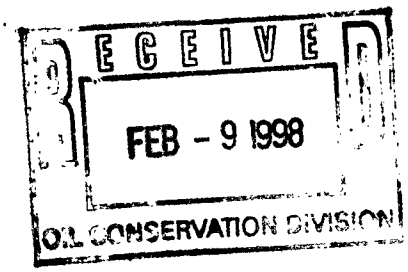
GW - 71-0

MONITORING REPORTS

DATE: 1997

EL PASO FIELD SERVICES



February 6, 1998

Mr. Bill Olson
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, NM 87505

Dear Mr. Olson:

Please find enclosed reports on the following monitoring wells and waste water streams at the El Paso Natural Gas Co. Chaco Plant. These results are summarized on the attached tables.

Semi-Annual analyses for monitoring wells 1, 8, 9, and 10

Annual analysis for all other monitoring wells

Annual analysis for the non-contact waste water discharge.

The analysis for monitoring wells 2, 3, 4, 5, 6, and 7 did not indicate any abnormally high reading for any analyte.

The organic analyses for well 10 indicates high levels of several hydrocarbons. Since there is no hydrocarbon waste disposed of in the lined contact waste water ponds, the source of the contamination in well 10 is most likely the old flare pit which was closed in 1994.

If you need any additional information for this reporting period, please call me at (505) 599-2256.

Sincerely yours,

David Bays

David Bays
Principal Environmental Scientist

cc: Denny Foust - NMOCD - Aztec
Danny Baker
Mike Hansen
S. D. Miller/Chaco Regulatory File

Chaco Plant Groundwater Monitoring Well Results 1997

All Results Expressed as Micrograms/Liter (ppb)

Monitoring Well 1	3/11//97	9/30/97			
Benzene	< 1	< 1			
Toluene	< 1	< 1			
Ethyl Benzene	< 1	< 1			
Xylenes	< 3	< 3			
Cadmium	< 0.0001	<0.0002			
Chromium	0.0010	<0.004			
Mercury	< 0.0003	<0.0002			
Total Naphthalenes	ND	ND			
Total Benzopyrenes	ND	ND			

Monitoring Well 8	3/11/97	9/30/97			
Benzene	< 1	< 1			
Toluene	< 1	< 1			
Ethyl Benzene	< 1	< 1			
Xylenes	< 3	< 3			
Cadmium	< 0.0001	< 0.0002			
Chromium	0.0020	<0.004			
Mercury	< 0.0003	< 0.0002			
Total Naphthalenes	ND	ND			
Total Benzopyrenes	0.34	ND			

NA = Not Analyzed ND = None Detected

Chaco Plant Groundwater Monitoring Well Results 1997

All Chemical Results Expressed as Milligrams/Liter (ppm)
pH Expressed in Standard Units (0 - 14 Scale)
Conductivity Expressed as Micromhos/Centimeter

All samples listed on this table were collected on June 24, 1997

Test	Well 2	Well 3	Well 4	Well 5	Well 6	Well 7	Non-Contact Wastewater
pH	8.2	8.2	7.9	8.2	8.2	8.0	8.8
Alkalinity - CO_3	0.0	0.0	0.0	0.0	16.4	0.0	44.0
Alkalinity - HCO_3	365	519	579	391	394	311	266
Calcium	135	78	395	177	89	273	261
Magnesium	30	18	62	39	15	43	47
Total Hardness	461	269	1,242	603	286	858	845
Chloride	264	63	272	47	277	152	83
Sulfate as SO_4	819	396	2,470	559	1,520	1,180	754
Fluoride	3.3	1.0	1.9	0.7	8.0	3.4	2.0
Nitrate as NO_3	<0.6	<0.6	7.8	<0.2	<0.6	<0.6	1.0
Nitrate as NO_2	<0.6	<0.6	<1.1	<0.2	<0.6	<0.6	<0.6
Ammonium as NH_4	<0.2	<0.1	<0.3	<0.1	<0.6	<0.1	<0.1
Phosphate	<0.6	<0.6	<1.1	<0.2	<0.6	<0.6	<0.6
Potassium	2.3	2.9	11.6	1.8	1.9	5.7	37.9
Sodium	510	315	1,110	192	1,010	386	178
TDS	1,990	1,160	4,710	1,260	3,180	2,290	1,670
Conductivity	2,800	1,667	5,560	1,702	4,280	2,880	2,010
Cadmium	<0.0002	0.0005	<0.0002	<0.0002	<0.0002	0.0004	<0.0002
Chromium	<0.004	0.0040	<0.004	<0.004	<0.004	<0.004	0.0340
Mercury	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002

Chaco Plant Groundwater Monitoring Well Results 1997

All Chemical Results Expressed as Milligrams/Liter (ppm)
pH Expressed in Standard Units (0 - 14 Scale)
Conductivity Expressed as Micromhos/Centimeter

Test	Well 9 7/25/97	Well 9 9/30/97	Well 10 7/25/97	Well 10 9/30/97
pH	8.3	7.8	7.3	7.25
Alkalinity - CO_3	5.6	0	0.0	0
Alkalinity - HCO_3	495	508	1,250	1,105
Calcium	66	60.4	78	78.5
Magnesium	19	17.2	28	31.4
Total Hardness	242	222	310	325
Chloride	75	60.0	426	561
Sulfate as SO_4	341	325	206	168
Fluoride	1.7	2.02	1.4	1.61
Nitrate as NO_3	<0.1	<0.1	<0.1	<0.6
Nitrate as NO_2	<0.1	<0.1	<0.1	<0.6
Ammonium as NH_4	<0.1	<0.1	<0.1	<0.3
Phosphate	<0.1	<0.1	1.3	<0.6
Potassium	4.0	1.46	7.4	1.68
Sodium	274	277	708	678
TDS	1,060	1,010	2,150	2,150
Conductivity	1,610	1,450	3,340	3,190
Cadmium	0.0003	<0.002	<0.0002	<0.0002
Chromium	<0.004	<0.004	0.0040	<0.004
Mercury	<0.0002	<0.002	<0.0002	<0.0002

Chaco Plant Groundwater Monitoring Well Results 1997

All Results Expressed as Micrograms/Liter (ppb)

Monitoring Well 9	8/29/97	9/30/97			
Benzene	< 1	< 1			
Toluene	< 1	< 1			
Ethyl Benzene	< 1	< 1			
Xylenes	< 3	< 3			
Cadmium	< 0.0001	<0.0002			
Chromium	0.0010	<0.004			
Mercury	< 0.0003	<0.0002			
Total Naphthalenes	ND	ND			
Total Benzopyrenes	ND	ND			

Monitoring Well 10	8/29/97	9/30/97			
Benzene	530	702			
Toluene	790	493			
Ethyl Benzene	42	34.6			
Xylenes	287	241			
Cadmium	< 0.0001	<0.0002			
Chromium	0.0020	<0.004			
Mercury	< 0.0003	<0.0002			
Total Naphthalenes	45	100			
Total Benzopyrenes	ND	ND			

NA = Not Analyzed ND = None Detected

April 7, 1997

Semi-Annual ANALYTICAL REPORT

Chaco Plant
Monitor Well #1 and #8
Lab Sample #'s 970194 and 970196
Sampled 3/11/97
Sampled by Dennis Bird

REMARKS:
These samples represents the first round 1997 semi-annual testing requirements for these two monitor wells. Monitor well #1 began producing water again this month and was sampled/tested (this well is used as the background well and had not produced any water since September of 1995). The New Mexico WQCC limits for Benzene, Polyaromatic Hydrocarbons, Cadmium, Chromium and Mercury were not exceeded in any sample.

Distribution:

Sandra Miller - W/O Attachments
David Bays - W/Attachments
Mike Hanson - W/O Attachments
Results Log Book

Attachments

El Paso Natural Gas Company

A 2251

CHAIN OF CUSTODY RECORD

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

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
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:	
			3/17/97 14:00		
Carrier Co:		Carrier Phone No.	Date Results Reported / by: (Signature)		
Air Bill No.:					

san juan repro Form 71-55 A

Monitor Well #1

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970194
MTR CODE | SITE NAME:	N/A	Chaco Plant MW-1
SAMPLE DATE | TIME (Hrs):	3/11/97	1503
PROJECT:	March 1997 Semi-Annual	
DATE OF BTEX EXT. | ANAL.:	3/20/97	3/20/97
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	<1	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	<1	PPB				
TOTAL XYLENES	<3	PPB				
TOTAL BTEX	<6	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 99.7 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Laubdine Date: 4/7/97

970194bt,4/7/97

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

EPFS LAB ID:	970194
DATE SAMPLED:	03/11/97
TIME SAMPLED (Hrs):	1503
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	NA
SAMPLE SITE NAME:	Chaco Plant
SAMPLE POINT:	Monitor Well MW-1

REMARKS: _____

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
CADMIUM	<.0001	1.00
CHROMIUM	0.0010	0.010
MERCURY	<.0003	0.050

NOTE: The sample results have been corrected for volume adjustment associated with Method 3015.

References:

Method 3015, Microwave Assisted Acid Digestion of Aqueous Samples and Extracts, Test Methods for Evaluating Solid Waste, SW-846, Sept., 1994.
Method 7081, Barium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.
Method 7131, Cadmium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.
Method 7741A, Selenium (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1994.

Reported By: _____ Approved By: _____ Date: 4/5/97

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name CHACO PLANT

Meter Code

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) 25.15
Initial Depth to Water (feet) 19.40
Height of Water Column in Well (feet) 5.75
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		3.8	11.4
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	Cumulativ	Increment	Cumulative					
3-11-97	1336										16.3				
3-11-97	1342						5.0	5.0			14.9		1650		
3-11-97	1350						2.0	7.0			15.4		1580	4.5	

Comments BAILED DRY @ 7.0 GALLONS.

Developer's Signature Dennis Bird Date 3-11-97 Reviewer Date 4/5/97

Monitor Well #8

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970196
MTR CODE | SITE NAME:	N/A	Chaco Plant MW-8
SAMPLE DATE | TIME (Hrs):	3/11/97	1632
PROJECT:	March 1997 Semi-Annual	
DATE OF BTEX EXT. | ANAL.:	3/20/97	3/21/97
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	<1	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	<1	PPB				
TOTAL XYLENES	<3	PPB				
TOTAL BTEX	<6	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 99.4 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Labrier Date: 4/7/97

970196bt,4/7/97

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

EPFS LAB ID:	970196
DATE SAMPLED:	03/11/97
TIME SAMPLED (Hrs):	1632
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	NA
SAMPLE SITE NAME:	Chaco Plant
SAMPLE POINT:	Monitor Well MW-8

REMARKS: _____

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
CADMIUM	<.0001	1.00
CHROMIUM	0.0020	0.010
MERCURY	<.0003	0.050

NOTE: The sample results have been corrected for volume adjustment associated with Method 3015.

References:

Method 3015, Microwave Assisted Acid Digestion of Aqueous Samples and Extracts, Test Methods for Evaluating Solid Waste, SW-846, Sept., 1994.
Method 7081, Barium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.
Method 7131, Cadmium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.
Method 7741A, Selenium (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1994.

Reported By: _____ Approved By: _____ Date: 4/5/97

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-8

Site Name CHACO PLANT

Meter Code

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) 21.80
Initial Depth to Water (feet) 11.35
Height of Water Column in Well (feet) 10.45
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		6.9	20.7
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	Cumulativ	Increment	Cumulative					
3-11-97	1653										14.9		2290		
3-11-97	1659						5.0	5.0			12.6		2240		
3-11-97	1605						5.0	10.0			12.6		2260		
3-11-97	1613						5.0	15.0			12.9		2300		
3-11-97	1621						5.0	20.0			13.3		2350	5.0	

Comments

Developer's Signature Dennis Bird Date 3-11-97 Reviewer John Hall Date 4/4/97

Quality Control

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX

Samples: 970194, 970195, 970196

QA/QC for 03/20/97 Sample S

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	51.3	103	75 - 125 %	X	
Toluene	Standard	50.0	51.3	103	75 - 125 %	X	
Ethylbenzene	Standard	50.0	51.0	102	75 - 125 %	X	
m & p - Xylene	Standard	100	102	102	75 - 125 %	X	
o - Xylene	Standard	50.0	51.0	102	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	25.9	104	39 - 150	X	
Toluene	Standard	25.0	26.1	104	46 - 148	X	
Ethylbenzene	Standard	25.0	26.0	104	32 - 160	X	
m & p - Xylene	Standard	50.0	52.7	105	Not Given	X	
o - Xylene	Standard	25.0	26.0	104	Not Given	X	
SAMPLE NUMBER CCV LA-52589 50 PPB	**TYPE**	**EXPECTED RESULT PPB**	**ANALYTICAL RESULT PPB**	**%R**	**ACCEPTABLE RANGE**	**YES**	**NO**
Benzene	Standard	50.0	52.0	104	75 - 125 %	X	
Toluene	Standard	50.0	51.7	103	75 - 125 %	X	
Ethylenzene	Standard	50.0	51.3	103	75 - 125 %	X	
m & p - Xylene	Standard	100	102	102	75 - 125 %	X	
o - Xylene	Standard	50.0	51.5	103	75 - 125 %	X	
SAMPLE NUMBER CCV LA-52589 50 PPB	**TYPE**	**EXPECTED RESULT PPB**	**ANALYTICAL RESULT PPB**	**%R**	**ACCEPTABLE RANGE**	**YES**	**NO**
Benzene	Standard	50.0		0	75 - 125 %		
Toluene	Standard	50.0		0	75 - 125 %		
Ethylbenzene	Standard	50.0		0	75 - 125 %		
m & p - Xylene	Standard	100		0	75 - 125 %		
o - Xylene	Standard	50.0		0	75 - 125 %		

Narrative: Acceptable.

Qw032097

EL PASO FIELD SERVICES LAB
QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX
Samples: 970194, 970195, 970196

LABORATORY DUPLICATES:

SAMPLE ID 970194	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE RANGE	YES	NO
Benzene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X	
Toluene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X	
Ethylbenzene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X	N/A
m & p - Xylene	Matrix Duplicate	<2	<2	0.00	+/- 20 %	X	N/A
o - Xylene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X	

Narrative: Acceptable

LABORATORY SPIKES:

SAMPLE ID 2nd Analysis 970194	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	50	<1	52.4	105	75 - 125 %	X	
Toluene	50	<1	53.0	106	75 - 125 %	X	
Ethylbenzene	50	<1	52.4	105	75 - 125 %	X	
m & p - Xylene	100	<2	105	105	75 - 125 %	X	
o - Xylene	50	<1	52.8	106	75 - 125 %	X	

Narrative: Acceptable

ADDITIONAL ANALYTICAL BLANKS:

AUTO BLANK	SOURCE	PPB	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 this s[illegible])	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.

Reported By: _____ Approved By: _____ Date: 4/5/97

qwe32097

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT

Sample ID: 970194 & 970196
Date Reported: 03/19/97

LABORATORY CONTROL SAMPLE

Analyte	Found Result (mg/L)	Known Value (mg/L)	% Recovery
Cadmium	0.0025	0.0024	103%
Chromium	0.0048	0.0048	99%
Mercury	0.0047	0.0046	102%

DUPLICATE ANALYSIS (mg/L)

Analyte	Original Sample Result	Duplicate Sample Result	% RPD
Cadmium	ND	ND	NA
Chromium	ND	0.001	NA
Mercury	ND	ND	NA

SPIKE ANALYSIS (mg/L)

Analyte	Original Sample Result	Spike Sample Result	Spike Added	Recovery Percent
Cadmium	ND	0.0093	0.010	93%
Chromium	ND	0.0529	0.050	104%
Mercury	ND	0.0019	0.002	96%

METHOD BLANK

Analyte	Found Result (mg/L)	Detection Level (mg/L)
Cadmium	ND	0.0001
Chromium	ND	0.001
Mercury	ND	0.00024

ND: Not Detected at stated detection level.
NA: Not Applicable.

Reported By: mh Approved By: John Fowler Date: 4/5/97

Contract Lab Polyaromatic Hydrocarbon Results

American Environmental Network, Inc.

CHACO PLANT MW-1 and MW-8
Semi-Annual PAH analyses
AEN I.D. 703333

March 28, 1997

El Paso Field Service Co.
P.O. Box 4990
Farmington, NM 87499

Project Name/Number: CHACO PLT. MW (NONE) Sample #'s

Attention: John Lambdin 970194 and 970196

On **03/13/97**, American Environmental Network (NM), Inc., (ADHS License No. AZ0015) 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.

All analyses were performed by American Environmental Network (FL) Inc., 11 East Olive Road, Pensacola, FL.

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:ft

Enclosure

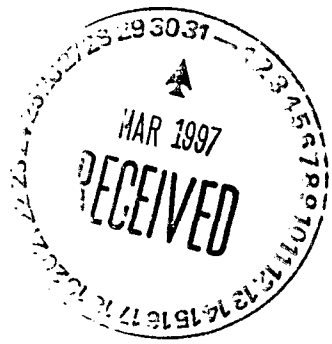
2709-D Pan American Freeway, NE • Albuquerque, NM 87107 • (505) 344-3777 • Fax (602) 344-4413

American Environmental Network, Inc.

CLIENT	: EL PASO FIELD SERVICE CO.	DATE RECEIVED	: 03/13/97
PROJECT #	: (NONE)		
PROJECT NAME	: CHACO PLT. MW	REPORT DATE	: 03/28/97

AEN ID: 703333

	AEN ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	703333-01	970194 – MW-1	AQUEOUS	03/11/97
02	703333-02	970196 – MW-8	AQUEOUS	03/11/97



---TOTALS---

MATRIX	#SAMPLES
AQUEOUS	2

AEN STANDARD DISPOSAL PRACTICE

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

American Environmental Network, Inc.

Chaco Plant
MW-1

"FINAL REPORT FORMAT - SINGLE"

Accession:	703116
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	703333
Project Name:	EL PASO FIELD SERVICE
Project Location:	CHACO PLT. MW
Test:	POLYNUCLEAR AROMATICS BY 8310
Analysis Method:	8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method:	3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Matrix:	WATER
QC Level:	II

Lab Id:	001	Sample Date/Time:	11-MAR-97 1503
Client Sample Id:	703333-01	Received Date:	14-MAR-97
Batch: PAW041		Extraction Date:	14-MAR-97
Blank: B	Dry Weight %: N/A	Analysis Date:	19-MAR-97

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/L	ND	1	
ACENAPHTHYLENE	UG/L	ND	1	
ANTHRACENE	UG/L	ND	1	
BENZO(a)ANTHRACENE	UG/L	ND	1	
BENZO(a)PYRENE	UG/L	ND	0.3	
BENZO(b)FLUORANTHENE	UG/L	ND	1	
BENZO(g,h,i)PERYLENE	UG/L	ND	1	
BENZO(k)FLUORANTHENE	UG/L	ND	1	
CHRYSENE	UG/L	ND	1	
DIBENZO(a,h)ANTHRACENE	UG/L	ND	1	
FLUORANTHENE	UG/L	ND	1	
FLUORENE	UG/L	ND	1	
INDENO(1,2,3-cd)PYRENE	UG/L	ND	1	
NAPHTHALENE	UG/L	ND	1	
PHENANTHRENE	UG/L	ND	1	
PYRENE	UG/L	ND	1	
1-METHYLNAPHTHALENE	UG/L	ND	1	
2-METHYLNAPHTHALENE	UG/L	ND	1	
2-CHLOROANTHRACENE	%REC/SURR	85	28-138	
ANALYST	INITIALS	JBT		

Comments:

WQCC Limits:

Benzo (a) Pyrene = 0.7 PPB PASS

Total Naphthalenes = 30 PPB PASS

4/2/97

Chaco Plant

MW - 8

American Environmental Network, Inc.

"FINAL REPORT FORMAT - SINGLE"

Accession:	703116
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	703333
Project Name:	EL PASO FIELD SERVICE
Project Location:	CHACO PLT. MW
Test:	POLYNUCLEAR AROMATICS BY 8310
Analysis Method:	8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method:	3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Matrix:	WATER
QC Level:	II

Lab Id:	002	Sample Date/Time:	11-MAR-97 1632
Client Sample Id:	703333-02	Received Date:	14-MAR-97
Batch: PAW041		Extraction Date:	14-MAR-97
Blank: B	Dry Weight %: N/A	Analysis Date:	19-MAR-97

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/L	ND	1	
ACENAPHTHYLENE	UG/L	ND	1	
ANTHRACENE	UG/L	ND	1	
BENZO(a)ANTHRACENE	UG/L	ND	1	
BENZO(a)PYRENE	UG/L	0.34	0.3	
BENZO(b)FLUORANTHENE	UG/L	ND	1	
BENZO(g,h,i)PERYLENE	UG/L	ND	1	
BENZO(k)FLUORANTHENE	UG/L	ND	1	
CHRYSENE	UG/L	ND	1	
DIBENZO(a,h)ANTHRACENE	UG/L	ND	1	
FLUORANTHENE	UG/L	ND	1	
FLUORENE	UG/L	2	1	
INDENO(1,2,3-cd)PYRENE	UG/L	ND	1	
NAPHTHALENE	UG/L	ND	1	
PHENANTHRENE	UG/L	ND	1	
PYRENE	UG/L	ND	1	
1-METHYLNAPHTHALENE	UG/L	ND	1	
2-METHYLNAPHTHALENE	UG/L	ND	1	
2-CHLOROANTHRACENE	%REC/SURR	83	28-138	
ANALYST	INITIALS	JBT		

Comments:

NMOCC Limits:

Benzo(a) Pyrene = 0.7 PPB PASS

Total Naphthalenes = 30 PPB PASS

JB.

4/2/97

American Environmental Network, Inc.

Chaco Plant
MW - 8

"Method Report Summary"

Accession Number: 703116
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 703333
Project Name: EL PASO FIELD SERVICE
Project Location: CHACO PLT. MW
Test: POLYNUCLEAR AROMATICS BY 8310

Client Sample Id:	Parameter:	Unit:	Result:
703333-02	BENZO(a)PYRENE	UG/L	0.34
	FLUORENE	UG/L	2

American Environmental Network, Inc.

"QC Report"

Title: Water Blank
Batch: PAW041
Analysis Method: 8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method: 3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.

Blank Id: B Date Analyzed: 16-MAR-97 Date Extracted: 14-MAR-97

Parameters:	Units:	Results:	Reporting Limits:
ACENAPHTHENE	UG/L	ND	1
ACENAPHTHYLENE	UG/L	ND	1
ANTHRACENE	UG/L	ND	1
BENZO(a)ANTHRACENE	UG/L	ND	1
BENZO(a)PYRENE	UG/L	ND	1
BENZO(b)FLUORANTHENE	UG/L	ND	1
BENZO(g,h,i)PERYLENE	UG/L	ND	1
BENZO(k)FLUORANTHENE	UG/L	ND	1
CHRYSENE	UG/L	ND	1
DIBENZO(a,h)ANTHRACENE	UG/L	ND	1
FLUORANTHENE	UG/L	ND	1
FLUORENE	UG/L	ND	1
INDENO(1,2,3-cd)PYRENE	UG/L	ND	1
NAPHTHALENE	UG/L	ND	1
PHENANTHRENE	UG/L	ND	1
PYRENE	UG/L	ND	1
1-METHYLNAPHTHALENE	UG/L	ND	1
2-METHYLNAPHTHALENE	UG/L	ND	1
2-CHLOROANTHRACENE	%REC/SURR	103	28-138
ANALYST	INITIALS	JBT	

Comments:

All QC found to be acceptable.

4/2/97

American Environmental Network, Inc.

"QC Report"

Title: Water Reagent
Batch: PAW041
Analysis Method: 8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method: 3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.

RS Date Analyzed: 16-MAR-97 RS Date Extracted: 13-MAR-97
RSD Date Analyzed: 16-MAR-97 RSD Date Extracted: 13-MAR-97

Parameters:	Spike Added	Sample Conc	RS Conc	RS %Rec	RSD Conc	RSD %Rec	RPD	RPD Lmts	Rec Lmts
ACENAPHTHYLENE	10.0	<1	11.8	118	12.7	127	7	35	45-127
BENZO(k)FLUORANTHENE	10.0	<1	9.6	96	10.0	100	4	23	68-131
CHRYSENE	10.0	<1	9.4	94	10.1	101	7	24	69-131
PHENANTHRENE	10.0	<1	9.6	96	10.2	102	6	26	63-124
PYRENE	10.0	<1	9.4	94	10.6	106	12	25	61-126
Surrogates:									
2-CHLOROANTHRACENE				114		126			28-138

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/L = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

American Environmental Network, Inc.

"QC Report"

Title: Water Matrix
Batch: PAW041
Analysis Method: 8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method: 3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.

Dry Weight %: N/A
Sample Spiked: 703087-2

MS Date Analyzed: 18-MAR-97
MSD Date Analyzed: 18-MAR-97

MS Date Extracted: 13-MAR-97
MSD Date Extracted: 13-MAR-97

Parameters:	Spike Added	Sample Conc	MS Conc	MS %Rec	MSD Conc	MSD %Rec	RPD	RPD Lmts	Rec Lmts
ACENAPHTHYLENE	10.0	1500	840	-6600	590	-9100	32	51	18-146
BENZO(k)FLUORANTHENE	10.0	0.9	16.5	156*	2.8	19*	157*	40	26-137
CHRYSENE	10.0	0.5	9.3	88	4.2	37	82*	69	16-156
PHENANTHRENE	10.0	12.5	16.2	37	6.6	-59*	873*	36	30-145
PYRENE	10.0	12.8	35.5	227*	ND	-128*	717*	41	39-137
Surrogates:									
2-CHLOROANTHRACENE				D*		D*			28-138

Comments:
MATRIX SPIKE/MATRIX SPIKE DUPLICATE HAD RECOVERY(S) AND/OR RPD(S) OUTSIDE ACCEPTANCE LIMITS DUE TO MATRIX INTERFERENCE. REFER TO REAGENT SPIKE/REAGENT SPIKE DUPLICATE DATA.

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/L = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

American Environmental Network, Inc.

Common notation for Organic reporting

N/S = NOT SUBMITTED
N/A = NOT APPLICABLE
D = DILUTED OUT
UG = MICROGRAMS
UG/L = PARTS PER BILLION.
UG/KG = PARTS PER BILLION.
MG/M3 = MILLIGRAM PER CUBIC METER.
PPMV = PART PER MILLION BY VOLUME.
MG/KG = PARTS PER MILLION.
MG/L = PARTS PER MILLION.
< = LESS THAN DETECTION LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS
Y = IMPROPER PRESERVATION, NO PRESERVATIVE PRESENT IN SAMPLE UPON RECEIPT.

SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

ORGANIC SOILS ARE REPORTED ON A DRYWEIGHT BASIS.

ND = NOT DETECTED ABOVE REPORTING LIMIT.

RPT LIMIT = REPORTING LIMITS BASED ON METHOD DETECTION LIMIT STUDIES.

RPD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION)

AEN/GC/FID
AEN GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH FLAME IONIZATION DETECTOR (FID).

AEN/GC/FIX
AEN GAS CHROMATOGRAPHIC METHOD FOR ANALYSIS OF FIXED GASES EMPLOYING DIRECT INJECTION ON COLUMN WITH THERMAL CONDUCTIVITY DETECTOR (TCD) AND FLAME IONIZATION DETECTOR (FID).

AEN/GC/FPD
AEN GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH FLAME PHOTOMETRIC DETECTOR (FPD) IN SULFUR-SPECIFIC MODE.

AEN/GC/PID
AEN GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH PHOTOIONIZATION DETECTOR (PID).

AEN/GC/TCD
AEN GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH THERMAL CONDUCTIVITY DETECTOR (TCD).

SW-846 METHOD 9020
PARTICULATE MATTER IS REMOVED BY ALLOWING PARTICULATES TO SETTLE IN THE SAMPLE CONTAINER AND DECANTING THE SUPERNATANT LIQUID. EXCESSIVE PARTICULATES ARE REMOVED BY FILTRATION OF THE SUPERNATANT LIQUID.

AEN-PN USES THE MOST CURRENT PROMULGATED METHODS CONTAINED IN THE REFERENCE MANUALS.

SW = STEVE WILHITE
PL = PAUL LESCHENSKY
RW = ROBERT WOLFE
KS = KENDALL SMITH
KK = KERRY LEMONT
RP = ROB PEREZ
JBT = JENNIFER TORRANCE
LP = LAVERNE PETERSON
PLD = PAULA DOUGHTY

American Environmental Network
11 East Olive Road Pensacola, Florida 32514 (904)474-1001

PROJECT SAMPLE INSPECTION FORM

Accession #: 703116 Date Received: 14-Mar-97

1.	Was there a Chain of Custody?	(Yes)	No		7.	Are samples preserved? (Check pH of all H_2O except 40ml vials)+	(Yes)	No	N/A
2.	Was Chain of Custody properly relinquished?	(Yes)	No		8.	Is there sufficient volume for analysis requested?	(Yes)	No	
3.	Were samples received cold? (Check Temperature of Cooler)	(Yes)	No	N/A	9.	Were samples received within Holding Time?	(Yes)	No	
4.	Were all samples properly labeled and identified?	(Yes)	No		10.	Is Headspace visible > ¼" in diameter in 40ml vials?* If any headspace is evident, comment in out-of-control section.	Yes	No	(N/A)
5.	Were samples received in proper containers for analysis requested?	(Yes)	No		11.	If sent, were matrix spike bottles returned?	Yes	No	(N/A)
6.	Were all sample containers received intact?	(Yes)	No						

Airbill Number: 382 869 347 7 Shipped By: FEDEX

Cooler Number: N/S Shipping Charges: N/A

Cooler Weight: N/A Cooler Temp (°C): 2.5°C - CCR2

Out of Control Events and Inspection Comments:

Client Cooler

Inspected By: RE Date: 3/14/97 Logged By: RE Date: 3/14/97

+ *All preservatives for the State of North Caroline and the State of New York are to be recorded on the sheet provided to record pH results (SOP 938, section 2.2.9.*

• *According to EPA, ¼" of headspace is allowed in 40ml vials, however, AEN makes it policy to record any headspace as out-of-control (SOP 938, section 2.2.12.*

American Environmental Network
Albuquerque, New Mexico

Interlab Chain of Custody

DATE: 3/13 PAGE: 1 OF 1

NETWORK PROJECT MANAGER: KIMBERLY D. McNEILL

COMPANY: American Environmental Network
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

CLIENT PROJECT MANAGER:

Kim McNeill

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
703333-01	3/11/97	1503	AQ	1
-02	3/11/97	1632	AQ	2

	Metals - TAL	Metals - PP List	Metals - RCRA	RCRA Metals by TCLP (1311)			TOX	TOC	Gen Chemistry			Oil and Grease	BOD	COD	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	Polynuclear Aromatics (610/8310)	8240 (TCLP 1311) ZHE	8270 (TCLP 1311)				TO-14	Gross Alpha/Beta				NUMBER OF CONTAINERS
703333-01																			X											
-02																			X											

PROJECT INFORMATION

PROJECT NUMBER: 703333
PROJECT NAME: El Paso Field Service
QC LEVEL: (STD.) IV
QC REQUIRED: (MS) MSD BLANK
TAT: (STANDARD) RUSH!

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS:
CHAIN OF CUSTODY SEALS:
INTACT?:
RECEIVED GOOD COND./COLD:
LAB NUMBER: 703116

DUE DATE: 3/25 Low Level Benzo(A) Pyrene
RUSH SURCHARGE:
CLIENT DISCOUNT:
SPECIAL CERTIFICATION REQUIRED: ( ) YES ( ) NO
<0.3PPB

SAMPLES SENT TO:

SAN DIEGO	
Paragon	
RENTON	
PENSACOLA	X
PORTLAND	
PHOENIX	

RELINQUISHED BY: 1.
Signature: John Caldwell Time: 3/13/97
Printed Name: John Caldwell Date: 1200
Company: Albuquerque

RECEIVED BY: 1.
Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2.
Signature: Time:
Printed Name: Date: 3/14/97
Company: AENFL

RECEIVED BY: (LAB) 2.
Signature: Time: 0834
Printed Name: Date: 3/14/97
Company: AENFL

American Environmental Network (NM), Inc.

Albuquerque • Phoenix • Pensacola • Portland • Pleasant Hills • Columbia

CHAIN OF CUSTODY

DATE: 3-11-97 PAGE: 1 OF 1

AEN LAB I.D. 703333

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: JOHN CAMBOIN

COMPANY: EL PASO FIELD SERVICE CO.
ADDRESS: P.O. BOX 4990
FARMINGTON, NM 87499
PHONE: (505) 599-2144
FAX: (505) 599-2261

BILL TO: SAME AS ABOVE
COMPANY:
ADDRESS:

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct/Inject	(M8015) Gas/Purge & Trap	Gasoline/BTEX & MTBE (M8015/8020)	BTXE/MTBE (8020)	BTEX & Chlorinated Aromatics (602/8020)	BTEX/MTBE/EDC & EDB (8020/8010/Short)	Chlorinated Hydrocarbons (601/8010)	504 EDB ☐ / DBCP ☐	Polynuclear Aromatics (610/8310)	Volatile Organics (624/8240) GC/MS	Volatile Organics (8260) GC/MS	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	General Chemistry:	Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals:	NUMBER OF CONTAINERS
970194	3-11-97	1503	WATER	-01										X												2
970196	3-11-97	1632	WATER	-02										X												2

PROJECT INFORMATION

PROJ. NO.:
PROJ. NAME: CHACO PLT. MW
P.O. NO.:
SHIPPED VIA: FED-X

SAMPLE RECEIPT

NO. CONTAINERS	4
CUSTODY SEALS	Ⓨ N / NA
RECEIVED INTACT	Y Ⓝ
BLUE ICE/ICE	3

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 ☐
LOW LEVEL BENZO(A) PYRENE < 0.7 PPB

RELINQUISHED BY: 1.
Signature: Dennis Bird Time: 1742
Printed Name: DENNIS BIRD Date: 3-11-97
Company: EL PASO FIELD SERVICE

RECEIVED BY: 1.
Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2.
Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: (LAB) 2.
Signature: John Caldwell Time: 1135
Printed Name: John Caldwell Date: 3/13/97
American Environmental Network (NM), Inc.

American Environmental Network, Inc.

Bill To: El Paso Field Service Co.
P.O. Box 4990
Farmington, NM 87499

Client #: 850-020

Chaco Plant
MW-1 + MW-8
Annual PAH's

Date	Invoice
3/28/97	76191

Proj. Name: Chaco Plt. MW

Original
BALANCE DUE: 358.91

PO Number	Terms	Project
	Net 30	AEN ALB-810

Quantity	Description	Rate	Amount
2	EPA Method 8310	170.00	340.00
	NM Gross Receipts Tax	5.5625%	18.91

MAR 1997
RECEIVED

APPROVED FOR PAYMENT
DATE 4/1/97
729622-3120- EPFS
SIGNATURE John Lambdin
JOHN LAMBDIN

Accession #:703333
Authorized by:John Lambdin

TOTAL: 358.91

A finance charge of 1½% will be charged on balances 30 days past due
DISTRIBUTION: White-Customer, Yellow-File, Pink-Accounting

2709-D Pan American Freeway, NE • Albuquerque, NM 87107 • (505) 344-3777 • Fax (602) 344-4413

July 21, 1997

ANNUAL TESTING ANALYTICAL REPORT

Chaco Plant
Monitor Wells #2, 3, 4, 5, 6, 7 and 20" Discharge
Lab Sample #'s 970591 to 970598
Sampled 6/24/97
Sampled by Dennis Bird

REMARKS:
These samples represents the annual required compliance testing for the listed wells and discharge.

Distribution:

David Bays
Sandra Miller - W/O Attachments
Mike Hansen - W/O Attachments
Results Log Book

Attachments

El Paso Natural Gas Company

A 2013

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Type and No. of Sample Containers	Preservation Technique	Requested Analysis				Remarks
	CHACO PLANT							
Samplers: (Signature) Dennis Bird	Date: 6-24-97							

MATRIX	Date	Time	Comp.	GRAB	Sample Number							
WATER	6-24-97	1057		X	[illegible]	P-2	4°C	X	X			WATER WELL MW-2
WATER	6-24-97	1738		X	9705 92	P-2	4°C	X	X			WATER WELL MW-3
WATER	6-24-97	1205		X	9705 93	P-2	4°C	X	X			WATER WELL MW-4
WATER	6-24-97	1455		X	9705 94	P-2	4°C	X	X			WATER WELL MW-5
WATER	6-24-97	1621		X	9705 95	P-2	4°C	X	X			WATER WELL MW-6
WATER	6-24-97	1521		X	9705 96	P-2	4°C	X	X			WATER WELL MW-6 FIELD DUP
WATER	6-24-97	17[illegible]		X	9705 97	P-2	4°C	X	X			WATER WELL MW-7
WATER	6-24-97	1801		X	9705 98	P-2	4°C	X	X			20 INCH WASTEWATER DISCHARGE

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	6-24-97 1712				
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:	
		Marion Hoppe	6/25/97 0745		

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

Air Bill No.:

san juan repro Form 71-55

General Chemistry Results

EL PASO FIELD SERVICES

Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	970591
DATE SAMPLED:	06/24/97
TIME SAMPLED (Hrs):	1057
SAMPLED BY:	Dennis Bird
MATRIX:	Water
METER CODE:	N/A
SAMPLE SITE NAME:	Chaco Plant
SAMPLE POINT:	MW-2

FIELD REMARKS: _____

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	8.2	Units	06/25/97
Alkalinity as $C0_3$	0.0	PPM	06/25/97
Alkalinity as $HC0_3$	365	PPM	06/25/97
Calcium as Ca	135	PPM	06/25/97
Magnesium as Mg	30	PPM	06/25/97
Total Hardness as $CaC0_3$	461	PPM	06/25/97
Chloride as Cl	264	PPM	06/26/97
Sulfate as $S0_4$	819	PPM	06/26/97
Fluoride as F	3.3	PPM	06/27/97
Nitrate as $N0_3$-N	<0.6	PPM	06/26/97
Nitrite as $N0_2$-N	<0.6	PPM	06/26/97
Ammonium as NH_4^+	<0.2	PPM	06/25/97
Phosphate as PO_4	<0.6	PPM	06/26/97
Potassium as K	2.3	PPM	06/25/97
Sodium as Na	510	PPM	06/25/97
Total Dissolved Solids	1,990	PPM	06/25/97
Conductivity	2,800	umhos/cm	06/25/97
Anion/Cation %	1.3%	%, <5.0 Accepted	07/08/97

Lab Remarks:

Reported By: _____ Approved By: _____ Date: 7-11-97

EL PASO FIELD SERVICES

Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	970592
DATE SAMPLED:	06/24/97
TIME SAMPLED (Hrs):	1738
SAMPLED BY:	Dennis Bird
MATRIX:	Water
METER CODE:	N/A
SAMPLE SITE NAME:	Chaco Plant
SAMPLE POINT:	MW-3

FIELD REMARKS: _____

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	8.2	Units	06/25/97
Alkalinity as $C0_3$	0.0	PPM	06/25/97
Alkalinity as $HC0_3$	519	PPM	06/25/97
Calcium as Ca	78	PPM	06/25/97
Magnesium as Mg	18	PPM	06/25/97
Total Hardness as $CaC0_3$	269	PPM	06/25/97
Chloride as Cl	63	PPM	06/26/97
Sulfate as $S0_4$	396	PPM	06/26/97
Fluoride as F	1.0	PPM	06/27/97
Nitrate as $N0_3$-N	<0.6	PPM	06/26/97
Nitrite as $N0_2$-N	<0.6	PPM	06/26/97
Ammonium as NH_4^+	<0.1	PPM	06/25/97
Phosphate as PO_4	<0.6	PPM	06/26/97
Potassium as K	2.9	PPM	06/25/97
Sodium as Na	315	PPM	06/25/97
Total Dissolved Solids	1,160	PPM	06/25/97
Conductivity	1,667	umhos/cm	06/25/97
Anion/Cation %	1.5%	%, <5.0 Accepted	07/08/97

Lab Remarks:

Reported By: mda Approved By: John Fowler Date: 7-11-97

EL PASO FIELD SERVICES

Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	970593
DATE SAMPLED:	06/24/97
TIME SAMPLED (Hrs):	1206
SAMPLED BY:	Dennis Bird
MATRIX:	Water
METER CODE:	N/A
SAMPLE SITE NAME:	Chaco Plant
SAMPLE POINT:	MW-4

FIELD REMARKS:

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	7.9	Units	06/25/97
Alkalinity as $C0_3$	0.0	PPM	06/25/97
Alkalinity as $HC0_3$	579	PPM	06/25/97
Calcium as Ca	395	PPM	06/25/97
Magnesium as Mg	62	PPM	06/25/97
Total Hardness as $CaC0_3$	1,242	PPM	06/25/97
Chloride as Cl	272	PPM	06/26/97
Sulfate as $S0_4$	2,470	PPM	06/26/97
Fluoride as F	1.9	PPM	06/27/97
Nitrate as $N0_3$-N	7.8	PPM	06/26/97
Nitrite as $N0_2$-N	<1.1	PPM	06/26/97
Ammonium as NH_4^+	<0.3	PPM	06/25/97
Phosphate as PO_4	<1.1	PPM	06/26/97
Potassium as K	11.6	PPM	06/25/97
Sodium as Na	1110	PPM	06/25/97
Total Dissolved Solids	4,710	PPM	06/25/97
Conductivity	5,560	umhos/cm	06/25/97
Anion/Cation %	2.9%	%, <5.0 Accepted	07/08/97

Lab Remarks:

Reported By: [signature] Approved By: [signature] Date: 7-11-97

EL PASO FIELD SERVICES

Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	970594
DATE SAMPLED:	06/24/97
TIME SAMPLED (Hrs):	1455
SAMPLED BY:	Dennis Bird
MATRIX:	Water
METER CODE:	N/A
SAMPLE SITE NAME:	Chaco Plant
SAMPLE POINT:	MW-5

FIELD REMARKS: _____

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	8.2	Units	06/25/97
Alkalinity as $C0_3$	0.0	PPM	06/25/97
Alkalinity as $HC0_3$	391	PPM	06/25/97
Calcium as Ca	177	PPM	06/25/97
Magnesium as Mg	39	PPM	06/25/97
Total Hardness as $CaC0_3$	603	PPM	06/25/97
Chloride as Cl	47	PPM	06/26/97
Sulfate as $S0_4$	559	PPM	06/26/97
Fluoride as F	0.7	PPM	06/27/97
Nitrate as $N0_3$-N	<0.2	PPM	06/26/97
Nitrite as $N0_2$-N	<0.2	PPM	06/26/97
Ammonium as NH_4^+	<0.1	PPM	06/25/97
Phosphate as PO_4	<0.2	PPM	06/26/97
Potassium as K	1.8	PPM	06/25/97
Sodium as Na	192	PPM	06/25/97
Total Dissolved Solids	1,260	PPM	06/25/97
Conductivity	1,702	umhos/cm	06/25/97
Anion/Cation %	2.6%	%, <5.0 Accepted	07/08/97

Lab Remarks:

Reported By: mda Approved By: John Sachs Date: 7-11-97

EL PASO FIELD SERVICES

Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	970595
DATE SAMPLED:	06/24/97
TIME SAMPLED (Hrs):	1621
SAMPLED BY:	Dennis Bird
MATRIX:	Water
METER CODE:	N/A
SAMPLE SITE NAME:	Chaco Plant
SAMPLE POINT:	MW-6

FIELD REMARKS:

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	8.5	Units	06/25/97
Alkalinity as $C0_3$	16.4	PPM	06/25/97
Alkalinity as $HC0_3$	394	PPM	06/25/97
Calcium as Ca	89	PPM	06/25/97
Magnesium as Mg	15	PPM	06/25/97
Total Hardness as $CaC0_3$	286	PPM	06/25/97
Chloride as Cl	277	PPM	06/26/97
Sulfate as $S0_4$	1,520	PPM	06/26/97
Fluoride as F	8.0	PPM	07/01/97
Nitrate as $N0_3$-N	<0.6	PPM	06/26/97
Nitrite as $N0_2$-N	<0.6	PPM	06/26/97
Ammonium as NH_4^+	<0.6	PPM	06/25/97
Phosphate as PO_4	<0.6	PPM	06/26/97
Potassium as K	1.9	PPM	06/25/97
Sodium as Na	1010	PPM	06/25/97
Total Dissolved Solids	3,180	PPM	06/25/97
Conductivity	4,280	umhos/cm	06/25/97
Anion/Cation %	2.9%	%, <5.0 Accepted	07/09/97

Lab Remarks:

Reported By: mda Approved By: John Sole Date: 7-11-97

EL PASO FIELD SERVICES

Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	970596
DATE SAMPLED:	06/24/97
TIME SAMPLED (Hrs):	1621
SAMPLED BY:	Dennis Bird
MATRIX:	Water
METER CODE:	N/A
SAMPLE SITE NAME:	Chaco Plant
SAMPLE POINT:	MW-6

FIELD REMARKS: Field Duplicate

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	8.5	Units	06/25/97
Alkalinity as $C0_3$	15.2	PPM	06/25/97
Alkalinity as $HC0_3$	400	PPM	06/25/97
Calcium as Ca	88	PPM	06/25/97
Magnesium as Mg	15	PPM	06/25/97
Total Hardness as $CaC0_3$	281	PPM	06/25/97
Chloride as Cl	270	PPM	06/26/97
Sulfate as $S0_4$	1,500	PPM	06/26/97
Fluoride as F	8.2	PPM	07/01/97
Nitrate as $N0_3$-N	<0.6	PPM	06/26/97
Nitrite as $N0_2$-N	<0.6	PPM	06/26/97
Ammonium as NH_4^+	<0.6	PPM	06/25/97
Phosphate as PO_4	<0.6	PPM	06/26/97
Potassium as K	<0.6	PPM	06/25/97
Sodium as Na	1012	PPM	06/25/97
Total Dissolved Solids	3,190	PPM	06/25/97
Conductivity	4,390	umhos/cm	06/25/97
Anion/Cation %	3.4%	%, <5.0 Accepted	07/09/97

Lab Remarks:

Reported By: _____ Approved By: _____ Date: 7-10-97

EL PASO FIELD SERVICES

Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	970597
DATE SAMPLED:	06/24/97
TIME SAMPLED (Hrs):	1717
SAMPLED BY:	Dennis Bird
MATRIX:	Water
METER CODE:	N/A
SAMPLE SITE NAME:	Chaco Plant
SAMPLE POINT:	MW-7

FIELD REMARKS:

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	8.0	Units	06/25/97
Alkalinity as $C0_3$	0.0	PPM	06/25/97
Alkalinity as $HC0_3$	311	PPM	06/25/97
Calcium as Ca	273	PPM	06/25/97
Magnesium as Mg	43	PPM	06/25/97
Total Hardness as $CaC0_3$	858	PPM	06/25/97
Chloride as Cl	152	PPM	06/26/97
Sulfate as $S0_4$	1,180	PPM	06/26/97
Fluoride as F	3.4	PPM	07/01/97
Nitrate as $N0_3$-N	<0.6	PPM	06/26/97
Nitrite as $N0_2$-N	<0.6	PPM	06/26/97
Ammonium as NH_4^+	<0.1	PPM	06/25/97
Phosphate as PO_4	<0.6	PPM	06/26/97
Potassium as K	5.7	PPM	06/25/97
Sodium as Na	386	PPM	06/25/97
Total Dissolved Solids	2,290	PPM	06/25/97
Conductivity	2,880	umhos/cm	06/25/97
Anion/Cation %	0.1%	%, <5.0 Accepted	07/09/97

Lab Remarks:

Reported By: MDA Approved By: John Labb Date: 7-10-97

EL PASO FIELD SERVICES

Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	970598
DATE SAMPLED:	06/24/97
TIME SAMPLED (Hrs):	1801
SAMPLED BY:	Dennis Bird
MATRIX:	Water
METER CODE:	N/A
SAMPLE SITE NAME:	Chaco Plant
SAMPLE POINT:	20" Wastewater Discharge

FIELD REMARKS:

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	8.8	Units	06/25/97
Alkalinity as $C0_3$	44.0	PPM	06/25/97
Alkalinity as $HC0_3$	266	PPM	06/25/97
Calcium as Ca	261	PPM	06/25/97
Magnesium as Mg	47	PPM	06/25/97
Total Hardness as $CaC0_3$	845	PPM	06/25/97
Chloride as Cl	83	PPM	06/26/97
Sulfate as $S0_4$	754	PPM	06/26/97
Fluoride as F	2.0	PPM	06/27/97
Nitrate as $N0_3$-N	1.0	PPM	06/26/97
Nitrite as $N0_2$-N	<0.6	PPM	06/26/97
Ammonium as NH_4^+	<0.1	PPM	06/25/97
Phosphate as PO_4	<0.6	PPM	06/26/97
Potassium as K	37.9	PPM	06/25/97
Sodium as Na	178	PPM	06/25/97
Total Dissolved Solids	1,670	PPM	06/25/97
Conductivity	2,010	umhos/cm	06/25/97
Anion/Cation %	3.1%	%, <5.0 Accepted	07/09/97

Lab Remarks:

Reported By: _____ Approved By: _____ Date: 7-10-97

Metals (Cd, Cr, Hg) Results

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

EPFS LAB ID:	970591
DATE SAMPLED:	06/24/97
TIME SAMPLED (Hrs):	1057
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	NA
SAMPLE SITE NAME:	Chaco Plant
SAMPLE POINT:	MW-2

REMARKS: _____

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
CADMIUM	<0.0002	0.01
CHROMIUM	<.004	0.050
MERCURY	<.00002	0.002

NOTE: The sample results have been corrected for volume adjustment associated with Method 3015.

References:

Method 3015, Microwave Assisted Acid Digestion of Aqueous Samples and Extracts, Test Methods for Evaluating Solid Waste, SW-846, Sept., 1994.
Method 7081, Barium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.
Method 7131, Cadmium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.
Method 7741A, Selenium (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1994.

Reported By: _____ Approved By: _____ Date: 7/21/97

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

EPFS LAB ID:	970592
DATE SAMPLED:	06/24/97
TIME SAMPLED (Hrs):	1738
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	NA
SAMPLE SITE NAME:	Chaco Plant
SAMPLE POINT:	MW-3

REMARKS: _____

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
CADMIUM	0.0005	0.01
CHROMIUM	0.0040	0.050
MERCURY	<.00002	0.002

NOTE: The sample results have been corrected for volume adjustment associated with Method 3015.

References:

Method 3015, Microwave Assisted Acid Digestion of Aqueous Samples and Extracts, Test Methods for Evaluating Solid Waste, SW-846, Sept., 1994.
Method 7081, Barium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.
Method 7131, Cadmium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.
Method 7741A, Selenium (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1994.

Reported By: mda Approved By: John Faulkner Date: 7/21/97

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

EPFS LAB ID:	970593
DATE SAMPLED:	06/24/97
TIME SAMPLED (Hrs):	1206
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	NA
SAMPLE SITE NAME:	Chaco Plant
SAMPLE POINT:	MW-4

REMARKS: _____

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
CADMIUM	<.0002	0.01
CHROMIUM	<.004	0.050
MERCURY	<.00002	0.002

NOTE: The sample results have been corrected for volume adjustment associated with Method 3015.

References:

Method 3015, Microwave Assisted Acid Digestion of Aqueous Samples and Extracts, Test Methods for Evaluating Solid Waste, SW-846, Sept., 1994.
Method 7081, Barium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.
Method 7131, Cadmium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.
Method 7741A, Selenium (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1994.

Reported By: mdw Approved By: _____ Date: 7/21/97

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

EPFS LAB ID:	970594
DATE SAMPLED:	06/24/97
TIME SAMPLED (Hrs):	1455
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	NA
SAMPLE SITE NAME:	Chaco Plant
SAMPLE POINT:	MW-5

REMARKS: _____

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
CADMIUM	<.0002	0.01
CHROMIUM	<.004	0.050
MERCURY	<.00002	0.002

NOTE: The sample results have been corrected for volume adjustment associated with Method 3015.

References:

Method 3015, Microwave Assisted Acid Digestion of Aqueous Samples and Extracts, Test Methods for Evaluating Solid Waste, SW-846, Sept., 1994.
Method 7081, Barium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.
Method 7131, Cadmium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.
Method 7741A, Selenium (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1994.

Reported By: mdw Approved By: John Fuller Date: 7/2/97

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

EPFS LAB ID:	970595
DATE SAMPLED:	06/24/97
TIME SAMPLED (Hrs):	1621
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	NA
SAMPLE SITE NAME:	Chaco Plant
SAMPLE POINT:	MW-6

REMARKS: _____

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
CADMIUM	<.0002	0.01
CHROMIUM	<.004	0.050
MERCURY	<.00002	0.002

NOTE: The sample results have been corrected for volume adjustment associated with Method 3015.

References:

Method 3015, Microwave Assisted Acid Digestion of Aqueous Samples and Extracts, Test Methods for Evaluating Solid Waste, SW-846, Sept., 1994.
Method 7081, Barium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.
Method 7131, Cadmium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.
Method 7741A, Selenium (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1994.

Reported By: mde Approved By: John Ludlow Date: 7/2/97

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

EPFS LAB ID:	970596
DATE SAMPLED:	06/24/97
TIME SAMPLED (Hrs):	1621
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	NA
SAMPLE SITE NAME:	Chaco Plant
SAMPLE POINT:	MW-6

REMARKS: Field Duplicate

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
CADMIUM	<.0002	0.01
CHROMIUM	<.004	0.050
MERCURY	<.00002	0.002

NOTE: The sample results have been corrected for volume adjustment associated with Method 3015.

References:

Method 3015, Microwave Assisted Acid Digestion of Aqueous Samples and Extracts, Test Methods for Evaluating Solid Waste, SW-846, Sept., 1994.
Method 7081, Barium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.
Method 7131, Cadmium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.
Method 7741A, Selenium (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1994.

Reported By: _____ Approved By: _____ Date: 7/21/97

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

EPFS LAB ID:	970597
DATE SAMPLED:	06/24/97
TIME SAMPLED (Hrs):	1717
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	NA
SAMPLE SITE NAME:	Chaco Plant
SAMPLE POINT:	MW-7

REMARKS: _____

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
CADMIUM	0.0004	0.01
CHROMIUM	<.004	0.050
MERCURY	<.00002	0.002

NOTE: The sample results have been corrected for volume adjustment associated with Method 3015.

References:

Method 3015, Microwave Assisted Acid Digestion of Aqueous Samples and Extracts, Test Methods for Evaluating Solid Waste, SW-846, Sept., 1994.
Method 7081, Barium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.
Method 7131, Cadmium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.
Method 7741A, Selenium (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1994.

Reported By: _____ Approved By: _____ Date: 7/21/97

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

EPFS LAB ID:	970598
DATE SAMPLED:	06/24/97
TIME SAMPLED (Hrs):	1801
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	NA
SAMPLE SITE NAME:	Chaco Plant
SAMPLE POINT:	20" Wastewater Discharge

REMARKS: _____

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
CADMIUM	<.0002	0.01
CHROMIUM	0.0340	0.050
MERCURY	<.00002	0.002

NOTE: The sample results have been corrected for volume adjustment associated with Method 3015.

References:

Method 3015, Microwave Assisted Acid Digestion of Aqueous Samples and Extracts, Test Methods for Evaluating Solid Waste, SW-846, Sept., 1994.
Method 7081, Barium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.
Method 7131, Cadmium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.
Method 7741A, Selenium (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1994.

Reported By: _____ Approved By: _____ Date: 7/21/97

Well Development Forms

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

[ ] Development
[X] Purging

Well Number MW-2

Site Name CHACO PLANT

Meter Code

Development Criteria

[X] 3 to 5 Casing Volumes of Water Removel
[ ] Stabilization of Indicator Parameters
[ ] Other

Methods of Development

Pump		Bailer	
[ ]	Centrifugal	[X]	Bottom Valve
[ ]	Submersible	[ ]	Double Check Valve
[ ]	Peristaltic	[ ]	Stainless-steel Kemmerer

[ ] Other

Water Volume Calculation

Initial Depth of Well (feet) 27.60
Initial Depth to Water (feet) 15.20
Height of Water Column in Well (feet) 12.40
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing		8.2	24.6
Gravel Pack			
Drilling Fluids			
Total			

Instruments

[X] pH Meter
[ ] DO Monitor
[X] Conductivity Meter
[X] Temperature Meter
[X] Other D.O. CHEMETS KIT

Water Disposal

KUTZ SEPARATOR

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal): Increment	Water Volume Removed (gal): Cumulativ	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
6-24-97	1007										18.5	6.68	2650		
6-24-97	1014						5.0	5.0			16.7	7.11	2750		
6-24-97	1020						5.0	10.0			16.4	7.19	2830		
6-24-97	1029						5.0	15.0			16.4	7.25	2840		
6-24-97	1035						5.0	20.0			17.4	7.26	2880		
6-24-97	1043						5.0	25.0			16.5	7.28	2820	1.0	

Comments

Developer's Signature Dennis Bird Date 6-24-97 Reviewer John Stidd Date 7-10-97

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

[ ] Development
[X] Purging

Well Number MW-3

Site Name CHACO PLANT

Meter Code

Development Criteria

[X] 3 to 5 Casing Volumes of Water Removel
[ ] Stabilization of Indicator Parameters
[ ] Other

Methods of Development

Pump	Bailer
[ ] Centrifugal	[X] Bottom Valve
[ ] Submersible	[ ] Double Check Valve
[ ] Peristaltic	[ ] Stainless-steel Kemmerer

[ ] Other

Water Volume Calculation

Initial Depth of Well (feet) 22.40
Initial Depth to Water (feet) 10.62
Height of Water Column in Well (feet) 11.78
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well Cubic Feet	Water Volume in Well Gallons	Gallons to be Removed
Well Casing		7.8	23.4
Gravel Pack			
Drilling Fluids			
Total			

Instruments

[X] pH Meter
[ ] DO Monitor
[X] Conductivity Meter
[X] Temperature Meter
[X] Other D.O. CHEMETS KIT

Water Disposal

KUTZ SEPARATOR

Water Removal Data

Date	Time	Development Method Pump	Development Method Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal) Increment	Water Volume Removed (gal) Cumulativ	Product Volume Removed (gallons) Increment	Product Volume Removed (gallons) Cumulative	Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
6-24-97	1311										20.5	7.07	1796		
6-24-97	1314						1.0	1.0			18.4	7.22	1826		
6-24-97	1320						4.0	5.0			17.7	7.24	1819		
6-24-97	1324						3.0	8.0			17.3	7.26	1721		
6-24-97	1335						2.0	10.0			18.0	7.31	1602		
6-24-97	1350						3.0	13.0			18.8	6.91	1836	7.0	

Comments THE LAST 5 GALLONS BAILED THE WATER WAS RUSTY RED COLOR.

Developer's Signature Dennis Bird Date 6-24-97 Reviewer John Taylor Date 7-10-97

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

[ ] Development
[X] Purging

Well Number MW-4

Site Name CHACO PLANT

Meter Code

Development Criteria

[X] 3 to 5 Casing Volumes of Water Removel
[ ] Stabilization of Indicator Parameters
[ ] Other

Methods of Development

Pump		Bailer	
[ ]	Centrifugal	[X]	Bottom Valve
[ ]	Submersible	[ ]	Double Check Valve
[ ]	Peristaltic	[ ]	Stainless-steel Kemmerer

[ ] Other

Water Volume Calculation

Initial Depth of Well (feet) 30.90
Initial Depth to Water (feet) 18.53
Height of Water Column in Well (feet) 12.37
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing		8.2	24.5
Gravel Pack			
Drilling Fluids			
Total			

Instruments

[X] pH Meter
[ ] DO Monitor
[X] Conductivity Meter
[X] Temperature Meter
[X] Other H.O. CHEMETS KIT

Water Disposal

KUTZ SEPARATOR

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal): Increment	Water Volume Removed (gal): Cumulativ	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
6-24-97	1128										18.5	6.81	5640		
6-24-97	1133						5.0	5.0			16.5	6.76	5420		
6-24-97	1139						5.0	10.0			16.3	6.76	5500		
6-24-97	1146						5.0	15.0			16.0	6.75	5410		
6-24-97	1151						5.0	20.0			15.8	6.75	5470		
6-24-97	1158						5.0	25.0			16.1	6.76	5530	1.5	

Comments

Developer's Signature Dennis Bird Date 6-24-97 Reviewer John Loder Date 7-10-97

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

[ ] Development
[X] Purging

Well Number MW-5

Site Name CHACO PLANT

Meter Code

Development Criteria

[X] 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) 30.60
Initial Depth to Water (feet) 24.59
Height of Water Column in Well (feet) 6.01

Diameter (inches): Well Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		4.0	11.9
Gravel Pack			
Drilling Fluids			
Total			

Instruments

[X] pH Meter
[ ] DO Monitor
[X] Conductivity Meter
[X] Temperature Meter
[X] 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	Cumulativ	Increment	Cumulative					
6-24-97	1419										18.8	7.04	1788		
6-24-97	1423						5.0	5.0			17.0	7.20	1703		
6-24-97	1429						5.0	10.0			17.0	7.30	1730		
6-24-97	1441						3.0	13.0			17.3	7.28	1919	6.0	

Comments

Developer's Signature Dennis Bird Date 6-24-97 Reviewer John Boldt Date 7-10-97

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-6

Site Name CHACO PLANT

Meter Code

Development Criteria

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

Water Volume Calculation

Initial Depth of Well (feet) 24.60
Initial Depth to Water (feet) 9.78
Height of Water Column in Well (feet) 14.82

Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		9.8	29.4
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Methods of Development

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

☐ Other

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	Cumulativ	Increment	Cumulative					
6-24-97	1508										19.3	7.98	4520		
6-24-97	1533						5.0	5.0			17.7	7.72	5040		
6-24-97	1543						5.0	10.0			17.7	7.85	4850		
6-24-97	1549						5.0	15.0			17.0	7.57	6340		
6-24-97	1555						5.0	20.0			16.5	7.44	6850		
6-24-97	1604						5.0	25.0			16.2	7.34	6830		
6-24-97	1608						5.0	30.0			16.7	7.47	7060	6.0	

Comments

Developer's Signature Dennis Bird Date 6-24-97 Reviewer John Laib Date 7-10-97

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

[ ] Development
[X] Purging

Well Number MW-7

Site Name CHACO PLANT

Meter Code

Development Criteria

[X] 3 to 5 Casing Volumes of Water Removel
[ ] Stabilization of Indicator Parameters
[ ] Other

Methods of Development

Pump		Bailer	
[ ]	Centrifugal	[X]	Bottom Valve
[ ]	Submersible	[ ]	Double Check Valve
[ ]	Peristaltic	[ ]	Stainless-steel Kemmerer

[ ] Other

Water Volume Calculation

Initial Depth of Well (feet) 19.5
Initial Depth to Water (feet) 9.66
Height of Water Column in Well (feet) 9.84
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing		6.5	19.5
Gravel Pack			
Drilling Fluids			
Total			

Instruments

[X] pH Meter
[ ] DO Monitor
[X] Conductivity Meter
[X] Temperature Meter
[X] Other

Water Disposal

KUTZ SEPARATOR

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal): Increment	Water Volume Removed (gal): Cumulativ	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
6-24-97	1651										20.3	7.06	2750		
6-24-97	1654						5.0	5.0			18.4	7.08	2590		
6-24-97	1657						5.0	10.0			17.7	6.97	3060		
6-24-97	1700						5.0	15.0			17.9	7.00	3350		
6-24-97	1704						5.0	20.0			17.4	7.01	3270		
6-24-97	1707						3.0	23.0			17.3	6.96	3300	2.5	

Comments THE POND SOUTH OF THE WELL HAS DRIED UP.

Developer's Signature Dennis Bird Date 6-24-97 Reviewer John Loehr Date 7-10-97

Quality Control

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT

Sample ID: 970591 through 970598
Date Reported: 07/16/97

LABORATORY CONTROL SAMPLE

Analyte	Found Result (mg/L)	Known Value (mg/L)	% Recovery
Cadmium	0.0025	0.0024	106%
Chromium	0.0049	0.0048	103%
Mercury	0.0044	0.0046	95.2%

DUPLICATE ANALYSIS (mg/L)

Analyte	Original Sample Result	Duplicate Sample Result	% RPD
Cadmium	ND	ND	NA
Chromium	0.0040	0.0040	1.0%
Mercury	ND	ND	NA

SPIKE ANALYSIS (mg/L)

Analyte	Original Sample Result	Spike Sample Result	Spike Added	Recovery Percent
Cadmium	ND	0.0117	0.010	117%
Chromium	0.0040	0.0544	0.050	101%
Mercury	ND	0.0017	0.002	85.0%

METHOD BLANK

Analyte	Found Result (mg/L)	Detection Level (mg/L)
Cadmium	ND	0.0002
Chromium	ND	0.004
Mercury	ND	0.0002

ND: Not Detected at stated detection level.
NA: Not Applicable.

Reported By: mh Approved By: John Faulder Date: 7/17/97

PHILIP ENVIRONMENTAL

August 22, 1997 Project 18227

Mr. David Bays
El Paso Field Services Company
P.O. Box 4990
Farmington, New Mexico 87499

RE: Boring Logs, Monitoring Well Installation Diagrams and Well Developement Data Sheets for Monitoring Wells MW-9 and MW-10 Installed at the Chaco Plant

Dear Mr. Bays:

Philip Services Corporation (Philip) hereby submits the boring logs, monitoring well installation diagrams and well development data sheets for monitoring wells MW-9 and MW-10 installed on July 24, 1997 at the Chaco Plant.

If you have any questions concerning or require additional information, please contact Scott Pope or Martin Nee in the Farmington office.

Respectfully submitted,

PHILIP SERVICES CORPORATION

Scott T. Pope
Project Manager

Enclosures -
As stated

cc: John Lambdin

1227 8-97logs.doc

RECORD OF SUBSURFACE EXPLORATION

Borehole #
Well # MW-9
Page of

Philip Environmental Services Corp.
4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Project Name EPFS CHACO MW's
Project Number 18227 Phase 6001
Project Location Chaco

Elevation
Borehole Location N. OF CONTACT POND
GWL Depth 9.7
Logged By S. POPE
Drilled By K. PADILLA
Date/Time Started 1200 7/24/97
Date/Time Completed 1315

Well Logged By S. Pope
Personnel On-Site D. Chavlie
Contractors On-Site —
Client Personnel On-Site —

Drilling Method HSA 6¼ ID
Air Monitoring Method PID

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: NDU BZ	BH	S	Drilling Conditions & Blow Counts
0				BROWN SANDY Clay, Fine Grained SAND, Mod Stiff, Dry - Trace Moisture	CL					
5	1	5 7	24	BROWN-TAN SAND w/ Silt, Fine Grained, LOOSE, Dry - Trace Moisture	SP	5.0	0	0	0	
10				GRAY SANDY CLAY Fine - Med grained Some Black dic Discoloration, Mod Stiff Moist	CL	9.0				Headspace = 3.0 ppm
	2	10 12	24	GRAY-BLACK SAND w/ SOME CLAY Fine Med grained, Med dense Saturated @ 11.0	SW	11.0	0	0	0	NOTED discolored soils @ 11 Slight Sewer odor
15										WATER Level Rose TO 9.7' BGS
20										Will Drill to 20. and Set Well.
				TDB 21.0						
25										
30										
35										
40										

Comments:

Geologist Signature Scott T. Pope

MONITORING WELL INSTALLATION RECORD

Philip Environmental Services Corp.
4000 Monroe Road
Farmington, New Mexico 87401
(606) 326-2262 FAX (606) 326-2388

Borehole # _____
Well # MW-09
Page ____ of ____

Project Name Chaco MW's

Project Number 18227 Phase 6001
Project Location Chaco Plant

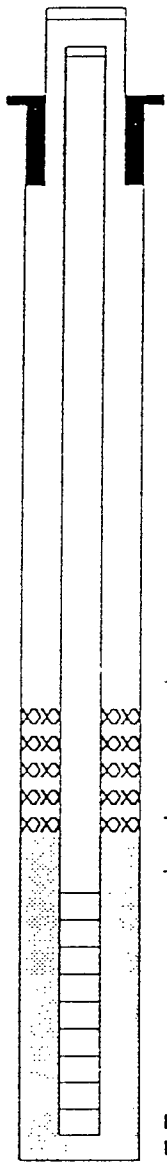
Elevation _____
Well Location N. Side of Contact Water Pond
GWL Depth _____
Installed By K. Padilla

Date/Time Started 1315 7/24/97
Date/Time Completed 1500 7/24/97

On-Site Geologist S. Pope
Personnel On-Site D. Charlie
Contractors On-Site —
Client Personnel On-Site —

Depths in Reference to Ground Surface

Item	Material	Depth
Top of Protective Casing	Square 6" Steel	3.1
Bottom of Protective Casing		2.9
Top of Permanent Borehole Casing		—
Bottom of Permanent Borehole Casing		—
Top of Concrete		+.3
Bottom of Concrete		0.0
Top of Grout		—
Bottom of Grout		—
Top of Well Riser	SCH40, 4 inch	+3.0
Bottom of Well Riser	PVC	4.6
Top of Well Screen	SCH40, 4" PVC	4.6
Bottom of Well Screen	.010 SLOT	20.0
Top of Peltonite Seal	3/8" Bentonite	0.0
Bottom of Peltonite Seal	Hole Plug	2.6
Top of Gravel Pack	10-20 Silica Sand	2.6
Bottom of Gravel Pack		20.0
Top of Natural Cave-In		20.0
Bottom of Natural Cave-In		21.0
Top of Groundwater		9.7
Total Depth of Borehole		21



Top of Protective Casing +3.1
Top of Riser +3.0
Ground Surface 0.0

Top of Seal 0.0

Top of Gravel Pack 2.6

Top of Screen 4.6

Bottom of Screen 20.0
Bottom of Borehole 21.0

Comments: 15 Bag Sand, 2.5 Bags Hole Plug, WL = 8.45 BGS After Installation

Geologist Signature Scott T. Pope

PHILIP ENVIRONMENTAL Well Development and Purging Data

☑ Development ☐ Purging Well Number MW-09

Serial No. WDPD- Page 1 of 1

Project Name CHACO WELLS Project Manager S. POPE Project No. 18227

Client Company EPFS Phase.Task No. 6001.77

Site Name CHACO Site Address

Development Criteria

☑ 3 to 5 Casing Volumes of Water Removal
☐ Stabilization of Indicator Parameters
☐ Other

Methods of Development

Pump: ☐ Centrifugal ☐ Submersible ☐ Peristaltic
Bailer: ☑ Bottom Valve ☐ Double Check Valve ☐ Stainless-steel Kemmerer
☐ Other

Water Volume Calculation

Initial Depth of Well (feet) 21.57
Initial Depth to Water (feet) 11.38
Height of Water Column in Well (feet) 10.19
Diameter (inches): Well 4" Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing			6.65
Gravel Pack			
Drilling Fluids			
Total			33.3

Instruments

	Serial No. (If applicable)
☑ pH Meter	OYSTER
☑ ~~DO~~ ORP Monitor	
☑ Conductivity Meter	OYSTER
☑ Temperature Meter	OYSTER
☐ Other	

Water Disposal

IN CONTACT WATER POND

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons): Increment	Water Volume Removed (gallons): Cumulative	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature (°C)	pH	Conductivity (umhos/cm)	Dissolved Oxygen (mg/L)	Comments
7/25/97	12:22		X				5/5	5			23.5	6.94	1310		BROWN
	12:40		X				10/5	10			19.2	6.96	1320		BROWN
	12:53		X				15/5	15			19.7	6.98	1320		BROWN
	1305		X				20/5	20			21.5	6.99	1330		BROWN
	1331		X				25/5	25			19.6	6.98	1330		LIGHT BROWN
	1346		X				30/5	30			19.6	7.11	1350		LIGHT BRN
7/25/97	1403		X				35/5	35			20.7	7.10	1330		LIGHT GRN

Circle the date and time that the development criteria are met.

Comments

Developer's Signature(s) Steven T. Pope / Kelly Padilla Date 7/25/97 Reviewer STP Date 8/19/97

Form A0101 Rev. 03/21/94

RECORD OF SUBSURFACE EXPLORATION

Borehole # MW-10
Well # MW-10
Page of

Philip Environmental Services Corp.
4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Project Name Chaco Well Installation
Project Number 18227 Phase 6001
Project Location

Elevation
Borehole Location MW-10
GWL Depth 9.2
Logged By S. Pope
Drilled By K Padilla
Date/Time Started 7/24/97 0900
Date/Time Completed 7/24/97 1000

Well Logged By S. Pope
Personnel On-Site D. Charlie
Contractors On-Site —
Client Personnel On-Site —

Drilling Method HSA 6 1/4 ID
Air Monitoring Method PID

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: NDU BZ	BH	S	Drilling Conditions & Blow Counts
0					CL					
5	1	5 7	24	BROWN SILTY SAND TRACE CLAY FINE SAND LOOSE Moist Grading to a (BTM6") SANDY CLAY Med. Stiff.	ML	5.0	0	0	0	
10	2	10 11	24	BROWN TO GRAY SAND TRACE SILT AND CLAY, Grading From FINE Coarse Grained SAND, LOOSE, SATURATED No additional SAMPLE collected Below WATER.	SW	10	0	0	0	WL = @ 9.2 WILL DRILL TO 20 Feet and SET WELL.
15				TOB 20						
20										
25										
30										
35										
40										

Comments: Will drill to 20. and Set well @ 19.5.

Geologist Signature Scott T. Pope

MONITORING WELL INSTALLATION RECORD

Philip Environmental Services Corp.
4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Borehole # MW-10
Well # MW-10
Page ____ of ____

Project Name Chaco PLANT MW's
Project Number 18227 Phase 6001.77
Project Location Chaco PLANT

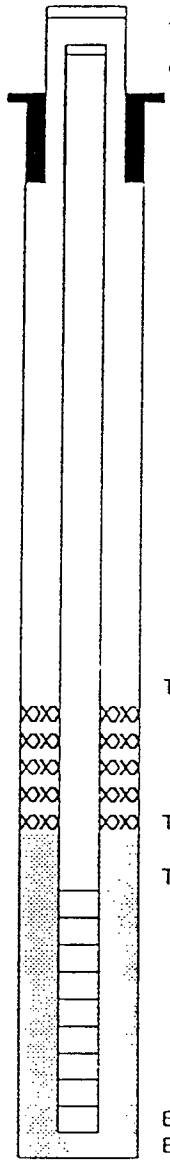
Elevation ____
Well Location EAST SIDE OF WATER POND
GWL Depth 9.2 BGS
Installed By K. PADILLA

Date/Time Started 1000 7/24/97
Date/Time Completed 1130 7/24/97

On-Site Geologist S. Pope
Personnel On-Site D. Charlie
Contractors On-Site —
Client Personnel On-Site —

Depths in Reference to Ground Surface

Item	Material	Depth
Top of Protective Casing	Square 6" Steel	3.1
Bottom of Protective Casing		2.9
Top of Permanent Borehole Casing	N/A	—
Bottom of Permanent Borehole Casing		—
Top of Concrete		+.3
Bottom of Concrete		0
Top of Grout	N/A	—
Bottom of Grout	N/A	—
Top of Well Riser	Sch 40, 4 inch	+3.0
Bottom of Well Riser	PVC	4.0
Top of Well Screen	Sch 40, 4 inch	4.0
Bottom of Well Screen	PVC, .010 Slot	19.4
Top of Peltonite Seal	3/8 Bentonite	0
Bottom of Peltonite Seal	Hole Plug	2.0
Top of Gravel Pack	10-20 Silica	2.0
Bottom of Gravel Pack		19.4
Top of Natural Cave-In		19.4
Bottom of Natural Cave-In		20.0
Top of Groundwater		9.2
Total Depth of Borehole		20.0



Top of Protective Casing 3.1
Top of Riser 3.0
Ground Surface 0
Top of Seal 0
Top of Gravel Pack 2.0
Top of Screen 4.0
Bottom of Screen 19.4
Bottom of Borehole 20.0

Comments: 13 BAGS SAND, 1.5 BAG Hole Plug WATER LEVEL 8.4 BGS After INSTALLATION.

Geologist Signature S. T. Pope

PHILIP ENVIRONMENTAL Well Development and Purging Data

☒ Development ☐ Purging Well Number MW-10

Serial No. WDPD- Page ____ of ____

Project Name CHACO MW's Project Manager S. POPE Project No. 18227

Client Company EPFS Phase.Task No. 6001.77

Site Name CHACO PLANT Site Address BLOOMFIELD NM

Development Criteria

☒ 3 to 5 Casing Volumes of Water Removal
☐ 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) 22.31
Initial Depth to Water (feet) 11.5
Height of Water Column in Well (feet) 10.51
Diameter (inches): Well 4" Gravel Pack ____

Item	Water Volume In Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		7.5	7.5
Gravel Pack			
Drilling Fluids			
Total			7.5 to 37.5

Instruments

	Serial No. (If applicable)
☐ pH Meter	
☐ DO Monitor	
☐ Conductivity Meter	
☐ Temperature Meter	
☐ Other	

Water Disposal

IN CONTACT WATER POND

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons): Increment	Water Volume Removed (gallons): Cumulative	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature (°C)	pH	Conductivity (umhos/cm)	Dissolved Oxygen (mg/L)	Comments
7/25/97	12.25							28			25.2	7.16	2870		SILTY BROWN
7/25/97	1930							60							MOSTLY CLEAR

Circle the date and time that the development criteria are met.

Comments 11.22 prod 11.40 WL Noted .09' Free Phase in Bailer and measure .18 w/ oil/WATER Probe
NO WATER Quality TAKEN Due to Free Phase Hydrocarbons IN WELL

Developer's Signature(s) [signature] Date 7/25/97 Reviewer STP Date 8/19/97

Form A0101 Rev. 03/21/94

August 29, 1997

NEW Monitor Well Installation
ANALYTICAL REPORT

Chaco Plant
Monitor Wells #9 and #10
Lab Sample #'s 970716 and 970717
Sampled 7/25/97
Sampled by Dennis Bird

REMARKS:
These samples represents the NMOCD required analytical testing for the two new monitor wells installed at Chaco Plant on July 24th and 25th, 1997. WQCC limits for Benzene, Toluene, Ethyl Benzene and Total Naphthalenes were exceeded in monitor well #10. General water quality in MW-10 is approximately 2x poorer than that in MW-9. More data will be required in order to determine if the ground water quality in the area is being influenced by the adjacent ponds.

Distribution:

✓David Bays
Scott Pope - Philip Services Company
Sandra Miller - W/O Attachments
Mike Hansen - W/O Attachments
Results Log Book

Attachments

Philip Environmental
FIELD DATA

PHILIP
ENVIRONMENTAL

Environmental Services Group
Southern Region

August 22, 1997

Project 18227

Mr. David Bays
El Paso Field Services Company
P.O. Box 4990
Farmington, New Mexico 87499

RE: Boring Logs, Monitoring Well Installation Diagrams and Well Developement Data Sheets for Monitoring Wells MW-9 and MW-10 Installed at the Chaco Plant

Dear Mr. Bays:

Philip Services Corporation (Philip) hereby submits the boring logs, monitoring well installation diagrams and well development data sheets for monitoring wells MW-9 and MW-10 installed on July 24, 1997 at the Chaco Plant.

If you have any questions concerning or require additional information, please contact Scott Pope or Martin Nee in the Farmington office.

Respectfully submitted,

PHILIP SERVICES CORPORATION

Scott T. Pope
Project Manager

Enclosures -
As stated

cc: John Lambdin

17227/8-97logs.doc.

RECORD OF SUBSURFACE EXPLORATION

Philip Environmental Services Corp.
4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Borehole #
Well # MW-9
Page of

Project Name EPFS CHACO MW's
Project Number 18227 Phase 6001
Project Location Chaco

Elevation
Borehole Location N. of CONTACT POND
GWL Depth 9.7
Logged By S. POPE
Drilled By K. PADILLA
Date/Time Started 1200 7/24/97
Date/Time Completed 1315

Well Logged By S. Pope
Personnel On-Site D. Charlie
Contractors On-Site —
Client Personnel On-Site —

Drilling Method HSA 6¼ ID
Air Monitoring Method PID

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: NDU BZ	BH	S	Drilling Conditions & Blow Counts
0				BROWN SANDY Clay, Fine Grained SAND, Med Stiff, DRY - Trace Moisture	CL					
5	1	5 7	24	BROWN-TAN SAND w/Silt, Fine Grained, LOOSE, Dry - Trace MoisturE	SP	5.0	0	0	0	
10				GRAY SANDY CLAY Fine-Med grained some Black discoloration, med stiff Moist	CL	9.0				Headspace = 3.0ppm
	2	10 12	24	GRAY-BLACK SAND w/SOME CLAY Fine Med GraiNED, Med coarse Saturated @ 11.0	SW	11.0	0	0	0	NOTED dicolored SOILS @11 Slight Sewer odor WATER Level Rose TO 9.7' BGS will Drill To 20. and SET Well.
15										
20				TOB 21.0						
25										
30										
35										
40										

Comments:

Geologist Signature [signature]

MONITORING WELL INSTALLATION RECORD

Philip Environmental Services Corp.
4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Borehole # _____
Well # MW-09
Page ____ of ____

Project Name Chaco MW's
Project Number 18227 Phase 6001
Project Location Chaco Plant

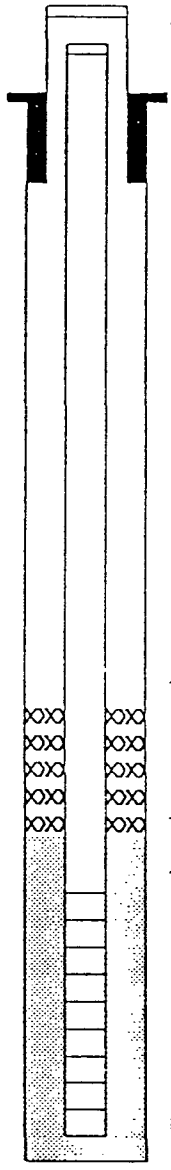
Elevation _____
Well Location N. Side of Contact Water Pond
GWL Depth _____
Installed By K. Padilla

Date/Time Started 1315 7/24/97
Date/Time Completed 1500 7/24/97

On-Site Geologist S. Pope
Personnel On-Site D. Charlie
Contractors On-Site —
Client Personnel On-Site —

Depths in Reference to Ground Surface

Item	Material	Depth
Top of Protective Casing	Square 6" Steel	3.1
Bottom of Protective Casing		2.9
Top of Permanent Borehole Casing		—
Bottom of Permanent Borehole Casing		—
Top of Concrete		+.3
Bottom of Concrete		0.0
Top of Grout		—
Bottom of Grout		—
Top of Well Riser	SCH 40, 4 inch	+3.0
Bottom of Well Riser	PVC	4.6
Top of Well Screen	SCH 40, 4" PVC	4.6
Bottom of Well Screen	.010 SLOT	20.0
Top of Peltonite Seal	3/8" Bentonite	0.0
Bottom of Peltonite Seal	Hole Plug	2.6
Top of Gravel Pack	10-20 Silica Sand	2.6
Bottom of Gravel Pack		20.0
Top of Natural Cave-In		20.0
Bottom of Natural Cave-In		21.0
Top of Groundwater		9.7
Total Depth of Borehole		21



Top of Protective Casing +3.1
Top of Riser +3.0
Ground Surface 0.0

Top of Seal 0.0

Top of Gravel Pack 2.6

Top of Screen 4.6

Bottom of Screen 20.0
Bottom of Borehole 21.0

Comments: 15 BAG SAND, 2.5 BAGS Hole Plug, WL = 8.45 BGS After Installation

Geologist Signature Scott T. Pope

PHILIP ENVIRONMENTAL Well Development and Purging Data

☑ Development ☐ Purging Well Number MW-09

Serial No. WDPD- Page 1 of 1

Project Name CHACO WELLS Project Manager S. POPE Project No. 18227

Client Company EPFS Phase.Task No. 6001.77

Site Name CHACO Site Address

Development Criteria

- ☑ 3 to 5 Casing Volumes of Water Removal
- ☐ 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) 21.57

Initial Depth to Water (feet) 11.38

Height of Water Column in Well (feet) 10.19

Diameter (inches): Well 4" Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing			6.65
Gravel Pack			
Drilling Fluids			
Total			33.3

Instruments

	Serial No. (If applicable)
☑ pH Meter	OYSTER
☑ ~~DO~~ T Monitor	
☑ Conductivity Meter	OYSTER
☑ Temperature Meter	OYSTER
☐ Other	

Water Disposal

IN CONTACT WATER POND

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons): Increment	Water Volume Removed (gallons): Cumulative	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature (°C)	pH	Conductivity (umhos/cm)	Dissolved Oxygen (mg/L)	Comments
7/25/97	12:22		X				5/5	5			23.5	6.94	1310		BROWN
	12:40		X				10/5	10			19.2	6.95	1320		BROWN
	12:53		X				15/5	15			19.7	6.98	1320		BROWN
	1305		X				20/5	20			21.5	6.99	1330		BROWN
	1331		X				25/5	25			19.6	6.98	1330		LIGHT BROWN
	1346		X				30/5	30			19.6	7.11	1350		LIGHT BRN
7/25/97	1403		X				35/5	35			20.7	7.10	1330		LIGHT GRAY

Circle the date and time that the development criteria are met.

Comments

Developer's Signature(s) Steve T. Pope / Kelly Padilla Date 7/25/97 Reviewer STP Date 8/19/97

Form A0101 Rev. 03/21/94

RECORD OF SUBSURFACE EXPLORATION

Borehole # MW-10
Well # MW-10
Page of

Philip Environmental Services Corp.
4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Project Name Chaco Well Installation
Project Number 18227 Phase 6001
Project Location

Elevation
Borehole Location MW-10
GWL Depth 9.2
Logged By S. Pope
Drilled By K Padilla
Date/Time Started 7/24/97 0900
Date/Time Completed 7/24/97 1000

Well Logged By S. Pope
Personnel On-Site D. Charlie
Contractors On-Site —
Client Personnel On-Site —

Drilling Method HSA 6 1/4 ID
Air Monitoring Method PID

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: NDU BZ	BH	S	Drilling Conditions & Blow Counts
0					CL					
5	1	5 7	24	BROWN SILTY SAND TRACE CLAY FINE SAND LOOSE Moist Grading to a (8TP6") SANDY CLAY Med. Stiff.	ML	5.0	0	0	0	
10	2	10 11	24	BROWN TO GRAY SAND TRACE SILT AND CLAY, Grading From FINE Coarse Grained SAND, LOOSE, SATURATED No additional SAMPLE collected Below WATER.	SW	10	0	0	0	WL = @ 9.2 WILL DRILL TO 20 Feet and SET WELL.
15										
20				TOB 20						
25										
30										
35										
40										

Comments: WILL DRILL TO 20. and SET WELL @ 19.5.

Geologist Signature Scott T. Pope

MONITORING WELL INSTALLATION RECORD

Philip Environmental Services Corp.
4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Borehole # MW-10
Well # MW-10
Page ____ of ____

Project Name Chaco PLANT MW's
Project Number 18227 Phase 6001.77
Project Location Chaco PLANT

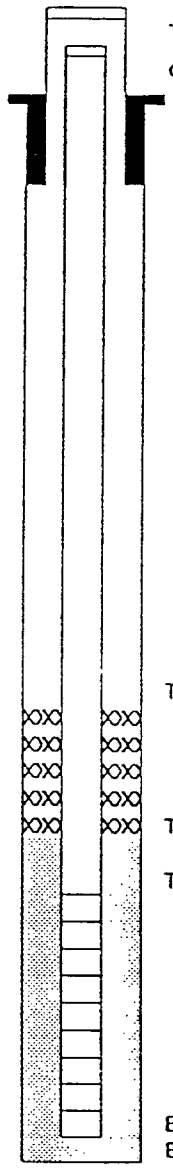
Elevation ____
Well Location EAST SIDE OF WATER POND
GWL Depth 9.2 BGS
Installed By K. PADILLA

Date/Time Started 1000 7/24/97
Date/Time Completed 1130 7/24/97

On-Site Geologist S. Pope
Personnel On-Site D. Chavlie
Contractors On-Site —
Client Personnel On-Site —

Depths in Reference to Ground Surface

Item	Material	Depth
Top of Protective Casing	Square 6" Steel	3.1
Bottom of Protective Casing		2.9
Top of Permanent Borehole Casing	N/A	—
Bottom of Permanent Borehole Casing		—
Top of Concrete		+.3
Bottom of Concrete		0
Top of Grout	N/A	—
Bottom of Grout	N/A	—
Top of Well Riser	Sch 40, 4 inch	+3.0
Bottom of Well Riser	PVC	4.0
Top of Well Screen	Sch 40, 4 inch	4.0
Bottom of Well Screen	PVC, .010 Slot	19.4
Top of Peltonite Seal	3/8 Bentonite	0
Bottom of Peltonite Seal	Hole Plug	2.0
Top of Gravel Pack	10-20 Silica	2.0
Bottom of Gravel Pack		19.4
Top of Natural Cave-In		19.4
Bottom of Natural Cave-In		20.0
Top of Groundwater		9.2
Total Depth of Borehole		20.0



Top of Protective Casing 3.1
Top of Riser 3.0
Ground Surface 0
Top of Seal 0
Top of Gravel Pack 2.0
Top of Screen 4.0
Bottom of Screen 19.4
Bottom of Borehole 20.0

Comments: 13 BAGS SAND, 1.5 BAG Hole Plug. WATER LEVEL 8.4 BGS After INSTALLATION.

Geologist Signature S. T. Pope

PHILIP ENVIRONMENTAL Well Development and Purging Data

☑ Development ☐ Purging Well Number MW-10

Serial No. WDPD- Page ____ of ____

Project Name CHACO MW'S Project Manager S. POPE Project No. 18227

Client Company EPFS Phase.Task No. 6001.77

Site Name CHACO PLANT Site Address BLOOMFIELD NM

Development Criteria

- ☑ 3 to 5 Casing Volumes of Water Removal
- ☐ 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) 22.31

Initial Depth to Water (feet) 11.5

Height of Water Column in Well (feet) 10.51

Diameter (inches): Well 4" Gravel Pack ____

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing		7.5	7.5
Gravel Pack			
Drilling Fluids			
Total			7.5 (5) 37.5

Instruments

	Serial No. (If applicable)
☐ pH Meter	
☐ DO Monitor	
☐ Conductivity Meter	
☐ Temperature Meter	
☐ Other ____	

Water Disposal

IN CONTACT WATER POND

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons): Increment	Water Volume Removed (gallons): Cumulative	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature (°C)	pH	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Comments
7/25/97	1225							28			25.2	7.16	2870		SILTY BROWN
7/25/97	1930							60							MOSTLY CLEAR

Circle the date and time that the development criteria are met.

Comments 11.22 prod 11.40 WL NOTED .09' FREE PHASE IN BAILER AND MEASURE .18 W/ OIL/WATER PROBE NO WATER QUALITY TAKEN DUE TO FREE PHASE HYDROCARBONS IN WELL

Developer's Signature(s) [signature] Date 7/25/97 Reviewer STP Date 8/19/97

Form A0101 Rev. 03/21/94

EPFS Chain of Custody

El Paso Natural Gas Company

A 2038

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Type and No. of Sample Containers	Preservation Technique	Requested Analysis: 8 RCRA Metals	Requested Analysis: General Chem + Nitrate	Requested Analysis: BTEX	Remarks
	Chaco Plant Monitor Wells						

Samplers: (Signature) Dennis Bird Date: 7-28-97

Date	Time	Comp.	GRAB	Sample Number								
7/25/97	1457		G	970716	2 VOA 3P	4°C HCl, HNO3	X	X	X		Monitor Well #9 (mw-9)	
7/25/97	1559		G	970717	2 VOA 3P	4°C HCl, HNO3	X	X	X		Monitor Well #10 (mw-10)	

Cool + Intact

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	7-28-97 0710				
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 Kelly	7/28/97 0710		

Carrier Co:

Air Bill No.:

Carrier Phone No.

Date Results Reported / by: (Signature)

san juan repro Form 71-55 A

BTEX By EPA Method 8020

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970716
MTR CODE | SITE NAME:	N/A	Chaco Plant MW #9
SAMPLE DATE | TIME (Hrs):	7/25/97	1457
PROJECT:	Chaco Plant Monitor Wells	
DATE OF BTEX EXT. | ANAL.:	7/29/97	7/29/97
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	<1	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	<1	PPB				
TOTAL XYLENES	<3	PPB				
TOTAL BTEX	<6	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 83.2 for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Gambles Date: 8/7/97

970716.XLS,8/6/97

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970717
MTR CODE | SITE NAME:	N/A	Chaco Plant MW #10
SAMPLE DATE | TIME (Hrs):	7/25/97	1559
PROJECT:	Chaco Plant Monitor Wells	
DATE OF BTEX EXT. | ANAL.:	7/30/97	7/30/97
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	785	PPB	10	D		
TOLUENE	1600	PPB	10	D		
ETHYL BENZENE	60.7	PPB	10	D		
TOTAL XYLENES	428	PPB	10	D		
TOTAL BTEX	2870	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 77.8 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:

Approved By: John Fowler Date: 8/7/97

970717.XLS,8/6/97

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX

Samples: 970716 & 970726
970717

QA/QC for 7/29/97 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	46.2	92.4	75 - 125 %	X	
Toluene	Standard	50.0	50.3	101	75 - 125 %	X	
Ethylbenzene	Standard	50.0	50.6	101	75 - 125 %	X	
m & p - Xylene	Standard	100	99.9	99.9	75 - 125 %	X	
o - Xylene	Standard	50.0	51.0	102	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	24.8	99.2	39 - 150	X	
Toluene	Standard	25.0	25.9	104	46 - 148	X	
Ethylbenzene	Standard	25.0	26.0	104	32 - 160	X	
m & p - Xylene	Standard	50.0	51.3	103	Not Given	X	
o - Xylene	Standard	25.0	26.3	105	Not Given	X	

SAMPLE NUMBER CCV LA-52589 50 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	Standard	50.0	40.8	81.6	75 - 125 %	X	
Toluene	Standard	50.0	49.8	99.6	75 - 125 %	X	
Ethylenzene	Standard	50.0	49.8	99.6	75 - 125 %	X	
m & p - Xylene	Standard	100	97.5	97.5	75 - 125 %	X	
o - Xylene	Standard	50.0	50.2	100	75 - 125 %	X	

SAMPLE NUMBER CCV LA-52589 50 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	Standard	50.0		0.0	75 - 125 %		
Toluene	Standard	50.0		0.0	75 - 125 %		
Ethylbenzene	Standard	50.0		0.0	75 - 125 %		
m & p - Xylene	Standard	100		0.0	75 - 125 %		
o - Xylene	Standard	50.0		0.0	75 - 125 %		

Narrative: Acceptable.

EL PASO FIELD SERVICES LAB
QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX
Samples: 970716 & 970726

LABORATORY DUPLICATES:

SAMPLE ID 970716	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE RANGE	YES	NO
Benzene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X	
Toluene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X	
Ethylbenzene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X	
m & p - Xylene	Matrix Duplicate	<2	<2	0.00	+/- 20 %	X	
o - Xylene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X	

Narrative: Acceptable.

LABORATORY SPIKES:

SAMPLE ID 2nd Analysis 970716	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	50	<1	44.3	88.6	75 - 125 %	X	
Toluene	50	<1	50.6	101	75 - 125 %	X	
Ethylbenzene	50	<1	50.7	101	75 - 125 %	X	
m & p - Xylene	100	<2	99.6	99.6	75 - 125 %	X	
o - Xylene	50	<1	51.1	102	75 - 125 %	X	

Narrative: Acceptable

ADDITIONAL ANALYTICAL BLANKS:

AUTO BLANK	SOURCE	PPB	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 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.

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.

Reported By: _____ Approved By: _____ Date: 8/8/97

General Chemistry by Standard Methods

EL PASO FIELD SERVICES

Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	970716
DATE SAMPLED:	07/25/97
TIME SAMPLED (Hrs):	1457
SAMPLED BY:	N/A
MATRIX:	Water
METER CODE:	N/A
SAMPLE SITE NAME:	Chaco Plant Monitor Wells
SAMPLE POINT:	MW-9

FIELD REMARKS: _____

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	8.3	Units	07/28/97
Alkalinity as $C0_3$	5.6	PPM	07/28/97
Alkalinity as $HC0_3$	495	PPM	07/28/97
Calcium as Ca	66	PPM	07/28/97
Magnesium as Mg	19	PPM	07/28/97
Total Hardness as $CaC0_3$	242	PPM	07/28/97
Chloride as Cl	75	PPM	07/28/97
Sulfate as $S0_4$	341	PPM	07/28/97
Fluoride as F	1.7	PPM	07/28/97
Nitrate as $N0_3$-N	<0.1	PPM	07/28/97
Nitrite as $N0_2$-N	<0.1	PPM	07/28/97
Ammonium as NH_4^+	<0.1	PPM	07/28/97
Phosphate as PO_4	<0.1	PPM	07/28/97
Potassium as K	4.0	PPM	07/28/97
Sodium as Na	274	PPM	07/28/97
Total Dissolved Solids	1,060	PPM	07/28/97
Conductivity	1,610	umhos/cm	07/28/97
Anion/Cation %	2.2%	%, <5.0 Accepted	08/06/97

Lab Remarks:
Nitrate and Nitrite were analyzed out of holding times.

Reported By: _____ Approved By: _____ Date: 8/7/97

EL PASO FIELD SERVICES

Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	970717
DATE SAMPLED:	07/25/97
TIME SAMPLED (Hrs):	1559
SAMPLED BY:	N/A
MATRIX:	Water
METER CODE:	N/A
SAMPLE SITE NAME:	Chaco Plant Monitor Wells
SAMPLE POINT:	MW-10

FIELD REMARKS:

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	7.3	Units	07/28/97
Alkalinity as $C0_3$	0.0	PPM	07/28/97
Alkalinity as $HC0_3$	1250	PPM	07/28/97
Calcium as Ca	78	PPM	07/28/97
Magnesium as Mg	28	PPM	07/28/97
Total Hardness as $CaC0_3$	310	PPM	07/28/97
Chloride as Cl	426	PPM	07/28/97
Sulfate as $S0_4$	206	PPM	07/28/97
Fluoride as F	1.4	PPM	07/28/97
Nitrate as $N0_3$-N	<0.1	PPM	07/28/97
Nitrite as $N0_2$-N	<0.1	PPM	07/28/97
Ammonium as NH_4^+	<0.1	PPM	07/28/97
Phosphate as PO_4	1.3	PPM	07/28/97
Potassium as K	7.4	PPM	07/28/97
Sodium as Na	708	PPM	07/28/97
Total Dissolved Solids	2,150	PPM	07/28/97
Conductivity	3,340	umhos/cm	07/28/97
Anion/Cation %	0.4%	%, <5.0 Accepted	08/06/97

Lab Remarks:
Nitrate and Nitrite were analyzed out of holding times.

Reported By: _____ Approved By: _____ Date: 8/7/97

RCRA Metals

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	970716
SAMPLE DATE:	07/25/97
SAMPLE TIME (Hrs):	1457
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	NA
SAMPLE SITE NAME:	Chaco Plant Monitor Wells
SAMPLE POINT:	Monitor Well #9

REMARKS: _____

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
ARSENIC	0.036	0.100
BARIUM	0.14	1.00
CADMIUM	0.0003	0.010
CHROMIUM	<0.004	0.050
LEAD	0.004	0.050
MERCURY	<0.0002	0.002
SELENIUM	<0.011	0.050
SILVER	<0.0004	0.050

References:

Method 3015, Microwave Assisted Acid Digestion of Aqueous Samples and Extracts, Test Methods for Evaluating Solid Waste, SW-846, Sept., 1994.

Method 7061A, Arsenic (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.

Method 7081, Barium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.

Method 7131, Cadmium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 7191, Chromium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 7421, Lead (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 245.5, Mercury (Automated Cold Vapor Technique), Methods for the Determination of Metals in Environmental Samples, EPA 600/4-91/010, USEPA, June, 1991.

Method 7741A, Selenium (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1994.

Method 7761, Silver (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.

Reported By: mh Approved By: John Saenz Date: 8/29/97

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	970717
SAMPLE DATE:	07/25/97
SAMPLE TIME (Hrs):	1559
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	NA
SAMPLE SITE NAME:	Chaco Plant Monitor Wells
SAMPLE POINT:	Monitor Well #10

REMARKS: _____

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
ARSENIC	0.023	0.100
BARIUM	0.19	1.00
CADMIUM	<0.0002	0.010
CHROMIUM	<0.004	0.050
LEAD	<0.003	0.050
MERCURY	<0.0002	0.002
SELENIUM	<0.011	0.050
SILVER	<0.0004	0.050

References:

Method 3015, Microwave Assisted Acid Digestion of Aqueous Samples and Extracts, Test Methods for Evaluating Solid Waste, SW-846, Sept., 1994.

Method 7061A, Arsenic (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.

Method 7081, Barium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.

Method 7131, Cadmium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 7191, Chromium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 7421, Lead (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 245.5, Mercury (Automated Cold Vapor Technique), Methods for the Determination of Metals in Environmental Samples, EPA 600/4-91/010, USEPA, June, 1991.

Method 7741A, Selenium (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1994.

Method 7761, Silver (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.

Reported By: mh Approved By: John Faubion Date: 8/29/97

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT

Sample ID: 970716, 970717
Date Reported: 08/28/97

STANDARD REFERENCE MATERIAL

Analyte	Found Result (mg/L)	Known Value (mg/L)	% Recovery
Arsenic	0.031	0.032	94.4%
Barium	0.061	0.065	94.6%
Cadmium	0.0012	0.0012	103%
Chromium	0.008	0.007	103%
Lead	0.044	0.042	105%
Mercury	0.0041	0.0046	89.3%
Selenium	0.040	0.041	98.8%
Silver	0.0066	0.0068	97.6%

DUPLICATE ANALYSIS (mg/L)

Analyte	Original Sample Result	Duplicate Sample Result	% RPD
Arsenic	0.0078	0.0077	1.3%
Barium	0.222	0.216	2.7%
Cadmium	ND	ND	NA
Chromium	0.014	0.014	2.6%
Lead	ND	ND	NA
Mercury	ND	ND	NA
Selenium	ND	ND	NA
Silver	0.0004	0.0002	NA

SPIKE ANALYSIS (mg/L)

Analyte	Original Sample Result	Spike Sample Result	Spike Added	Recovery Percent
Arsenic	0.0078	0.118	0.100	110%
Barium	0.222	1.247	1.00	94.2%
Cadmium	ND	0.0101	0.010	101%
Chromium	0.014	0.064	0.050	101%
Lead	ND	0.053	0.050	102%
Mercury	ND	0.0018	0.0020	89.0%
Selenium	ND	0.060	0.050	117%
Silver	ND	0.0550	0.050	110%

METHOD BLANK

Analyte	Found Result (mg/L)	Detection Level (mg/L)
Arsenic	ND	0.004
Barium	ND	0.019
Cadmium	ND	0.0002
Chromium	ND	0.004
Lead	ND	0.003
Mercury	ND	0.0002
Selenium	ND	0.011
Silver	ND	0.0004

ND: Not Detected at stated detection level. NA: Not Applicable.

Reported By: mh Approved By: John Saabedra Date: 8/29/97

Contract Lab VOC's and PAH's

AEN I.D. 707381

August 15, 1997

EL PASO FIELD SERVICES
P.O. BOX 4990
FARMINGTON, NM 87499

Project Name CHACO PLANT MW'S #9 + #10
Project Number (none)
(New installation)

Attention: JOHN LAMBDIN

On 7/29/97 American Environmental Network (NM), Inc. (ADHS License No. AZ0015), 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.

The trip blank (707381-03) was run immediately after sample 707381-02. We believe that the analytes found in the trip blank are carry-over. This was confirmed by analyzing a refrigerator blank labeled 707381-04) prepared with the trip blank, but stored at AEN(NM). The refrigerator blank was clean and the contaminants are the result of carryover.

EPA method 504.1 and 8240 was performed by American Environmental Network (NM) Inc., Albuquerque, NM.

EPA method 8310 was performed by American Environmental Network (FL) Inc., 11 East Olive Road, Pensacola, FL.

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: mt

Enclosure

2709-D Pan American Freeway, NE • Albuquerque, NM 87107 • (505) 344-3777 • Fax (602) 344-4413

American Environmental Network, Inc.

CLIENT	: EL PASO FIELD SERVICES	AEN I.D.	: 707381
PROJECT #	: (none)	DATE RECEIVED	: 7/29/97
PROJECT NAME	: CHACO PLANT MW'S	REPORT DATE	: 8/15/97

AEN ID. #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	970716	AQ	7/25/97
02	970717	AQ	7/25/97
03	TRIP BLANK	AQ	7/24/97

970716 = MW #9 collected 7/25/97 @ 1457

970717 = MW #10 collected 7/25/97 @ 1559

American Environmental Network, Inc.

GAS CHROMOTOGRAPHY RESULTS

TEST : ETHYLENE DIBROMIDE-DBCP (EPA 504.1)
CLIENT : EL PASO FIELD SERVICES AEN I.D.: 707381
PROJECT # : (none)
PROJECT NAME : CHACO PLANT MW'S

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	970716 - MW #9	AQUEOUS	7/25/97	7/30/97	7/30/97	1
02	970717 - MW #10	AQUEOUS	7/25/97	7/30/97	7/30/97	1

PARAMETER	DET. LIMIT	UNITS	01	02
ETHYLENE DIBROMIDE	0.01	UG/L	< 0.01	< 0.01
1,2-DIBROMO-3-CHLOROPROPANE	0.01	UG/L	< 0.01	< 0.01
SURROGATE:				
1,4-DICHLOROBENZENE			91	87
SURROGATE LIMITS	(75 - 141)			

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS
REAGENT BLANK

TEST	: ETHYLENE DIBROMIDE-DBCP (EPA 504.1)		
BLANK I.D.	: 073097	AEN I.D.	: 707381
CLIENT	: EL PASO FIELD SERVICES	MATRIX	: AQUEOUS
PROJECT #	: (none)	DATE EXTRACTED	: 7/30/97
PROJECT NAME	: CHACO PLANT MW'S	DATE ANALYZED	: 7/30/97

PARAMETER	DET. LIMIT	UNITS	
ETHYLENE DIBROMIDE	0.01	UG/L	<0.01
1,2-DIBROMO-3-CHLOROPROPANE	0.01	UG/L	<0.01
SURROGATE:			
1,4-DICHLOROBENZENE			101
SURROGATE LIMITS	(78 - 140)		

CHEMIST NOTES:
N/A

American Environmental Network, Inc.

GAS CHROMOTOGRAPHY RESULTS
QUALITY CONTROL
MSMSD

TEST	: ETHYLENE DIBROMIDE-DBCP (EPA 504.1)		
MSMSD #	: 073097	AEN I.D.	: 707381
CLIENT	: EL PASO FIELD SERVICES	DATE EXTRACTED	: 7/30/97
PROJECT #	: (none)	DATE ANALYZED	: 7/30/97
PROJECT NAME	: CHACO PLANT MW'S	MATRIX	: AQUEOUS
		UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC. SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	% RPD
ETHYLENE DIBROMIDE	<0.01	0.25	0.23	92%	0.23	92%	0%
1,2-DIBROMO-3-CHLOROPROPANE	<0.01	0.25	0.24	96%	0.24	96%	0%

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, Inc.

Monitor Well # 9

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8260 EXTENDED		
CLIENT	: EL PASO FIELD SERVICES	AEN I.D. :	707381
PROJECT #	: (none)	DATE RECEIVED :	7/29/97
PROJECT NAME	: CHACO PLANT MW'S		

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
707381-01	970716	AQUEOUS	7/25/97	N/A	07/31/97	1

PARAMETER	DET. LIMIT		UNITS
Dichlorodifluoromethane	1.0	< 1.0	ug/L
Chloromethane	1.0	< 1.0	ug/L
Vinyl Chloride	1.0	< 1.0	ug/L
Bromomethane	1.0	< 1.0	ug/L
Chloroethane	1.0	< 1.0	ug/L
Trichlorofluoromethane	1.0	< 1.0	ug/L
Acetone	10	< 10	ug/L
Acrolein	5.0	< 5.0	ug/L
1,1-Dichloroethene	1.0	< 1.0	ug/L
Iodomethane	1.0	< 1.0	ug/L
Methylene Chloride	1.0	< 1.0	ug/L
Acrylonitrile	5.0	< 5.0	ug/L
cis-1,2-Dichloroethene	1.0	< 1.0	ug/L
Methyl-t-butyl Ether	1.0	< 1.0	ug/L
1,1,2,1,2,2-Trichlorotrifluoroethane	1.0	< 1.0	ug/L
1,1-Dichloroethane	1.0	< 1.0	ug/L
trans-1,2-Dichloroethene	1.0	< 1.0	ug/L
2-Butanone	10	< 10	ug/L
Carbon Disulfide	1.0	< 1.0	ug/L
Bromochloromethane	1.0	< 1.0	ug/L
Chloroform	1.0	< 1.0	ug/L
2,2-Dichloropropane	1.0	< 1.0	ug/L
1,2-Dichloroethane	1.0	< 1.0	ug/L
Vinyl Acetate	1.0	< 1.0	ug/L
1,1,1-Trichloroethane	1.0	< 1.0	ug/L
1,1-Dichloropropene	1.0	< 1.0	ug/L
Carbon Tetrachloride	1.0	< 1.0	ug/L
Benzene	1.0	< 1.0	ug/L
1,2-Dichloropropane	1.0	< 1.0	ug/L
Trichloroethene	1.0	< 1.0	ug/L
Bromodichloromethane	1.0	< 1.0	ug/L
2-Chloroethyl Vinyl Ether	10	< 10	ug/L
cis-1,3-Dichloropropene	1.0	< 1.0	ug/L
trans-1,3-Dichloropropene	1.0	< 1.0	ug/L
1,1,2-Trichloroethane	1.0	< 1.0	ug/L
1,3-Dichloropropane	1.0	< 1.0	ug/L
Dibromomethane	1.0	< 1.0	ug/L
Toluene	1.0	< 1.0	ug/L
1,2-Dibromoethane	1.0	< 1.0	ug/L
4-Methyl-2-Pentanone	10	< 10	ug/L
2-Hexanone	10	< 10	ug/L
Dibromochloromethane	1.0	< 1.0	ug/L
Tetrachloroethene	1.0	< 1.0	ug/L

American Environmental Network, Inc.

Monitor well #9

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8260 EXTENDED		
CLIENT	: EL PASO FIELD SERVICES	AEN I.D. :	707381
PROJECT #	: (none)	DATE RECEIVED :	7/29/97
PROJECT NAME	: CHACO PLANT MW'S		

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
707381-01	970716	AQUEOUS	7/25/97	N/A	07/31/97	1

PARAMETER	DET. LIMIT		UNITS
Chlorobenzene	1.0	< 1.0	ug/L
Ethylbenzene	1.0	< 1.0	ug/L
1,1,1,2-Tetrachloroethane	1.0	< 1.0	ug/L
o-Xylene	1.0	< 1.0	ug/L
m&p Xylenes	1.0	< 1.0	ug/L
Styrene	1.0	< 1.0	ug/L
Bromoform	1.0	< 1.0	ug/L
1,1,2,2-Tetrachloroethane	1.0	< 1.0	ug/L
1,2,3-Trichloropropane	1.0	< 1.0	ug/L
Isopropyl Benzene	1.0	< 1.0	ug/L
Bromobenzene	1.0	< 1.0	ug/L
trans-1,4-Dichloro-2-Butene	1.0	< 1.0	ug/L
n-Propylbenzene	1.0	< 1.0	ug/L
2-Chlorotoluene	1.0	< 1.0	ug/L
4-Chlorotoluene	1.0	< 1.0	ug/L
1,3,5-Trimethylbenzene	1.0	< 1.0	ug/L
tert-Butylbenzene	1.0	< 1.0	ug/L
1,2,4-Trimethylbenzene	1.0	< 1.0	ug/L
sec-Butylbenzene	1.0	< 1.0	ug/L
1,3-Dichlorobenzene	1.0	< 1.0	ug/L
1,4-Dichlorobenzene	1.0	< 1.0	ug/L
p-Isopropyltoluene	1.0	< 1.0	ug/L
1,2-Dichlorobenzene	1.0	< 1.0	ug/L
n-Butylbenzene	1.0	< 1.0	ug/L
1,2-Dibromomo-3-chloropropane	1.0	< 1.0	ug/L
1,2,4-Trichlorobenzene	1.0	< 1.0	ug/L
Napthalene	1.0	< 1.0	ug/L
Hexachlorobutadiene	1.0	< 1.0	ug/L
1,2,3-Trichlorobenzene	1.0	< 1.0	ug/L

SURROGATE % RECOVERY	
1,2-Dichloroethane-d4	81
	(80 - 120)
Toluene-d8	93
	(88 - 110)
Bromofluorobenzene	99
	(86 - 115)

No Hit!

8/29/97

American Environmental Network, Inc.

Monitor Well #10

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8260 EXTENDED		
CLIENT	: EL PASO FIELD SERVICES	AEN I.D. :	707381
PROJECT #	: (none)	DATE RECEIVED :	7/29/97
PROJECT NAME	: CHACO PLANT MW'S		

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
707381-02	970717	AQUEOUS	7/25/97	N/A	07/31/97	1

PARAMETER	DET. LIMIT		UNITS	
Dichlorodifluoromethane	1.0	< 1.0	ug/L	
Chloromethane	1.0	< 1.0	ug/L	
Vinyl Chloride	1.0	< 1.0	ug/L	
Bromomethane	1.0	< 1.0	ug/L	
Chloroethane	1.0	< 1.0	ug/L	
Trichlorofluoromethane	1.0	< 1.0	ug/L	
Acetone	10	< 10	ug/L	
Acrolein	5.0	< 5.0	ug/L	
1,1-Dichloroethene	1.0	< 1.0	ug/L	
Iodomethane	1.0	< 1.0	ug/L	
Methylene Chloride	1.0	< 1.0	ug/L	
Acrylonitrile	5.0	< 5.0	ug/L	
cis-1,2-Dichloroethene	1.0	< 1.0	ug/L	
Methyl-t-butyl Ether	1.0	< 1.0	ug/L	
1,1,2,1,2,2-Trichlorotrifluoroethane	1.0	< 1.0	ug/L	
1,1-Dichloroethane	1.0	< 1.0	ug/L	
trans-1,2-Dichloroethene	1.0	< 1.0	ug/L	
2-Butanone	10	< 10	ug/L	
Carbon Disulfide	1.0	< 1.0	ug/L	
Bromochloromethane	1.0	< 1.0	ug/L	
Chloroform	1.0	< 1.0	ug/L	
2,2-Dichloropropane	1.0	< 1.0	ug/L	
1,2-Dichloroethane	1.0	< 1.0	ug/L	
Vinyl Acetate	1.0	< 1.0	ug/L	
1,1,1-Trichloroethane	1.0	< 1.0	ug/L	
1,1-Dichloropropene	1.0	< 1.0	ug/L	
Carbon Tetrachloride	1.0	< 1.0	ug/L	
Benzene	1.0	**530 (D50)**	**ug/L**	WQCC Limit = 10 ug/L - OVER
1,2-Dichloropropane	1.0	< 1.0	ug/L	
Trichloroethene	1.0	< 1.0	ug/L	
Bromodichloromethane	1.0	< 1.0	ug/L	
2-Chloroethyl Vinyl Ether	10	< 10	ug/L	
cis-1,3-Dichloropropene	1.0	< 1.0	ug/L	
trans-1,3-Dichloropropene	1.0	< 1.0	ug/L	
1,1,2-Trichloroethane	1.0	< 1.0	ug/L	
1,3-Dichloropropane	1.0	< 1.0	ug/L	
Dibromomethane	1.0	< 1.0	ug/L	
Toluene	1.0	**790 (D50)**	**ug/L**	WQCC Limit = 750ug/L - OVER
1,2-Dibromoethane	1.0	< 1.0	ug/L	
4-Methyl-2-Pentanone	10	< 10	ug/L	
2-Hexanone	10	**14**	**ug/L**	NO WQCC Limit
Dibromochloromethane	1.0	< 1.0	ug/L	
Tetrachloroethene	1.0	< 1.0	ug/L	

8/29/97

American Environmental Network, Inc.

Monitor Well #10

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8260 EXTENDED		
CLIENT	: EL PASO FIELD SERVICES	AEN I.D. :	707381
PROJECT #	: (none)	DATE RECEIVED :	7/29/97
PROJECT NAME	: CHACO PLANT MW'S		

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
707381-02	970717	AQUEOUS	7/25/97	N/A	07/31/97	1

PARAMETER	DET. LIMIT		UNITS	
Chlorobenzene	1.0	< 1.0	ug/L	
Ethylbenzene	1.0	**42**	**ug/L**	WQCC LIMIT = 750 µg/L - UNDER
1,1,1,2-Tetrachloroethane	1.0	< 1.0	ug/L	
o-Xylene	1.0	**57**	**ug/L**	
m&p Xylenes	1.0	**230**	**ug/L**	> WQCC Limit Total Xylenes = 620 µg/L - UNDER
Styrene	1.0	< 1.0	ug/L	
Bromoform	1.0	< 1.0	ug/L	
1,1,2,2-Tetrachloroethane	1.0	< 1.0	ug/L	
1,2,3-Trichloropropane	1.0	< 1.0	ug/L	
Isopropyl Benzene	1.0	**2.8**	**ug/L**	NO WQCC Limit
Bromobenzene	1.0	< 1.0	ug/L	
trans-1,4-Dichloro-2-Butene	1.0	< 1.0	ug/L	
n-Propylbenzene	1.0	**2.7**	**ug/L**	NO WQCC Limit
2-Chlorotoluene	1.0	< 1.0	ug/L	
4-Chlorotoluene	1.0	< 1.0	ug/L	
1,3,5-Trimethylbenzene	1.0	**9.7**	**ug/L**	NO WQCC Limit
tert-Butylbenzene	1.0	< 1.0	ug/L	
1,2,4-Trimethylbenzene	1.0	**24**	**ug/L**	NO WQCC Limit
sec-Butylbenzene	1.0	< 1.0	ug/L	
1,3-Dichlorobenzene	1.0	< 1.0	ug/L	
1,4-Dichlorobenzene	1.0	< 1.0	ug/L	
p-Isopropyltoluene	1.0	< 1.0	ug/L	
1,2-Dichlorobenzene	1.0	< 1.0	ug/L	
n-Butylbenzene	1.0	**1.5**	**ug/L**	NO WQCC Limit
1,2-Dibromomo-3-chloropropane	1.0	< 1.0	ug/L	
1,2,4-Trichlorobenzene	1.0	< 1.0	ug/L	
Napthalene	1.0	**77**	**ug/L**	WQCC Limit = 30 µg/L - OVER
Hexachlorobutadiene	1.0	< 1.0	ug/L	
1,2,3-Trichlorobenzene	1.0	< 1.0	ug/L	

(D50) = 50X DILUTION, ANALYZED ON 8/1/97

SURROGATE % RECOVERY		
1,2-Dichloroethane-d4	107	(80 - 120)
Toluene-d8	91	(88 - 110)
Bromofluorobenzene	99	(86 - 115)

8/28/97

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8260 EXTENDED		
CLIENT	: EL PASO FIELD SERVICES	AEN I.D. :	707381
PROJECT #	: (none)	DATE RECEIVED :	7/29/97
PROJECT NAME	: CHACO PLANT MW'S		

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
707381-03	TRIP BLANK	AQUEOUS	7/25/97	N/A	07/31/97	1

PARAMETER	DET. LIMIT		UNITS
Dichlorodifluoromethane	1.0	< 1.0	ug/L
Chloromethane	1.0	< 1.0	ug/L
Vinyl Chloride	1.0	< 1.0	ug/L
Bromomethane	1.0	< 1.0	ug/L
Chloroethane	1.0	< 1.0	ug/L
Trichlorofluoromethane	1.0	< 1.0	ug/L
Acetone	10	< 10	ug/L
Acrolein	5.0	< 5.0	ug/L
1,1-Dichloroethene	1.0	< 1.0	ug/L
Iodomethane	1.0	< 1.0	ug/L
Methylene Chloride	1.0	< 1.0	ug/L
Acrylonitrile	5.0	< 5.0	ug/L
cis-1,2-Dichloroethene	1.0	< 1.0	ug/L
Methyl-t-butyl Ether	1.0	< 1.0	ug/L
1,1,2,1,2,2-Trichlorotrifluoroethane	1.0	< 1.0	ug/L
1,1-Dichloroethane	1.0	< 1.0	ug/L
trans-1,2-Dichloroethene	1.0	< 1.0	ug/L
2-Butanone	10	< 10	ug/L
Carbon Disulfide	1.0	< 1.0	ug/L
Bromochloromethane	1.0	< 1.0	ug/L
Chloroform	1.0	< 1.0	ug/L
2,2-Dichloropropane	1.0	< 1.0	ug/L
1,2-Dichloroethane	1.0	< 1.0	ug/L
Vinyl Acetate	1.0	< 1.0	ug/L
1,1,1-Trichloroethane	1.0	< 1.0	ug/L
1,1-Dichloropropene	1.0	< 1.0	ug/L
Carbon Tetrachloride	1.0	< 1.0	ug/L
Benzene	1.0	**2.3**	**ug/L**
1,2-Dichloropropane	1.0	< 1.0	ug/L
Trichloroethene	1.0	< 1.0	ug/L
Bromodichloromethane	1.0	< 1.0	ug/L
2-Chloroethyl Vinyl Ether	10	< 10	ug/L
cis-1,3-Dichloropropene	1.0	< 1.0	ug/L
trans-1,3-Dichloropropene	1.0	< 1.0	ug/L
1,1,2-Trichloroethane	1.0	< 1.0	ug/L
1,3-Dichloropropane	1.0	< 1.0	ug/L
Dibromomethane	1.0	< 1.0	ug/L
Toluene	1.0	**6.2**	**ug/L**
1,2-Dibromoethane	1.0	< 1.0	ug/L
4-Methyl-2-Pentanone	10	< 10	ug/L
2-Hexanone	10	< 1.0	ug/L
Dibromochloromethane	1.0	< 1.0	ug/L
Tetrachloroethene	1.0	< 1.0	ug/L

NOTED.
J.F.
8/29/97

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8260 EXTENDED		
CLIENT	: EL PASO FIELD SERVICES	AEN I.D. :	707381
PROJECT #	: (none)	DATE RECEIVED :	7/29/97
PROJECT NAME	: CHACO PLANT MW'S		

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
707381-03	TRIP BLANK	AQUEOUS	7/25/97	N/A	07/31/97	1

PARAMETER	DET. LIMIT		UNITS
Chlorobenzene	1.0	< 1.0	ug/L
Ethylbenzene	1.0	< 1.0	ug/L
1,1,1,2-Tetrachloroethane	1.0	< 1.0	ug/L
o-Xylene	1.0	< 1.0	ug/L
m&p Xylenes	1.0	< 1.0	ug/L
Styrene	1.0	< 1.0	ug/L
Bromoform	1.0	< 1.0	ug/L
1,1,2,2-Tetrachloroethane	1.0	< 1.0	ug/L
1,2,3-Trichloropropane	1.0	< 1.0	ug/L
Isopropyl Benzene	1.0	< 1.0	ug/L
Bromobenzene	1.0	< 1.0	ug/L
trans-1,4-Dichloro-2-Butene	1.0	< 1.0	ug/L
n-Propylbenzene	1.0	< 1.0	ug/L
2-Chlorotoluene	1.0	< 1.0	ug/L
4-Chlorotoluene	1.0	< 1.0	ug/L
1,3,5-Trimethylbenzene	1.0	< 1.0	ug/L
tert-Butylbenzene	1.0	< 1.0	ug/L
1,2,4-Trimethylbenzene	1.0	< 1.0	ug/L
sec-Butylbenzene	1.0	< 1.0	ug/L
1,3-Dichlorobenzene	1.0	< 1.0	ug/L
1,4-Dichlorobenzene	1.0	< 1.0	ug/L
p-Isopropyltoluene	1.0	< 1.0	ug/L
1,2-Dichlorobenzene	1.0	< 1.0	ug/L
n-Butylbenzene	1.0	< 1.0	ug/L
1,2-Dibromomo-3-chloropropane	1.0	< 1.0	ug/L
1,2,4-Trichlorobenzene	1.0	< 1.0	ug/L
Napthalene	1.0	< 1.0	ug/L
Hexachlorobutadiene	1.0	< 1.0	ug/L
1,2,3-Trichlorobenzene	1.0	< 1.0	ug/L

SURROGATE % RECOVERY	
1,2-Dichloroethane-d4	87
	(80 - 120)
Toluene-d8	91
	(88 - 110)
Bromofluorobenzene	107
	(86 - 115)

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8260 EXTENDED		
CLIENT	: EL PASO FIELD SERVICES	AEN I.D. :	707381
PROJECT #	: (none)	DATE RECEIVED :	7/29/97
PROJECT NAME	: CHACO PLANT MW'S		

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
707381-04	REF. BLANK	AQUEOUS	7/25/97	N/A	08/01/97	1

PARAMETER	DET. LIMIT		UNITS
Dichlorodifluoromethane	1.0	< 1.0	ug/L
Chloromethane	1.0	< 1.0	ug/L
Vinyl Chloride	1.0	< 1.0	ug/L
Bromomethane	1.0	< 1.0	ug/L
Chloroethane	1.0	< 1.0	ug/L
Trichlorofluoromethane	1.0	< 1.0	ug/L
Acetone	10	< 10	ug/L
Acrolein	5.0	< 5.0	ug/L
1,1-Dichloroethene	1.0	< 1.0	ug/L
Iodomethane	1.0	< 1.0	ug/L
Methylene Chloride	1.0	< 1.0	ug/L
Acrylonitrile	5.0	< 5.0	ug/L
cis-1,2-Dichloroethene	1.0	< 1.0	ug/L
Methyl-t-butyl Ether	1.0	< 1.0	ug/L
1,1,2,1,2,2-Trichlorotrifluoroethane	1.0	< 1.0	ug/L
1,1-Dichloroethane	1.0	< 1.0	ug/L
trans-1,2-Dichloroethene	1.0	< 1.0	ug/L
2-Butanone	10	< 10	ug/L
Carbon Disulfide	1.0	< 1.0	ug/L
Bromochloromethane	1.0	< 1.0	ug/L
Chloroform	1.0	< 1.0	ug/L
2,2-Dichloropropane	1.0	< 1.0	ug/L
1,2-Dichloroethane	1.0	< 1.0	ug/L
Vinyl Acetate	1.0	< 1.0	ug/L
1,1,1-Trichloroethane	1.0	< 1.0	ug/L
1,1-Dichloropropene	1.0	< 1.0	ug/L
Carbon Tetrachloride	1.0	< 1.0	ug/L
Benzene	1.0	< 1.0	ug/L
1,2-Dichloropropane	1.0	< 1.0	ug/L
Trichloroethene	1.0	< 1.0	ug/L
Bromodichloromethane	1.0	< 1.0	ug/L
2-Chloroethyl Vinyl Ether	10	< 10	ug/L
cis-1,3-Dichloropropene	1.0	< 1.0	ug/L
trans-1,3-Dichloropropene	1.0	< 1.0	ug/L
1,1,2-Trichloroethane	1.0	< 1.0	ug/L
1,3-Dichloropropane	1.0	< 1.0	ug/L
Dibromomethane	1.0	< 1.0	ug/L
Toluene	1.0	< 1.0	ug/L
1,2-Dibromoethane	1.0	< 1.0	ug/L
4-Methyl-2-Pentanone	10	< 10	ug/L
2-Hexanone	10	< 1.0	ug/L
Dibromochloromethane	1.0	< 1.0	ug/L
Tetrachloroethene	1.0	< 1.0	ug/L

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8260 EXTENDED		
CLIENT	: EL PASO FIELD SERVICES	AEN I.D. :	707381
PROJECT #	: (none)	DATE RECEIVED :	7/29/97
PROJECT NAME	: CHACO PLANT MW'S		

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
707381-04	REF. BLANK	AQUEOUS	7/25/97	N/A	08/01/97	1

PARAMETER	DET. LIMIT		UNITS
Chlorobenzene	1.0	< 1.0	ug/L
Ethylbenzene	1.0	< 1.0	ug/L
1,1,1,2-Tetrachloroethane	1.0	< 1.0	ug/L
o-Xylene	1.0	< 1.0	ug/L
m&p Xylenes	1.0	< 1.0	ug/L
Styrene	1.0	< 1.0	ug/L
Bromoform	1.0	< 1.0	ug/L
1,1,2,2-Tetrachloroethane	1.0	< 1.0	ug/L
1,2,3-Trichloropropane	1.0	< 1.0	ug/L
Isopropyl Benzene	1.0	< 1.0	ug/L
Bromobenzene	1.0	< 1.0	ug/L
trans-1,4-Dichloro-2-Butene	1.0	< 1.0	ug/L
n-Propylbenzene	1.0	< 1.0	ug/L
2-Chlorotoluene	1.0	< 1.0	ug/L
4-Chlorotoluene	1.0	< 1.0	ug/L
1,3,5-Trimethylbenzene	1.0	< 1.0	ug/L
tert-Butylbenzene	1.0	< 1.0	ug/L
1,2,4-Trimethylbenzene	1.0	< 1.0	ug/L
sec-Butylbenzene	1.0	< 1.0	ug/L
1,3-Dichlorobenzene	1.0	< 1.0	ug/L
1,4-Dichlorobenzene	1.0	< 1.0	ug/L
p-Isopropyltoluene	1.0	< 1.0	ug/L
1,2-Dichlorobenzene	1.0	< 1.0	ug/L
n-Butylbenzene	1.0	< 1.0	ug/L
1,2-Dibromomo-3-chloropropane	1.0	< 1.0	ug/L
1,2,4-Trichlorobenzene	1.0	< 1.0	ug/L
Napthalene	1.0	< 1.0	ug/L
Hexachlorobutadiene	1.0	< 1.0	ug/L
1,2,3-Trichlorobenzene	1.0	< 1.0	ug/L

SURROGATE % RECOVERY	
1,2-Dichloroethane-d4	90
	(80 - 120)
Toluene-d8	88
	(88 - 110)
Bromofluorobenzene	106
	(86 - 115)

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8260 EXTENDED		
CLIENT	: EL PASO FIELD SERVICES	AEN I.D. :	707381
PROJECT #	: (none)		
PROJECT NAME	: CHACO PLANT MW'S		

SAMPLE ID #	BATCH	MATRIX	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
REAGENT BLANK	073197	AQUEOUS	N/A	07/31/97	1

PARAMETER	DET. LIMIT		UNITS
Dichlorodifluoromethane	1.0	< 1.0	ug/L
Chloromethane	1.0	< 1.0	ug/L
Vinyl Chloride	1.0	< 1.0	ug/L
Bromomethane	1.0	< 1.0	ug/L
Chloroethane	1.0	< 1.0	ug/L
Trichlorofluoromethane	1.0	< 1.0	ug/L
Acetone	10	< 10	ug/L
Acrolein	5.0	< 5.0	ug/L
1,1-Dichloroethene	1.0	< 1.0	ug/L
Iodomethane	1.0	< 1.0	ug/L
Methylene Chloride	1.0	< 1.0	ug/L
Acrylonitrile	5.0	< 5.0	ug/L
cis-1,2-Dichloroethene	1.0	< 1.0	ug/L
Methyl-t-butyl Ether	1.0	< 1.0	ug/L
1,1,2,1,2,2-Trichlorotrifluoroethane	1.0	< 1.0	ug/L
1,1-Dichloroethane	1.0	< 1.0	ug/L
trans-1,2-Dichloroethene	1.0	< 1.0	ug/L
2-Butanone	10	< 10	ug/L
Carbon Disulfide	1.0	< 1.0	ug/L
Bromochloromethane	1.0	< 1.0	ug/L
Chloroform	1.0	< 1.0	ug/L
2,2-Dichloropropane	1.0	< 1.0	ug/L
1,2-Dichloroethane	1.0	< 1.0	ug/L
Vinyl Acetate	1.0	< 1.0	ug/L
1,1,1-Trichloroethane	1.0	< 1.0	ug/L
1,1-Dichloropropene	1.0	< 1.0	ug/L
Carbon Tetrachloride	1.0	< 1.0	ug/L
Benzene	1.0	< 1.0	ug/L
1,2-Dichloropropane	1.0	< 1.0	ug/L
Trichloroethene	1.0	< 1.0	ug/L
Bromodichloromethane	1.0	< 1.0	ug/L
2-Chloroethyl Vinyl Ether	10	< 10	ug/L
cis-1,3-Dichloropropene	1.0	< 1.0	ug/L
trans-1,3-Dichloropropene	1.0	< 1.0	ug/L
1,1,2-Trichloroethane	1.0	< 1.0	ug/L
1,3-Dichloropropane	1.0	< 1.0	ug/L
Dibromomethane	1.0	< 1.0	ug/L
Toluene	1.0	< 1.0	ug/L
1,2-Dibromoethane	1.0	< 1.0	ug/L
4-Methyl-2-Pentanone	10	< 10	ug/L
2-Hexanone	10	< 10	ug/L
Dibromochloromethane	1.0	< 1.0	ug/L
Tetrachloroethene	1.0	< 1.0	ug/L

American Environmental Network, Inc.

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8260 EXTENDED		
CLIENT	: EL PASO FIELD SERVICES	AEN I.D. :	707381
PROJECT #	: (none)		
PROJECT NAME	: CHACO PLANT MW'S		

SAMPLE ID #	BATCH	MATRIX	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
REAGENT BLANK	073197	AQUEOUS	N/A	07/31/97	1

PARAMETER	DET. LIMIT		UNITS
Chlorobenzene	1.0	< 1.0	ug/L
Ethylbenzene	1.0	< 1.0	ug/L
1,1,1,2-Tetrachloroethane	1.0	< 1.0	ug/L
o-Xylene	1.0	< 1.0	ug/L
m&p Xylenes	1.0	< 1.0	ug/L
Styrene	1.0	< 1.0	ug/L
Bromoform	1.0	< 1.0	ug/L
1,1,2,2-Tetrachloroethane	1.0	< 1.0	ug/L
1,2,3-Trichloropropane	1.0	< 1.0	ug/L
Isopropyl Benzene	1.0	< 1.0	ug/L
Bromobenzene	1.0	< 1.0	ug/L
trans-1,4-Dichloro-2-Butene	1.0	< 1.0	ug/L
n-Propylbenzene	1.0	< 1.0	ug/L
2-Chlorotoluene	1.0	< 1.0	ug/L
4-Chlorotoluene	1.0	< 1.0	ug/L
1,3,5-Trimethylbenzene	1.0	< 1.0	ug/L
tert-Butylbenzene	1.0	< 1.0	ug/L
1,2,4-Trimethylbenzene	1.0	< 1.0	ug/L
sec-Butylbenzene	1.0	< 1.0	ug/L
1,3-Dichlorobenzene	1.0	< 1.0	ug/L
1,4-Dichlorobenzene	1.0	< 1.0	ug/L
p-Isopropyltoluene	1.0	< 1.0	ug/L
1,2-Dichlorobenzene	1.0	< 1.0	ug/L
n-Butylbenzene	1.0	< 1.0	ug/L
1,2-Dibromomo-3-chloropropane	1.0	< 1.0	ug/L
1,2,4-Trichlorobenzene	1.0	< 1.0	ug/L
Napthalene	1.0	< 1.0	ug/L
Hexachlorobutadiene	1.0	< 1.0	ug/L
1,2,3-Trichlorobenzene	1.0	< 1.0	ug/L

SURROGATE % RECOVERY	
1,2-Dichloroethane-d4	82
	(80 - 120)
Toluene-d8	92
	(88 - 110)
Bromofluorobenzene	104
	(86 - 115)

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8260 EXTENDED		
CLIENT	: EL PASO FIELD SERVICES	AEN I.D. :	707381
PROJECT #	: (none)		
PROJECT NAME	: CHACO PLANT MW'S		

SAMPLE ID #	BATCH	MATRIX	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
REAGENT BLANK	080197	AQUEOUS	N/A	08/01/97	1

PARAMETER	DET. LIMIT		UNITS
Dichlorodifluoromethane	1.0	< 1.0	ug/L
Chloromethane	1.0	< 1.0	ug/L
Vinyl Chloride	1.0	< 1.0	ug/L
Bromomethane	1.0	< 1.0	ug/L
Chloroethane	1.0	< 1.0	ug/L
Trichlorofluoromethane	1.0	< 1.0	ug/L
Acetone	10	< 10	ug/L
Acrolein	5.0	< 5.0	ug/L
1,1-Dichloroethene	1.0	< 1.0	ug/L
Iodomethane	1.0	< 1.0	ug/L
Methylene Chloride	1.0	< 1.0	ug/L
Acrylonitrile	5.0	< 5.0	ug/L
cis-1,2-Dichloroethene	1.0	< 1.0	ug/L
Methyl-t-butyl Ether	1.0	< 1.0	ug/L
1,1,2,1,2,2-Trichlorotrifluoroethane	1.0	< 1.0	ug/L
1,1-Dichloroethane	1.0	< 1.0	ug/L
trans-1,2-Dichloroethene	1.0	< 1.0	ug/L
2-Butanone	10	< 10	ug/L
Carbon Disulfide	1.0	< 1.0	ug/L
Bromochloromethane	1.0	< 1.0	ug/L
Chloroform	1.0	< 1.0	ug/L
2,2-Dichloropropane	1.0	< 1.0	ug/L
1,2-Dichloroethane	1.0	< 1.0	ug/L
Vinyl Acetate	1.0	< 1.0	ug/L
1,1,1-Trichloroethane	1.0	< 1.0	ug/L
1,1-Dichloropropene	1.0	< 1.0	ug/L
Carbon Tetrachloride	1.0	< 1.0	ug/L
Benzene	1.0	< 1.0	ug/L
1,2-Dichloropropane	1.0	< 1.0	ug/L
Trichloroethene	1.0	< 1.0	ug/L
Bromodichloromethane	1.0	< 1.0	ug/L
2-Chloroethyl Vinyl Ether	10	< 10	ug/L
cis-1,3-Dichloropropene	1.0	< 1.0	ug/L
trans-1,3-Dichloropropene	1.0	< 1.0	ug/L
1,1,2-Trichloroethane	1.0	< 1.0	ug/L
1,3-Dichloropropane	1.0	< 1.0	ug/L
Dibromomethane	1.0	< 1.0	ug/L
Toluene	1.0	< 1.0	ug/L
1,2-Dibromoethane	1.0	< 1.0	ug/L
4-Methyl-2-Pentanone	10	< 10	ug/L
2-Hexanone	10	< 10	ug/L
Dibromochloromethane	1.0	< 1.0	ug/L
Tetrachloroethene	1.0	< 1.0	ug/L

American Environmental Network, Inc.

GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8260 EXTENDED		
CLIENT	: EL PASO FIELD SERVICES	AEN I.D. :	707381
PROJECT #	: (none)		
PROJECT NAME	: CHACO PLANT MW'S		

SAMPLE ID #	BATCH	MATRIX	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
REAGENT BLANK	080197	AQUEOUS	N/A	08/01/97	1

PARAMETER	DET. LIMIT		UNITS
Chlorobenzene	1.0	< 1.0	ug/L
Ethylbenzene	1.0	< 1.0	ug/L
1,1,1,2-Tetrachloroethane	1.0	< 1.0	ug/L
o-Xylene	1.0	< 1.0	ug/L
m&p Xylenes	1.0	< 1.0	ug/L
Styrene	1.0	< 1.0	ug/L
Bromoform	1.0	< 1.0	ug/L
1,1,2,2-Tetrachloroethane	1.0	< 1.0	ug/L
1,2,3-Trichloropropane	1.0	< 1.0	ug/L
Isopropyl Benzene	1.0	< 1.0	ug/L
Bromobenzene	1.0	< 1.0	ug/L
trans-1,4-Dichloro-2-Butene	1.0	< 1.0	ug/L
n-Propylbenzene	1.0	< 1.0	ug/L
2-Chlorotoluene	1.0	< 1.0	ug/L
4-Chlorotoluene	1.0	< 1.0	ug/L
1,3,5-Trimethylbenzene	1.0	< 1.0	ug/L
tert-Butylbenzene	1.0	< 1.0	ug/L
1,2,4-Trimethylbenzene	1.0	< 1.0	ug/L
sec-Butylbenzene	1.0	< 1.0	ug/L
1,3-Dichlorobenzene	1.0	< 1.0	ug/L
1,4-Dichlorobenzene	1.0	< 1.0	ug/L
p-Isopropyltoluene	1.0	< 1.0	ug/L
1,2-Dichlorobenzene	1.0	< 1.0	ug/L
n-Butylbenzene	1.0	< 1.0	ug/L
1,2-Dibromomo-3-chloropropane	1.0	< 1.0	ug/L
1,2,4-Trichlorobenzene	1.0	< 1.0	ug/L
Napthalene	1.0	< 1.0	ug/L
Hexachlorobutadiene	1.0	< 1.0	ug/L
1,2,3-Trichlorobenzene	1.0	< 1.0	ug/L

SURROGATE % RECOVERY	
1,2-Dichloroethane-d4	114
	(80 - 120)
Toluene-d8	89
	(88 - 110)
Bromofluorobenzene	104
	(86 - 115)

Spike Recovery and RPD Summary Report - WATER

Method : C:\HPCHEM\1\METHODS\8260E4.M (RTE Integrator)
Title : AEN New Mexico GC/MS
Last Update : Tue Jul 29 13:32:38 1997
Response via : Initial Calibration

Non-Spiked Sample: 073197B3.D

	Spike Sample	Spike Duplicate Sample
File ID :	073197S1.D	073197S2.D
Sample :	BS	BS
Acq Time:	31 Jul 97 6:22 pm	31 Jul 97 7:01 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC Limits RPD	QC Limits % Rec
1,1-Dichloroethene	0.0	50	65	65	130	130	1	14	61-145
Benzene	0.0	50	42	41	83	81	3	11	76-127
Trichloroethene	0.0	50	51	52	102	103	2	14	71-120
Toluene	0.0	50	47	47	93	95	2	13	76-125
Chlorobenzene	0.0	50	48	49	97	98	2	13	75-130

- Fails Limit Check

American Environmental Network, Inc. Monitor Well #9

"FINAL REPORT FORMAT - SINGLE"

Accession:	707513
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	707381
Project Name:	EL PASO FIELD SERVICES CO.
Project Location:	CHASE PLANT MW'S
Test:	POLYNUCLEAR AROMATICS BY 8310
Analysis Method:	8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method:	3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Matrix:	WATER
QC Level:	II

Lab Id:	001	Sample Date/Time:	25-JUL-97 1457
Client Sample Id:	707381-01	Received Date:	30-JUL-97
Batch: PAW149		Extraction Date:	30-JUL-97
Blank: B	Dry Weight %: N/A	Analysis Date:	04-AUG-97

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/L	ND	1	
ACENAPHTHYLENE	UG/L	ND	1	
ANTHRACENE	UG/L	2	1	
BENZO(a)ANTHRACENE	UG/L	ND	1	
BENZO(a)PYRENE	UG/L	ND	1	
BENZO(b)FLUORANTHENE	UG/L	ND	1	
BENZO(g,h,i)PERYLENE	UG/L	ND	1	
BENZO(k)FLUORANTHENE	UG/L	ND	1	
CHRYSENE	UG/L	ND	1	
DIBENZO(a,h)ANTHRACENE	UG/L	ND	1	
FLUORANTHENE	UG/L	4	1	
FLUORENE	UG/L	10	1	
INDENO(1,2,3-cd)PYRENE	UG/L	ND	1	
NAPHTHALENE	UG/L	ND	1	
PHENANTHRENE	UG/L	5	1	
PYRENE	UG/L	2	1	
1-METHYLNAPHTHALENE	UG/L	15	1	
2-METHYLNAPHTHALENE	UG/L	ND	1	
2-CHLOROANTHRACENE	%REC/SURR	72	28-138	
ANALYST	INITIALS	JO		

Comments:

American Environmental Network, Inc. Monitor Well #10

"FINAL REPORT FORMAT - SINGLE"

Accession:	707513
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	707381
Project Name:	EL PASO FIELD SERVICES CO.
Project Location:	CHASE PLANT MW'S
Test:	POLYNUCLEAR AROMATICS BY 8310
Analysis Method:	8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method:	3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Matrix:	WATER
QC Level:	II

Lab Id:	002		Sample Date/Time:	25-JUL-97 1559
Client Sample Id:	707381-02		Received Date:	30-JUL-97
Batch: PAW149			Extraction Date:	30-JUL-97
Blank: B	Dry Weight %:	N/A	Analysis Date:	04-AUG-97

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/L	ND	1	
ACENAPHTHYLENE	UG/L	ND	1	
ANTHRACENE	UG/L	ND	1	
BENZO(a)ANTHRACENE	UG/L	ND	1	
BENZO(a)PYRENE	UG/L	ND	1	
BENZO(b)FLUORANTHENE	UG/L	ND	1	
BENZO(g,h,i)PERYLENE	UG/L	ND	1	
BENZO(k)FLUORANTHENE	UG/L	ND	1	
CHRYSENE	UG/L	ND	1	
DIBENZO(a,h)ANTHRACENE	UG/L	ND	1	
FLUORANTHENE	UG/L	ND	1	
FLUORENE	UG/L	3	1	
INDENO(1,2,3-cd)PYRENE	UG/L	ND	1	
NAPHTHALENE	UG/L	45	1	
PHENANTHRENE	UG/L	7	1	
PYRENE	UG/L	ND	1	
1-METHYLNAPHTHALENE	UG/L	350	1	E
2-METHYLNAPHTHALENE	UG/L	140	1	E
2-CHLOROANTHRACENE	%REC/SURR	60	28-138	
ANALYST	INITIALS	JO		

Comments:
E = EXCEEDS THE RANGE OF THE CALIBRATION CURVE, THEREFORE, IT IS AN ESTIMATED VALUE.

American Environmental Network, Inc.

Summary

"Method Report Summary"

Accession Number: 707513
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 707381
Project Name: EL PASO FIELD SERVICES CO.
Project Location: CHASE PLANT MW'S
Test: POLYNUCLEAR AROMATICS BY 8310

Client Sample Id:	Parameter:	Unit:	Result:
707381-01 - Monitor Well #9	ANTHRACENE	UG/L	2
	FLUORANTHENE	UG/L	4
	FLUORENE	UG/L	10
	PHENANTHRENE	UG/L	5
	PYRENE	UG/L	2
	1-METHYLNAPHTHALENE	UG/L	15
707381-02 - Monitor Well #10	FLUORENE	UG/L	3
	NAPHTHALENE	UG/L	45
	PHENANTHRENE	UG/L	7
	1-METHYLNAPHTHALENE	UG/L	350
	2-METHYLNAPHTHALENE	UG/L	140

MW-9 - Benzo(a) Pyrene is < WQCC

Total Naphthalenes WQCC = 30 ug/L - ~~OVER~~ UNDER 6/29/99

MW-10 - Benzo(a)Pyrene is < WQCC

Total Naphthalenes WQCC = 30 ug/L - OVER

NOTE: The MDL was > Regulatory limit for Benzo(a) Pyrene

"QC Report"

Title: Water Blank
Batch: PAW149
Analysis Method: 8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method: 3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.

Blank Id: B Date Analyzed: 02-AUG-97 Date Extracted: 30-JUL-97

Parameters:	Units:	Results:	Reporting Limits:
ACENAPHTHENE	UG/L	ND	1
ACENAPHTHYLENE	UG/L	ND	1
ANTHRACENE	UG/L	ND	1
BENZO(a)ANTHRACENE	UG/L	ND	1
BENZO(a)PYRENE	UG/L	ND	1
BENZO(b)FLUORANTHENE	UG/L	ND	1
BENZO(g,h,i)PERYLENE	UG/L	ND	1
BENZO(k)FLUORANTHENE	UG/L	ND	1
CHRYSENE	UG/L	ND	1
DIBENZO(a,h)ANTHRACENE	UG/L	ND	1
FLUORANTHENE	UG/L	ND	1
FLUORENE	UG/L	ND	1
INDENO(1,2,3-cd)PYRENE	UG/L	ND	1
NAPHTHALENE	UG/L	ND	1
PHENANTHRENE	UG/L	ND	1
PYRENE	UG/L	ND	1
1-METHYLNAPHTHALENE	UG/L	ND	1
2-METHYLNAPHTHALENE	UG/L	ND	1
2-CHLOROANTHRACENE	%REC/SURR	87	28-138
ANALYST	INITIALS	JO	

Comments:

American Environmental Network, Inc.

"QC Report"

Title: Water Reagent
Batch: PAW149
Analysis Method: 8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method: 3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.

RS Date Analyzed: 04-AUG-97 RS Date Extracted: 29-JUL-97
RSD Date Analyzed: 31-JUL-97 RSD Date Extracted: 29-JUL-97

Parameters:	Spike Added	Sample Conc	RS Conc	RS %Rec	RSD Conc	RSD %Rec	RPD	RPD Lmts	Rec Lmts
ACENAPHTHYLENE	10.0	<1	8.5	85	9.1	91	7	35	45-127
BENZO(k)FLUORANTHENE	10.0	<1	10.6	106	10.7	107	1	23	68-131
CHRYSENE	10.0	<1	10.8	108	10.5	105	3	24	69-131
PHENANTHRENE	10.0	<1	9.1	91	9.0	90	1	26	63-124
PYRENE	10.0	<1	8.4	84	9.5	95	12	25	61-126
Surrogates:									
2-CHLOROANTHRACENE				98		127			28-138

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/L = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

American Environmental Network, Inc.

"QC Report"

Title: Water Matrix
Batch: PAW149
Analysis Method: 8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method: 3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.

Dry Weight %: N/A
Sample Spiked: 707451-1

MS Date Analyzed: 31-JUL-97
MSD Date Analyzed: 31-JUL-97

MS Date Extracted: 29-JUL-97
MSD Date Extracted: 29-JUL-97

Parameters:	Spike Added	Sample Conc	MS Conc	MS %Rec	MSD Conc	MSD %Rec	RPD	RPD Lmts	Rec Lmts
ACENAPHTHYLENE	10.0	140	70	-700*	80	-600*	15	51	18-146
BENZO(k)FLUORANTHENE	10.0	<1	9.0	90	8.6	86	5	40	26-137
CHRYSENE	10.0	3	9.7	67	9.2	62	8	69	16-156
PHENANTHRENE	10.0	1.8	10.0	82	10.0	82	0	36	30-145
PYRENE	10.0	<1	7.3	73	7.0	70	4	41	39-137
Surrogates:									
2-CHLOROANTHRACENE				108		102			28-138

Comments:
MATRIX SPIKE/MATRIX SPIKE DUPLICATE HAD RECOVERY(S) AND/OR RPD(S) OUTSIDE ACCEPTANCE LIMITS DUE TO MATRIX INTERFERENCE. REFER TO REAGENT SPIKE/REAGENT SPIKE DUPLICATE DATA.

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/L = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

American Environmental Network, Inc.

Common notation for Organic reporting

N/S = NOT SUBMITTED
N/A = NOT APPLICABLE
D = DILUTED OUT
UG = MICROGRAMS
UG/L = PARTS PER BILLION.
UG/KG = PARTS PER BILLION.
MG/M3 = MILLIGRAM PER CUBIC METER.
PPMV = PART PER MILLION BY VOLUME.
MG/KG = PARTS PER MILLION.
MG/L = PARTS PER MILLION.
< = LESS THAN.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS
Y = IMPROPER PRESERVATION, NO PRESERVATIVE PRESENT IN SAMPLE UPON RECEIPT.

SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

ORGANIC SOILS ARE REPORTED ON A DRYWEIGHT BASIS.

ND = NOT DETECTED ABOVE REPORTING LIMIT.

RPT LMTS = REPORTING LIMITS BASED ON METHOD DETECTION LIMIT STUDIES.

RPD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION)

AEN/GC/FID
AEN GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH FLAME IONIZATION DETECTOR (FID).

AEN/GC/FIX
AEN GAS CHROMATOGRAPHIC METHOD FOR ANALYSIS OF FIXED GASES EMPLOYING DIRECT INJECTION ON COLUMN WITH THERMAL CONDUCTIVITY DETECTOR (TCD) AND FLAME IONIZATION DETECTOR (FID).

AEN/GC/FPD
AEN GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH FLAME PHOTOMETRIC DETECTOR (FPD) IN SULFUR-SPECIFIC MODE.

AEN/GC/PID
AEN GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH PHOTOIONIZATION DETECTOR (PID).

AEN/GC/TCD
AEN GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH THERMAL CONDUCTIVITY DETECTOR (TCD).

SW-846 METHOD 9020
PARTICULATE MATTER IS REMOVED BY ALLOWING PARTICULATES TO SETTLE IN THE SAMPLE CONTAINER AND DECANTING THE SUPERNATANT LIQUID. EXCESSIVE PARTICULATES ARE REMOVED BY FILTRATION OF THE SUPERNATANT LIQUID.

AEN-PN USES THE MOST CURRENT PROMULGATED METHODS CONTAINED IN THE REFERENCE MANUALS.

SW = STEVE WILHITE
RW = ROBERT WOLFE
KS = KENDALL SMITH
KL = KERRY LEMONT
JO = JENNIFER O'NEAL
LP = LEVERNE PETERSON
PLD = PAULA DOUGHTY

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

American Environmental Network (NM), Inc.

Albuquerque • Phoenix • Pensacola • Portland • Pleasant Hills • Columbia

CHAIN OF CUSTODY

DATE: 7-28-97 PAGE: 1 OF 1

AEN LAB I.D. [illegible]

PROJECT MANAGER: John Lambdin

COMPANY: El Paso Field Services Co.
ADDRESS: P.O. Box 4990
Farmington, NM 87499
PHONE: (505) 599-2144
FAX: (505) 599-2261
BILL TO: (Same as Above)
COMPANY:
ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct Inject	(M8015) Gas/Purge & Trap	Gasoline/BTEX & MTBE (M8015/8020)	BTXE/MTBE (8020)	BTEX & Chlorinated Aromatics (602/8020)	BTEX/MTBE/EDC & EDB (8020/8010/Short)	Chlorinated Hydrocarbons (601/8010)	504 EDB X / DBCP ☐	Polynuclear Aromatics (610/8310)	Volatile Organics (624/8240) GC/MS *	Volatile Organics (8260) GC/MS	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	General Chemistry:	Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals:	NUMBER OF CONTAINERS
970716	7/25/97	1457	Water	-01									X	X	X											8
970717	7/25/97	1559	Water	-02									X	X	X											8
Trip Blank	7/24/97	1720	AQ	-03											X											1

PROJECT INFORMATION

PROJ. NO.:
PROJ. NAME: Chaco Plant MW's
P.O. NO.:
SHIPPED VIA: Fed-X

SAMPLE RECEIPT

NO. CONTAINERS	17
CUSTODY SEALS	(Y) / N / NA
[illegible]	Yes
[illegible]	4

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 [ ]

* See attached list with specific WQCC analytes required (organics). Please use appropriate method.

RELINQUISHED BY: 1.
Signature: Dennis Bird Time: 0707
Printed Name: Dennis Bird Date: 7-28-97
Company: El Paso Field Service

RELINQUISHED BY: 2.
Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: 1.
Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: (LAB) 2.
Signature: [illegible] Time: 12:05
Printed Name: [illegible] Date: 7-29-97
American Environmental Network (NM), Inc.

4/1/96 AEN Inc.: American Environmental Network (NM), Inc. • 2709-D Pan American Freeway, NE • Albuquerque, New Mexico 87107

DISTRIBUTION: White, Canary - AEN Pink - ORIGINATOR

Dennis Bird 599-2249

American Environmental Network
Albuquerque, New Mexico

Interlab Chain of Custody

DATE: 7-29-97 PAGE: 1 OF 1

NETWORK PROJECT MANAGER: KIMBERLY D. McNEILL

COMPANY: American Environmental Network
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

707513

CLIENT PROJECT MANAGER:

Kim McNeill

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
707381-01	7-25	1457	AQ	
1 -02	7-25	1559	AQ	

ANALYSIS REQUEST

SAMPLE ID	Metals - TAL	Metals - PP List	Metals - RCRA	RCRA Metals by TCLP (1311)			TOX	TOC	Gen Chemistry			Oil and Grease	BOD	COD	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	Polynuclear Aromatics (610/8310)	8240 (TCLP 1311) ZHE	8270 (TCLP 1311)			TO-14	Gross Alpha/Beta				NUMBER OF CONTAINERS
707381-01																			X										
1 -02																			X										

PROJECT INFORMATION		SAMPLE RECEIPT	
PROJECT NUMBER:	707381	TOTAL NUMBER OF CONTAINERS	
PROJECT NAME:	Chaco Plant MW's	CHAIN OF CUSTODY SEALS	
QC LEVEL:	(STD) IV	INTACT?	
QC REQUIRED:	MS MSD BLANK	RECEIVED GOOD COND./COLD	
TAT	(STANDARD) RUSH!	LAB NUMBER	

DUE DATE: 8-11-97
RUSH SURCHARGE: _____
CLIENT DISCOUNT: _____
SPECIAL CERTIFICATION REQUIRED: ☐ YES ☐ NO

SAMPLES SENT TO:	
SAN DIEGO	
Paragon	
RENTON	
PENSACOLA	X
PORTLAND	
PHOENIX	

RELINQUISHED BY: 1.
Signature: [signature] Time: 1700
Printed Name: Brian Price Date: 7-29-97
Company: Albuquerque NM

RECEIVED BY: 1.
Signature: [signature] Time: 0838
Printed Name: Linda L. Kitt Date: 7/30/97
Company: AEN 71

RELINQUISHED BY: 2.
Signature Time
Printed Name Date
Company

RECEIVED BY: (LAB) 2.
Signature: Time:
Printed Name: Date:
Company

American Environmental Network of Florida
PROJECT SAMPLE INSPECTION FORM

Lab Accession #: 707513 Date Received: 30-JUL-97

#	Question	Answer
1.	Was there a Chain of Custody?	(Yes) No*
2.	Was Chain of Custody properly filled out and relinquished?	(Yes) No*
3.	Were samples received cold? (Criteria: 1° - 4°C: AEN-SOP 1055)	(Yes) No* N/A
4.	Were all samples properly labeled and identified?	(Yes) No*
5.	Did samples require splitting? Req By: PM Client Other*	Yes* (No)
6.	Were samples received in proper containers for analysis requested?	(Yes) No*
7.	Were all sample containers received intact?	(Yes) No*
8.	Were samples checked for preservative? *(Check pH of all H_2O requiring preservative except VOA vials that require zero headspace)*+	(Yes) No* N/A
9.	Is there sufficient volume for analysis requested?	(Yes) No*
10.	Were samples received within Holding Time? (REFER TO AEN-SOP 1040)	(Yes) No*
11.	Is Headspace visible > ¼" in diameter in VOA vials?* If any headspace is evident, comment in out-of-control section.	Yes* No (N/A)
12.	If sent, were matrix spike bottles returned?	Yes No* (N/A)
13.	Was Project Manager notified of problems? (initials:_______)	Yes No* (N/A)

Airbill Number(s): 279 1606 614

Shipped By: Fedx

Cooler Number(s): N/S

Shipping Charges: N/A

Cooler Weight(s): N/A

Cooler Temp(s) (°C): 0°C

CCK2
(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

Samples received @ 0°c, but not frozen L.K. 7/30

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: James Hicks Date: 30-Jul-97 Logged By: L. Kitt Date: 30-Jul-97

- ♦ *Note all Out-of-Control and/or questionable events on Comment Section of this form.*
- ♦ *Note who requested the splitting of samples on the Comment Section of this form.*
- \+ *All preservatives for the State of North Carolina, the State of New York, and other requested samples are to be recorded on the sheet provided to record pH results (AEN-SOP 938, section 2.2.9).*
- ✱ *According to EPA, ¼" of headspace is allowed in 40 ml vials requiring volatile analysis, however, AEN makes it policy to record any headspace as out-of-control (AEN-SOP 938, section 2.2.12).*

Organic Analyte List

range and the maximum allowable concentration in ground water for the contaminants specified unless the existing condition exceeds the standard or unless otherwise provided in Subsection 3-109.D. or Section 3-110. Regardless of whether there is one contaminant or more than one contaminant present in ground water, when an existing pH or concentration of any water contaminant exceeds the standard specified in Subsection A, B, or C, the existing pH or concentration shall be the allowable limit, provided that the discharge at such concentrations will not result in concentrations at any place of withdrawal for present or reasonably foreseeable future use in excess of the standards of this section.

These standards shall apply to the dissolved portion of the contaminants specified with a definition of dissolved being that given in the publication "Methods for Chemical Analysis of Water and Waste of the U.S. Environmental Protection Agency," with the exception that standards for mercury and the organic compounds shall apply to the total unfiltered concentrations of the contaminants.

A. Human Health Standards-Ground water shall meet the standards of Section A and B unless otherwise provided. If more than one water contaminant affecting human health is present, the toxic pollutant criteria of Section 1-101.UU. for the combination of contaminants, or the Human Health Standard of Section 3-103.A. for each contaminant shall apply, whichever is more stringent

EPA Method 8240?/8260?

ethylbenzene	0.75 mg/l
total xylenes	0.62 mg/l
methylene chloride	0.1 mg/l
chloroform	0.1 mg/l
1,1-dichloroethane	0.025 mg/l
ethylene dibromide (EDB)	0.0001 mg/l ≤ 50 ug/l
1,1,1-trichloroethane	0.06 mg/l
1,1,2-trichloroethane	0.01 mg/l
1,1,2,2-tetrachloroethane	0.01 mg/l
vinyl chloride	0.001 mg/l

EPA Method 8310

PAHs: total naphthalene plus monomethylnaphthalenes	0.03 mg/l
benzo-a-pyrene	0.0007 mg/l

EPA Method 8240?/8260?

Benzene	0.01 mg/l
Toluene	0.75 mg/l
Carbon Tetrachloride	0.01 mg/l
1,2-dichloroethane (EDC)	0.01 mg/l
1,1-dichloroethylene (1, 1-DCE)	0.005 mg/l
1,1,2, 2-tetrachloroethylene (PCE)	0.02 mg/l
1,1, 2-trichloroethylene (TCE)	0.1 mg/l

EPFS Sample ID #'s
970716 and 970717
Chaco Plant
MW #9 + #10
Initial WC&CC

Bill To: El Paso Field Service Co.
P.O. Box 4990
Farmington, NM 87499

Client #: 850-020

Date	Invoice
8/15/97	76686

Project Name: Chaco Plant MW'S

Original
BALANCE DUE: 751.27

PO Number	Terms	Project
	Net 30	AEN ALB-810

Quantity	Description	Rate	Amount
2	EPA Method 8310	150.00	300.00
2	EPA Method 504 (EDB)	55.00	110.00
2	EPA Method 8240	150.00	300.00
	NM Gross Receipts Tax	5.8125%	41.27
		TOTAL:	751.27

APPROVED FOR PAYMENT
DATE 8-20-97
CHARGE 206100-1800-2721 - ENVIRONMENTAL - CNTR - CTPRF
SIGNATURE
John Lambdin
599-2144

AUG 1997
RECEIVED

Accession #: 707381
Authorized by: John Lambdin

A finance charge of 1½% will be charged on balances 30 days past due
DISTRIBUTION: White-Customer, Yellow-File, Pink-Accounting

2709-D Pan American Freeway, NE • Albuquerque, NM 87107 • (505) 344-3777 • Fax (602) 344-4413

Correspondence

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

June 13, 1997

CERTIFIED MAIL
RETURN RECEIPT NO. P - 326-936-610

Mr. David Bays
El Paso Field Services (EPFS)
P.O. Box 4990
Farmington, NM 87499

RE: Wastewater Ponds - May 15, 1997
GW-71, Chaco Plant
San Juan County, NM

Dear Mr. Bays:

The New Mexico Oil Conservation Division (OCD) received on May 21, 1997 a letter from EPFS dated May 15, 1997 regarding the "Wastewater" ponds at Chaco Plant. **The OCD approves of the proposed plan of action from EPFS at the Chaco Plant (GW-071) with the following conditions:**

1. Mr. Denny Foust with the Aztec OCD office will be notified at least 72 hours in advance of any field activity involving this approved project. (505-334-6178)

2. The new wells upon construction need to be sampled for the WQCC parameters listed in 20 NMAC 6.2.Subpart III, 3103 constituents in order to establish base line water quality for the new monitor wells. Upon completion of this sampling EPFS may use the existing parameters used at the other monitor wells.

2. A "Field Report" to include the construction diagrams, geologic logs, a map showing the location of the monitor wells, and the sample results outlined in (2) above will be submitted to the OCD Santa Fe Division and Aztec District Offices 60 days after completion of the activity in point (2) above..

Note, that OCD approval does not relieve EPFS of liability should EPFS operation's result in contamination of surface water, ground water, or the environment. OCD approval does not relieve EPFS from compliance with other federal, state, and local regulations/rules that may apply.

Sincerely,

Patricio W. Sanchez,
Petroleum Engineering Specialist
Environmental Bureau

c: Mr. Denny Foust - Aztec District Office, OCD.

505 827 7156

per Pat Sanchez 7/24/97 @ 10:18 AM

EL PASO
FIELD SERVICES

May 15, 1997

Mr. Bill Olson
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe. NM 87505

RE: El Paso Field Services Co. Chaco Plant
Discharge Plan GW-071
Wastewater Ponds

Dear Bill:

As you are aware from conversations and correspondence over the past several months, the primary liners of the contact wastewater ponds at El Paso Field Services Co. (EPFS) Chaco Plant were tested during November of 1995. The liners in both the north and south ponds were found to be leaking. A temporary lined pond was installed to contain the contact wastewater while repairs were made, and once the ponds were drained and cleaned thoroughly, the liners were repaired during August 1996.

Once the repairs to liners, the water circulation pumps, and enhanced evaporation sprayers were made, the liners were again tested using a red colored fluorescent dye. The results thus far are as follows.

South Contact Pond

As of May 14, 1997 no dye has been found in the leak detection wells of the south pond. It appears that the liner repairs to the south pond were successful. EPFS will continue to monitor the south pond leak detection system on our normal monthly schedule.

North Contact Pond

Both leak detection wells on the north pond contain water. One of the wells also contains red dye, clearly indicating that the primary liner is still leaking. Both wells are now equipped with automatic pumps to keep the liquids pumped out. Since the repairs last summer were the second attempt to repair the liner since it was installed in 1993, EPFS believes that a more effective alternative would be to take the following actions.

1. Install two additional groundwater monitoring wells, numbered 9 and 10, near the north contact pond. The attached plot plan shows the relative locations of the ponds, along with the existing and proposed monitoring wells. Due to the high volumes of water discharged into the two unlined, non-contact wastewater ponds EPFS believes that the two proposed wells should be down gradient from the north contact water pond.

2. Through waste minimization reduce, and ultimately eliminate discharge to the north contact water pond. The pond will be left in place in case of emergencies.

3. Collect samples from the new monitoring wells quarterly for one year. The samples will be tested for pH, total dissolved solids, benzene, ethyl benzene, xylenes, toluene, and total petroleum hydrocarbons. If no groundwater impact has been found, then collect additional samples annually for two more years, or until the north pond is empty. If the annual samples still show no impact on the groundwater, then discontinue sampling of wells number 9 and 10. If any groundwater contamination is identified, then a new action plan will be developed for remediation and long term monitoring.

Temporary Lined Pond

The temporary lined pond is now dry, and the solids which had accumulated along the east end have been removed. After the required waste characterization was completed, these solids were transported to the Envirotech landfill for disposal. EPFS proposes to close the temporary pond by folding the liner down away from the berm, and then leveling the pond area.

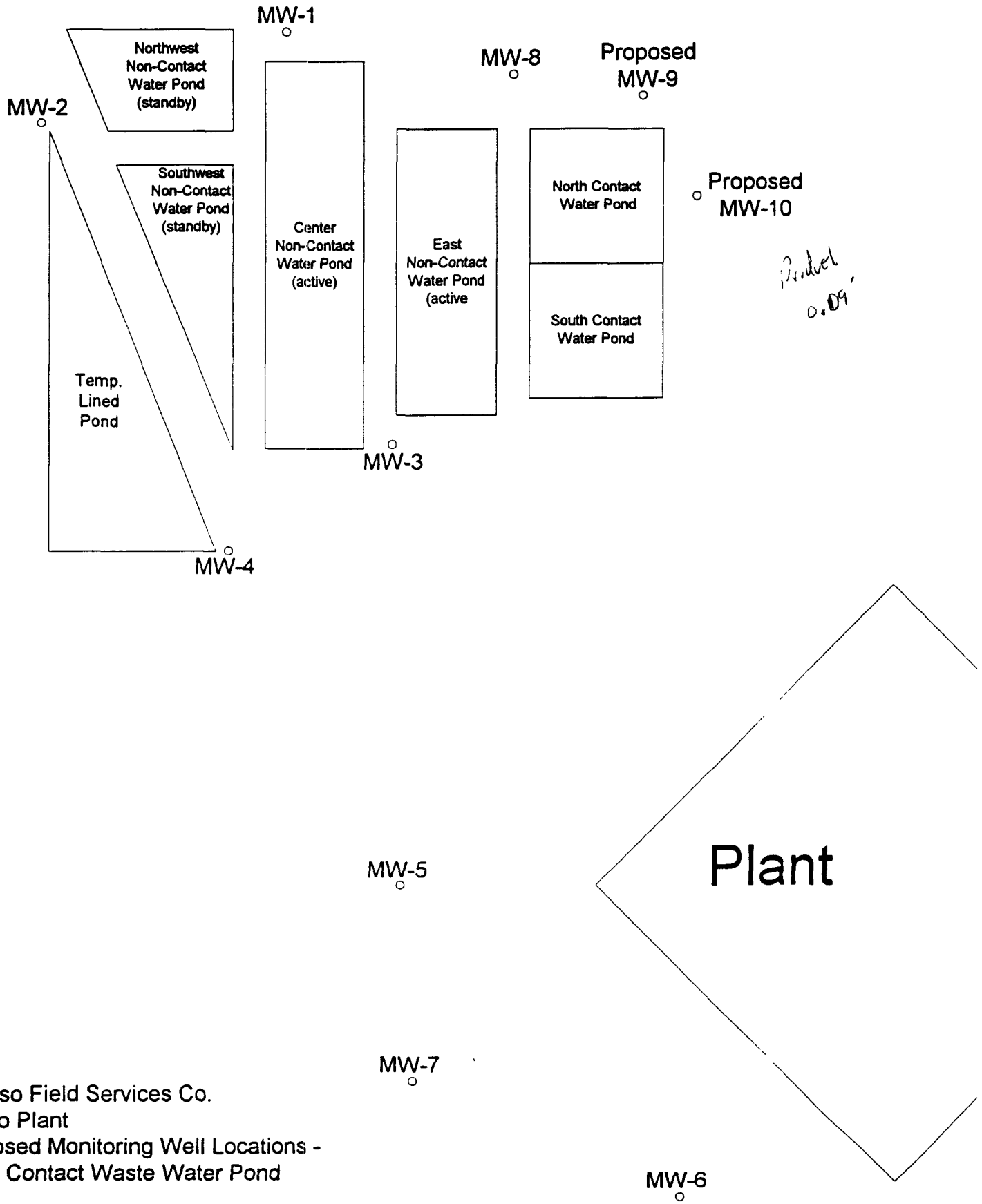
If you need any additional information, or have any questions about this proposed work plan, please call me at (505) 599-2256.

Sincerely yours,

David Bays

David Bays
Sr. Environmental Scientist

cc: Mr. Denny Foust - NMOCD - Aztec, NM
Mr. Pat Sanchez - NMOCD - Santa Fe, NM



El Paso Field Services Co.
Chaco Plant
Proposed Monitoring Well Locations -
North Contact Waste Water Pond

bc: J. P. Barnett
R. Fagen
W. D. Hall
M. D. Hansen
G. Hoover
J. A. Lambdin
S. D. Miller/R. D. Cosby/J. S. Sterrett/Chaco Regulatory file

October 23, 1997

Semi-Annual ANALYTICAL REPORT

Chaco Plant
Monitor Well #1, 8, 9 and #10
Lab Sample #'s 971080 to 971084
Sampled 9/30/97
Sampled by Dennis Bird

REMARKS:
These samples represents the second round 1997 semi-annual testing requirements for these four monitor wells. Monitor wells #9 and #10 were installed on July 24, 1997 and the enclosed results for these wells represent the first routine samples taken from these new wells. The New Mexico WQCC limits for Benzene and Polyaromatic Hydrocarbons were exceeded for MW-10.

Distribution:

Sandra Miller - W/O Attachments
David Bays - W/Attachments
Mike Hansen - W/O Attachments
Results Log Book

Attachments

El Paso Natural Gas Company

CHAIN OF CUSTODY RECORD

A 2099

Project No.:

Project Name: CHACO PLANT

Samplers: (Signature) Dennis Bird

Date: 9-30-97

Matrix	Date	Time	Comp.	GRAB	Sample Number	Type and No. of Sample Containers	Preservation Technique	BTEX	Metals/Hg	Gen. Chemistry		Remarks
WATER	9-30-97	1158		X	971050	G-1 P-1	4°C	X	X			MONITOR WELL MW-1
WATER	9-30-97	1224		X	971051	G-1 P-1	4°C	X	X			MONITOR WELL MW-8
WATER	9-30-97	1524		X	971052	G-2 P-2	4°C	X	X	X		MONITOR WELL MW-9
WATER	9-30-97	1552		X	971053	G-2 P-2	4°C	X	X	X		MONITOR WELL MW-10
WATER	9-30-97	1552		X	971054	G-2 P-2	4°C	X	X	X		MONITOR WELL MW-10 (Field Duplicate)
WATER	9-30-97	—		X	—	G-1	4°C	X				TRIP BLANK

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	9-30-97 / 1757				

Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks:
		Marlon Hopper	10/1/97 0930	

Carrier Co:

Carrier Phone No.

Date Results Reported / by: (Signature)

Air Bill No.:

san juan repro Form 71-55 A

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

June 13, 1997

CERTIFIED MAIL
RETURN RECEIPT NO. P - 326-936-610

Mr. David Bays
El Paso Field Services (EPFS)
P.O. Box 4990
Farmington, NM 87499

RE: Wastewater Ponds - May 15, 1997
GW-71, Chaco Plant
San Juan County, NM

Dear Mr. Bays:

The New Mexico Oil Conservation Division (OCD) received on May 21, 1997 a letter from EPFS dated May 15, 1997 regarding the "Wastewater" ponds at Chaco Plant. **The OCD approves of the proposed plan of action from EPFS at the Chaco Plant (GW-071) with the following conditions:**

1. Mr. Denny Foust with the Aztec OCD office will be notified at least 72 hours in advance of any field activity involving this approved project. (505-334-6178)

2. The new wells upon construction need to be sampled for the WQCC parameters listed in 20 NMAC 6.2.Subpart III. 3103 constituents in order to establish base line water quality for the new monitor wells. Upon completion of this sampling EPFS may use the existing parameters used at the other monitor wells.

2. A "Field Report" to include the construction diagrams, geologic logs, a map showing the location of the monitor wells, and the sample results outlined in (2) above will be submitted to the OCD Santa Fe Division and Aztec District Offices 60 days after completion of the activity in point (2) above..

Note, that OCD approval does not relieve EPFS of liability should EPFS operation's result in contamination of surface water, ground water, or the environment. OCD approval does not relieve EPFS from compliance with other federal, state, and local regulations/rules that may apply.

Sincerely,

Patricio W. Sanchez,
Petroleum Engineering Specialist
Environmental Bureau

c: Mr. Denny Foust - Aztec District Office, OCD.

505 827 7156

Pat Sanchez
7/24/97 @ 10:18 AM

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
CHACO PLANT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	971080
MTR CODE | SITE NAME:	N/A	Chaco Plant
SAMPLE DATE | TIME (Hrs):	9/30/97	1158
PROJECT:	Monitor Well	
DATE OF BTEX EXT. | ANAL.:	10/6/97	10/6/97
TYPE | DESCRIPTION:	MW-1	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	<1	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	<1	PPB				
TOTAL XYLENES	<3	PPB				
TOTAL BTEX	<6	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 95.2 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Stark Date: 10-8-97

971080BTEXCP,10/8/97

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

EPFS LAB ID:	971080
DATE SAMPLED:	09/30/97
TIME SAMPLED (Hrs):	1158
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	NA
SAMPLE SITE NAME:	Chaco Plant
SAMPLE POINT:	Monitor Well MW-1

REMARKS: _____

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
CADMIUM	<0.0002	0.010
CHROMIUM	<0.004	0.050
MERCURY	<0.0002	0.002

References:

Method 3015, Microwave Assisted Acid Digestion of Aqueous Samples and Extracts, Test Methods for Evaluating Solid Waste, SW-846, Sept., 1994.

Method 7131, Cadmium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 7191, Chromium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 245.5, Mercury (Automated Cold Vapor Technique), Methods for the Determination of Metals in Environmental Samples, EPA 600/4-91/010, USEPA, June, 1991.

Reported By: mh Approved By: John Durham Date: 10/20/97

POLYNUCLEAR AROMATIC HYDROCARBONS

Method 8310

Chaco

Sample ID
971080

mw-1

Lab Name: Paragon Analytics, Inc.
Client Name: El Paso Field Services
Client Project ID: Chaco Plant Monitor Wells

Lab Sample ID: 9710009-1

Sample Matrix: Water
Cleanup: N/A

Date Collected: 9/30/97
Date Extracted: 10/03/97
Date Analyzed: 10/09/97

Sample Volume: 1000 mL
Final Volume: 1 mL
Dilution Factor: 1

Analyte	Conc (ug/L)	Reporting Limit (ug/L)
Naphthalene	ND	0.50
Acenaphthylene	ND	1.0
1-Methylnaphthalene	ND	1.0
2-Methylnaphthalene	ND	1.0
Acenaphthene	ND	1.0
Fluorene	ND	0.10
Phenanthrene	ND	0.050
Anthracene	ND	0.10
Fluoranthrene	ND	0.10
Pyrene	ND	0.050
Benzo(a)anthracene	ND	0.050
Chrysene	ND	0.050
Benzo(b)fluoranthrene	ND	0.10
Benzo(k)fluoranthrene	ND	0.050
Benzo(a)pyrene	ND	0.10
Dibenzo(a,h)anthracene	ND	0.10
Benzo(g,h,i)perylene	ND	0.10
Indeno(1,2,3-c,d)pyrene	ND	0.10

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2-Chloroanthracene	82	35 - 119

ND = Not Detected at or above client requested reporting limit.

FM

EL PASO FIELD SERVICES

Well Development and Purging Data

[ ] Development
[X] Purging

Well Number MW-1

Site Name CHACO PLANT

Meter Code NA

Development Criteria

- [X] 3 to 5 Casing Volumes of Water Removel
- [ ] Stabilization of Indicator Parameters
- [ ] Other

Methods of Development

Pump		Bailer	
[ ]	Centrifugal	[X]	Bottom Valve
[ ]	Submersible	[ ]	Double Check Valve
[ ]	Peristaltic	[ ]	Stainless-steel Kemmerer

[ ] Other

Water Volume Calculation

Initial Depth of Well (feet) 25.15
Initial Depth to Water (feet) 16.48
Height of Water Column in Well (feet) 8.67
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing		5.7	17.2
Gravel Pack			
Drilling Fluids			
Total			

Instruments

- [X] pH Meter
- [ ] DO Monitor
- [X] Conductivity Meter
- [X] Temperature Meter
- [X] Other O.O. CHEMETS KIT

Water Disposal

KOT2 SEPARATOR

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal): Increment	Water Volume Removed (gal): Cumulative	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
9-30-97	1026										17.5	6.51	1600		
9-30-97	1032						5.0	5.0			17.0	7.01	1600		
9-30-97	1038						5.0	10.0			16.3	7.16	1578		
9-30-97	1055						5.0	15.0			16.6	7.35	1631	7.0	

Comments THE WELL BAILED DRY @ 15.0 GALLONS.

Developer's Signature Dennis Bird Date 9-30-97 Reviewer John Landers Date 10-8-97

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
CHACO PLANT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	971081
MTR CODE | SITE NAME:	N/A	Chaco Plant
SAMPLE DATE | TIME (Hrs):	9/30/97	1224
PROJECT:	Monitor Well	
DATE OF BTEX EXT. | ANAL.:	10/6/97	10/6/97
TYPE | DESCRIPTION:	MW-8	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	<1	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	<1	PPB				
TOTAL XYLENES	<3	PPB				
TOTAL BTEX	<6	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 93.9 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Taylor Date: 10-8-97

971081BTEXCP,10/8/97

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

EPFS LAB ID:	971081
DATE SAMPLED:	09/30/97
TIME SAMPLED (Hrs):	1224
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	NA
SAMPLE SITE NAME:	Chaco Plant
SAMPLE POINT:	Monitor Well MW-8

REMARKS: _____

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
CADMIUM	<0.0002	0.010
CHROMIUM	<0.004	0.050
MERCURY	<0.0002	0.002

References:

Method 3015, Microwave Assisted Acid Digestion of Aqueous Samples and Extracts, Test Methods for Evaluating Solid Waste, SW-846, Sept., 1994.

Method 7131, Cadmium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 7191, Chromium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 245.5, *Mercury (Automated Cold Vapor Technique), Methods for the Determination of Metals in Environmental Samples*, EPA 600/4-91/010, USEPA, June, 1991.

Reported By: _____ Approved By: _____ Date: 10/20/97

POLYNUCLEAR AROMATIC HYDROCARBONS

Method 8310

Chaco
MW-8

Sample ID
971081

Lab Name: Paragon Analytics, Inc.
Client Name: El Paso Field Services
Client Project ID: Chaco Plant Monitor Wells

Lab Sample ID: 9710009-2

Sample Matrix: Water
Cleanup: N/A

Date Collected: 9/30/97
Date Extracted: 10/03/97
Date Analyzed: 10/09/97

Sample Volume: 1000 mL
Final Volume: 1 mL
Dilution Factor: 1

Analyte	Conc (ug/L)	Reporting Limit (ug/L)
Naphthalene	2.8 K	0.50
Acenaphthylene	ND	1.0
1-Methylnaphthalene	ND	1.0
2-Methylnaphthalene	ND	1.0
Acenaphthene	ND	1.0
Fluorene	1.7	0.10
Phenanthrene	0.15 K	0.050
Anthracene	0.16	0.10
Fluoranthrene	0.17	0.10
Pyrene	ND	0.050
Benzo(a)anthracene	ND	0.050
Chrysene	ND	0.050
Benzo(b)fluoranthrene	ND	0.10
Benzo(k)fluoranthrene	ND	0.050
Benzo(a)pyrene	ND	0.10
Dibenzo(a,h)anthracene	ND	0.10
Benzo(g,h,i)perylene	ND	0.10
Indeno(1,2,3-c,d)pyrene	ND	0.10

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2-Chloroanthracene	76	35 - 119

ND = Not Detected at or above client requested reporting limit.
K = Concentration confirmation does not agree within 50%.

fm

EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-8

Site Name CHACO PLANT

Meter Code NA

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) 21.80
Initial Depth to Water (feet) 10.30
Height of Water Column in Well (feet) 11.50
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		7.6	22.8
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					
9-30-97	1114										20.5	7.66	1720		
9-30-97	1119						5.0	5.0			20.0	7.35	1841		
9-30-97	1125						5.0	10.0			19.8	7.42	1836		
9-30-97	1132						5.0	15.0			19.6	7.53	1901		
9-30-97	1138						5.0	20.0			19.0	7.57	1966		
9-30-97	1146						5.0	25.0			18.6	7.60	2030	3.5	

Comments

Developer's Signature Dennis Bird Date 9-30-97 Reviewer John Loubsi Date 10-8-97

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
CHACO PLANT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	971082
MTR CODE | SITE NAME:	N/A	Chaco Plant
SAMPLE DATE | TIME (Hrs):	9/30/97	1524
PROJECT:	Monitor Well	
DATE OF BTEX EXT. | ANAL.:	10/6/97	10/6/97
TYPE | DESCRIPTION:	MW-9	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	<1	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	<1	PPB				
TOTAL XYLENES	<3	PPB				
TOTAL BTEX	<6	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 94.7 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Tardi Date: 10-8-97

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

EPFS LAB ID:	971082
DATE SAMPLED:	09/30/97
TIME SAMPLED (Hrs):	1524
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	NA
SAMPLE SITE NAME:	Chaco Plant
SAMPLE POINT:	Monitor Well MW-9

REMARKS: _____

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
CADMIUM	<0.0002	0.010
CHROMIUM	<0.004	0.050
MERCURY	<0.0002	0.002

References:

Method 3015, Microwave Assisted Acid Digestion of Aqueous Samples and Extracts, Test Methods for Evaluating Solid Waste, SW-846, Sept., 1994.

Method 7131, Cadmium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 7191, Chromium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 245.5, Mercury (Automated Cold Vapor Technique), Methods for the Determination of Metals in Environmental Samples, EPA 600/4-91/010, USEPA, June, 1991.

Reported By: mh Approved By: John Fowler Date: 10-20-97

POLYNUCLEAR AROMATIC HYDROCARBONS

Method 8310

Sample ID
971082

Chaco MW-9

Lab Name: Paragon Analytics, Inc.
Client Name: El Paso Field Services
Client Project ID: Chaco Plant Monitor Wells

Lab Sample ID: 9710009-3

Sample Matrix: Water
Cleanup: N/A

Date Collected: 9/30/97
Date Extracted: 10/03/97
Date Analyzed: 10/09/97

Sample Volume: 1000 mL
Final Volume: 1 mL
Dilution Factor: 10

Analyte	Conc (ug/L)	Reporting Limit (ug/L)
Naphthalene	ND	5.0
Acenaphthylene	ND	10
1-Methylnaphthalene	ND	10
2-Methylnaphthalene	ND	10
Acenaphthene	ND	10
Fluorene	6.0	1.0
Phenanthrene	0.73 K	0.50
Anthracene	0.89 J	1.0
Fluoranthrene	ND	1.0
Pyrene	ND	0.50
Benzo(a)anthracene	ND	0.50
Chrysene	ND	0.50
Benzo(b)fluoranthrene	ND	1.0
Benzo(k)fluoranthrene	ND	0.50
Benzo(a)pyrene	ND	1.0
Dibenzo(a,h)anthracene	ND	1.0
Benzo(g,h,i)perylene	ND	1.0
Indeno(1,2,3-c,d)pyrene	ND	1.0

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2-Chloroanthracene	69	35 - 119

ND = Not Detected at or above client requested reporting limit.
K = Concentration confirmation does not agree within 50%.
J = Estimated value. Below reporting limits.

EL PASO FIELD SERVICES

Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	971082
DATE SAMPLED:	09/30/97
TIME SAMPLED (Hrs):	1524
SAMPLED BY:	DB
MATRIX:	Water
METER CODE:	N/A
SAMPLE SITE NAME:	Chaco Plant
SAMPLE POINT:	MW-9

FIELD REMARKS: _____

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	7.8	Units	10/06/97
Alkalinity as $C0_3$	0	PPM	10/06/97
Alkalinity as $HC0_3$	508	PPM	10/06/97
Calcium as Ca	60.4	PPM	10/06/97
Magnesium as Mg	17.2	PPM	10/06/97
Total Hardness as $CaC0_3$	222	PPM	10/06/97
Chloride as Cl	60.0	PPM	10/01/97
Sulfate as $S0_4$	325	PPM	10/01/97
Fluoride as F	2.02	PPM	10/06/97
Nitrate as $N0_3$-N	<0.1	PPM	10/01/97
Nitrite as $N0_2$-N	<0.1	PPM	10/01/97
Ammonium as NH_4^+	<0.1	PPM	10/06/97
Phosphate as PO_4	<0.1	PPM	10/01/97
Potassium as K	1.46	PPM	10/06/97
Sodium as Na	277	PPM	10/06/97
Total Dissolved Solids	1,010	PPM	10/06/97
Conductivity	1,450	umhos/cm	10/06/97
Anion/Cation %	1.2%	%, <5.0 Accepted	10/08/97

Lab Remarks:

Reported By: CK Approved By: John Fowler Date: 10-8-97

EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-9

Site Name CHACO PLANT

Meter Code NA

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) 21.42
Initial Depth to Water (feet) 11.14
Height of Water Column in Well (feet) 10.28
Diameter (inches): Well 4 Gravel Pack_____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		6.8	20.4
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					
9-30-97	1333										21.9	7.00	1430		
9-30-97	1338						5.0	5.0			20.0	7.10	1482		
9-30-97	1344						5.0	10.0			19.7	7.25	1544		
9-30-97	1351						5.0	15.0			19.5	7.37	1555		
9-30-97	1357						5.0	20.0			20.1	7.36	1567		
9-30-97	1405						5.0	25.0			20.0	7.40	1509	0.5	

Comments THE WATER HAD A LIGHT HYDROGEN SULFIDE SMELL.

Developer's Signature Dennis Bird Date 9-30-97 Reviewer John Stubbs Date 10-8-97

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
CHACO PLANT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	971083
MTR CODE | SITE NAME:	N/A	Chaco Plant
SAMPLE DATE | TIME (Hrs):	9/30/97	1552
PROJECT:	Monitor Well	
DATE OF BTEX EXT. | ANAL.:	10/6/97	10/6/97
TYPE | DESCRIPTION:	MW-10	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	702	PPB	5	D		
TOLUENE	493	PPB	5	D		
ETHYL BENZENE	34.6	PPB	5	D		
TOTAL XYLENES	241	PPB	5	D		
TOTAL BTEX	1470	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 96.0 % 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 Fuller Date: 10-8-97

971083BTEXCP,10/8/97

POLYNUCLEAR AROMATIC HYDROCARBONS

Method 8310

Sample ID
971083

Chaco
MW-10

Lab Name: Paragon Analytics, Inc.
Client Name: El Paso Field Services
Client Project ID: Chaco Plant Monitor Wells

Lab Sample ID: 9710009-4

Sample Matrix: Water
Cleanup: N/A

Date Collected: 9/30/97
Date Extracted: 10/03/97
Date Analyzed: 10/09/97

Sample Volume: 1000 mL
Final Volume: 1 mL
Dilution Factor: 100

Analyte	Conc (ug/L)	Reporting Limit (ug/L)
Naphthalene	100	50
Acenaphthylene	ND	100
1-Methylnaphthalene	370 K	100
2-Methylnaphthalene	540	100
Acenaphthene	ND	100
Fluorene	ND	10
Phenanthrene	34	5.0
Anthracene	ND	10
Fluoranthrene	ND	10
Pyrene	ND	5.0
Benzo(a)anthracene	ND	5.0
Chrysene	ND	5.0
Benzo(b)fluoranthrene	ND	10
Benzo(k)fluoranthrene	ND	5.0
Benzo(a)pyrene	ND	10
Dibenzo(a,h)anthracene	ND	10
Benzo(g,h,i)perylene	ND	10
Indeno(1,2,3-c,d)pyrene	ND	10

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2-Chloroanthracene	I	35 - 119

ND = Not Detected at or above client requested reporting limit.
K = Concentration confirmation does not agree within 50%.
I = Surrogate recovery not reported due to high level of sample dilution.

EL PASO FIELD SERVICES

Field Services Laboratory

Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	971083
DATE SAMPLED:	09/30/97
TIME SAMPLED (Hrs):	1552
SAMPLED BY:	DB
MATRIX:	Water
METER CODE:	N/A
SAMPLE SITE NAME:	Chaco Plant
SAMPLE POINT:	MW-10

FIELD REMARKS:

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	7.25	Units	10/06/97
Alkalinity as $C0_3$	0	PPM	10/06/97
Alkalinity as $HC0_3$	1105	PPM	10/06/97
Calcium as Ca	78.3	PPM	10/06/97
Magnesium as Mg	31.4	PPM	10/06/97
Total Hardness as $CaC0_3$	325	PPM	10/06/97
Chloride as Cl	561	PPM	10/06/97
Sulfate as $S0_4$	168	PPM	10/01/97
Fluoride as F	1.61	PPM	10/06/97
Nitrate as $N0_3$-N	<0.6	PPM	10/01/97
Nitrite as $N0_2$-N	<0.6	PPM	10/01/97
Ammonium as NH_4^+	<0.3	PPM	10/06/97
Phosphate as PO_4	<0.6	PPM	10/01/97
Potassium as K	1.68	PPM	10/06/97
Sodium as Na	678	PPM	10/06/97
Total Dissolved Solids	2,150	PPM	10/06/97
Conductivity	3,190	umhos/cm	10/06/97
Anion/Cation %	2.1%	%, <5.0 Accepted	10/08/97

Lab Remarks:

Reported By: CV

Approved By: John Faubion

Date: 10-8-97

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

EPFS LAB ID:	971083
DATE SAMPLED:	09/30/97
TIME SAMPLED (Hrs):	1552
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	NA
SAMPLE SITE NAME:	Chaco Plant
SAMPLE POINT:	Monitor Well MW-10

REMARKS: _____

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
CADMIUM	<0.0002	0.010
CHROMIUM	<0.004	0.050
MERCURY	<0.0002	0.002

References:

Method 3015, Microwave Assisted Acid Digestion of Aqueous Samples and Extracts, Test Methods for Evaluating Solid Waste, SW-846, Sept., 1994.

Method 7131, Cadmium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 7191, Chromium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 245.5, Mercury (Automated Cold Vapor Technique), Methods for the Determination of Metals in Environmental Samples, EPA 600/4-91/010, USEPA, June, 1991.

Reported By: mh Approved By: John Fowler Date: 10-20-97

EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-10

Site Name CHACO PLANT

Meter Code NA

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) 22.22
Initial Depth to Water (feet) 11.31
Height of Water Column in Well (feet) 10.91
Diameter (inches): Well 4 Gravel Pack_____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		7.2	21.6
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					
9-30-97	1435										21.7	6.81	3050		
9-30-97	1442						5.0	5.0			21.0	6.75	3040		
9-30-97	1448						5.0	10.0			20.6	6.76	3030		
9-30-97	1456						5.0	15.0			20.6	6.83	3050		
9-30-97	1503						5.0	20.0			20.4	6.81	3090		
9-30-97	1511						5.0	25.0			20.2	6.84	3030	1.5	

Comments THE WELL HAD 0.95' OF FREE FLOATING HYDROCARBON.

Developer's Signature Dennis Bird Date 9-30-97 Reviewer John Stalli Date 10-8-97

EL PASO FIELD SERVICES

Field Services Laboratory

Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	971084
DATE SAMPLED:	09/30/97
TIME SAMPLED (Hrs):	1552
SAMPLED BY:	DB
MATRIX:	Water
METER CODE:	N/A
SAMPLE SITE NAME:	Chaco Plant
SAMPLE POINT:	MW-10

FIELD REMARKS: Field Duplicate

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	7.30	Units	10/06/97
Alkalinity as $C0_3$	0	PPM	10/06/97
Alkalinity as $HC0_3$	1094	PPM	10/06/97
Calcium as Ca	76.6	PPM	10/06/97
Magnesium as Mg	30.6	PPM	10/06/97
Total Hardness as $CaC0_3$	317	PPM	10/06/97
Chloride as Cl	536	PPM	10/06/97
Sulfate as $S0_4$	192	PPM	10/01/97
Fluoride as F	1.61	PPM	10/06/97
Nitrate as $N0_3$-N	<0.1	PPM	10/01/97
Nitrite as $N0_2$-N	<0.1	PPM	10/01/97
Ammonium as NH_4^+	<0.3	PPM	10/06/97
Phosphate as PO_4	0.99	PPM	10/01/97
Potassium as K	1.65	PPM	10/06/97
Sodium as Na	674	PPM	10/06/97
Total Dissolved Solids	2,170	PPM	10/06/97
Conductivity	3,180	umhos/cm	10/06/97
Anion/Cation %	2.0%	%, <5.0 Accepted	10/08/97

Lab Remarks:

Reported By: CV Approved By: John Fowler Date: 10-8-97

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
CHACO PLANT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	971084
MTR CODE | SITE NAME:	N/A	Chaco Plant
SAMPLE DATE | TIME (Hrs):	9/30/97	1552
PROJECT:	Monitor Well	
DATE OF BTEX EXT. | ANAL.:	10/6/97	10/6/97
TYPE | DESCRIPTION:	MW-10	Water

Field Remarks: Field Duplicate

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	882	PPB	5	D		
TOLUENE	598	PPB	5	D		
ETHYL BENZENE	36.4	PPB	5	D		
TOTAL XYLENES	252	PPB	5	D		
TOTAL BTEX	1768	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 96.2 % 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 Laskar Date: 10-8-97

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

EPFS LAB ID:	971084
DATE SAMPLED:	09/30/97
TIME SAMPLED (Hrs):	1552
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	NA
SAMPLE SITE NAME:	Chaco Plant
SAMPLE POINT:	Monitor Well MW-10

REMARKS: Field Duplicate

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
CADMIUM	<0.0002	0.010
CHROMIUM	<0.004	0.050
MERCURY	<0.0002	0.002

References:

Method 3015, Microwave Assisted Acid Digestion of Aqueous Samples and Extracts, Test Methods for Evaluating Solid Waste, SW-846, Sept., 1994.

Method 7131, Cadmium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 7191, Chromium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 245.5, Mercury (Automated Cold Vapor Technique), Methods for the Determination of Metals in Environmental Samples, EPA 600/4-91/010, USEPA, June, 1991.

Reported By: mh Approved By: [signature] Date: 10-20-97

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX

Samples: 971080 to 971087

QA/QC for 10/6/97 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	49.3	98.7	75 - 125 %	X	
Toluene	Standard	50.0	48.7	97	75 - 125 %	X	
Ethylbenzene	Standard	50.0	49.3	99	75 - 125 %	X	
m & p - Xylene	Standard	100	98.5	98.5	75 - 125 %	X	
o - Xylene	Standard	50.0	49.2	98	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	25.3	101.2	39 - 150	X	
Toluene	Standard	25.0	24.4	97	46 - 148	X	
Ethylbenzene	Standard	25.0	24.8	99	32 - 160	X	
m & p - Xylene	Standard	50.0	49.8	100	Not Given	X	
o - Xylene	Standard	25.0	24.9	100	Not Given	X	

SAMPLE NUMBER CCV LA-52589 50 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	Standard	50.0	49.2	98.5	75 - 125 %	X	
Toluene	Standard	50.0	48.1	96.2	75 - 125 %	X	
Ethylenzene	Standard	50.0	48.9	97.8	75 - 125 %	X	
m & p - Xylene	Standard	100	97.7	97.7	75 - 125 %	X	
o - Xylene	Standard	50.0	49.0	98	75 - 125 %	X	

SAMPLE NUMBER CCV LA-52589 50 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	Standard	50.0	49.9	99.7	75 - 125 %	X	
Toluene	Standard	50.0	48.0	96.0	75 - 125 %	X	
Ethylbenzene	Standard	50.0	48.3	96.7	75 - 125 %	X	
m & p - Xylene	Standard	100	96.3	96.3	75 - 125 %	X	
o - Xylene	Standard	50.0	48.4	96.8	75 - 125 %	X	

Narrative: Acceptable.

SAMPLE ID 971086	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	R	ACCEPTABLE RANGE	YES	NO
Benzene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X	
Toluene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X	
Ethylbenzene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X	
m & p - Xylene	Matrix Duplicate	<2	<2	0.00	+/- 20 %	X	
o - Xylene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X	

Narrative: Acceptable.

LABORATORY SPIKES:

SAMPLE ID 2nd Analysis 971086	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	50	<1	53.7	107.5	75 - 125 %	X	
Toluene	50	<1	48.6	97	75 - 125 %	X	
Ethylbenzene	50	<1	49.1	98	75 - 125 %	X	
m & p - Xylene	100	<2	98.2	98.2	75 - 125 %	X	
o - Xylene	50	<1	49.3	99	75 - 125 %	X	

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.

9/30/97 TRIP BLANK	SOURCE	PPB	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: CV Approved By: John Faulds Date: 10-8-97

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT

Sample ID: 971080 thru 971084
Date Reported: 10/15/97

LABORATORY CONTROL SAMPLE

Analyte	Found Result (mg/L)	Known Value (mg/L)	% Recovery
Cadmium	0.0012	0.0012	103%
Chromium	0.0070	0.0074	93.5%
Mercury	0.0046	0.0046	99.1%

DUPLICATE ANALYSIS (mg/L)

Analyte	Original Sample Result	Duplicate Sample Result	% RPD
Cadmium	ND	ND	NA
Chromium	ND	ND	NA
Mercury	ND	ND	NA

SPIKE ANALYSIS (mg/L)

Analyte	Original Sample Result	Spike Sample Result	Spike Added	Recovery Percent
Cadmium	ND	0.0094	0.010	93.2%
Chromium	ND	0.0533	0.050	101%
Mercury	ND	0.0019	0.002	94.0%

METHOD BLANK

Analyte	Found Result (mg/L)	Detection Level (mg/L)
Cadmium	ND	0.0002
Chromium	ND	0.004
Mercury	ND	0.00019

ND: Not Detected at stated detection level.
NA: Not Applicable.

Reported By: mh Approved By: John Sanders Date: 10/20/97

PARAGON ANALYTICS, INC.
225 Commerce Drive ◆ Fort Collins, CO 80524 ◆ (800) 443-1511 ◆ (970) 490-1511 ◆ FAX (970) 490-1522

October 16, 1997

Mr. John Lambdin
El Paso Field Services
770 West Navajo
Farmington, NM 87401

RE: Paragon Workorder: 97-10-009
Client Project Name: Chaco Plant Monitor Wells
Client Project Number: Not Submitted

Dear Mr. Lambdin:

Four water samples were received from El Paso Field Services on October 2, 1997. The samples were scheduled for PAHs by HPLC analysis. The results for this analysis are contained in the enclosed report pages 1-9.

Thank you for your confidence in Paragon Analytics, Inc. Should you have any questions, please call.

Sincerely,

Paragon Analytics, Inc.
Victoria Bayly
Project Manager

VB/jjc
Enclosure: report

Reviewed QA/QC
Approved
10-23-97

Paragon Analytics, Inc.

PAHs by HPLC Case Narrative

El Paso Field Services

Chaco Plant Monitor Wells

Order Number - 9710009

1. This report consists of 4 water samples received by Paragon on 10/2/97.

2. These samples were extracted and analyzed according to SW-846, 3rd Edition procedures. Specifically, the water samples were extracted using continuous liquid-liquid extractors, based on Method 3520.

3. The extracts were then analyzed using HPLC with UV and fluorescence detectors with a reverse phase C18 column according to protocols based on Method 8310. All compounds are analyzed using UV at 254 nm. Confirmation is performed for positive results using the fluorescence detector or confirmed by UV at 280 nm for those compounds that do not respond to the fluorescence detector. The quantitation of each analyte is usually taken from the detector that exhibits the fewest interferences. These quantitations minimize the chances of reporting elevated results based on interferences. If compounds do not confirm quantitatively (if the higher amount is greater than twice the lower amount the 2 amounts are considered ***not*** to confirm each other quantitatively), then the value is flagged with a "K" and noted on the report page.

4. All samples were extracted and analyzed within the established holding times.

5. The method blank associated with this project was below the reporting limits for all analytes.

6. All Blank Spike and Blank Spike Duplicate recoveries and RPDs were within the acceptance criteria.

7. Matrix Spikes and Matrix Spike Duplicates could not be performed because of insufficient sample volume. A Blank Spike and Blank Spike Duplicate were performed instead. See Item 6 for details on recoveries.

8. All surrogate recoveries were within acceptable limits with the following exception;

Sample	Surrogate
4	2-Chloroanthracene

The surrogate could not be quantitated due to the high amount of dilution needed to bring the concentration of the target anlytes within range of the calibration curve, so no futher action is needed.

9. Due to matrix interferences and high levels of target analytes, samples 3 & 4 were analyzed at a higher dilution. The detection limits have been adjusted accordingly.

10. All initial and continuing calibration criteria were within acceptance criteria.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics, Inc. certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Preston Mathiesen — 10/15/97
HPLC Analyst — Date

RB — 10-16-97
Reviewer's Initials — Date

Paragon Analytics, Inc.

SAMPLE NUMBER(S) CROSS-REFERENCE TABLE

Client Name: El Paso Field Services

Client Project ID: Chaco Plant Monitor Wells

PAI-ID	Client ID	MATRIX	DATE SAMPLED
9710009-1	971080 - mw-1	Water	09/30/97
9710009-2	971081 - mw-8	Water	09/30/97
9710009-3	971082 - mw-9	Water	09/30/97
9710009-4	971083 - mw-10	Water	09/30/97

POLYNUCLEAR AROMATIC HYDROCARBONS

Method 8310

Sample ID
Reagent Blank

Lab Name: Paragon Analytics, Inc.
Client Name: El Paso Field Services
Client Project ID: Chaco Plant Monitor Wells

Lab Sample ID: WRB1 10/3/97

Sample Matrix: Water
Cleanup: N/A

Date Collected: N/A
Date Extracted: 10/03/97
Date Analyzed: 10/09/97

Sample Volume: 1000 mL
Final Volume: 1 mL
Dilution Factor: 1

Analyte	Conc (ug/L)	Reporting Limit (ug/L)
Naphthalene	ND	0.50
Acenaphthylene	ND	1.0
1-Methylnaphthalene	ND	1.0
2-Methylnaphthalene	ND	1.0
Acenaphthene	ND	1.0
Fluorene	ND	0.10
Phenanthrene	ND	0.050
Anthracene	ND	0.10
Fluoranthrene	ND	0.10
Pyrene	ND	0.050
Benzo(a)anthracene	ND	0.050
Chrysene	ND	0.050
Benzo(b)fluoranthrene	ND	0.10
Benzo(k)fluoranthrene	ND	0.050
Benzo(a)pyrene	ND	0.10
Dibenzo(a,h)anthracene	ND	0.10
Benzo(g,h,i)perylene	ND	0.10
Indeno(1,2,3-c,d)pyrene	ND	0.10

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2-Chloroanthracene	70	35 - 119

ND = Not Detected at or above client requested reporting limit.

POLYNUCLEAR AROMATIC HYDROCARBONS BLANK SPIKE

Method 8310

Lab Name: Paragon Analytics, Inc.
Client Name: El Paso Field Services
Client Project ID: Chaco Plant Monitor Wells

Lab Sample ID: WBS1 & 2, 10/3/97

Sample Matrix: Water
Cleanup: N/A

Sample ID

Blank Spike

Date Extracted: 10/03/97
Date Analyzed: 10/09/97

Sample Volume: 1,000 mL
Final Volume: 1 mL

Analyte	Spike Added (ug/L)	BS Concentration (ug/L)	BS Percent Recovery	QC Limits % Rec
Acenaphthylene	10.0	6.51	65	36 - 93
Phenanthrene	1.00	0.746	75	45 - 107
Pyrene	1.00	0.838	84	40 - 104
Benzo(k)fluoranthene	0.250	0.236	94	61 - 126
Dibenzo(a,h)anthracene	1.00	0.848	85	55 - 113

Analyte	Spike Added (ug/L)	BSD Concentration (ug/L)	BSD Percent Recovery	RPD	QC Limits RPD
Acenaphthylene	10.0	5.86	59	10	20
Phenanthrene	1.00	0.610	61	20	20
Pyrene	1.00	0.743	74	12	20
Benzo(k)fluoranthene	0.250	0.230	92	2	20
Dibenzo(a,h)anthracene	1.00	0.916	92	8	20

SURROGATE RECOVERY BS/BSD

Analyte	% Recovery BS	% Recovery BSD	% Rec Limits
2-Chloroanthracene	84	72	35 -119

PARAGON ANALYTICS, INC.
225 Commerce Drive Ft. Collins, CO 80524
(800) 443-1511 or (970) 490-1511
(970) 490-1522 - Fax

CHAIN OF CUSTODY

DATE 9-30-97 Page 1 of 1

ACCESSION NUMBER (LAB ID)

REPORT TO: JOHN LAMBOIN
COMPANY: EL PASO FIELD SERVICE
ADDRESS: P.O. BOX 4990
FARMINGTON NM 87499
SAMPLER: DENNIS BIRD
505-599-2144 (PHONE NO.) 505-599-2261 (FAX NO.)

ANALYSIS REQUESTED

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Oil & Grease 9070/9071/413.2	418.1 - TRPH	8015 Mod. - Gasoline	8015 Mod. - Diesel	8015m/8020 - Gasoline/BETX	8020 - BETX only	8240/8260 - GC/MS VOC's	8270 - GC/MS SVOC's	8080 - Pesticides/PCB's	8080 - PCB's only	8310/610 - HPLC PNA's	8150 - Herbicides	8141/614 - OP Pesticides	TOX - EOX - AOX - TX	Total Metals *(specify in comments)	TCLP: *(specify parameters in comments)	Gross Alpha / Beta	Gross Gamma	Gamma Spec	Isotopic Plutonium	Isotopic Uranium	Total Uranium (KPA)	Radium 226 / 228	Tritium (H3)	Strontium 89 / 90	8315 - Formaldehyde	% Moisture	Number of Containers
971080	9-30-97	1158	WATER	01											X																2
971081	9-30-97	1224	WATER	02											X																2
971082	9-30-97	1524	WATER	03											X																2
971083	9-30-97	1552	WATER	04											X																2

PROJECT INFORMATION
PROJECT NUMBER:
PROJECT NAME: CHACO PLANT MONITOR WELLS
P.O. NUMBER:
TAT: [X] STANDARD [ ] RUSH DUE _____
SAMPLE DISPOSAL: [ ] HAZ WASTE $5.00 ea [ ] RAD CHEM $15.00 ea [ ] RETURN

SAMPLE RECEIPT
TOTAL NO. OF CONTAINERS:
CHAIN OF CUSTODY SEALS (Y/N/NA):
SEALS INTACT? (Y/N/NA):
RECD GOOD COND./COLD:

RELINQUISHED BY: 1	RELINQUISHED BY: 2	RELINQUISHED BY: 3
Sign. Dennis Bird Time 1500	Sign. Time	Sign. Time
Print DENNIS BIRD Date 9-30-97	Print Date	Print Date
Company EL PASO FIELD SER.	Company FAX	Company
RECEIVED BY: 1	**RECEIVED BY: 2**	**RECEIVED BY: 3**
Sign. Time	Sign. Time 900	Sign. Time
Print Date	Print D Hull Date 10/2/97	Print Date
Company FAX	Company PAT	Company

COMMENTS: LOW LEVEL BENZO(A)PYRENE < 0.7 ppb

770 West Navajo.
87401

* DO NOT WRITE IN SHADED AREAS

DISTRIBUTION: White, Canary - PARAGON ANALYTICS, INC. Pink - Originator

Paragon Analytics, Inc. - Fort Collins, Colorado

CONDITION OF SAMPLE UPON RECEIPT

CLIENT: El Paso Field Services SHIPPING CONTAINER #: Cooler

WORKORDER NO. 97-10-029 INITIALS: KCL DATE: 10/2/97

1.	Does this project require special handling according to NEESA, Level 3, or CLP protocols? If yes, complete a. and b. a. Cooler Temperature_____ b. Lot No's._____ c. Airbill Number_____		Yes	(No)
2.	Are custody seals on the cooler intact? If so, how many	(N/A)	Yes	No
3.	Are custody seals on sample containers intact?	(N/A)	Yes	No
4.	Is there a Chain of Custody (COC) or other representative documents, letters or shipping memos?		(Yes)	No
5.	Is the COC complete? Relinquished: Yes ✓ No___ Requested Analysis: Yes ✓ No___	N/A	(Yes)	No
6.	Is the COC in agreement with the samples received? No. of Samples: Yes ✓ No___ Sample ID's: Yes ✓ No___ Matrix: Yes ✓ No___ No. of Containers: Yes ✓ No___		(Yes)	No
7.	Are the samples requiring chemical preservation preserved correctly?	(N/A)	Yes	No
8.	Is there enough sample? If so, are they in the proper containers?		(Yes)	No
9.	Are all samples within holding times for the requested analyses?		(Yes)	No
10.	Were the sample(s) shipped on ice?	N/A	(Yes)	No
11.	Were all sample containers received intact? (not broken or leaking, etc.)		(Yes)	No
12.	Are samples requiring no headspace, headspace free?	(N/A)	Yes	No
13.	Do the samples require quarantine?		Yes	(No)
14.	Do samples require Paragon disposal?		(Yes)	No
15.	Did the client return any unused bottles?		Yes	(No)

Describe "NO" items (except No's 1, 13, &14):_____

Was the client contacted? Yes_____ No_____

If yes, Date:_____ Name of person contacted:_____

Describe actions taken or client instructions:_____

Group Leader's Signature:_____ Date:_____

Cooler Temperature: 3°c