTD Amount :

Sig. 1 in C:\HPCHEM\1\DATA\NV-F0670.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
2.088	16052	BB	0.088	1	0.567	Benzene
2.639	622906	VB	0.090	1-R	65.241	a,a,a-TFT
3.519	121008	BV	0.080	1	6.464	Toluene
5.210	17719	BV	0.068	1	1.200	Ethyl benzene
5.359	106242	VB	0.075	1	5.080	m+p-Xylene
5.809	35684	BB	0.083	1	2.110	o-Xylene

Time Reference Peak	Expected RT	Actual RT	Difference
2	2.644	2.639	-0.2%



External Standard Report

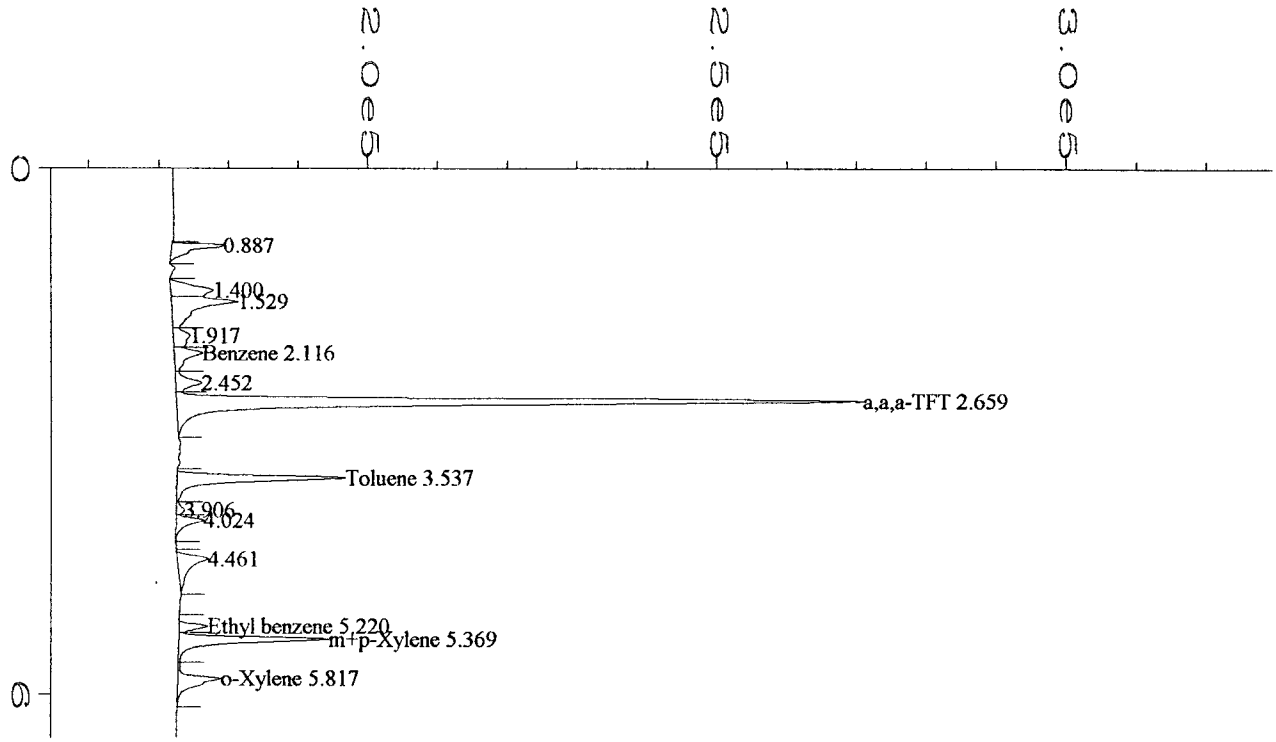
Data File Name : C:\HPCHEM\1\DATA\NV-F0671.D
Operator : GWW
Instrument : RECON GC
Sample Name : REMENTA#1-08
Run Time Bar Code:
Acquired on : 16 Nov 95 01:10 PM
Report Created on: 16 Nov 95 01:17 PM
Last Recalib on : 16 Nov 95 07:04 AM
Multiplier : 0.2
Sample Info : PH-08 GROUNDWATER AT 10-12 FEET BGS

Page Number : 1
Vial Number :
Injection Number :
Sequence Line :
Instrument Method: 8020.MTH
Analysis Method : 8020.MTH
Sample Amount : 0
ISTD Amount :

Sig. 1 in C:\HPCHEM\1\DATA\NV-F0671.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
2.090	45882	VV	0.118	1	1.620	Benzene
2.635	220197	VB	0.098	1-R	23.063	a,a,a-TFT
3.520	173788	BV	0.081	1	9.283	Toluene
5.212	23412	BV	0.069	1	1.586	Ethyl benzene
5.361	139392	VB	0.075	1	6.665	m+p-Xylene
5.811	47981	BB	0.089	1	2.837	o-Xylene

Time Reference Peak	Expected RT	Actual RT	Difference
2	2.644	2.635	-0.3%



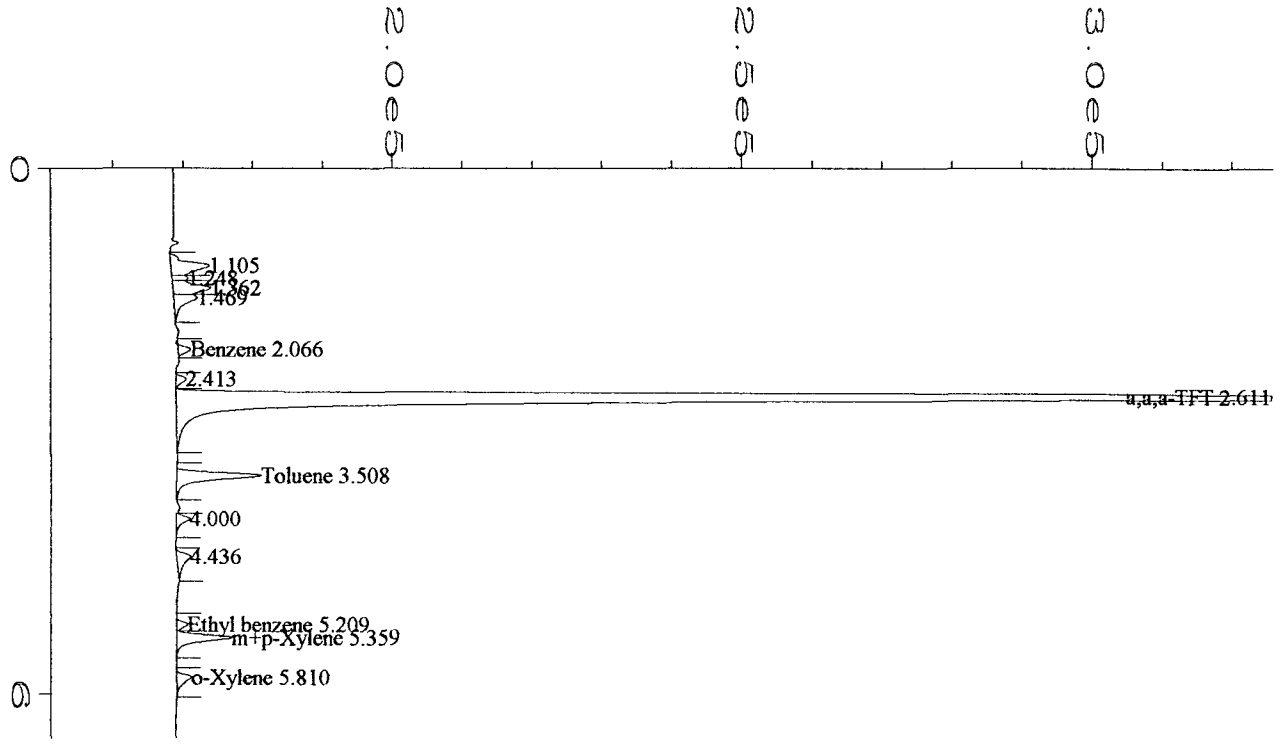
External Standard Report

Data File Name	: C:\HPCHEM\1\DATA\NV-F0672.D		
Operator	: GWW	Page Number	: 1
Instrument	: RECON GC	Vial Number	:
Sample Name	: REMENTA#1-09	Injection Number	:
Run Time Bar Code:		Sequence Line	:
Acquired on	: 16 Nov 95 01:38 PM	Instrument Method	: 8020.MTH
Report Created on	: 16 Nov 95 01:45 PM	Analysis Method	: 8020.MTH
Last Recalib on	: 16 Nov 95 07:04 AM	Sample Amount	: 0
Multiplier	: 0.2	ISTD Amount	:
Sample Info	: PH-09 GROUNDWATER AT 10-12 FEET BGS		

Sig. 1 in C:\HPCHEM\1\DATA\NV-F0672.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
2.116	31327	VV	0.104	1	1.106	Benzene
2.659	521567	VV	0.079	1-R	54.627	a,a,a-TFT
3.537	119459	PV	0.073	1	6.381	Toluene
5.220	17084	BV	0.064	1	1.157	Ethyl benzene
5.369	103131	VV	0.071	1	4.931	m+p-Xylene
5.817	43393	VB	0.094	1	2.565	o-Xylene

Time Reference Peak	Expected RT	Actual RT	Difference
2	2.644	2.659	0.6%



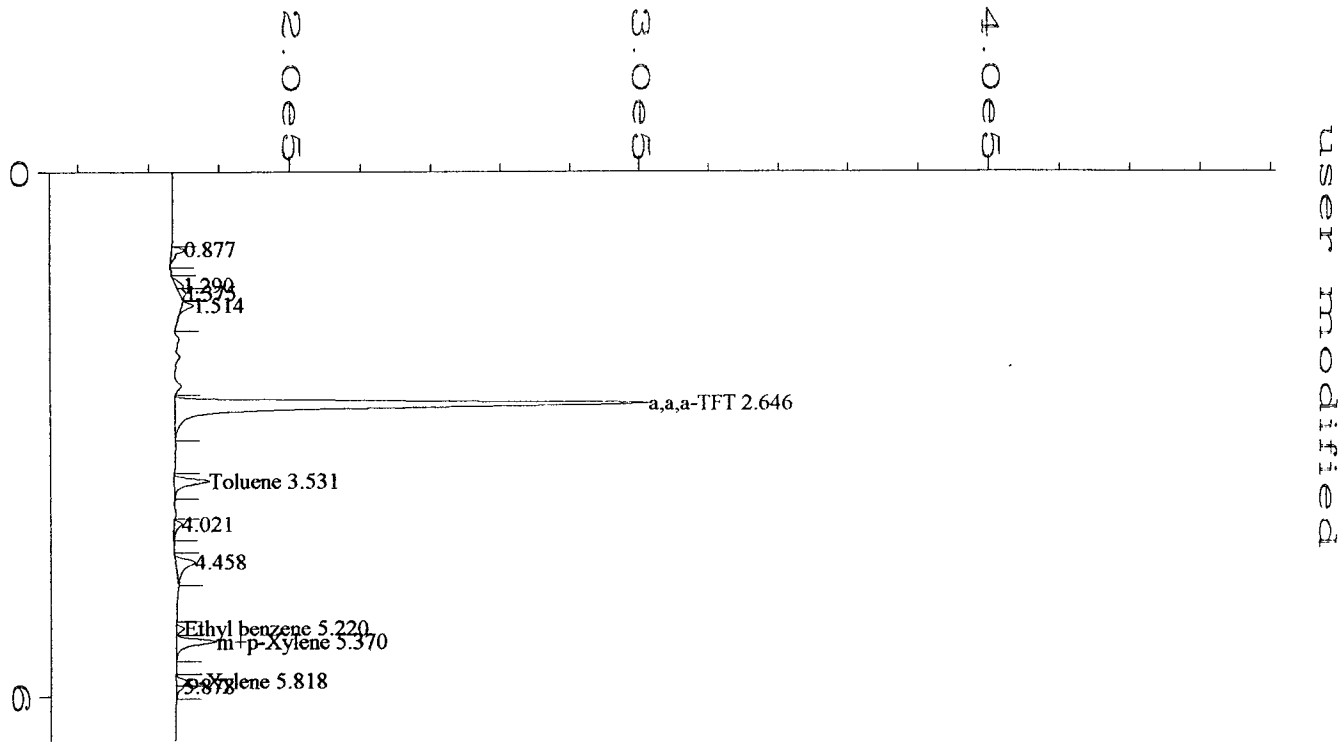
External Standard Report

Data File Name	: C:\HPCHEM\1\DATA\NV-F0673.D		
Operator	: GWW	Page Number	: 1
Instrument	: RECON GC	Vial Number	:
Sample Name	: REMENTA#1-10	Injection Number	:
Run Time Bar Code:		Sequence Line	:
Acquired on	: 16 Nov 95 02:16 PM	Instrument Method	: 8020.MTH
Report Created on	: 16 Nov 95 02:23 PM	Analysis Method	: 8020.MTH
Last Recalib on	: 16 Nov 95 07:04 AM	Sample Amount	: 0
Multiplier	: 0.2	ISTD Amount	:
Sample Info	: PH-10 GROUNDWATER AT 10-12 FEET BGS		

Sig. 1 in C:\HPCHEM\1\DATA\NV-F0673.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
2.066	8197	BV	0.074	1	0.289	Benzene
2.611	1289201	VB	0.088	1-R	135.026	a,a,a-TFT
3.508	66381	BV	0.083	1	3.546	Toluene
5.209	7180	BV	0.071	1	0.486	Ethyl benzene
5.359	40263	VB	0.077	1	1.925	m+p-Xylene
5.810	14310	BB	0.090	1	0.846	o-Xylene

Time Reference Peak	Expected RT	Actual RT	Difference
2	2.644	2.611	-1.2%



External Standard Report

Data File Name	: C:\HPCHEM\1\DATA\NV-F0674.D		
Operator	: GWW	Page Number	: 1
Instrument	: RECON GC	Vial Number	:
Sample Name	: REMENTA#1-11	Injection Number	:
Run Time Bar Code:		Sequence Line	:
Acquired on	: 16 Nov 95 02:50 PM	Instrument Method	: 8020.MTH
Report Created on	: 16 Nov 95 02:59 PM	Analysis Method	: 8020.MTH
Last Recalib on	: 16 Nov 95 07:04 AM	Sample Amount	: 0
Multiplier	: 0.2	ISTD Amount	:

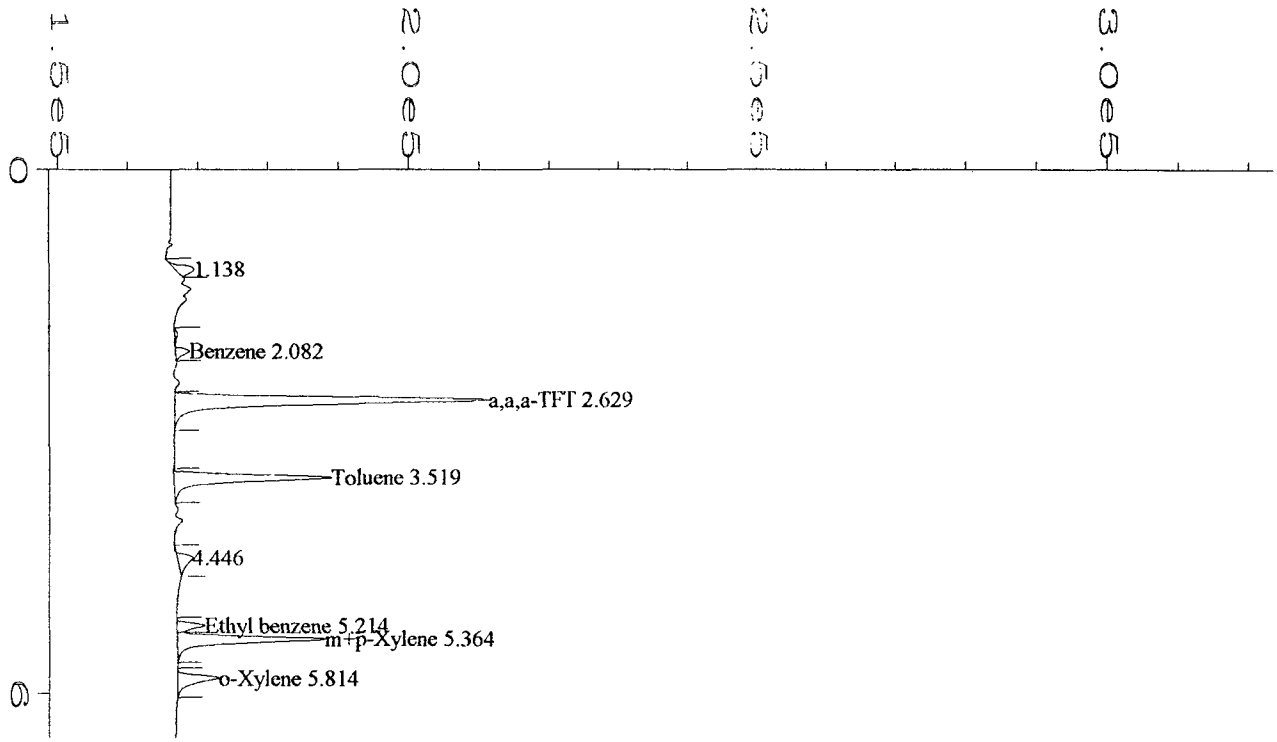
Sig. 1 in C:\HPCHEM\1\DATA\NV-F0674.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
2.070	* not found *			1		Benzene
2.646	729377	VB	0.081	1-R	76.392	a,a,a-TFT
3.531	48643	BB	0.073	1	2.598	Toluene
5.220	9153	BV	0.065	1	0.620	Ethyl benzene
5.370	53985	VB	0.071	1	2.581	m+p-Xylene
5.818	14156	MM	0.073	1	0.837	o-Xylene

Time Reference Peak	Expected RT	Actual RT	Difference
2	2.644	2.646	0.1%

Not all calibrated peaks were found

User Modified



External Standard Report

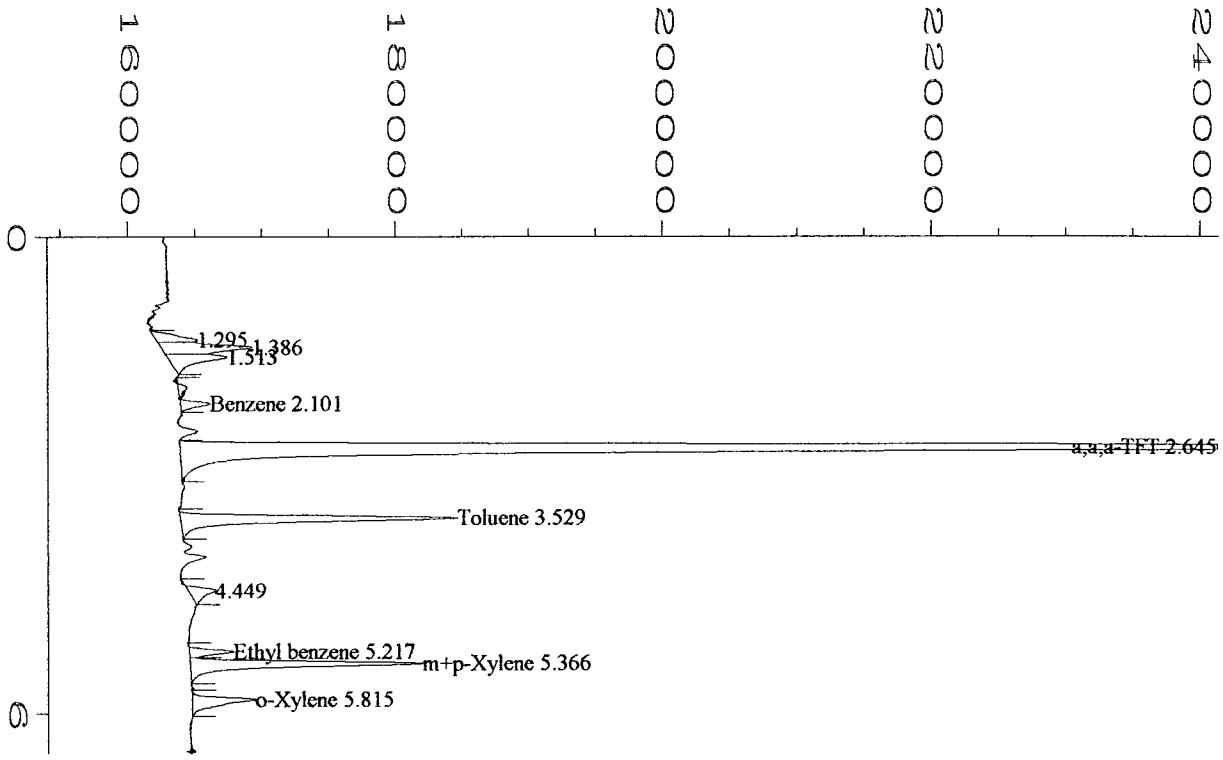
Data File Name : C:\HPCHEM\1\DATA\NV-F0675.D
Operator : GWW
Instrument : RECON GC
Sample Name : REMENTA#1-12
Run Time Bar Code:
Acquired on : 16 Nov 95 03:18 PM
Report Created on: 16 Nov 95 03:24 PM
Last Recalib on : 16 Nov 95 07:04 AM
Multiplier : 0.2
Sample Info : PH-12 GROUNDWATER AT 10-12 FEET BGS

Page Number : 1
Vial Number :
Injection Number :
Sequence Line :
Instrument Method: 8020.MTH
Analysis Method : 8020.MTH
Sample Amount : 0
ISTD Amount :

Sig. 1 in C:\HPCHEM\1\DATA\NV-F0675.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
2.082	11865	BB	0.088	1	0.419	Benzene
2.629	264953	BB	0.092	1-R	27.750	a,a,a-TFT
3.519	120884	BB	0.082	1	6.457	Toluene
5.214	18453	BV	0.071	1	1.250	Ethyl benzene
5.364	108702	VB	0.077	1	5.198	m+p-Xylene
5.814	33977	BB	0.082	1	2.009	o-Xylene

Time Reference Peak	Expected RT	Actual RT	Difference
2	2.644	2.629	-0.6%

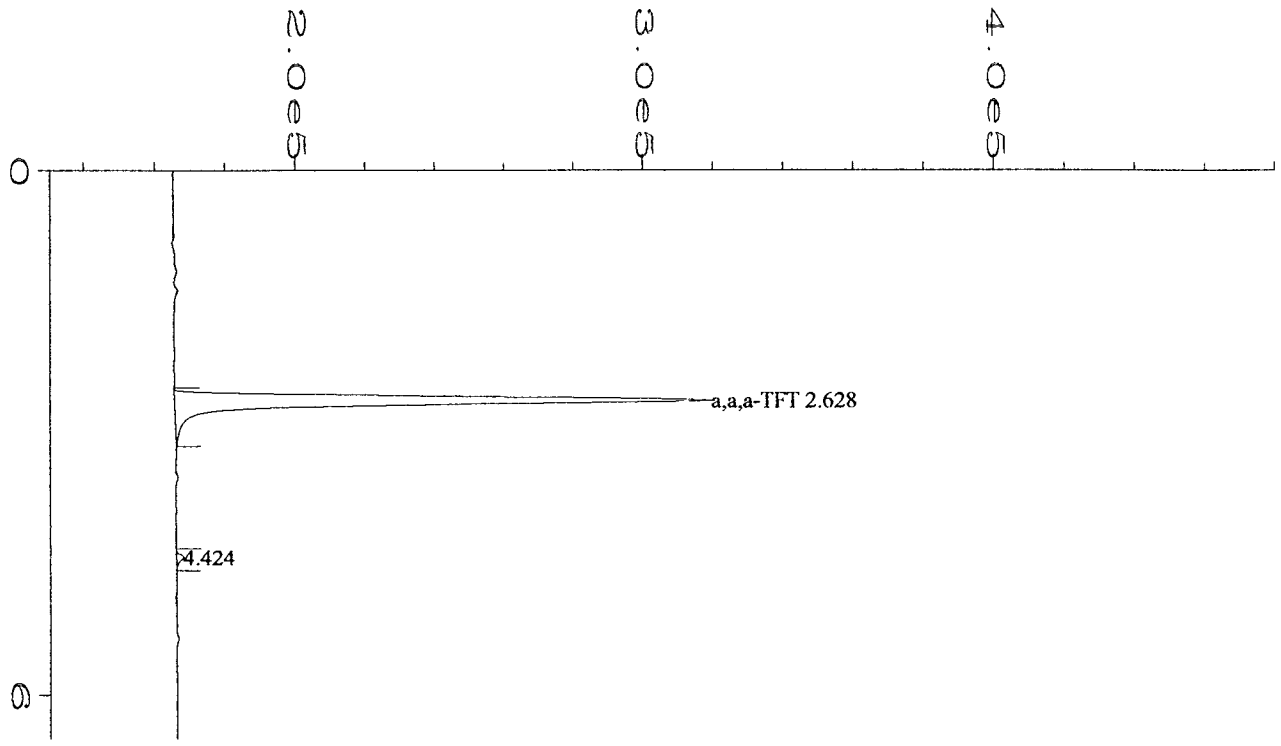


External Standard Report

Data File Name	: C:\HPCHEM\1\DATA\NV-F0683.D		
Operator	: GWW	Page Number	: 1
Instrument	: RECON GC	Vial Number	:
Sample Name	: REMENTA#1-12-D	Injection Number	:
Run Time Bar Code:		Sequence Line	:
Acquired on	: 16 Nov 95 06:13 PM	Instrument Method	: 8020.MTH
Report Created on	: 16 Nov 95 06:20 PM	Analysis Method	: 8020.MTH
Last Recalib on	: 16 NOV 95 07:04 AM	Sample Amount	: 0
Multiplier	: 0.2	ISTD Amount	:
Sample Info	: QC - DUPLICATE		

Sig. 1 in C:\HPCHEM\1\DATA\NV-F0683.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
2.101	14248	BB	0.091	1	0.503	Benzene
2.645	682552	PB	0.087	1	71.488	a,a,a-TFT
3.529	107579	BB	0.078	1	5.747	Toluene
5.217	14622	BV	0.067	1	0.990	Ethyl benzene
5.366	86904	VB	0.075	1	4.156	m+p-Xylene
5.815	28794	BB	0.085	1	1.702	o-Xylene



External Standard Report

Data File Name : C:\HPCHEM\1\DATA\NV-F0684.D
Operator : GWW
Instrument : RECON GC
Sample Name : ~~REMENTA#1-12-D~~ BLANK-04 GW
Run Time Bar Code:
Acquired on : 16 Nov 95 06:43 PM
Report Created on: 16 Nov 95 06:53 PM
Last Recalib on : 16 NOV 95 07:04 AM
Multiplier : 1

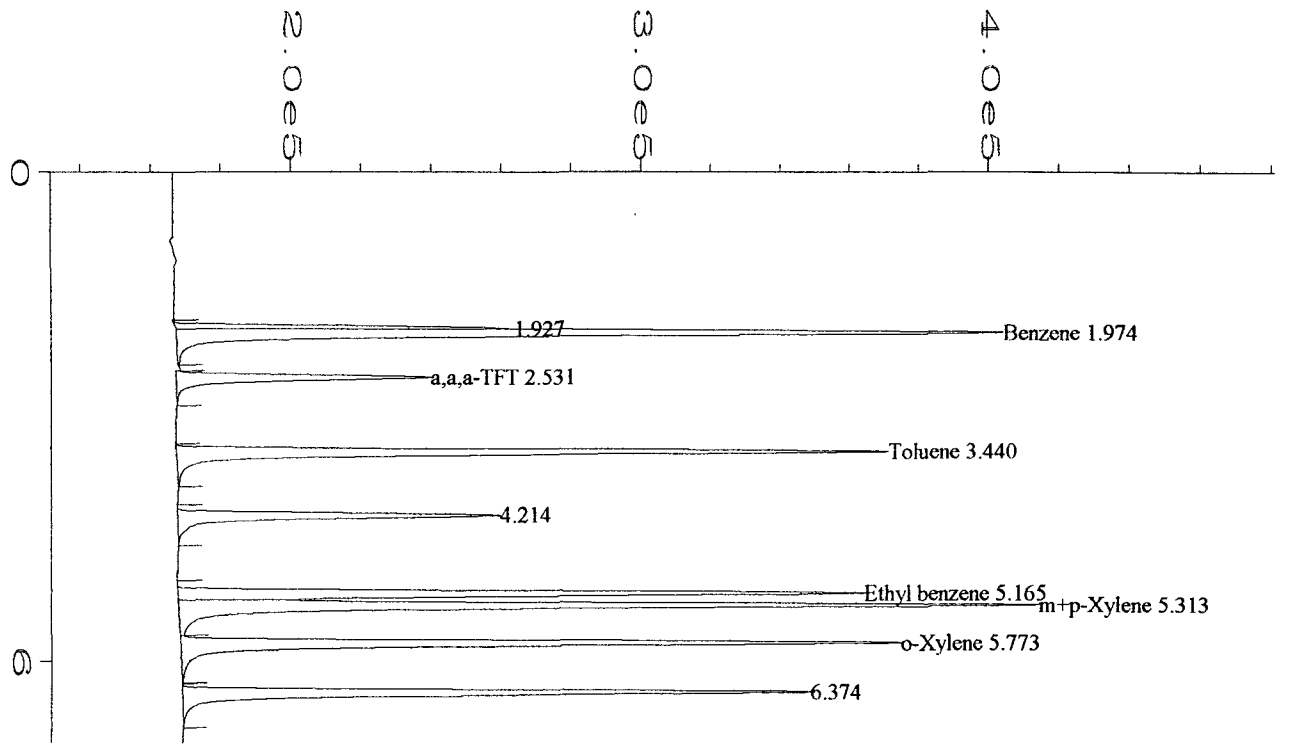
Page Number : 1
Vial Number :
Injection Number :
Sequence Line :
Instrument Method: 8020.MTH
Analysis Method : 8020.MTH
Sample Amount : 0
ISTD Amount :

Sig. 1 in C:\HPCHEM\1\DATA\NV-F0684.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
2.070	* not found *			1		Benzene
2.628	1024553	BB	0.097	1-R	536.541	a,a,a-TFT
3.570	* not found *			1		Toluene
5.250	* not found *			1		Ethyl benzene
5.400	* not found *			1		m+p-Xylene
5.800	* not found *			1		o-Xylene

Time Reference Peak	Expected RT	Actual RT	Difference
2	2.644	2.628	-0.6%

Not all calibrated peaks were found



External Standard Report

Data File Name : C:\HPCHEM\1\DATA\NV-F0685.D
Operator : GWW
Instrument : RECON GC
Sample Name : QCRT-01
Run Time Bar Code:
Acquired on : 16 Nov 95 06:57 PM
Report Created on: 16 Nov 95 07:09 PM
Last Recalib on : 16 NOV 95 07:04 AM
Multiplier : 1

Page Number : 1
Vial Number :
Injection Number :
Sequence Line :
Instrument Method: 8020.MTH
Analysis Method : 8020.MTH
Sample Amount : 0
ISTD Amount :

Sig. 1 in C:\HPCHEM\1\DATA\NV-F0685.D

Ret Time	Area	Type	Width	Ref#	ug/L	Name
1.974	1220786	MM	0.086	1	215.568	Benzene
2.531	359832	FB	0.074	1-R	188.438	a,a,a-TFT
3.440	1000319	BB	0.074	1	267.170	Toluene
5.165	880654	BV	0.068	1	298.235	Ethyl benzene
5.313	1245575	VV	0.075	1	297.799	m+p-Xylene
5.773	1011534	VB	0.073	1	299.013	o-Xylene

Time Reference Peak	Expected RT	Actual RT	Difference
2	2.644	2.531	-4.3%

User Modified

OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, New Mexico 87505

September 27, 1995

CERTIFIED MAIL
RETURN RECEIPT NO. Z-765-962-420

Mr. Doug Thomas
Meridian Oil, Inc.
P.O. Box 4289
Farmington, New Mexico 87499-4289

RE: GROUND WATER CONTAMINATION
RAMENTA ETAL #1 WELL SITE

Dear Mr. Thomas:

The New Mexico Oil Conservation Division (OCD) has completed a review of Meridian Oil Inc.'s (MOI) September 7, 1995 "GROUND WATER LAB ANALYSIS FOR RAMENTA ETAL #1" and September 7, 1995 "RAMENTA ETAL #1 GROUNDWATER REMEDIATION". These documents contain a notification of ground water contamination at the Ramenta ETAL #1 well site related to the former use of unlined production pits.

Based upon a review of the above referenced documents and an OCD September 21, 1995 inspection of the site, the OCD requests that MOI submit, by November 30, 1995, a work plan to investigate the extent of ground water contamination related to the pits. Please submit the work plan to the OCD Santa Fe Office and a copy to the OCD Aztec Office.

If you have any questions, please call me at (505) 827-7154.

Sincerely,

William C. Olson
Hydrogeologist
Environmental Bureau

xc: Denny Foust, OCD Aztec Office
Michael J. Pool, BLM Farmington District Manager

MERIDIAN OIL

September 7, 1995

Certified - P 895 114 289

William C. Olson
Hydrogeologist, Environmental Bureau
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87505

Re: Ramenta ETAL #1
Groundwater Remediation

Dear Mr. Olson:

Meridian Oil Inc. (MOI) is requesting written approval for the Closure of the Ramenta ETAL #1 pits located in Sec. J 13, T27N, R9W using the following proposal.

At the present time there is no groundwater in any of the excavations. A heavy rain shower the week prior to remediation activity (attributing to higher than normal GW level), coupled with the fact that during excavation contaminated soils where mixed with the groundwater sampled, Meridian Oil Inc. feels the analysis results are not a true representation of the groundwater in the area of the well.

MOI proposes that soil samples be taken for BETX and TPH. If results are below recommended guide line levels the pits will be considered clean and closed in accordance with NMOCD guidelines.

If you have any questions concerning this proposed plan, please contact me at 326-9561.

Sincerely,

Doug Thomas

Doug Thomas
Environmental/Safety Representative

cc: File Ramenta ETAL #1
New Mexico Oil Conservation Division - Aztec Office

s:\dthomas\pitclsre\ramgwnot

P.O. Box 4289, Farmington, New Mexico 87499-4289, Telephone 505-326-9700, Fax 505-326-9833
3535 East 30th St., 87402-8891

MERIDIAN OIL

September 7, 1995 *Certified - 895-114-289*

William C. Olson
Hydrogeologist, Environmental Bureau
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87505

Re: Ground Water Lab Analysis for Ramenta ETAL #1

Dear Mr. Olson:

Following is a summary of analytical results from the July 24, 1995 ground water sampling episode at the Ramenta ETAL#1 well site. Meridian assumed operation of the well from Mobil via a property transaction during the second half of 1992. Groundwater was discovered during pit remediation activity.

Pit	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylene (ug/l)	Depths to Water from surface
Blow pit	ND	2100	ND	2800	10 feet
Separator pit	ND	1400	ND	3920	8 feet
Storage Tank	ND	120	ND	2520	6 feet

Attached are two copies of the report received from the July 24, 1995 ground water sampling episode and Meridian Oil Inc (MOI) proposed action plan for remediation of the site.

If any additional information or clarification is needed, I can be contacted at 326-9561.

Sincerely,

Doug Thomas
Environmental/Safety Representative

Attached: (2) Report of groundwater sampling

cc: Denny Foust - NMOCD Aztec (w/ attachment, one copy)
Matt McEneny - MOI (w/o attachment)
File: Ramenta ETAL #1

s:\dthomas\pitclsre\ramgwnot.doc

P.O. Box 4289, Farmington, New Mexico 87499-4289, Telephone 505-326-9700, Fax 505-326-9833
3535 East 30th St., 87402-8891

ASSAIGAI ANALYTICAL LABORATORIES
7300 Jefferson, N.E. • Albuquerque, New Mexico 87109 • (505) 345-8964 • FAX (505) 345-7259
3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

Report Generated:
August 11, 1995 09:00

CERTIFICATE OF ANALYSIS
RESULTS BY SAMPLE

SENT PHILIP ENVIRONMENTAL
TO: 4000 MONROE ROAD
FARMINGTON, NM 87401

ATTN: ALLEN HAINS

WORKORDER # : 9507248
WORK ID : 13413/MOI-PROD.PIT REMED.
CLIENT CODE : PHI15
DATE RECEIVED : 07/28/95

Lab ID: 9507248-04A
Sample ID: RETAL #1-A-B

Collected: 07/25/95 10:45:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
Blow P.T						
VOA AROMATICS/SW846 8020A						
Benzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194
Toluene	2100	ug/L	1.0	100	08/01/95	WGCVOA194
Chlorobenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194
Ethylbenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194
P-&m-xylene	2200	ug/L	2.0	100	08/01/95	WGCVOA194
O-xylene	600	ug/L	1.0	100	08/01/95	WGCVOA194

Lab ID: 9507248-04A
Sample ID: RETAL #1-A-B
Collected: 07/25/95 10:45:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOA AROMATICS/SW846 8020A						
1,3-dichlorobenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194
1,4-dichlorobenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194
1,2-dichlorobenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194

Lab ID: 9507248-05A
Sample ID: RETAL #1-A-B-D
Collected: 07/25/95 10:45:00
Matrix: WATER

Blow Pit. Duplicate Test

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOA AROMATICS/SW846 8020A						
Benzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194
Toluene	2000	ug/L	1.0	100	08/01/95	WGCVOA194
Chlorobenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194
Ethylbenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194
P-&m-xylene	3300	ug/L	2.0	100	08/01/95	WGCVOA194
O-xylene	980	ug/L	1.0	100	08/01/95	WGCVOA194
1,3-dichlorobenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194
1,4-dichlorobenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194
1,2-dichlorobenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194

Lab ID: 9507248-06A
Sample ID: REAL #1-S
Collected: 07/25/95 11:15:00
Matrix: WATER

Separator

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOA AROMATICS/SW846 8020A						
Benzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194
Toluene	1400	ug/L	1.0	100	08/01/95	WGCVOA194
Chlorobenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194
Ethylbenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194
P-&m-xylene	3100	ug/L	2.0	100	08/01/95	WGCVOA194
O-xylene	820	ug/L	1.0	100	08/01/95	WGCVOA194
1,3-dichlorobenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194
1,4-dichlorobenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194
1,2-dichlorobenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194

Lab ID: 9507248-07A
Sample ID: RETAL #1-ST
Collected: 07/25/95 11:30:00
Matrix: WATER

Storage TANK

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOA AROMATICS/SW846 8020A						
Benzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194
Toluene	120	ug/L	1.0	100	08/01/95	WGCVOA194
Chlorobenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194
Ethylbenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194
P-&m-xylene	2000	ug/L	2.0	100	08/01/95	WGCVOA194
O-xylene	520	ug/L	1.0	100	08/01/95	WGCVOA194
1,3-dichlorobenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194

Lab ID: 9507248-07A
Sample ID: RETAL #1-ST

Collected: 07/25/95 11:30:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOA AROMATICS/SW846 8020A						
1,4-dichlorobenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194
1,2-dichlorobenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194

ASSAIGAI ANALYTICAL LABORATORIES
7300 Jefferson, N.E. • Albuquerque, New Mexico 87109 • (505) 345-8964 • FAX (505) 345-7259
3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

Report Generated:
August 11, 1995 09:00

CERTIFICATE OF ANALYSIS
RESULTS BY SAMPLE

SENT TO: PHILIP ENVIRONMENTAL
4000 MONROE ROAD
FARMINGTON, NM 87401

ATTN: ALLEN HAINS

WORKORDER # : 9507248
WORK ID : 13413/MOI-PROD.PIT REMED.
CLIENT CODE : PHI15
DATE RECEIVED : 07/28/95

Lab ID: 9507248-04A
Sample ID: RETAL #1-A-B

Collected: 07/25/95 10:45:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
Blow Pit						
VOA AROMATICS/SW846 8020A						
Benzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194
Toluene	2100	ug/L	1.0	100	08/01/95	WGCVOA194
Chlorobenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194
Ethylbenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194
P-&m-xylene	2200	ug/L	2.0	100	08/01/95	WGCVOA194
O-xylene	600	ug/L	1.0	100	08/01/95	WGCVOA194

Lab ID: 9507248-04A
Sample ID: RETAL #1-A-B
Collected: 07/25/95 10:45:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOA AROMATICS/SW846 8020A						
1,3-dichlorobenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194
1,4-dichlorobenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194
1,2-dichlorobenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194

Lab ID: 9507248-05A
Sample ID: RETAL #1-A-B-D
Collected: 07/25/95 10:45:00
Matrix: WATER

Blow Pit. Duplicate Test

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOA AROMATICS/SW846 8020A						
Benzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194
Toluene	2000	ug/L	1.0	100	08/01/95	WGCVOA194
Chlorobenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194
Ethylbenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194
P-&m-xylene	3300	ug/L	2.0	100	08/01/95	WGCVOA194
O-xylene	980	ug/L	1.0	100	08/01/95	WGCVOA194
1,3-dichlorobenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194
1,4-dichlorobenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194
1,2-dichlorobenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194

Lab ID: 9507248-06A
Sample ID: REAL #1-S
Collected: 07/25/95 11:15:00
Matrix: WATER

Separator

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOA AROMATICS/SW846 8020A						
Benzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194
Toluene	1400	ug/L	1.0	100	08/01/95	WGCVOA194
Chlorobenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194
Ethylbenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194
P-&m-xylene	3100	ug/L	2.0	100	08/01/95	WGCVOA194
O-xylene	820	ug/L	1.0	100	08/01/95	WGCVOA194
1,3-dichlorobenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194
1,4-dichlorobenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194
1,2-dichlorobenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194

Lab ID: 9507248-07A
Sample ID: RETAL #1-ST
Collected: 07/25/95 11:30:00
Matrix: WATER

Storage TANK

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOA AROMATICS/SW846 8020A						
Benzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194
Toluene	120	ug/L	1.0	100	08/01/95	WGCVOA194
Chlorobenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194
Ethylbenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194
P-&m-xylene	2000	ug/L	2.0	100	08/01/95	WGCVOA194
O-xylene	520	ug/L	1.0	100	08/01/95	WGCVOA194
1,3-dichlorobenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194

Lab ID: 9507248-07A
Sample ID: RETAL #1-ST

Collected: 07/25/95 11:30:00
Matrix: WATER

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
VOA AROMATICS/SW846 8020A						
1,4-dichlorobenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194
1,2-dichlorobenzene	ND	ug/L	1.0	100	08/01/95	WGCVOA194