3R - 164

REPORTS

DATE:
1999

EL PASO FIELD SERVICES

Certified Mail: **#Z 213 707 666 (Box 1 of 2)**
#Z 213 707 664 (Box 2 of 2)

March 24, 2000

Mr. William C. Olson
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, NM 87504

RECEIVED
MAR 2 3 2000
ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

RE: 1999 Pit Project Annual Groundwater Report

Dear Mr. Olson:

In accordance with reporting requirements, El Paso Field Services (EPFS) has enclosed annual updates for the 32 remaining groundwater impacted locations that were identified during our pit closure project of 1994 / 1995.

Of the 32 reports, EPFS hereby requests closure of 4 of these locations. The 4 sites EPFS is requesting closure on are presented in one separate binder entitled "San Juan Basin Pit Closures, El Paso Field Services, Pit Closure Reports".

The Jaquez Com. C #1 and Jaquez Com. E #1 site is included in a separate report which is entitled "Jaquez Com. C #1 and Jaquez Com. E #1 Annual Report for Soil and Groundwater Remediation".

EPFS has also included for your information five Navajo sites in a separate binder and a separate report for the Bisti Flare Pit #1.

If you have any questions concerning the enclosed reports or closure requests, please call me at (505) 599-2124.

Sincerely,

Scott T. Pope P.G.
Senior Environmental Scientist

xc: Mr. Denny Foust, NMOCD, Aztec - w / enclosures; **Certified Mail # Z 213 707 667**
Mr. Bill Liesse, BLM – w / enclosures; **Certified Mail # Z 213 707 668**
Mr. John Jaquez, - w / Jaquez enclosures; **Certified Mail # Z 213 707 669**
Ms. Charmaine Tso, Navajo EPA – w / enclosures; **Certified Mail # Z 213 707 670**

bc: J. A. Lambdin w / enclosures
Philip Services Corp. – Cecil Irby, w / o enclosures
B. B. McDaniel / 24321 – NMOCD Regulatory w / o

SAN JUAN BASIN PIT CLOSURES
San Juan Basin, New Mexico

El Paso Field Services Pit Project Groundwater Report
Annual Report

RECEIVED
MAR 2 9 2000
ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

March 2000

Prepared For

El Paso Field Services
Farmington, New Mexico

Project 62800158

PSC
PHILIP SERVICES
CORP.

COLDIRON COM A #1
Meter/Line ID - 73551

SITE DETAILS

Legals - Twn: 30N **Rng:** 11W **Sec:** 2 **Unit:** K
NMOCD Hazard Ranking: 40 **Land Type:** FEE
Operator: AMOCO PRODUCTION COMPANY

PREVIOUS ACTIVITIES

Site Assessment: Mar-94 **Excavation:** Apr-94 (50 cy) **Soil Boring:** Oct-95
Monitor Well: Oct-95 **Quarterly Sampling Initiated:** Apr-96

1999 ACTIVITIES

Quarterly Groundwater Monitoring - Quarterly groundwater monitoring was performed quarterly during 1999. Quarterly sampling was discontinued the last quarter of 1999.

SUMMARY TABLES

Groundwater analytical data are presented in Table 1. Copies of the laboratory data sheets and associated quality assurance/quality control data are presented as Attachment 1.

SITE MAP

A site map is presented as Figure 1.

GEOLOGIC LOGS AND WELL COMPLETION DIAGRAMS

There were no drilling activities at this site in 1999.

DISPOSITION OF GENERATED WASTES

There were no wastes generated at this site in 1999.

ISOCONCENTRATION MAPS

None generated for this site.

CONCLUSIONS

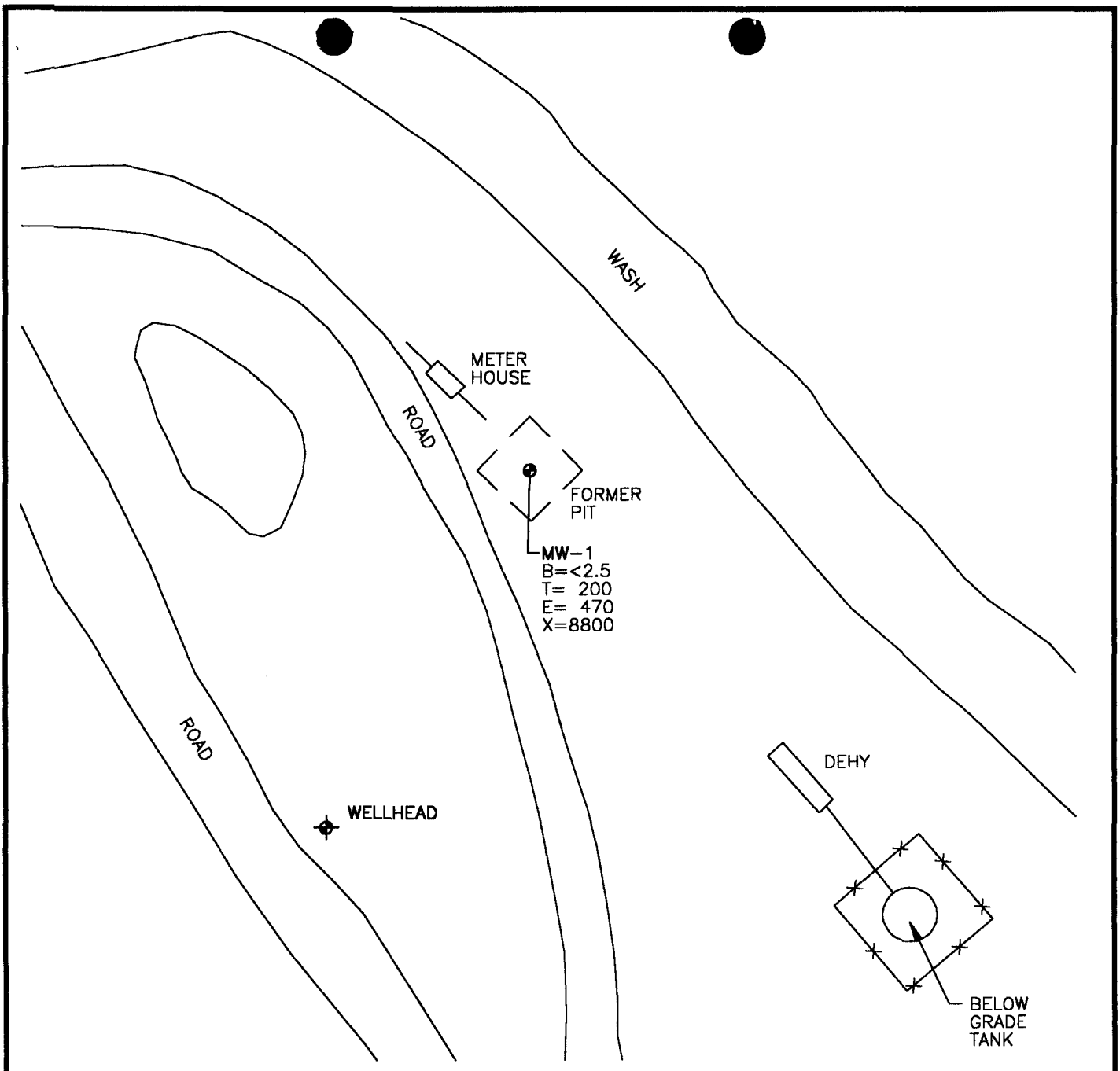
Analytical results of groundwater samples from MW-1 show levels of benzene and total xylenes above New Mexico Groundwater Standards.

Pertinent data from past groundwater reports include the following: Based on groundwater levels collected from temporary well point data, the groundwater flow trends to the northwest on this site.

One groundwater sample collected upgradient from MW-1 at PH-2 was in excess of standards for all BTEX components and indicates the production pit upgradient of MW-1 may be an additional source.

RECOMMENDATIONS

- EPFS will conduct annual sampling at this site until BTEX constituents fall below NMWQCC Standards.
- After BTEX constituents fall below NMWQCC Standards, quarterly sampling will be conducted until analytical results show BTEX constituents are below NMWQCC Standards for four consecutive quarters.
- Following OCD approval for closure, MW-1 will be abandoned using OCD approved abandonment procedures.



LEGEND

● MW-1	MONITORING WELL NUMBER AND APPROXIMATE LOCATION
B	BENZENE (ug\L)
T	TOLUENE (ug\L)
E	ETHYL BENZENE (ug\L)
X	XYLENE (ug\L)
ug\L	MICROGRAMS PER LITER

NOT TO SCALE

N

PSC

TITLE:

COLDIRON COM A#1
METER 73551
OCTOBER 14, 1999

DWN: CJG	DES.: CI	PROJECT NO.: 17520	
CHKD: CI	APPD:	EPFS GW PITS	
DATE: 02/08/00	REV.: 0	FIGURE 1	

COL 17520AY-003

TABLE 1

Sample #	Meter/ Line #	Site Name	Sample Date	MW #	Project	Benzene (PPB)	Toluene (PPB)	Ethyl Benzene (PPB)	Total Xylenes (PPB)	Total BTEX
990013	73551	Coldiron A #1	01/14/99	1	Sample 4 - 8th Quarter	= 74.6	= 164.0	= 63.4	= 2180	= 2482
990175	73551	Coldiron A #1	04/15/99	1	Sample 4 - 9th Quarter	= 73.4	= 79.7	= 108.0	= 1870	= 2131
990322	73551	Coldiron A #1	07/20/99	1	Sample 4 - 10th Quarter	= 79.2	= 34.2	= 118.0	= 1760	= 1991
990404	73551	Coldiron A #1	10/14/99	1	Sample 4 - 11th Quarter	< 25	= 200.0	= 470.0	= 8800	= 9470

ATTACHMENT 1
1999 GROUNDWATER ANAYLTICAL

SAMPLE # 8TH QTR

El Paso Natural Gas Company

A 2425

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Type and No. of Sample Containers	Preservation Technique	Requested Analysis			Remarks
	MC #7355 1			BTXE			
Samplers: (Signature) Dennis Bird	Date: 1-14-99						

MATRIX	Date	Time	Comp.	GRAB	Sample Number							
WATER	1-14-99	1620		X	990013	G-1	38°F	X				COLOTRON A #1 MW-1

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	1-14-99 1725				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks:	
		John Fuller	1-15-99 1515		

Carrier Co:	Carrier Phone No.	Date Results Reported / by: (Signature)
Air Bill No.:		

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	990013
MTR CODE | SITE NAME:	73551	Coldiron A#1
SAMPLE DATE | TIME (Hrs):	1/14/99	1622
PROJECT:	Sample 4 8th Quarter	
ATE OF BTEX EXT. | ANAL.:	NA	1/15/99
TYPE | DESCRIPTION:	MW-1	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	74.6	PPB				
TOLUENE	164	PPB				
ETHYL BENZENE	63.4	PPB				
TOTAL XYLENES	2180	PPB	5	D		
TOTAL BTEX	2482	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 75.8 for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

The "D" qualifier indiciates that the analyte calculated is based on a secondary dilution factor.

Narrative:

BFB recovery low due to matrix interference.

Approved By: John Faubion Date: 1-18-99

EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name COLDIRON A #1

Meter Code 73551

Development Criteria

☒ 3 to 5 Casing Volumes of Water Removel
☐ Stabilization of Indicator Parameters
☐ Other

Methods of Development

Pump		Bailer	
☐	Centrifugal	☒	Bottom Valve
☐	Submersible	☐	Double Check Valve
☐	Peristaltic	☐	Stainless-steel Kemmerer

☐ Other

Water Volume Calculation

Initial Depth of Well (feet) 45.24
Initial Depth to Water (feet) 35.84
Height of Water Column in Well (feet) 9.40
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		6.2	18.6
Gravel Pack			
Drilling Fluids			
Total			

Instruments

☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☒ Other D.O. CHEMETS KIT

Water Disposal

KUTZ SEPARATOR

Water Removal Data

Date	Time	Development Method		Removal Rate	Intake Depth	Ending Water Depth	Water Volume Removed (gal)		Product Volume Removed (gallons)		Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
		Pump	Bailer	(gal/min)	(feet)	(feet)	Increment	Cumulative	Increment	Cumulative					
1-14-99	1534										14.9	6.67	3790		
1-14-99	1541						5.0	5.0			14.2	6.73	4290		
1-14-99	1549						5.0	10.0			13.8	6.97	4860		
1-14-99	1601						5.0	15.0			13.6	7.15	5200		
1-14-99	1610						5.0	20.0			13.4	7.37	5230	0.5	

Comments THE WATER HAD A LIGHT HYDROGEN SULFIDE SMELL.

Developer's Signature Dennis Bird Date 1-14-99 Reviewer Jon Ladner Date 1-18-99

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT

EPA METHOD 8020 - BTEX

Samples: 990010 to 990013

QA/QC for 1/15/99 Sample Set

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

SAMPLE NUMBER ICV LA-52589 25 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	Standard	25.0	26.2	105	75 - 125 %	X	
Toluene	Standard	25.0	26.3	105	75 - 125 %	X	
Ethylbenzene	Standard	25.0	26.6	106	75 - 125 %	X	
m & p - Xylene	Standard	50	51.7	103	75 - 125 %	X	
o - Xylene	Standard	25.0	26.8	107	75 - 125 %	X	
SAMPLE NUMBER LCS LA-45476 25 PPB	**TYPE**	**EXPECTED RESULT PPB**	**ANALYTICAL RESULT PPB**	**%R**	**ACCEPTABLE RANGE**	**YES**	**NO**
Benzene	Standard	25.0	27.7	111	39 - 150	X	
Toluene	Standard	25.0	27.6	110	46 - 148	X	
Ethylbenzene	Standard	25.0	27.1	109	32 - 160	X	
m & p - Xylene	Standard	50.0	53.1	106	Not Given	X	
o - Xylene	Standard	25.0	27.9	112	Not Given	X	

Narrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE ID 990010	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE RANGE	YES	NO
Benzene	Matrix Duplicate	13.3	13.3	0.13	+/- 20 %	X	
Toluene	Matrix Duplicate	2.5	2.5	0.16	+/- 20 %	X	
Ethylbenzene	Matrix Duplicate	7.03	6.97	0.90	+/- 20 %	X	
m & p - Xylene	Matrix Duplicate	5.00	5.0	0.31	+/- 20 %	X	
o - Xylene	Matrix Duplicate	2.50	2.49	0.57	+/- 20 %	X	

Narrative: Acceptable.

LABORATORY SPIKES:

SAMPLE ID 2nd Analysis 990010	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	25	13.3	38.4	100.4	75 - 125 %	X	
Toluene	25	2.5	28.4	103.5	75 - 125 %	X	
Ethylbenzene	25	7.0	32.4	101.3	75 - 125 %	X	
m & p - Xylene	50	5.0	56.8	103.5	75 - 125 %	X	
o - Xylene	25	2.5	28.5	104.1	75 - 125 %	X	

Narrative: Acceptable

Narrative: Acceptable

AUTO BLANK	SOURCE	PPB (3 analyzed with set)	STATUS
Benzene	Boiled Water	<1.0	ACCEPTABLE
Toluene	Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

SOIL VIAL BLANK	SOURCE Lot MB1461	PPB (none analyzed with set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

CONTAMINATION CARRYOVER CHECK	SOURCE	PPB (none analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

1/14/99 TRIP BLANK	SOURCE	PPB (one analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

Reported By: J. L. Approved By: John Fowler Date: 1-18-99

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	990175
MTR CODE | SITE NAME:	73551	Coldiron A #1
SAMPLE DATE | TIME (Hrs):	4/15/99	1627
PROJECT:	Sample 4 - 9th Quarter	
)ATE OF BTEX EXT. | ANAL.:	NA	4/22/99
TYPE | DESCRIPTION:	MW-1	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	73.4	PPB				
TOLUENE	79.7	PPB				
ETHYL BENZENE	108	PPB				
TOTAL XYLENES	1870	PPB	5	D		
TOTAL BTEX	2131	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 101.1 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

The "D" qualifier indiciates that the analyte calculated is based on a secondary dilution factor.

Narrative:

Approved By: John Fowler Date: 4/23/99

El Paso Natural Gas Company

CHAIN OF CUSTODY RECORD

A 2446

Project No.	Project Name					Type and No. of Sample Containers	Preservation Technique	Requested Analysis				Remarks
Samplers: (Signature)			Date:									
	Date	Time	Comp.	GRAB	Sample Number							
		1527		X	970175			X				

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	1740				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)

Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks:
		[signature]	4/22/99 1415	Cool & Intact
Carrier Co:		Carrier Phone No.		Date Results Reported / by: (Signature)
Air Bill No.:				

san juan repro Form 71-55 A

EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name COLDIRON A #1

Meter Code 73551

Development Criteria

☒ 3 to 5 Casing Volumes of Water Removel
☐ Stabilization of Indicator Parameters
☐ Other

Methods of Development

Pump	Bailer
☐ Centrifugal	☒ Bottom Valve
☐ Submersible	☐ Double Check Valve
☐ Peristaltic	☐ Stainless-steel Kemmerer

☐ Other

Water Volume Calculation

Initial Depth of Well (feet) 45.24
Initial Depth to Water (feet) 36.32
Height of Water Column in Well (feet) 8.92

Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		5.9	17.7
Gravel Pack			
Drilling Fluids			
Total			

Instruments

☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☒ Other D.O. CHEMETS KIT

Water Disposal

KOTZ SEPARATOR

Water Removal Data

Date	Time	Development Method		Removal Rate	Intake Depth	Ending Water Depth	Water Volume Removed (gal)		Product Volume Removed (gallons)		Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
		Pump	Bailer	(gal/min)	(feet)	(feet)	Increment	Cumulative	Increment	Cumulative					
4-15-99	1528										15.9	7.04	2820		
4-15-99	1536						5.0	5.0			15.4	7.17	3280		
4-15-99	1546						5.0	10.0			15.7	7.22	4020		
4-15-99	1600						5.0	15.0			14.4	7.22	4520		
4-15-99	1617						5.0	20.0			14.4	7.20	4550	1.0	

Comments THE WATER HAD A LIGHT HYDROGEN SULFIDE SMELL.

Developer's Signature Dennis Bird Date 4-15-99 Reviewer John Saldi Date 4/23/99

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX
Samples: 990173 to 990181

QA/QC for 04/22/99 Sample Set

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

SAMPLE NUMBER ICV LA-52589 50 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	Standard	50.0	47.1	94.2	75 - 125 %	X	
Toluene	Standard	50.0	46.9	93.7	75 - 125 %	X	
Ethylbenzene	Standard	50.0	47.6	95.1	75 - 125 %	X	
m & p - Xylene	Standard	100	95.8	95.8	75 - 125 %	X	
o - Xylene	Standard	50.0	47.2	94.4	75 - 125 %	X	
SAMPLE NUMBER LCS LA-45476 25 PPB	**TYPE**	**EXPECTED RESULT PPB**	**ANALYTICAL RESULT PPB**	**%R**	**ACCEPTABLE RANGE**	**YES**	**NO**
Benzene	Standard	25.0	22.7	91	39 - 150	X	
Toluene	Standard	25.0	22.7	91	46 - 148	X	
Ethylbenzene	Standard	25.0	23.0	92	32 - 160	X	
m & p - Xylene	Standard	50.0	46.1	92	Not Given	X	
o - Xylene	Standard	25.0	22.9	92	Not Given	X	

Narrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE ID 990173	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE RANGE	YES	NO
Benzene	Matrix Duplicate	10.5	10.7	1.61	+/- 20 %	X	
Toluene	Matrix Duplicate	1.52	1.54	0.86	+/- 20 %	X	
Ethylbenzene	Matrix Duplicate	9.36	9.63	2.79	+/- 20 %	X	
m & p - Xylene	Matrix Duplicate	3.50	3.57	2.05	+/- 20 %	X	
o - Xylene	Matrix Duplicate	1.16	1.19	2.51	+/- 20 %	X	

Narrative: Acceptable.

LABORATORY SPIKES:

SAMPLE ID 2nd Analysis 990173	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	25	10.5	31.6	84	75 - 125 %	X	
Toluene	25	1.52	21.9	81	75 - 125 %	X	
Ethylbenzene	25	9.36	30.4	84	75 - 125 %	X	
m & p - Xylene	50	3.50	45.9	85	75 - 125 %	X	
o - Xylene	25	1.16	22.0	83	75 - 125 %	X	

Narrative: Acceptable.

AUTO BLANK	SOURCE	PPB (1 analyzed with set)	STATUS
Benzene	Boiled Water	<1.0	ACCEPTABLE
Toluene	Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

SOIL VIAL BLANK	SOURCE Lot MB1461	PPB (one analyzed with set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

CONTAMINATION CARRYOVER CHECK	SOURCE	PPB (one analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

TRIP BLK 04/15,16,19/99	SOURCE	PPB (three analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

Reported By: J.L. Approved By: John Sabin Date: 4-23-99

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	990322
MTR CODE | SITE NAME:	73551	Coldiron A#1
SAMPLE DATE | TIME (Hrs):	7/20/99	1550
PROJECT:	Sample 4 - 10th Quarter	
DATE OF BTEX EXT. | ANAL.:	NA	7/21/99
TYPE | DESCRIPTION:	MW-1	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	79.2	PPB	1			
TOLUENE	34.2	PPB	1			
ETHYL BENZENE	118	PPB	1			
TOTAL XYLENES	1760	PPB	5	D		
TOTAL BTEX	1991	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 102 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used
The "D" qualifier indiciates that the analyte calculated is based on a secondary dilution factor.

Narrative:

Approved By: John Loudi Date: 7/22/99

El Paso Natural Gas Company

SAMPLE 4 10TH QTR

CHAIN OF CUSTODY RECORD

Project Number	Project Name	Total No. of Containers	Composite or Grab	Requested Analysis	Contract Laboratory P.O. Number
	MC #7355/				
Samplers: (Signature) Dennis Bird	Date: 7-20-99				

Lab ID	Date	Time	Matrix	Sample Number	Total No. of Containers	Composite or Grab	Requested Analysis	Remarks
	7-20-99	1550	WATER	990322	3	G	X BTXE	COLDIRON A #1

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	7-20-99 1715				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)
				7/21/99 1425	John Faulk

Requested Turnaround Time:
☑ Routine ☐ Rush _____

Carrier Co.

Bill No.:

Sample Receipt Remarks
Cool & Intact

Charge Code

Results & Invoices to:
North Region Laboratory
El Paso Natural Gas Company
P. O. Box 4990
Farmington, New Mexico 87499

505-599-2144 FAX: 505-599-2261

White-Testing Laboratory Yellow-EPNG Lab *Pink-Field Sampler*

FM-08-0565 (9-91)

EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name COLDIRON A#1

Meter Code 73551

Development Criteria

☒ 3 to 5 Casing Volumes of Water Removel
☐ Stabilization of Indicator Parameters
☐ Other

Methods of Development

Pump		Bailer	
☐	Centrifugal	☒	Bottom Valve
☐	Submersible	☐	Double Check Valve
☐	Peristaltic	☐	Stainless-steel Kemmerer

☐ Other

Water Volume Calculation

Initial Depth of Well (feet) 45.24
Initial Depth to Water (feet) 36.84
Height of Water Column in Well (feet) 8.40
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		5.6	16.7
Gravel Pack			
Drilling Fluids			
Total			

Instruments

☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☒ Other D.O. CHEMETS KIT

Water Disposal

KOTZ SEPARATOR

Water Removal Data

Date	Time	Development Method		Removal Rate	Intake Depth	Ending Water Depth	Water Volume Removed (gal)		Product Volume Removed (gallons)		Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
		Pump	Bailer	(gal/min)	(feet)	(feet)	Increment	Cumulative	Increment	Cumulative					
7-20-99	1457										21.4	7.15	2760		
7-20-99	1505						5.0	5.0			20.2	7.21	3310		
7-20-99	1515						5.0	10.0			20.3	7.26	3750		
7-20-99	1524						5.0	15.0			20.7	7.29	3970		
7-20-99	1533						5.0	20.0			21.1	7.28	4120	0.5	

Comments THE WATER HAD A LIGHT HYDROGEN SULFIDE SMELL.

Developer's Signature Dennis Bird Date 7-20-99 Reviewer John Fuller Date 7/21/99

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	990404
MTR CODE | SITE NAME:	73551	Coldiron A#1
SAMPLE DATE | TIME (Hrs):	10/14/1999	1445
PROJECT:	Sample 4 - 11th Quarter	
DATE OF BTEX EXT. | ANAL.:	N/A	10/22/1999
TYPE | DESCRIPTION:	MW-1	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	<25	PPB	50	D		
TOLUENE	200	PPB	50	D		
ETHYL BENZENE	470	PPB	50	D		
TOTAL XYLENES	8800	PPB	50	D		
TOTAL BTEX	9470	PPB				

–BTEX is by EPA Method 8021 –

The Surrogate Recovery was at 105 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used
The "D" qualifier indiciates that the analyte calculated is based on a secondary dilution factor.

Narrative:
Sample Analyzed by Pinnacle Laboratories, Albuquerque, NM.

Approved By: John Loudon Date: 11/2/99

EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name COLDIRON A #1

Meter Code 73551

Development Criteria

☒ 3 to 5 Casing Volumes of Water Removel
☐ Stabilization of Indicator Parameters
☐ Other

Methods of Development

Pump		Bailer	
☐	Centrifugal	☒	Bottom Valve
☐	Submersible	☐	Double Check Valve
☐	Peristaltic	☐	Stainless-steel Kemmerer

☐ Other

Water Volume Calculation

Initial Depth of Well (feet) 45.24
Initial Depth to Water (feet) 31.68
Height of Water Column in Well (feet) 13.56
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		9.0	26.9
Gravel Pack			
Drilling Fluids			
Total			

Instruments

☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☒ Other D.O. CHEMETS KIT

Water Disposal

KUTZ SEPARATOR

Water Removal Data

Date	Time	Development Method		Removal Rate	Intake Depth	Ending Water Depth	Water Volume Removed (gal)		Product Volume Removed (gallons)		Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
		Pump	Bailer	(gal/min)	(feet)	(feet)	Increment	Cumulative	Increment	Cumulative					
10-14-99	1338										19.0	656	3160		
10-14-99	1346						5.0	5.0			17.6	6.50	3330		
10-14-99	1354						5.0	10.0			17.4	6.59	3260		
10-14-99	1403						5.0	15.0			17.2	6.76	3300		
10-14-99	1411						5.0	20.0			17.0	691	3730		
10-14-99	1421						5.0	25.0			17.0	6.98	3960		
10-14-99	1429						5.0	30.0			17.0	7.03	4340	0.5	

Comments THE WATER HAD A LIGHT HYDROGEN SULFIDE SMELL.

Developer's Signature Dennis Bird Date 10-14-99 Reviewer John Laird Date 10/28/99

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

Pinnacle Lab ID number **910071**
October 28, 1999

EL PASO FIELD SERVICES
770 WEST NAVAJO
FARMINGTON, NM 87401

Project Name (none)
Project Number (none)

Attention: JOHN LAMBDIN

On 10/21/99 Pinnacle Laboratories, Inc. Inc., (ADHS License No. AZ0592 pending), received a request to analyze **aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

If you have any questions or comments, please do not hesitate to contact us at (505)344-3777.

Kimberly D. McNeill
Project Manager

H. Mitchell Rubenstein, Ph. D.
General Manager

MR: jt

Enclosure

Reviewed + Accepted
11/2/99

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

CLIENT	: EL PASO FIELD SERVICES	PINNACLE ID	: 910071
PROJECT #	: (none)	DATE RECEIVED	: 10/21/99
PROJECT NAME	: (none)	REPORT DATE	: 10/28/99

PIN ID. #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	990402	AQUEOUS	10/14/99
02	990403	AQUEOUS	10/14/99
03	990404	AQUEOUS	10/14/99
04	TRIP BLANK	AQUEOUS	10/14/99

PINNACLE LABORATORIES

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Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : EL PASO FIELD SERVICES
PROJECT # : (none)
PROJECT NAME : (none)

PINNACLE I.D.: 910071

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	990402	AQUEOUS	10/14/99	NA	10/22/99	1
02	990403	AQUEOUS	10/14/99	NA	10/22/99	1
03	990404	AQUEOUS	10/14/99	NA	10/22/99	50

PARAMETER	DET. LIMIT	UNITS	990402	990403	990404
BENZENE	0.5	**UG/L**	**14**	**17**	< 25
TOLUENE	0.5	**UG/L**	**1.6**	**1.8**	**200**
ETHYLBENZENE	0.5	**UG/L**	**11**	**12**	**470**
TOTAL XYLENES	0.5	**UG/L**	**9.4**	**13**	**8800**
SURROGATE:					
BROMOFLUOROBENZENE (%)			105	112	105
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
N/A

PINNACLE LABORATORIES

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Albuquerque, New Mexico 87107
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Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : EL PASO FIELD SERVICES
PROJECT # : (none)
PROJECT NAME : (none)

PINNACLE I.D.: 910071

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
04	TRIP BLANK	AQUEOUS	10/14/99	NA	10/25/99	1

PARAMETER	DET. LIMIT	UNITS	TRIP BLANK
BENZENE	0.5	UG/L	< 0.5
TOLUENE	0.5	UG/L	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5
TOTAL XYLENES	0.5	UG/L	< 0.5
METHYL-t-BUTYL ETHER	2.5	UG/L	< 2.5

SURROGATE:
BROMOFLUOROBENZENE (%) 103
SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:
N/A

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 910071
BLANK I. D.	: 102599	DATE EXTRACTED	: NA
CLIENT	: EL PASO FIELD SERVICES	DATE ANALYZED	: 10/25/99
PROJECT #	: (none)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: (none)		

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5
SURROGATE:		
BROMOFLUOROBENZENE (%)		102
SURROGATE LIMITS:	(80 - 120)	

CHEMIST NOTES:
N/A

PINNACLE LABORATORIES

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Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY QUALITY CONTROL
MSMSD

TEST	: EPA 8021 MODIFIED		
MSMSD #	: 102299	PINNACLE I.D.	: 910071
CLIENT	: EL PASO FIELD SERVICES	DATE EXTRACTED	: NA
PROJECT #	: (none)	DATE ANALYZED	: 10/22/99
PROJECT NAME	: (none)	SAMPLE MATRIX	: AQUEOUS
		UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.5	20.0	17.2	86	20.1	101	16	(80 - 120)	20
TOLUENE	<0.5	20.0	18.1	91	21.7	109	18	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	18.1	91	20.8	104	14	(80 - 120)	20
TOTAL XYLENES	<0.5	60.0	56.0	93	63.1	105	12	(80 - 120)	20

CHEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

American Environmental Network (NM), Inc.

CHAIN OF CUSTODY

DATE: 10-20-99 PAGE: 1 OF 1

AEN(NM) Accession #: 910021

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER:	JOHN LAMBOIN
COMPANY:	EL PASO FIELD SERVICES
ADDRESS:	720 WEST NAVAJO
	FARMINGTON NM 87401
PHONE:	(505) 599-2144
FAX:	(505) 599-2261
BILL TO:	SAME AS ABOVE
COMPANY:	
ADDRESS:	

LAB I.D.	SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.
	990402	10-14-99	1205	WATER	-01
	990403	10-14-99	1205	WATER	-02
	990404	10-14-99	1445	WATER	-03
	TRIP BLANK	10-14-99		WATER	-04

ANALYSIS REQUEST

	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct Inject	(M8015) Gas/Purge & Trap	8021 (BTEX)/8015 (Gasoline)	8021 (BTEX) ☐ MTBE ☐ TMB ☐ PCE	8021 (TCL)	8021 (EDX)	8021 (HALO)	8021 (CUST)	504.1 EDB ☐ / DBCP ☐	8260 (TCL) Volatile Organics	8260 (Full) Volatile Organics	8260 (CUST) Volatile Organics	8260 (Landfill) Volatile Organics	Pesticides /PCB (608/8081)	Herbicides (615/8151)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Polynuclear Aromatics (610/8310)	General Chemistry:			Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals:		NUMBER OF CONTAINERS
990402					X																						3
990403					X																						2
990404					X																						2
TRIP BLANK					X																						1

PROJECT INFORMATION	
PROJ. NO.:	
PROJ. NAME:	
P.O. NO.:	
SHIPPED VIA:	FED-X

SAMPLE RECEIPT	
NO. CONTAINERS:	7
CUSTODY SEALS:	(Y) N / NA
RECEIVED INTACT:	Y
BLUE ICE/ICE:	(ICE)
TEMPERATURE:	3.6

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) X

CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
Signature: Donna Bird	Signature:
Time: 1048	Time:
Printed Name: DENNIS BIRD	Printed Name:
Date: 10-20-99	Date:
Company: EL PASO FIELD SERVICES	Company:
RECEIVED BY: 1.	**RECEIVED BY: (LAB) 2.**
Signature:	Signature:
Time:	Time: 1605
Printed Name:	Printed Name:
Date:	Date: 10/21/99
Company:	American Environmental Network (NM), Inc.

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX
Samples: 990321 to 990322

QA/QC for 07/21/99 Sample Set

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

SAMPLE NUMBER ICV LA-67475 50 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	Standard	50.0	47.9	95.9	75 - 125 %	X	
Toluene	Standard	50.0	49.0	98.0	75 - 125 %	X	
Ethylbenzene	Standard	50.0	48.7	97.5	75 - 125 %	X	
m & p - Xylene	Standard	100	98.4	98.4	75 - 125 %	X	
o - Xylene	Standard	50.0	49.4	98.8	75 - 125 %	X	
SAMPLE NUMBER LCS LA-53560 50 PPB	**TYPE**	**EXPECTED RESULT PPB**	**ANALYTICAL RESULT PPB**	**%R**	**ACCEPTABLE RANGE**	**YES**	**NO**
Benzene	Standard	50.0	44.3	89	39 - 150	X	
Toluene	Standard	50.0	47.8	96	46 - 148	X	
Ethylbenzene	Standard	50.0	48.7	97	32 - 160	X	
m & p - Xylene	Standard	100.0	96.8	97	Not Given	X	
o - Xylene	Standard	50.0	48.6	97	Not Given	X	

Narrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE ID 990321	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE RANGE	YES	NO
Benzene	Matrix Duplicate	7.6	7.5	1.29	+/- 20 %	X	
Toluene	Matrix Duplicate	<1.0	<1.0	0.00	+/- 20 %	X	
Ethylbenzene	Matrix Duplicate	8.7	8.6	1.26	+/- 20 %	X	
m & p - Xylene	Matrix Duplicate	1.7	1.7	2.54	+/- 20 %	X	
o - Xylene	Matrix Duplicate	<1.0	<1.0	0.00	+/- 20 %	X	

Narrative: Acceptable.

LABORATORY SPIKES:

SAMPLE ID 2nd Analysis 990321	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	50	7.6	53.5	92	75 - 125 %	X	
Toluene	50	<1.0	47.8	96	75 - 125 %	X	
Ethylbenzene	50	8.74	56.6	96	75 - 125 %	X	
m & p - Xylene	100	1.70	97.8	96	75 - 125 %	X	
o - Xylene	50	<1.0	46.7	93	75 - 125 %	X	

Narrative: Acceptable.

AUTO BLANK	SOURCE	PPB (1 analyzed with set)	STATUS
Benzene	Boiled Water	<1.0	ACCEPTABLE
Toluene	Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

SOIL VIAL BLANK	SOURCE Lot MB1461	PPB (one analyzed with set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

CONTAMINATION CARRYOVER CHECK	SOURCE	PPB (one analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

TRIP BLK 07/20/99	SOURCE	PPB (three analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

Reported By: J.L. Approved By: John Lawlor Date: 7/22/99