GW - 71-0

MONITORING REPORTS

DATE: 1998

EL PASO ENERGY

February 8, 1999

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. Monitoring well 10, adjacent to the old flare pit which was closed in 1995, exceeds several water quality standards for organics.

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

El Paso Energy Corporation 614 Reilly Avenue Farmington, New Mexico 87401 Phone (505) 325-2841 Fax (505) 599-2119

Chaco Plant Groundwater Monitoring Well Results 1998

All Results Expressed as Micrograms/Liter (ppb)

Monitoring Well 1	3/24/98	9/15/98			
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	3/24/98	9/15/98			
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	3.7	2.3			
Total Benzopyrenes	ND	ND			

NA = Not Analyzed ND = None Detected

Chaco Plant Groundwater Monitoring Well Results 1998

All Results Expressed as Micrograms/Liter (ppb)

Monitoring Well 9	3/30/98	9/15/98			
Benzene	3.15	< 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	3/30/98	9/15/98			
Benzene	488	923			
Toluene	653	432			
Ethyl Benzene	40	47			
Xylenes	323	312			
Cadmium	< 0.0001	<0.0002			
Chromium	0.0020	<0.004			
Mercury	< 0.0003	<0.0002			
Total Naphthalenes	45	ND			
Total Benzopyrenes	ND	ND			

NA = Not Analyzed ND = None Detected

Chaco Plant Groundwater Monitoring Well Results 1998

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 9, 1998

Test	Well 2	Well 3	Well 4	Well 5	Well 6	Well 7	Non-Contact Wastewater
pH	7.3	7.3	6.9	7.2	8.0	7.2	8.2
Alkalinity - CO_3	0.0	0	0	0	0	0	0
Alkalinity - HCO_3	420	328	566	361	425	343	171
Calcium	99	120	447	318	93	188	228
Magnesium	24	24	78	58	18	36	44
Total Hardness	346	398	1437	1033	306	618	751
Chloride	197	31	398	69	257	126	27
Sulfate as SO_4	768	474	2701	1378	1826	998	766
Fluoride	2.2	0.9	1.9	0.9	2.7	2.4	1.9
Nitrate as NO_3	0.6	0.6	6.4	1.4	1.8	0.6	0.3
Nitrate as NO_2	0.6	0.6	0.6	0.6	0.6	0.6	0.2
Ammonium as NH_4	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Phosphate	0.6	0.6	0.6	0.6	0.6	0.6	0.2
Potassium	2.9	2.4	11.3	3.9	6.2	5.1	27
Sodium	504	216	1133	405	1095	414	110
TDS	1836	1080	5250	2524	3612	2048	1462
Conductivity	2640	1562	5930	3050	5090	2690	1721
Cadmium	.001	.001	.001	.001	.001	.001	.001
Chromium	.005	.005	.005	.005	.005	.005	.005
Mercury	.0002	.0002	.0002	.0002	.0002	.0002	.0002

October 6, 1998

Semi-Annual ANALYTICAL REPORT

Chaco Plant
Monitor Well #1, 8, 9 and #10
Lab Sample #'s 980643 to 980647
Sampled 9/15/98
Sampled by Dennis Bird

REMARKS:
These samples represents the second round 1998 semi-annual testing requirements for these four monitor wells. The New Mexico WQCC limit for Benzene was exceeded for MW-10. This monitor well has free product present.

Distribution:

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

Attachments

El Paso Natural Gas Company

A 2395

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Type and No. of Sample Containers	Preservation Technique	Requested Analysis			Remarks
	CHACO PLANT			BTXE			
Samplers: (Signature) Dennis Bird	Date: 9-15-98						
MATRIX / Date / Time / Comp. / GRAB / Sample Number							
WATER 9-15-98 1112 X 980643		G-1	4°C	X			MONITOR WELL MW-1
WATER 9-15-98 1139 X 980644		G-1	4°C	X			MONITOR WELL MW-8
WATER 9-15-98 1354 X 980645		G-1	4°C	X			MONITOR WELL MW-9
WATER 9-15-98 1354 X 980646		G-1	4°C	X			MONITOR WELL MW-9 FIELD DUP
WATER 9-15-98 1505 X 980647		G-2	4°C	X			MONITOR WELL MW-10
WATER 9-15-98 — 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	9-15-98 1642				
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:	
		Marlon Rupper	9/16/98 1530		
Carrier Co:		Carrier Phone No.	Date Results Reported / by: (Signature)		
Air Bill No.:					

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EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
CHACO PLANT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	980643
MTR CODE | SITE NAME:	N/A	Chaco Plant
SAMPLE DATE | TIME (Hrs):	9/15/98	1112
PROJECT:	Chaco Plant	
DATE OF BTEX EXT. | ANAL.:	9/18/98	9/18/98
TYPE | DESCRIPTION:	Water	MW-1

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 87.6 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Fowler Date: 9/28/98

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
CHACO PLANT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	980644
MTR CODE | SITE NAME:	N/A	Chaco Plant
SAMPLE DATE | TIME (Hrs):	9/15/98	1139
PROJECT:	Chaco Plant	
DATE OF BTEX EXT. | ANAL.:	9/18/98	9/18/98
TYPE | DESCRIPTION:	Water	MW-8

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 89.5 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By: John Fabrizi Date: 9/28/98

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
CHACO PLANT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	980645
MTR CODE | SITE NAME:	N/A	Chaco Plant
SAMPLE DATE | TIME (Hrs):	9/15/98	1354
PROJECT:	Chaco Plant	
DATE OF BTEX EXT. | ANAL.:	9/18/98	9/18/98
TYPE | DESCRIPTION:	Water	MW-9

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 90.1 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Saldi Date: 9/25/98

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
CHACO PLANT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	980646
MTR CODE | SITE NAME:	N/A	Chaco Plant
SAMPLE DATE | TIME (Hrs):	9/15/98	1354
PROJECT:	Chaco Plant	
DATE OF BTEX EXT. | ANAL.:	9/18/98	9/18/98
TYPE | DESCRIPTION:	Water	MW-9 Field Dup

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 89.7 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: _____ Date: 9/28/98

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
CHACO PLANT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	980647
MTR CODE | SITE NAME:	N/A	Chaco Plant
SAMPLE DATE | TIME (Hrs):	9/15/98	1505
PROJECT:	Chaco Plant	
DATE OF BTEX EXT. | ANAL.:	9/24/98	9/24/98
TYPE | DESCRIPTION:	Water	MW-10

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	923	PPB	10	D		
TOLUENE	432	PPB	10	D		
ETHYL BENZENE	46.6	PPB	10	D		
TOTAL XYLENES	312	PPB	10	D		
TOTAL BTEX	1714	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 90.1 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

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

Narrative:

Approved By: John Fowler Date: 9/25/98

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX
980643 to
Samples: 980647

JP 10/2/98
QA/QC for 9/24/98 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	46.7	93.3	75 - 125 %	X	
Toluene	Standard	50.0	46.7	93	75 - 125 %	X	
Ethylbenzene	Standard	50.0	46.8	94	75 - 125 %	X	
m & p - Xylene	Standard	100	94.2	94.2	75 - 125 %	X	
o - Xylene	Standard	50.0	46.8	94	75 - 125 %	X	

SAMPLE NUMBER LCS LA-45476 25 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	Standard	25.0	22.6	90.3	39 - 150	X	
Toluene	Standard	25.0	22.8	91	46 - 148	X	
Ethylbenzene	Standard	25.0	22.9	92	32 - 160	X	
m & p - Xylene	Standard	50.0	46.2	92	Not Given	X	
o - Xylene	Standard	25.0	23.1	92	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	49.1	98.3	75 - 125 %	X	
Toluene	Standard	50.0	49.1	98.3	75 - 125 %	X	
Ethylenzene	Standard	50.0	49.1	98.2	75 - 125 %	X	
m & p - Xylene	Standard	100	98.7	98.7	75 - 125 %	X	
o - Xylene	Standard	50.0	49.4	99	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	47.6	95.3	75 - 125 %	X	
Toluene	Standard	50.0	47.4	94.8	75 - 125 %	X	
Ethylbenzene	Standard	50.0	47.2	94.4	75 - 125 %	X	
m & p - Xylene	Standard	100	94.7	94.7	75 - 125 %	X	
o - Xylene	Standard	50.0	47.6	95.3	75 - 125 %	X	

Narrative: Acceptable.

SAMPLE NUMBER CCV LA-52589 50 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	Standard	50.0	47.0	93.9	75 - 125 %	X	
Toluene	Standard	50.0	46.7	93.5	75 - 125 %	X	
Ethylbenzene	Standard	50.0	46.4	92.8	75 - 125 %	X	
m & p - Xylene	Standard	100	92.9	92.9	75 - 125 %	X	
o - Xylene	Standard	50.0	46.9	93.9	75 - 125 %	X	

Narrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE ID 980647	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE RANGE	YES	NO
Benzene	Matrix Duplicate	92.4	93.3	0.99	+/- 20 %	X	
Toluene	Matrix Duplicate	43.2	43.6	0.90	+/- 20 %	X	
Ethylbenzene	Matrix Duplicate	4.65	4.68	0.64	+/- 20 %	X	
m & p - Xylene	Matrix Duplicate	25.4	25.5	0.47	+/- 20 %	X	
o - Xylene	Matrix Duplicate	5.81	5.82	0.17	+/- 20 %	X	

Narrative: Acceptable.

LABORATORY SPIKES:

SAMPLE ID 2nd Analysis 980647	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	50	92.4	140	95.3	75 - 125 %	X	
Toluene	50	43.2	89.7	93	75 - 125 %	X	
Ethylbenzene	50	4.7	51.5	94	75 - 125 %	X	
m & p - Xylene	100	25.4	120	94.3	75 - 125 %	X	
o - Xylene	50	5.8	52.5	93	75 - 125 %	X	

Narrative: Acceptable

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

Narrative: Acceptable.

SOIL VIAL BLANK	SOURCE Lot MB1461	PPB (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.

TRIP BLANK	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: CW Approved By: John Fowler Date: 9/28/98

EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

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) 25.15
Initial Depth to Water (feet) 18.36
Height of Water Column in Well (feet) 6.79
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		4.5	13.5
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					
9-15-98	0935										17.0	6.31	1639		
9-15-98	0942						5.0	5.0			16.0	6.87	1655		
9-15-98	0951						3.0	8.0			16.0	7.02	1634		
9-15-98	1003						2.0	10.0			16.0	7.21	1649	7.0	

Comments THE WELL BAILED DRY @ 10.0 GALLONS

Developer's Signature Dennis Bird Date 9-15-98 Reviewer John Ford Date 9/28/98

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

Water Volume Calculation

Initial Depth of Well (feet) 21.80
Initial Depth to Water (feet) 10.47
Height of Water Column in Well (feet) 11.33
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		7.5	22.5
Gravel Pack			
Drilling Fluids			
Total			

Instruments

☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☒ Other D.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	Cumulative	Increment	Cumulative					
9-15-98	1020										20.6	7.32	1767		
9-15-98	1025						5.0	5.0			20.0	7.02	1832		
9-15-98	1033						5.0	10.0			19.7	7.16	1816		
9-15-98	1041						5.0	15.0			19.5	7.35	1923		
9-15-98	1048						5.0	20.0			18.5	7.34	2080		
9-15-98	1055						5.0	25.0			18.3	7.42	2150	4.5	

Comments

Developer's Signature Dennis Bird Date 9-15-98 Reviewer John Saunders Date 9/28/98

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) 11.33
Height of Water Column in Well (feet) 10.09
Diameter (inches): Well 4 Gravel Pack_____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		6.7	20.0
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Water Disposal

KOT2 SEPARATOR

Water Removal Data

Date	Time	Development Method		Removal Rate	Intake Depth	Ending Water Depth	Water Volume Removed (gal)		Product Volume Removed (gallons)		Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
		Pump	Bailer	(gal/min)	(feet)	(feet)	Increment	Cumulative	Increment	Cumulative					
7-15-98	1311										22.1	5.87	1560		
7-15-98	1317						5.0	5.0			20.3	4.84	1727		
7-15-98	1323						5.0	10.0			20.0	4.96	1710		
7-15-98	1329						5.0	15.0			20.0	5.74	1712		
7-15-98	1335						5.0	20.0			20.0	6.20	1711		
7-15-98	1341						5.0	25.0			20.0	6.61	1701	1.5	

Comments_____

Developer's Signature Dennis Bird / DR Date 9-15-98 DR Reviewer John Fuller Date 9/28/98

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) 12.29
Height of Water Column in Well (feet) 9.93
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		6.6	19.7
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Water Disposal

KOTZ SEPARATOR

Water Removal Data

Date	Time	Development Method		Removal Rate	Intake Depth	Ending Water Depth	Water Volume Removed (gal)		Product Volume Removed (gallons)		Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
		Pump	Bailer	(gal/min)	(feet)	(feet)	Increment	Cumulative	Increment	Cumulative					
9-15-98	1433										23.0	6.25	3460		
9-15-98	1438						5.0	5.0			21.3	6.37	3430		
9-15-98	1443						5.0	10.0			20.1	6.88	2980		
9-15-98	1449						5.0	15.0			20.0	7.12	3140		
9-15-98	1455						5.0	20.0			19.5	7.21	3270	1.5	

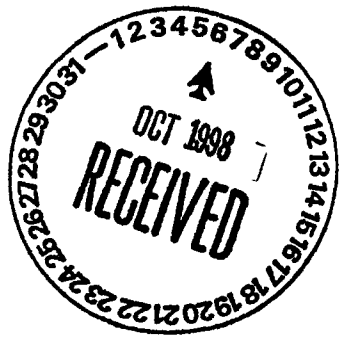
Comments THE WELL HAD 1.39' OF FREE FLOATING HYDROCARBON.

Developer's Signature Dennis Bird Date 9-15-98 Reviewer John Loch Date 9/28/98

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

October 1, 1998

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



RE: Paragon Workorder: 98-09-110
Client Project Name: Chaco Plant Monitor Wells
Client Project Number: None Submitted

Dear Mr. Lambdin:

Two water samples were received from El Paso Field Services on September 17, 1998. The samples were scheduled for PAHs by HPLC (pages 1-6) and Total Recoverable Metals (pages 1-9) analyses. The results for these analyses are contained in the enclosed reports.

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

Sincerely,

Adrienne Mackzum

Paragon Analytics, Inc.
Adrienne Mackzum
Project Manager

Reviewed and Accepted 10/6/98

AAM/kmp
Enclosure: Report

Paragon Analytics, Incorporated

Sample Number(s) Cross-Reference Table

Paragon OrderNum: 9809110
Client Name: El Paso Field Services
Client Project Name: Chaco Plant Monitor Wells
Client Project Number:
Client PO Number:

Client Sample	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
980643	9809110-1		Water	9/15/98	11:12
980644	9809110-2		Water	9/15/98	11:39

Paragon Analytics, Inc.

PAHs by HPLC Case Narrative

El Paso Field Services

Chaco Plant Monitor Wells

Order Number - 9809110

1. This report consists of 2 water samples received by Paragon on 9/17/98.

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. For compounds that only respond to UV, the result is taken from the wavelength that exhibits fewer interferences. These quantitations minimize the chances of reporting elevated results based on interferences.

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

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

6. All laboratory control spike and laboratory control 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. A laboratory control spike and laboratory control spike duplicate were performed instead.

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

9. All surrogate recoveries 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
HPLC Analyst

9/23/98
Date

EN
Reviewer's Initials

9-26-98
Date

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 9-15-98 Page 1 of 1

*ACCESSION NUMBER (LAB ID) 980910

REPORT TO: JOHN GAMBOIN
COMPANY: EL PASO FIELD SERVICE
ADDRESS: 614 REILLY AVENUE
FARMINGTON NM 87401
SAMPLER: DENNIS BIRD
505-599-2144 505-599-2261
PHONE NO. 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	TOTAL METALS	CHROMIUM			Number of Containers
980643	9/15/98	1112	WATER	01											X																X	X			3
980644	9/15/98	1137	WATER	02											X																	X	X			3

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

SAMPLE RECEIPT
TOTAL NO. OF CONTAINERS
CHAIN OF CUSTODY SEALS Y / N
SEALS INTACT? Y / N / NA
REC'D GOOD COND./COLD?
RAD CHEM $15.00 ea RETURN

COMMENTS: LOW LEVEL BENZO(A)PYRENE 10.7 ppb

RELINQUISHED BY: 1	RELINQUISHED BY: 2	RELINQUISHED BY: 3
Sign. Dennis Bird Time 1641	Sign. Time	Sign. Time
Print DENNIS BIRD Date 9-15-98	Print Date	Print Date
Company EL PASO FIELD	Company Fed	Company
RECEIVED BY: 1	**RECEIVED BY: 2**	**RECEIVED BY: 3**
Sign. Time	Sign. J Hunter Time 930	Sign. Time
Print Date	Print J Hunter Date 9-17-98	Print Date
Company Fedex	Company PTI	Company

* 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 #: Client cooler

WORKORDER NO. 9809110 INITIALS: AL DATE: 9/17/98

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

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: WMB1 9/18/98

Sample Matrix: Water
Cleanup: N/A

Date Collected: N/A
Date Extracted: 9/18/98
Date Analyzed: 9/23/98

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	52	35 - 119

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

POLYNUCLEAR AROMATIC HYDROCARBONS

Method 8310

Sample ID

980643

Chaco Plant MW-1

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

Lab Sample ID: 9809110-1

Sample Matrix: Water
Cleanup: N/A

Date Collected: 9/15/98
Date Extracted: 9/18/98
Date Analyzed: 9/23/98

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	65	35 - 119

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

POLYNUCLEAR AROMATIC HYDROCARBONS

Method 8310

Sample ID: **980644** (Chaco Plant MW-8)

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

Lab Sample ID: 9809110-2

Sample Matrix: Water
Cleanup: N/A

Date Collected: 9/15/98
Date Extracted: 9/18/98
Date Analyzed: 9/24/98

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

Analyte	Conc (ug/L)	Reporting Limit (ug/L)
Naphthalene	2.3	0.50
Acenaphthylene	2.9	1.0
1-Methylnaphthalene	ND	1.0
2-Methylnaphthalene	ND	1.0
Acenaphthene	ND	1.0
Fluorene	1.9	0.10
Phenanthrene	0.085	0.050
Anthracene	0.12	0.10
Fluoranthrene	ND	0.10
Pyrene	0.077	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

WQCC Limit

Total Naphthalenes < 30 µg/L

< 0.1 µg/L

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2-Chloroanthracene	67	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

Sample ID: **Blank Spike**

Lab Sample ID: WLCS1, 9/18/98

Date Extracted: 9/18/98
Date Analyzed: 9/23/98

Sample Matrix: Water
Cleanup: N/A

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	5.99	60	36 - 93
Phenanthrene	1.00	0.675	67	45 - 107
Pyrene	1.00	0.880	88	40 - 104
Benzo(k)fluoranthene	0.250	0.163	65	61 - 126
Dibenzo(a,h)anthracene	1.00	0.655	66	55 - 113

Lab Sample ID: WCLSD1, 9/18/98

Analyte	Spike Added (ug/L)	BSD Concentration (ug/L)	BSD Percent Recovery	RPD	QC Limits RPD
Acenaphthylene	10.0	5.57	56	7	20
Phenanthrene	1.00	0.639	64	5	20
Pyrene	1.00	0.795	79	10	20
Benzo(k)fluoranthene	0.250	0.157	63	4	20
Dibenzo(a,h)anthracene	1.00	0.606	61	8	20

SURROGATE RECOVERY BS/BSD

Analyte	% Recovery BS	% Recovery BSD	% Rec Limits
2-Chloroanthracene	62	57	35 -119

Paragon Analytics, Inc.

TOTAL RECOVERABLE METALS CASE NARRATIVE

El Paso Field Services

Chaco Plant Monitoring Wells

Order Number - 9809110

1. This report consists of 2 water samples
2. The samples were received cool and intact on 09/17/98.
3. The samples had been correctly preserved for the requested analyses.
4. The samples were prepared for analysis based on SW-846, 3rd Edition procedures.

   For analysis by conventional ICP the samples were digested following method 3005A.
5. The samples were analyzed following SW-846 protocols by conventional ICP (Method 6010B).
6. All standards and solutions are NIST traceable and were used within their recommended shelf life.
7. The samples were prepared and analyzed within the established hold times.
8. Sample results which are below PAI's standard reporting limits are reported as "ND" on the enclosed report.

All in house quality control procedures were followed, as described below.

9. General quality control procedures.
   - A preparation (method) blank and laboratory control sample were digested and analyzed with the samples in each digestion batch. There were not more than 20 samples in each digestion batch.
   - The preparation (method) blank results associated with each batch were below the reporting limits for the requested analytes. This indicates that no contaminants were introduced to the samples during the digestion procedure.
   - The laboratory control sample associated with each batch was within acceptance limits. This indicates complete digestion according to the method.

- All initial and continuing calibration blanks associated with each batch were below the reporting limits for the requested analytes. This indicates a valid calibration and stable instrument conditions.
- All initial and continuing calibration verifications associated with each batch were within acceptance criteria for the requested analytes. This indicates a valid calibration and stable instrument conditions.
- The interference check samples, and high standard readbacks associated with Method 6010B analyses were within acceptance criteria.

10. Samples from other Order Numbers were used as the QC samples for these batches.
    - A matrix spike and matrix spike duplicate were digested and analyzed with each batch. All acceptance criteria for accuracy were met.
    - A sample duplicate and spike duplicate were digested and analyzed with each batch. All acceptance criteria for precision were met.
    - A serial dilution was analyzed with the conventional ICP batch. All acceptance criteria were met.

The data contained in the following report have been reviewed and approved by the personnel listed below:

Kim Hamacher — 9/29/98

Kim Hamacher
Senior Inorganic Chemist

SW — 9/29/98

Reviewer's Initials — Date

CERTIFICATION

Paragon Analytics, Inc. certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Paragon Analytics, Incorporated

Sample Number(s) Cross-Reference Table

Paragon OrderNum: 9809110
Client Name: El Paso Field Services
Client Project Name: Chaco Plant Monitor Wells
Client Project Number:
Client PO Number:

Client Sample	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
980643	9809110-1		Water	9/15/98	11:12
980644	9809110-2		Water	9/15/98	11:39

TOTAL RECOVERABLE METALS

Lab Name: Paragon Analytics, Inc.
Client Name: El Paso Field Services
Client Project ID: Chaco Plant Monitor Wells
Lab Sample ID: RB 9809110

Sample ID

Reagent Blank

Date Collected: N/A
Prep Date: 09/21, 23/98
Date Analyzed: 09/22, 24/98

Analyte	Concentration mg/L	Reporting Limit mg/L
Cadmium	ND	0.005
Chromium	ND	0.01
Mercury	ND	0.0002

ND = Not detected at or above the reporting limit.

TOTAL RECOVERABLE METALS

Lab Name: Paragon Analytics, Inc.
Client Name: El Paso Field Services
Client Project ID: Chaco Plant Monitor Wells
Lab Sample ID: 9809110-1

Sample Matrix: Water

Sample ID
980643

Chaco Plant MW - 1

Date Collected: 09/15/98
Prep Date: 09/21, 23/98
Date Analyzed: 09/22, 24/98

Analyte	Concentration mg/L	Reporting Limit mg/L
Cadmium	ND	0.005
Chromium	ND	0.01
Mercury	ND	0.0002

ND = Not detected at or above the reporting limit.

TOTAL RECOVERABLE METALS

Lab Name: Paragon Analytics, Inc.
Client Name: El Paso Field Services
Client Project ID: Chaco Plant Monitor Wells
Lab Sample ID: 9809110-2

Sample Matrix: Water

Sample ID

980644

Chaco Plant
MW - 8

Date Collected: 09/15/98
Prep Date: 09/21, 23/98
Date Analyzed: 09/22, 24/98

Analyte	Concentration mg/L	Reporting Limit mg/L
Cadmium	ND	0.005
Chromium	ND	0.01
Mercury	ND	0.0002

ND = Not detected at or above the reporting limit.

TOTAL RECOVERABLE METALS
MATRIX SPIKE

Lab Name: Paragon Analytics, Inc.
Client Name: El Paso Field Services
Lab Sample ID: 9808151-9

Sample ID: **In House**

Sample Matrix: Water

Prep Date: 09/23/98
Date Analyzed: 09/24/98

Analyte	Spike Added mg/L	Sample Conc. mg/L	MS Conc. mg/L	% Rec. (limits 80-120%)	Flags
Cadmium	0.050	< 0.005	0.045	90	
Chromium	0.20	< 0.01	0.19	95	

Analyte	MSD Conc. mg/L	MSD % Rec. (limits 80-120%)	Relative % Difference (limits 0-20%)	Flags
Cadmium	0.044	88	2	
Chromium	0.19	95	0	

TOTAL RECOVERABLE METALS
MATRIX SPIKE

Lab Name: Paragon Analytics, Inc.
Client Name: El Paso Field Services
Lab Sample ID: 9809096-6

Sample ID: **In House**

Sample Matrix: Water

Prep Date: 09/21/98
Date Analyzed: 09/22/98

Analyte	Spike Added mg/L	Sample Conc. mg/L	MS Conc. mg/L	% Rec. (limits 80-120%)	Flags
Mercury	0.0020	< 0.0002	0.0020	100	

Analyte	MSD Conc. mg/L	MSD % Rec. (limits 80-120%)	Relative % Difference (limits 0-20%)	Flags
Mercury	0.0020	100	0	

August 10, 1998

ANNUAL TESTING ANALYTICAL REPORT

Chaco Plant
Monitor Wells #2, 3, 4, 5, 6, 7 and 20" Discharge
Lab Sample #'s 980461 to 980468
Sampled 6/9/98
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 Files
MW Analytical History Spreadsheet

Attachments

El Paso Natural Gas Company

A 2370

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Samplers: (Signature)	Date
	CHACO PLANT	Dennis Bird	6-9-98

MATRIX	Date	Time	Comp.	GRAB	Sample Number	Type and No. of Sample Containers	Preservation Technique	Requested Analysis: GENERAL CHEMISTRY			Remarks
WATER	6-9-98	0944		X	980461	P-1	4°C	X			MONITOR WELL MW-2
WATER	6-9-98	1110		X	980462	P-1	4°C	X			MONITOR WELL MW-3
WATER	6-9-98	1205		X	980463	P-1	4°C	X			MONITOR WELL MW-4
WATER	6-9-98	1359		X	980464	P-1	4°C	X			MONITOR WELL MW-5
WATER	6-9-98	1524		X	980465	P-1	4°C	X			MONITOR WELL MW-6
WATER	6-9-98	1633		X	980466	P-1	4°C	X			MONITOR WELL MW-7
WATER	6-9-98	1633		X	980467	P-1	4°C	X			MONITOR WELL MW-7 FIELD DUP
WATER	6-9-98	1723		X	980468	P-1	4°C	X			20 INCH WASTEWATER DISCHARGE

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	6-9-98 1343				
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:	
		Marlon Hopper	6/12/98 1515		

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

Air Bill No.:

EL PASO FIELD SERVICES

Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	980461
DATE SAMPLED:	06/09/98
TIME SAMPLED (Hrs):	0944
SAMPLED BY:	DB
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	7.30	Units	06/10/98
Alkalinity as $C0_3$	0	PPM	06/10/98
Alkalinity as $HC0_3$	420	PPM	06/10/98
Calcium as Ca	99	PPM	06/12/98
Magnesium as Mg	24	PPM	06/12/98
Total Hardness as $CaC0_3$	346	PPM	06/12/98
Chloride as Cl	197	PPM	06/10/98
Sulfate as $S0_4$	768	PPM	06/10/98
Fluoride as F	2.2	PPM	06/16/98
Nitrate as $N0_3$-N	<0.6	PPM	06/10/98
Nitrite as $N0_2$-N	<0.6	PPM	06/10/98
Ammonium as NH_4^+	<0.2	PPM	06/10/98
Phosphate as PO_4	<0.6	PPM	06/10/98
Potassium as K	2.9	PPM	06/12/98
Sodium as Na	504	PPM	06/12/98
Total Dissolved Solids	1,836	PPM	06/16/98
Conductivity	2,640	umhos/cm	06/10/98
Anion/Cation %	0.6%	%, <5.0 Accepted	06/22/98

Lab Remarks:

Reported By: CN Approved By: _____ Date: 6/23/98

EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-2

Site Name CHACO PLANT

Meter Code NA

Development Criteria

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

Water Volume Calculation

Initial Depth of Well (feet) 27.60
Initial Depth to Water (feet) 16.85
Height of Water Column in Well (feet) 10.75
Diameter (inches): Well 4 Gravel Pack_____

Item	Water Volume in Well Cubic Feet	Water Volume in Well Gallons	Gallons to be Removed
Well Casing		7.1	21.3
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Methods of Development

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

☐ Other_____

Water Disposal

CHACO SOUTH CONTACT 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 (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
6-9-98	0859										15.0	5.93	3110		
6-9-98	0905						5.0	5.0			14.6	6.26	2970		
6-9-98	0911						5.0	10.0			14.5	6.44	2820		
6-9-98	0919						5.0	15.0			14.6	6.64	2820		
6-9-98	0925						5.0	20.0			14.6	6.81	2940		
6-9-98	0933						5.0	25.0			14.9	6.83	2890	1.0	

Comments_____

Developer's Signature Dennis Bird Date 6-9-98 Reviewer John Landi Date 6/23/98

EL PASO FIELD SERVICES

Field Services Laboratory

Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	980462
DATE SAMPLED:	06/09/98
TIME SAMPLED (Hrs):	1110
SAMPLED BY:	DB
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	7.32	Units	06/10/98
Alkalinity as $C0_3$	0	PPM	06/10/98
Alkalinity as $HC0_3$	328	PPM	06/10/98
Calcium as Ca	120	PPM	06/12/98
Magnesium as Mg	24	PPM	06/12/98
Total Hardness as $CaC0_3$	398	PPM	06/12/98
Chloride as Cl	31	PPM	06/10/98
Sulfate as $S0_4$	474	PPM	06/10/98
Fluoride as F	0.9	PPM	06/16/98
Nitrate as $N0_3$-N	<0.6	PPM	06/10/98
Nitrite as $N0_2$-N	<0.6	PPM	06/10/98
Ammonium as NH_4^+	<0.2	PPM	06/10/98
Phosphate as PO_4	<0.6	PPM	06/10/98
Potassium as K	2.4	PPM	06/12/98
Sodium as Na	216	PPM	06/12/98
Total Dissolved Solids	1,080	PPM	06/16/98
Conductivity	1,562	umhos/cm	06/10/98
Anion/Cation %	3.7%	%, <5.0 Accepted	06/22/98

Lab Remarks:

Reported By: CRV Approved By: John Saunders Date: 6/23/98

EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-3

Site Name CHACO PLANT

Meter Code NA

Development Criteria

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

Water Volume Calculation

Initial Depth of Well (feet) 32.40
Initial Depth to Water (feet) 10.48
Height of Water Column in Well (feet) 11.92
Diameter (inches): Well 4 Gravel Pack_____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		7.9	23.6
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Methods of Development

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

☐ Other_____

Water Disposal

CHACO SOUTH CONTACT POND

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					
6-9-98	1017										15.9	7.12	1573		
6-9-98	1021						3.0	3.0			15.2	7.13	1662		
6-9-98	1025						2.0	5.0			14.6	7.12	1657		
6-9-98	1031						3.0	8.0			14.9	7.08	1628		
6-9-98	1034						2.0	10.0			14.8	7.17	1606		
6-9-98	1050						2.0	12.0			15.4	7.36	1636		
6-9-98	1103						3.0	15.0			15.0	7.29	1589	3.5	

Comments THE WATER HAD A RUSTY RED COLOR.

Developer's Signature Dennis Bird Date 6-9-98 Reviewer John Hurdle Date 6/23/98

EL PASO FIELD SERVICES

Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	980463
DATE SAMPLED:	06/09/98
TIME SAMPLED (Hrs):	1205
SAMPLED BY:	DB
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	6.90	Units	06/10/98
Alkalinity as $C0_3$	0	PPM	06/10/98
Alkalinity as $HC0_3$	566	PPM	06/10/98
Calcium as Ca	447	PPM	06/12/98
Magnesium as Mg	78	PPM	06/12/98
Total Hardness as $CaC0_3$	1437	PPM	06/12/98
Chloride as Cl	389	PPM	06/10/98
Sulfate as $S0_4$	2701	PPM	06/10/98
Fluoride as F	1.9	PPM	06/16/98
Nitrate as $N0_3$-N	6.4	PPM	06/10/98
Nitrite as $N0_2$-N	<0.6	PPM	06/10/98
Ammonium as NH_4^+	<0.2	PPM	06/10/98
Phosphate as PO_4	<0.6	PPM	06/10/98
Potassium as K	11.3	PPM	06/12/98
Sodium as Na	1133	PPM	06/12/98
Total Dissolved Solids	5,250	PPM	06/16/98
Conductivity	5,930	umhos/cm	06/10/98
Anion/Cation %	0.8%	%, <5.0 Accepted	06/22/98

Lab Remarks:

Reported By: RV Approved By: John Turner Date: 6/23/98

EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-4

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) 30.90
Initial Depth to Water (feet) 19.22
Height of Water Column in Well (feet) 11.68
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		7.7	23.2
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Water Disposal

CHACO SOUTH CONTACT POND

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					
6-9-98	1123										15.3	6.84	6530		
6-9-98	1128						5.0	5.0			14.8	6.89	6480		
6-9-98	1135						5.0	10.0			14.8	6.88	6360		
6-9-98	1143						5.0	15.0			14.7	6.91	6550		
6-9-98	1150						5.0	20.0			14.7	6.89	6600		
6-9-98	1156						5.0	25.0			15.0	6.90	6600	1.5	

Comments

Developer's Signature Dennis Bird Date 6-9-98 Reviewer John Loehr Date 6/23/98

EL PASO FIELD SERVICES

Field Services Laboratory

Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	980464
DATE SAMPLED:	06/09/98
TIME SAMPLED (Hrs):	1359
SAMPLED BY:	DB
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	7.21	Units	06/10/98
Alkalinity as $C0_3$	0	PPM	06/10/98
Alkalinity as $HC0_3$	361	PPM	06/10/98
Calcium as Ca	318	PPM	06/12/98
Magnesium as Mg	58	PPM	06/12/98
Total Hardness as $CaC0_3$	1033	PPM	06/12/98
Chloride as Cl	69	PPM	06/10/98
Sulfate as $S0_4$	1378	PPM	06/10/98
Fluoride as F	0.9	PPM	06/16/98
Nitrate as $N0_3$-N	1.4	PPM	06/10/98
Nitrite as $N0_2$-N	<0.6	PPM	06/10/98
Ammonium as NH_4^+	<0.2	PPM	06/10/98
Phosphate as PO_4	<0.6	PPM	06/10/98
Potassium as K	3.9	PPM	06/12/98
Sodium as Na	405	PPM	06/12/98
Total Dissolved Solids	2,524	PPM	06/16/98
Conductivity	3,050	umhos/cm	06/10/98
Anion/Cation %	2.2%	%, <5.0 Accepted	06/22/98

Lab Remarks:

Reported By: CRV

Approved By: John Fowler

Date: 6/23/98

EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-5

Site Name CHACO PLANT

Meter Code NA

Development Criteria

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

Water Volume Calculation

Initial Depth of Well (feet) 30.60
Initial Depth to Water (feet) 25.10
Height of Water Column in Well (feet) 5.50
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		3.6	10.9
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Methods of Development

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

☐ Other

Water Disposal

CHACO SOUTH CONTACT POND

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					
6-9-98	1320										18.0	6.80	4080		
6-9-98	1326						3.0	3.0			16.0	7.28	2080		
6-9-98	1330						2.0	5.0			15.5	7.30	2310		
6-9-98	1337						3.0	8.0			15.5	7.23	3250		
6-9-98	1341						2.0	10.0			15.6	7.16	3630		
6-9-98	1350						5.0	15.0			15.8	7.08	3790	7.0	

Comments

Developer's Signature Dennis Bird Date 6-9-98 Reviewer John Landers Date 6/23/98

EL PASO FIELD SERVICES

Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	980465
DATE SAMPLED:	06/09/98
TIME SAMPLED (Hrs):	1524
SAMPLED BY:	DB
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	8.01	Units	06/10/98
Alkalinity as $C0_3$	0	PPM	06/10/98
Alkalinity as $HC0_3$	425	PPM	06/10/98
Calcium as Ca	93	PPM	06/12/98
Magnesium as Mg	18	PPM	06/12/98
Total Hardness as $CaC0_3$	306	PPM	06/12/98
Chloride as Cl	257	PPM	06/10/98
Sulfate as $S0_4$	1826	PPM	06/10/98
Fluoride as F	2.7	PPM	06/16/98
Nitrate as $N0_3$-N	1.8	PPM	06/10/98
Nitrite as $N0_2$-N	<0.6	PPM	06/10/98
Ammonium as NH_4^+	<0.2	PPM	06/10/98
Phosphate as PO_4	<0.6	PPM	06/10/98
Potassium as K	6.2	PPM	06/12/98
Sodium as Na	1095	PPM	06/12/98
Total Dissolved Solids	3,612	PPM	06/16/98
Conductivity	5,090	umhos/cm	06/10/98
Anion/Cation %	1.3%	%, <5.0 Accepted	06/22/98

Lab Remarks:

Reported By: CRV Approved By: Date: 6/23/98

EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-6

Site Name CHACO PLANT

Meter Code NA

Development Criteria

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

Water Volume Calculation

Initial Depth of Well (feet) 24.60
Initial Depth to Water (feet) 11.34
Height of Water Column in Well (feet) 13.26
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		8.8	26.3
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Methods of Development

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

☐ Other

Water Disposal

CHACO SOUTH CONTACT POND

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					
6-9-98	1435										16.7	7.14	5030		
6-9-98	1440						5.0	5.0			15.5	7.64	4880		
6-9-98	1445						5.0	10.0			15.2	7.73	4970		
6-9-98	1453						5.0	15.0			15.3	7.70	5400		
6-9-98	1459						5.0	20.0			15.5	7.59	6520		
6-9-98	1515						4.0	24.0			16.3	7.90	5140	7.0	

Comments THE WELL BAILED DRY @ 24.0 GALLONS.

Developer's Signature Dennis Bird Date 6-9-98 Reviewer John Fowler Date 6/23/98

EL PASO FIELD SERVICES

Field Services Laboratory

Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	980466
DATE SAMPLED:	06/09/98
TIME SAMPLED (Hrs):	1633
SAMPLED BY:	DB
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	7.25	Units	06/10/98
Alkalinity as $C0_3$	0	PPM	06/10/98
Alkalinity as $HC0_3$	343	PPM	06/10/98
Calcium as Ca	188	PPM	06/12/98
Magnesium as Mg	36	PPM	06/12/98
Total Hardness as $CaC0_3$	618	PPM	06/12/98
Chloride as Cl	126	PPM	06/10/98
Sulfate as $S0_4$	998	PPM	06/10/98
Fluoride as F	2.4	PPM	06/16/98
Nitrate as $N0_3$-N	<0.6	PPM	06/10/98
Nitrite as $N0_2$-N	<0.6	PPM	06/10/98
Ammonium as NH_4^+	<0.2	PPM	06/10/98
Phosphate as PO_4	<0.6	PPM	06/10/98
Potassium as K	5.1	PPM	06/12/98
Sodium as Na	414	PPM	06/12/98
Total Dissolved Solids	2,048	PPM	06/16/98
Conductivity	2,690	umhos/cm	06/10/98
Anion/Cation %	0.6%	%, <5.0 Accepted	06/22/98

Lab Remarks:

Reported By: RV Approved By: John Saenz Date: 6/23/98

EL PASO FIELD SERVICES

Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	980467
DATE SAMPLED:	06/09/98
TIME SAMPLED (Hrs):	1633
SAMPLED BY:	DB
MATRIX:	Water
METER CODE:	N/A
SAMPLE SITE NAME:	Chaco Plant
SAMPLE POINT:	MW-7

FIELD REMARKS: Field Duplicate

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	7.26	Units	06/10/98
Alkalinity as $C0_3$	0	PPM	06/10/98
Alkalinity as $HC0_3$	346	PPM	06/10/98
Calcium as Ca	190	PPM	06/12/98
Magnesium as Mg	37	PPM	06/12/98
Total Hardness as $CaC0_3$	627	PPM	06/12/98
Chloride as Cl	130	PPM	06/10/98
Sulfate as $S0_4$	1022	PPM	06/10/98
Fluoride as F	2.5	PPM	06/16/98
Nitrate as $N0_3$-N	<0.6	PPM	06/10/98
Nitrite as $N0_2$-N	<0.6	PPM	06/10/98
Ammonium as NH_4^+	<0.2	PPM	06/10/98
Phosphate as PO_4	<0.6	PPM	06/10/98
Potassium as K	4.2	PPM	06/12/98
Sodium as Na	426	PPM	06/12/98
Total Dissolved Solids	2,088	PPM	06/16/98
Conductivity	2,690	umhos/cm	06/10/98
Anion/Cation %	0.6%	%, <5.0 Accepted	06/22/98

Lab Remarks:

Reported By: CRV Approved By: John Saunders Date: 6/23/98

EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-7

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) 19.50
Initial Depth to Water (feet) 11.33
Height of Water Column in Well (feet) 8.17
Diameter (inches): Well 4 Gravel Pack_____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		5.4	16.2
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Water Disposal

CHACO SOUTH CONTACT POND

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					
6-9-98	1603										18.1	6.44	2460		
6-9-98	1608						5.0	5.0			17.0	7.04	2300		
6-9-98	1612						5.0	10.0			16.4	7.20	3350		
6-9-98	1620						5.0	15.0			16.5	7.22	3460		
6-9-98	1626						5.0	20.0			16.5	7.24	3350	2.5	

Comments_____

Developer's Signature Dennis Bird Date 6-9-98 Reviewer John Fowler Date 6/23/98

EL PASO FIELD SERVICES

Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	980468
DATE SAMPLED:	06/09/98
TIME SAMPLED (Hrs):	1723
SAMPLED BY:	DB
MATRIX:	Water
METER CODE:	N/A
SAMPLE SITE NAME:	Chaco Plant
SAMPLE POINT:	20" Waste Water Discharge

FIELD REMARKS: _____

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

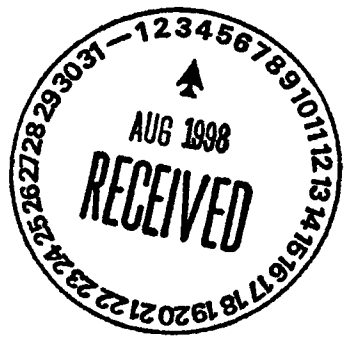
PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	8.24	Units	06/10/98
Alkalinity as $C0_3$	0	PPM	06/10/98
Alkalinity as $HC0_3$	171	PPM	06/10/98
Calcium as Ca	228	PPM	06/12/98
Magnesium as Mg	44	PPM	06/12/98
Total Hardness as $CaC0_3$	751	PPM	06/12/98
Chloride as Cl	27	PPM	06/10/98
Sulfate as $S0_4$	766	PPM	06/10/98
Fluoride as F	1.9	PPM	06/16/98
Nitrate as $N0_3$-N	0.3	PPM	06/10/98
Nitrite as $N0_2$-N	<0.2	PPM	06/10/98
Ammonium as NH_4^+	<0.2	PPM	06/10/98
Phosphate as PO_4	<0.2	PPM	06/10/98
Potassium as K	27.2	PPM	06/12/98
Sodium as Na	110	PPM	06/12/98
Total Dissolved Solids	1,462	PPM	06/16/98
Conductivity	1,721	umhos/cm	06/10/98
Anion/Cation %	2.1%	%, <5.0 Accepted	06/22/98

Lab Remarks:

Reported By: CRV Approved By: Jolene Sanders Date: 6/23/98

American Environmental Network, Inc.

AEN I.D. 806357



July 23, 1998

El Paso Field Service
770 West Navajo
Farmington, NM 87401

Project Name/Number: CHACO MW'S + 20 INCH TOTAL Discharge

Attention: John Lambdin

On **06/16/98**, 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., 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:jt

Enclosure

Reviewed & Approved
J.S. 8/10/98

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

American Environmental Network, Inc.

CLIENT	: EL PASO FIELD SERVICE	DATE RECEIVED	: 06/16/98
PROJECT #	: (NONE)		
PROJECT NAME	: CHACO MW'S	REPORT DATE	: 07/23/98

AEN ID: 806357

	AEN ID #	CLIENT DESCRIPTION		MATRIX	DATE COLLECTED
01	806357-01	980461	mw-2	AQUEOUS	06/09/98
02	806357-02	980462	mw-3	AQUEOUS	06/09/98
03	806357-03	980463	mw-4	AQUEOUS	09/09/98
04	806357-04	980464	mw-5	AQUEOUS	06/09/98
05	806357-05	980465	mw-6	AQUEOUS	06/09/98
06	806357-06	980466	mw-7	AQUEOUS	06/09/98
07	806357-07	980467	mw-7 Dup	AQUEOUS	06/09/98
08	806357-08	980468	20 inch Discharge	AQUEOUS	06/09/98

---TOTALS---

MATRIX	#SAMPLES
AQUEOUS	8

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.
11 East Olive Road • Pensacola, FL 32514 • (904) 474-1001

SIGNATURE PAGE

Reviewed by: _____
AEN Project Manager

Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC. ALBUQUERQUE, NEW MEXICO
Project Name:	EL PASO FIELD SERVICES
Project Number:	806357
Project Location:	CHACO MW'S
Accession Number:	806174
Project Manager:	KIMBERLY D. MCNEILL
Sampled By:	N/S

AMERICAN ENVIRONMENTAL NETWORK 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

Analysis Report

Analysis: Group of Single Metals

Accession:	806174
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	806357
Project Name:	EL PASO FIELD SERVICES
Project Location:	CHACO MW'S
Department:	METALS

AMERICAN ENVIRONMENTAL NETWORK 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

"FINAL REPORT FORMAT - MULTIPLE"

Accession: 806174
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 806357
Project Name: EL PASO FIELD SERVICES
Project Location: CHACO MW'S
Test: Group of Single Metals
QcLevel: II

Parameter:	Unit:	Result:	R.L:	Batch:	Q:
Client ID: 806357-01			**Lab ID:001**		
CADMIUM (200.7)	MG/L	ND	0.001	CXW171	mw-2
CHROMIUM (200.7)	MG/L	ND	0.005	HXW171	
MERCURY (245.1)	MG/L	ND	0.0002	M2W078	
Comments:					
Client ID: 806357-02			**Lab ID:002**		
CADMIUM (200.7)	MG/L	ND	0.001	CXW171	mw-3
CHROMIUM (200.7)	MG/L	ND	0.005	HXW171	
MERCURY (245.1)	MG/L	ND	0.0002	M2W078	
Comments:					
Client ID: 806357-03			**Lab ID:003**		
CADMIUM (200.7)	MG/L	ND	0.001	CXW171	mw-4
CHROMIUM (200.7)	MG/L	ND	0.005	HXW171	
MERCURY (245.1)	MG/L	ND	0.0002	M2W078	
Comments:					
Client ID: 806357-04			**Lab ID:004**		
CADMIUM (200.7)	MG/L	ND	0.001	CXW171	mw-5
CHROMIUM (200.7)	MG/L	ND	0.005	HXW171	
MERCURY (245.1)	MG/L	ND	0.0002	M2W078	
Comments:					
Client ID: 806357-05			**Lab ID:005**		
CADMIUM (200.7)	MG/L	ND	0.001	CXW171	mw-6
CHROMIUM (200.7)	MG/L	ND	0.005	HXW171	
MERCURY (245.1)	MG/L	ND	0.0002	M2W078	
Comments:					
Client ID: 806357-06			**Lab ID:006**		
CADMIUM (200.7)	MG/L	ND	0.001	CXW171	mw-7
CHROMIUM (200.7)	MG/L	ND	0.005	HXW171	
MERCURY (245.1)	MG/L	ND	0.0002	M2W078	
Comments:					

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

"FINAL REPORT FORMAT - MULTIPLE"

Accession: 806174
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 806357
Project Name: EL PASO FIELD SERVICES
Project Location: CHACO MW'S
Test: Group of Single Metals
QcLevel: II

Parameter:	Unit:	Result:	R.L:	Batch:	Q:
Client ID: 806357-07			Lab ID:007		
CADMIUM (200.7)	MG/L	ND	0.001	CXW171	
CHROMIUM (200.7)	MG/L	ND	0.005	HXW171	MW-7 Duplicate
MERCURY (245.1)	MG/L	ND	0.0002	M2W078	
Comments:					
Client ID: 806357-08			Lab ID:008		
CADMIUM (200.7)	MG/L	ND	0.001	CXW171	
CHROMIUM (200.7)	MG/L	0.007	0.005	HXW171	20 INCH WASTEWATER Discharge
MERCURY (245.1)	MG/L	ND	0.0002	M2W078	
Comments:					

AMERICAN ENVIRONMENTAL NETWORK 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

"FINAL REPORT FORMAT - MULTIPLE"

Accession: 806174
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 806357
Project Name: EL PASO FIELD SERVICES
Project Location: CHACO MW'S
Test: Group of Single Metals

Client Id:	Lab Id:	Matrix:	Date/Time Sampled:	Date Received:
806357-01	001	WATER	09-JUN-98 0949	17-JUN-98
806357-02	002	WATER	09-JUN-98 1110	17-JUN-98
806357-03	003	WATER	09-JUN-98 1205	17-JUN-98
806357-04	004	WATER	09-JUN-98 1359	17-JUN-98
806357-05	005	WATER	09-JUN-98 1524	17-JUN-98
806357-06	006	WATER	09-JUN-98 1633	17-JUN-98
806357-07	007	WATER	09-JUN-98 1633	17-JUN-98
806357-08	008	WATER	09-JUN-98 1723	17-JUN-98

AMERICAN ENVIRONMENTAL NETWORK 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

"Method Report Summary"

Accession Number: 806174
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 806357
Project Name: EL PASO FIELD SERVICES
Project Location: CHACO MW'S
Test: Group of Single Metals

Client Sample Id:	Parameter:	Unit:	Result:
806357-08	CHROMIUM (200.7)	MG/L	0.007

AMERICAN ENVIRONMENTAL NETWORK 11 East Olive Rd Pensacola, FL 32514 (850) 474-1001

Data Qualifiers for Final Report

AEN-Pensacola Inorganic/Organic

@	Adjusted reporting limit due to sample matrix (dilution prior to digestion and/or analysis)
+	Elevated reporting limit due to dilution into calibration range
*	Elevated reporting limit due to matrix interference (dilution prior to digestion and/or analysis)
#	Elevated reporting limit due to insufficient sample size
D	Diluted out
J5	The reported value is quantitated as a TIC; therefore, it is estimated
ND = Not Detected	N/S = Not Submitted N/A = Not Applicable

Florida Projects Inorganic/Organic

Y1	Improper preservation, no preservative present in sample upon receipt
Y2	Improper preservation, incorrect preservative present in sample upon receipt
Y3	Improper preservation, sample temperature exceeded EPA temperature limits of 2-6°C upon receipt
Y (FL description)	The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
Q	Sample held beyond the accepted holding time
I	The reported value is < Laboratory RL and > laboratory MDL
U1	The reported value is ≤ Laboratory MDL (value for sample result is reported as the MDL)
U (FL description)	Indicates the compound was analyzed for but not detected.
T	The reported value is < Laboratory MDL (value shall not be used for statistical analysis)
V	The analyte was detected in both the sample and the associated method blank.
J1	Surrogate recovery limits have been exceeded
J2	The sample matrix interfered with the ability to make any accurate determinations
J3	The reported value failed to meet the established quality control criteria for either precision or accuracy
J (FL description)	Estimated value; not accurate.

AFCEE Projects (under QAPP) and All Other (AEN-PN) Projects/Sites for Inorganic/Organic Parameters

J4	(For positive results) Temperature limits exceeded (≤2°C or ≥ 6°C)
J (AFCEE description)	The analyte was positively identified, the quantitation is an estimation
R1	(For nondetects) Temperature limits exceeded (≤2°C or ≥ 6°C)
R2	Improper preservation, no preservative present in sample upon receipt
R3	Improper preservation, incorrect preservative present in sample upon receipt
R4	Holding time exceeded
R5	Collection requirements not met, improper container used for sample
R (AFCEE description)	The data are unusable due to deficiencies in the ability to analyze the sample and meet QC criteria
F	< RL and > laboratory MDL
F (AFCEE description)	The analyte was positively identified but the associated numerical value is below the AFCEE or lab RL
U2	≤ Laboratory MDL (value for result will be the MDL, never below the MDL)
U (AFCEE description)	The analyte was analyzed for but not detected. The associated numerical value is at or below the MDL
B (AFCEE description)	The analyte was found in the associated blank, as well as in the sample

ICR Projects Inorganic/Organic

A	Acceptable
R6	Rejected

Examples: ICR Flags

R6 = Laboratory extracted the sample but the refrigerator malfunctioned so the extract became warm and client was notified

R6 = Sample arrived in laboratory in good condition; however, the laboratory did not analyze it within EPA's established holding time limit.

CLP and CLP-like Projects

Refer to referenced CLP Statement of Work (SOW) for explanation of data qualifiers

IDL = Laboratory Instrument Detection Limit

MDL = Laboratory Method Detection Limit

RL = Reporting Limit (AFCEE RLs are listed in the AFCEE QAPP)

CLP CRDL = CLP Contract Required Detection Limit (these limits are listed in the EPA CLP Statement of Work or SOW)

CLP CRQL = CLP Contract Required Quantitation Limit (these limits are listed in the EPA CLP Statement of Work or SOW)

Any time a sample arrives at the laboratory improperly preserved (at improper pH or temperature) or after holding time has expired or prepared or analyzed after holding time, client must be notified in writing (i.e. case narrative).

AEN-Pensacola uses the most current promulgated methods contained in the reference manuals.

AMERICAN ENVIRONMENTAL NETWORK 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

Quality Control Report

Analysis: Group of Single Metals

Accession:	806174
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	806357
Project Name:	EL PASO FIELD SERVICES
Project Location:	CHACO MW'S
Department:	METALS

AMERICAN ENVIRONMENTAL NETWORK 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

"Metals Quality Control Report"

Parameter:	CADMIUM	CHROMIUM	MERCURY
Batch Id:	CXW171	HXW171	M2W078
Blank Result:	<0.001	<0.005	<0.0002
Anal. Method:	200.7	200.7	245.1
Prep. Method:	200.7	200.7	245.1
Analysis Date:	28-JUN-98	28-JUN-98	26-JUN-98
Prep. Date:	25-JUN-98	25-JUN-98	26-JUN-98
Sample Duplication			
Sample Dup:	806175-15	806175-15	806272-1
Rept Limit:	<0.001	<0.005	<0.0002
Sample Result:	2.02	2.02	0.0046
Dup Result:	2.02	2.01	0.0040
Sample RPD:	0	0	14
Max RPD:	20	20	20
Dry Weight%	N/A	N/A	N/A
Matrix Spike			
Sample Spiked:	806175-15	806175-15	806272-1
Rept Limit:	<0.001	<0.005	<0.0002
Sample Result:	<0.001	0.006	<0.0002
Spiked Result:	2.02	2.02	0.0046
Spike Added:	2.0	2.0	0.0050
% Recovery:	101	101	92
% Rec Limits:	75-125	75-125	75-125
Dry Weight%	N/A	N/A	N/A
ICV			
ICV Result:	1.02	0.99	0.0039
True Result:	1.0	1.0	0.0040
% Recovery:	102	99	98
% Rec Limits:	95-105	95-105	90-110
LCS			
LCS Result:	2.00	2.04	0.0051
True Result:	2.0	2.0	0.0050
% Recovery:	100	102	102
% Rec Limits:	80-120	80-120	85-115

OK.
8/10/98

----- Common Footnotes Metals -----

N/A = NOT APPLICABLE.
N/S = NOT SUBMITTED.
N/C = SAMPLE AND DUPLICATE RESULTS ARE AT OR BELOW THE REPORTING LIMIT; THEREFORE, THE RPD IS "NOT CALCULABLE" AND NO CONTROL LIMITS APPLY.
N/D = NOT DETECTED.
DISS. OR D = DISSOLVED
T & D = TOTAL AND DISSOLVED
R = REACTIVE
T = TOTAL
G = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X THE REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE RESULT IS AT OR BELOW AEN REPORTING LIMIT; THEREFORE, THE RESULTS ARE "IN CONTROL".
Q = THE ANALYTICAL (POST-DIGESTION) SPIKE IS REPORTED DUE TO PERCENT RECOVERY BEING OUTSIDE ACCEPTANCE LIMITS ON THE MATRIX (PRE-DIGESTION) SPIKE.
# = ELEVATED REPORTING LIMIT DUE TO INSUFFICIENT SAMPLE.
+ = ELEVATED REPORTING LIMIT DUE TO DILUTION INTO CALIBRATION RANGE.
* = ELEVATED REPORTING LIMIT DUE TO MATRIX INTERFERENCE. (DILUTION PRIOR TO ANALYSIS)
@ = ADJUSTED REPORTING LIMIT DUE TO SAMPLE MATRIX. (DILUTION PRIOR TO DIGESTION)
P = ANALYTICAL (POST DIGESTION) SPIKE.
I = DUPLICATE INJECTION.
& = AUTOMATED
F = SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
N/C+ = NOT CALCULABLE
N/C* = NOT CALCULABLE; SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
H = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X AEN REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE AEN REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL".
A = SAMPLE AND DUPLICATE RESULTS ARE "OUT OF CONTROL".
Z = THE SAMPLE RESULT FOR THE SPIKE IS BELOW THE AEN REPORTING LIMIT. HOWEVER, THIS RESULT IS REPORTED FOR ACCURATE QC CALCULATIONS.
NH= THE RELATIVE PERCENT DIFFERENCE (RPD) EXCEEDS THE AEN CONTROL LIMIT AND IS "OUT OF CONTROL; DUE TO A NON-HOMOGENEOUS SAMPLE MATRIX.
J = (FLORIDA DEP 'J' FLAG) - MATRIX SPIKE AND POST SPIKE RECOVERY IS OUT OF THE ACCEPTABLE RANGE. SEE OUT OF CONTROL EVENTS FORM.
U = (FLORIDA DEP 'U' FLAG) - THE COMPOUND WAS ANALYZED FOR, BUT NOT DETECTED.
S = METHOD OF STANDARD ADDITIONS (MSA) WAS PERFORMED ON THIS SAMPLE.

FROM QUALITY CONTROL REPORT:
RPD= RELATIVE PERCENT DEVIATION.
REPT LIMIT= REPORTING LIMIT BASED ON METHOD DETECTION LIMIT STUDIES.

NOTE: ALL RESULTS REPORTED UNDER 'SAMPLE DUPLICATION' ARE THE MS/MSD.

NOTE: THE UNITS REPORTED ON THE QUALITY CONTROL REPORT ARE REPORTED ON AN AS RUN BASIS. (NOT ADJUSTED FOR DRY WEIGHT).

SW-846, 3rd Edition.
EPA 600/4-79-020, Revised March 1983.
NIOSH Manual of Analytical Methods, 4th Edition.
Standard Methods For the Examination of Water and Wastewater, 18th Edition, 1992.
Methods For the Determination of Metals in Environmental Samples - Supplement I, EPA 600/R-94-111, May 1994.

GJ = GARY JACOBS
JLH = JAMES L. HERED
GSP = GARY ST PERE
JL = JANET LECLEAR

American Environmental Network of Florida

PROJECT SAMPLE INSPECTION FORM

Lab Accession #: 806174 UL 6/17 Date Received: 17-Jun-98

1.	Was there a Chain of Custody?	(Yes)	No*		8.	Were samples checked for preservative? *(Check pH of all H_2O requiring preservative (AEN-PN SOP 917) except VOA vials that require zero headspace)*+	(Yes)	No*	N/A
2.	Was Chain of Custody properly filled out and relinquished?	(Yes)	No*		9.	Is there sufficient volume for analysis requested?	(Yes)	No*	
3.	Were samples received cold? (Criteria: 2° - 6°C: AEN-SOP 1055)	(Yes)	No*	N/A	10.	Were samples received within Holding Time? (REFER TO AEN-SOP 1040)	(Yes)	No*	
4.	Were all samples properly labeled and identified?	(Yes)	No*		11.	Is Headspace visible > ¼" in diameter in VOA vials?* If any headspace is evident, comment in out-of-control	Yes*	No	(N/A)
5.	Did samples require splitting? Req By: PM Client Other*	Yes*	(No)		12.	If sent, were matrix spike bottles returned?	Yes	No*	(N/A)
6.	Were samples received in proper containers for analysis requested?	(Yes)	No*		13.	Was Project Manager notified of problems? (initials:_____)	Yes	No*	(N/A)
7.	Were all sample containers received intact?	(Yes)	No*						

Airbill Number(s): _____ Shipped By: Fedex

Cooler Number(s): Thiers Shipping Charges: N/A

Cooler Weight(s): N/A Cooler Temp(s) (°C): 4.0°C

CCIC7

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS) ☞

Inspected By: L. Kitt Date: 17-Jun-98 Logged By: L. Kitt Date: 17-Jun-98

♣ *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).*

AMERICAN ENVIRONMENTAL NETWORK
Albuquerque, New Mexico

Interlab Chain of Custody

DATE: 6/16/98 PAGE: 1 OF 1

NETWORK PROJECT MANAGER: KIMBERLY D. McNEILL

COMPANY: AMERICAN ENVIRONMENTAL NETWORK
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

806174

CLIENT PROJECT MANAGER:

Kim McNeill

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	RCRA Metals by TCLP (1311) Total Hg, Cd, Cr	NUMBER OF CONTAINERS
806357-01	6/9	0949	AQ		X	
-02		1110			X	
-03		1205			X	
-04		1359			X	
-05		1524			X	
-06		1633			X	
-07		1633			X	
-08	↓	1723	↓		X	

Metals - TAL; Metals - PP List; Metals - RCRA; 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

PROJECT INFORMATION

PROJECT NUMBER: 806357
PROJECT NAME: EPFS
QC LEVEL: (STD) IV
QC REQUIRED: MS MSD BLANK
TAT: (STANDARD) RUSHI

SAMPLE RECEIPT

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

DUE DATE: 6/26
RUSH SURCHARGE:
CLIENT DISCOUNT:
SPECIAL CERTIFICATION REQUIRED: ☐YES ☐NO

SAMPLES SENT TO:

CONNECTICUT	
ILLINOIS	
MASSACHUSETTS	
PENSACOLA	X
PORTLAND	
PHOENIX	
N.CAROLINA	

RELINQUISHED BY: 1.
Signature: Francine Torivio Time: 1715
Printed Name: Francine Torivio Date: 6/16/98
Albuquerque
Company:

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

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

RECEIVED BY: (LAB) 2.
Signature: Linda Kitt Time: 0809
Printed Name: Linda Kitt Date: 6/17/98
Company: AEN/71

American Environmental Network (NM), Inc.

CHAIN OF CUSTODY

DATE: 6-15-98 PAGE: 1 OF 1

AEN(NM) Accession #: 806357

SHADED AREAS ARE FOR LAB USE ONLY

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: JOHN CAMBRIN

COMPANY: EL PASO FIELD SERVICE

ADDRESS: 614 REILLY AVENUE
FARMINGTON, NM 87401

PHONE: (505) 599-2144

FAX: (505) 599-2261

BILL TO: SAME AS ABOVE

COMPANY:

ADDRESS:

LAB I.D.	SAMPLE ID	DATE	TIME	MATRIX	NUMBER OF CONTAINERS	Metals: TOTAL CADMIUM CHROMIUM MERCURY	RCRA Metals by TCLP (Method 1311)	RCRA Metals (8)	Target Analyte List Metals (23)	Priority Pollutant Metals (13)	General Chemistry:	Polynuclear Aromatics (610/8310)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Herbicides (615/8151)	Pesticides /PCB (608/8081)	8260 (Landfill) Volatile Organics	8260 (CUST) Volatile Organics	8260 (Full) Volatile Organics	8260 (TCL) Volatile Organics	504.1 EDB ☐ / DBCP ☐	8021 (CUST)	8021 (HALO)	8021 (EDX)	8021 (TCL)	8021 (BTEX) ☐ MTBE ☐ TMB ☐ PCE	8021 (BTEX)/8015 (Gasoline)	(M8015) Gas/Purge & Trap	(MOD.8015) Diesel/Direct Inject	Petroleum Hydrocarbons (418.1) TRPH
980461		6-9-98	0944	WATER	01	X																						
980462		6-9-98	1110	WATER	02	X																						
980463		6-9-98	1205	WATER	03	X																						
980464		6-9-98	1359	WATER	04	X																						
980465		6-9-98	1524	WATER	05	X																						
980466		6-9-98	1633	WATER	06	X																						
980467		6-9-98	1633	WATER	07	X																						
980468		6-9-98	1723	WATER	08	X																						

ANALYSIS REQUEST

PROJECT INFORMATION	
PROJ. NO.:	
PROJ. NAME:	CHACO MW'S
P.O. NO.:	
SHIPPED VIA:	FED-X

SAMPLE RECEIPT	
NO. CONTAINERS:	8
CUSTODY SEALS:	Y / N / NA
RECEIVED INTACT:	YES
BLUE ICE/ICE:	6°C

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

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

CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐

RELINQUISHED BY: 1	RELINQUISHED BY: 2
Signature: Dennis Bird Time: 0935	Signature: Time:
Printed Name: DENNIS BIRD Date: 6-15-98	Printed Name: Date:
Company: EL PASO FIELD SERVICE	Company:
RECEIVED BY: 1	**RECEIVED BY: (LAB) 2**
Signature: Time:	Signature: Francine Tonno Time: 1335
Printed Name: Date:	Printed Name: Francine Tonno Date: 6/16/98
Company:	American Environmental Network (NM), Inc.

American Environmental Network (NM), Inc.

CHAIN OF CUSTODY

DATE: 6-15-98 PAGE: 1 OF 1

AEN(NM) Accession #: 806357

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: JOHN CAMBLIN

COMPANY: EL PASO FIELD SERVICE
ADDRESS: 614 REILLY AVENUE
FARMINGTON, NM 87401
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.
980461	6-9-98	0944	WATER	01
980462	6-9-98	1110	WATER	02
980463	6-9-98	1205	WATER	03
980464	6-9-98	1359	WATER	04
980465	6-9-98	1524	WATER	05
980466	6-9-98	1633	WATER	06
980467	6-9-98	1633	WATER	07
980468	6-9-98	1723	WATER	08

	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct Inject	(M8015) Gas/Purge & Trap	8021 (BTEX)/8015 (Gasoline)	8021 (BTEX) ☐ MTBE ☐ TMB ☐ PCE	8021 (TCL)	8021 (EDX)	8021 (HALO)	8021 (CUST)	504.1 EDB ☐ / DBCP ☐	8260 (TCL) Volatile Organics	8260 (Full) Volatile Organics	8260 (CUST) Volatile Organics	8260 (Landfill) Volatile Organics	Pesticides /PCB (608/8081)	Herbicides (615/8151)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Polynuclear Aromatics (610/8310)	General Chemistry:			Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals: TOTAL MERCURY	CADMIUM	NUMBER OF CONTAINERS
980461																									X	X	1
980462																									X	X	1
980463																									X	X	1
980464																									X	X	1
980465																									X	X	1
980466																									X	X	1
980467																									X	X	1
980468																									X	X	1

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

SAMPLE RECEIPT	
NO. CONTAINERS	8
CUSTODY SEALS	Y / N / NA
RECEIVED INTACT	YES
BLUE ICE/ICE	6°C

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

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

CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
Signature: Dennis Bird Time: 0935	Signature: Time:
Printed Name: DENNIS BIRD Date: 6-15-98	Printed Name: Date:
Company: EL PASO FIELD SERVICE	Company:
RECEIVED BY:	**RECEIVED BY: (LAB)** 2.
Signature: Time:	Signature: Time: 1335
Printed Name: Date:	Printed Name: Date: 6/16/98
Company:	American Environmental Network (NM), Inc.

DISTRIBUTION: White - AEN, Canary - Originator

June 10, 1998

ANALYTICAL REPORT

Chaco Plant
Monitor Wells #9 and #10
Lab Sample #'s 980450 and 980451
Sampled 6/3/98
Sampled by Dennis Bird

REMARKS:
These samples represents the second quarter 1998 samples from these wells. These wells were installed on July 24, 1997. They are being monitored quarterly for BTEX components. The New Mexico WQCC limit for Benzene was exceeded in MW#10. MW-10 had 1.14 feet of free product on it.

Distribution:

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

Attachments

El Paso Natural Gas Company

A 2363

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Samplers: (Signature)	Date
	CHACO PLANT	Dennis Bird	6-3-98

MATRIX	Date	Time	Comp.	GRAB	Sample Number	Type and No. of Sample Containers	Preservation Technique	BTXE	Requested Analysis			Remarks
WATER	6-3-98	0851		X	980450	5-1	4°C	X				MONITOR WELL MW-9
WATER	6-3-98	1133		X	980451	5-1	4°C	X				MONITOR WELL MW-10
WATER	6-3-98	1133		X	980452	5-1	4°C	X				MONITOR WELL MW-10 (DUP)
WATER	6-3-98	—		X	—	5-1	4°C	X				TRIP BLANK

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	6-3-98 1549				
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:	
		Marlon Hopper	6/5/98 0800		
Carrier Co:		Carrier Phone No.	Date Results Reported / by: (Signature)		
Air Bill No.:					

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EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
CHACO PLANT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	980450
MTR CODE | SITE NAME:	N/A	Chaco Plant
SAMPLE DATE | TIME (Hrs):	6/3/98	0951
PROJECT:	Chaco Plant	
DATE OF BTEX EXT. | ANAL.:	6/5/98	6/5/98
TYPE | DESCRIPTION:	MW-9	

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 90.0 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Zabelin Date: 6/10/98

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
CHACO PLANT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	980451
MTR CODE | SITE NAME:	N/A	Chaco Plant
SAMPLE DATE | TIME (Hrs):	6/3/98	1133
PROJECT:	Chaco Plant	
DATE OF BTEX EXT. | ANAL.:	6/5/98	6/5/98
TYPE | DESCRIPTION:	MW-10	

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	2520	PPB	20	D		
TOLUENE	1240	PPB	20	D		
ETHYL BENZENE	72.6	PPB	20	D		
TOTAL XYLENES	554	PPB	20	D		
TOTAL BTEX	4387	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 93.7 % 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 Sanders Date: 6/10/98

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
CHACO PLANT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	980452
MTR CODE | SITE NAME:	N/A	Chaco Plant
SAMPLE DATE | TIME (Hrs):	6/3/98	1133
PROJECT:	Chaco Plant	
DATE OF BTEX EXT. | ANAL.:	6/5/98	6/5/98
TYPE | DESCRIPTION:	MW-10 Field Dup	

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	2830	PPB	20	D		
TOLUENE	1410	PPB	20	D		
ETHYL BENZENE	73.0	PPB	20	D		
TOTAL XYLENES	545	PPB	20	D		
TOTAL BTEX	4858	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 94.6 % 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 Stanko Date: 6/10/98

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) 11.62
Height of Water Column in Well (feet) 9.80
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	19.4
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: 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
6-3-98	0907										16.0	6.46	1760		
6-3-98	0912						5.0	5.0			14.8	6.60	1943		
6-3-98	0918						5.0	10.0			14.6	6.88	1871		
6-3-98	0925						5.0	15.0			14.7	7.00	1875		
6-3-98	0931						5.0	20.0			14.7	6.97	1873		
6-3-98	0937						5.0	25.0			14.8	6.97	1841	2.5	

Comments THE WATER HAD A LIGHT HYDROGEN SULFIDE SMELL.

Developer's Signature Dennis Bird Date 6-3-98 Reviewer John Farchi Date 6/10/98

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) 12.47
Height of Water Column in Well (feet) 9.75
Diameter (inches): Well 4 Gravel Pack_____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		6.4	19.3
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					
6-3-98															
6-3-98	1030						5.0	5.0			16.5	4.17	2910		
6-3-98	1035						5.0	10.0			15.6	3.72	2900		
6-3-98	1044						5.0	15.0			15.7	4.57	2990		
6-3-98	1053						5.0	20.0			15.8	5.65	3090		
6-3-98	1105						5.0	25.0			16.8	7.00	3050	1.5	

Comments THE WELL HAD 1.14' OF FREE FLOATING HYDROCARBON.

Developer's Signature Dennis Bird Date 6-3-98 Reviewer John Hurdle Date 6/10/98

April 10, 1998

ANALYTICAL REPORT

Chaco Plant
Monitor Wells #9 and #10
Lab Sample #'s 980264 and 980265
Sampled 3/30/98
Sampled by Dennis Bird

REMARKS:
These samples represents the first quarter 1998 samples from these wells. These wells were installed on July 24, 1997. They are being monitored quarterly for BTEX components. The New Mexico WQCC limit for Benzene was exceeded in MW#10. MW-10 had free product on it.

Distribution:

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

Attachments

El Paso Natural Gas Company

A 2650

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Type and No. of Sample Containers	Preservation Technique	Requested Analysis			Remarks
	CHACO PLANT			BTXE			
Samplers: (Signature) Dennis Bird	Date: 3-30-98						
MATRIX Date	Time Comp. GRAB Sample Number						
WATER 3-30-98	1331 X 980264	5-1	4°C	X			MONITOR WELL MW-7
WATER 3-30-98	1451 X 980265	5-2	4°C	X			MONITOR WELL MW-10

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	3-30-98 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:	
		Madonna Rogers	4/2/98 0700		
Carrier Co:		Carrier Phone No.		Date Results Reported / by: (Signature)	
Air Bill No.:					

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EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
CHACO PLANT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	980264
MTR CODE | SITE NAME:	N/A	Chaco Plant
SAMPLE DATE | TIME (Hrs):	3/30/98	1332
PROJECT:	Monitor Well	
DATE OF BTEX EXT. | ANAL.:	4/6/98	4/6/98
TYPE | DESCRIPTION:	MW-9	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	3.15	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	<1	PPB				
TOTAL XYLENES	<3	PPB				
TOTAL BTEX	3	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 100.8 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: _____ Date: 4/10/98

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
CHACO PLANT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	980265
MTR CODE | SITE NAME:	N/A	Chaco Plant
SAMPLE DATE | TIME (Hrs):	3/30/98	1451
PROJECT:	Monitor Well	
DATE OF BTEX EXT. | ANAL.:	4/6/98	4/6/98
TYPE | DESCRIPTION:	MW-10	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	488	PPB	5	D		
TOLUENE	653	PPB	5	D		
ETHYL BENZENE	39.7	PPB	5	D		
TOTAL XYLENES	323	PPB	5	D		
TOTAL BTEX	1504	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 99.8 % 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: _____ Date: 4/10/98

980265BTEXChaco,4/7/98

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 Removed
☐ 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) 11.75
Height of Water Column in Well (feet) 9.67
Diameter (inches): Well ____ Gravel Pack ____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		6.4	19.2
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Water Disposal

KUT2 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					
3-30-98	1247										12.5	6.52	1812		
3-30-98	1253						5.0	5.0			10.9	6.36	1766		
3-30-98	1300						5.0	10.0			10.3	6.57	1805		
3-30-98	1305						5.0	15.0			10.1	6.85	1743		
3-30-98	1311						5.0	20.0			9.7	6.93	1840		
3-30-98	1318						5.0	25.0			9.7	7.08	1830	1.5	

Comments THE WATER HAD A LIGHT HYDROGEN SULFIDE SMELL.

Developer's Signature Dennis Bird Date 3-30-98 Reviewer John Smith Date 4/10/98

EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-10

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) 22.22
Initial Depth to Water (feet) 12.16
Height of Water Column in Well (feet) 10.06
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing		6.6	19.9
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Water Disposal

KUTZ SEPARATOR

Water Removal Data

Date	Time	Development Method: 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
3-30-98	1400										10.0	6.38	4300		
3-30-98	1405						5.0	5.0			10.1	6.32	4230		
3-30-98	1410						5.0	10.0			11.0	6.84	3900		
3-30-98	1418						5.0	15.0			11.8	7.02	3820		
3-30-98	1425						5.0	20.0			10.5	6.63	3710		
3-30-98	1437						5.0	25.0			10.3	7.08	3930	3.5	

Comments THE WELL HAD 0.66' OF FREE FLOATING HYDROCARBON.

Developer's Signature Dennis Bird Date 3-30-98 Reviewer Jon Stanley Date 4/10/98

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX

Samples: 980260 to 980265, 980267 to 980273, 980276 to 980278

QA/QC for 4/6/98 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	48.9	97.9	75 - 125 %	X	
Toluene	Standard	50.0	52.7	105	75 - 125 %	X	
Ethylbenzene	Standard	50.0	53.3	107	75 - 125 %	X	
m & p - Xylene	Standard	100	107.8	107.8	75 - 125 %	X	
o - Xylene	Standard	50.0	52.5	105	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	24.3	97.2	39 - 150	X	
Toluene	Standard	25.0	26.2	105	46 - 148	X	
Ethylbenzene	Standard	25.0	26.5	106	32 - 160	X	
m & p - Xylene	Standard	50.0	54.1	108	Not Given	X	
o - Xylene	Standard	25.0	26.2	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	45.9	91.8	75 - 125 %	X	
Toluene	Standard	50.0	52.0	104.0	75 - 125 %	X	
Ethylenzene	Standard	50.0	53.6	107.1	75 - 125 %	X	
m & p - Xylene	Standard	100	108.1	108.1	75 - 125 %	X	
o - Xylene	Standard	50.0	52.2	104	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	47.7	95.4	75 - 125 %	X	
Toluene	Standard	50.0	51.5	103.1	75 - 125 %	X	
Ethylbenzene	Standard	50.0	51.7	103.4	75 - 125 %	X	
m & p - Xylene	Standard	100	104.3	104.3	75 - 125 %	X	
o - Xylene	Standard	50.0	51.3	102.6	75 - 125 %	X	

Narrative: Acceptable.

SAMPLE NUMBER CCV LA-52589 50 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	Standard	50.0	49.4	98.7	75 - 125 %	X	
Toluene	Standard	50.0	50.9	101.7	75 - 125 %	X	
Ethylbenzene	Standard	50.0	52.0	104.0	75 - 125 %	X	
m & p - Xylene	Standard	100	104.8	104.8	75 - 125 %	X	
o - Xylene	Standard	50.0	50.9	101.7	75 - 125 %	X	

Narrative: Acceptable.

SAMPLE NUMBER CCV LA-52589 50 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	Standard	50.0	49.5	99.0	75 - 125 %	X	
Toluene	Standard	50.0	49.9	99.7	75 - 125 %	X	
Ethylbenzene	Standard	50.0	50.4	100.8	75 - 125 %	X	
m & p - Xylene	Standard	100	101.0	101.0	75 - 125 %	X	
o - Xylene	Standard	50.0	49.5	98.9	75 - 125 %	X	

Narrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE ID 980260	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE RANGE	YES	NO
Benzene	Matrix Duplicate	9.1	9.3	1.59	+/- 20 %	X	
Toluene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X	
Ethylbenzene	Matrix Duplicate	14.80	14.84	0.25	+/- 20 %	X	
m & p - Xylene	Matrix Duplicate	<2	<2	0.00	+/- 20 %	X	
o - Xylene	Matrix Duplicate	2.90	2.92	0.65	+/- 20 %	X	

Narrative: Acceptable.

LABORATORY SPIKES:

SAMPLE ID 2nd Analysis 980260	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	50	9.1	52.8	87.3	75 - 125 %	X	
Toluene	50	<1	52.3	105	75 - 125 %	X	
Ethylbenzene	50	14.8	66.0	102	75 - 125 %	X	
m & p - Xylene	100	<2	107.7	107.7	75 - 125 %	X	
o - Xylene	50	2.9	54.5	103	75 - 125 %	X	

Narrative: Acceptable

LABORATORY DUPLICATES:

SAMPLE ID 980271	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 980271	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	50	<1	49.5	99.0	75 - 125 %	X	
Toluene	50	<1	51.2	102	75 - 125 %	X	
Ethylbenzene	50	<1	51.4	103	75 - 125 %	X	
m & p - Xylene	100	<2	103.9	103.9	75 - 125 %	X	
o - Xylene	50	<1	51.0	102	75 - 125 %	X	

Narrative: Acceptable

AUTO BLANK	SOURCE	PPB (2 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.

TRIP BLANK	SOURCE	PPB (2 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: 4/10/98

April 10, 1998

ANALYTICAL REPORT

Chaco Plant
Monitor Wells #9 and #10
Lab Sample #'s 980264 and 980265
Sampled 3/30/98
Sampled by Dennis Bird

REMARKS:
These samples represents the first quarter 1998 samples from these wells. These wells were installed on July 24, 1997. They are being monitored quarterly for BTEX components. The New Mexico WQCC limit for Benzene was exceeded in MW#10. MW-10 had free product on it.

Distribution:

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

Attachments

El Paso Natural Gas Company

A 2650

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Type and No. of Sample Containers	Preservation Technique	Requested Analysis			Remarks
	CHACO PLANT			BTXE			
Samplers: (Signature) Dennis Bird	Date: 3-30-98						

Matrix	Date	Time	Comp.	GRAB	Sample Number						
WATER	3-30-98	1335		X	980264	5-1	4°C	X			MONITOR WELL MW-7
WATER	3-30-98	1451		X	980265	5-2	4°C	X			MONITOR WELL MW-10

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	3-30-98 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:	
		Madonna Kaffen	4/2/98 0700		
Carrier Co:		Carrier Phone No.		Date Results Reported / by: (Signature)	

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
CHACO PLANT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	980264
MTR CODE | SITE NAME:	N/A	Chaco Plant
SAMPLE DATE | TIME (Hrs):	3/30/98	1332
PROJECT:	Monitor Well	
DATE OF BTEX EXT. | ANAL.:	4/6/98	4/6/98
TYPE | DESCRIPTION:	MW-9	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	3.15	PPB				
TOLUENE	< 1	PPB				
ETHYL BENZENE	< 1	PPB				
TOTAL XYLENES	< 3	PPB				
TOTAL BTEX	3	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 100.8 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: _____ Date: 4/10/98

980264BTEXChaco,4/7/98

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
CHACO PLANT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	980265
MTR CODE | SITE NAME:	N/A	Chaco Plant
SAMPLE DATE | TIME (Hrs):	3/30/98	1451
PROJECT:	Monitor Well	
DATE OF BTEX EXT. | ANAL.:	4/6/98	4/6/98
TYPE | DESCRIPTION:	MW-10	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS DF	Q		
BENZENE	488	PPB	5	D		
TOLUENE	653	PPB	5	D		
ETHYL BENZENE	39.7	PPB	5	D		
TOTAL XYLENES	323	PPB	5	D		
TOTAL BTEX	1504	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 99.8 % 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: _____ Date: 4/10/98

980265BTEXChaco,4/7/98

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 Removed
☐ 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) 11.75
Height of Water Column in Well (feet) 9.67
Diameter (inches): Well ____ Gravel Pack ____

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing		6.4	19.2
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: 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
3-30-98	1247										12.5	6.52	1812		
3-30-98	1253						5.0	5.0			10.9	6.36	1766		
3-30-98	1300						5.0	10.0			10.3	6.57	1805		
3-30-98	1305						5.0	15.0			10.1	6.85	1743		
3-30-98	1311						5.0	20.0			9.7	6.93	1840		
3-30-98	1318						5.0	25.0			9.7	7.08	1830	1.5	

Comments THE WATER HAD A LIGHT HYDROGEN SULFIDE SMELL.

Developer's Signature Dennis Bird Date 3-30-98 Reviewer John Leach Date 4/10/98

EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-10

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) 22.22
Initial Depth to Water (feet) 12.16
Height of Water Column in Well (feet) 10.06
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		6.6	19.9
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Water Disposal

KUTZ SEPARATOR

Water Removal Data

Date	Time	Development Method		Removal Rate	Intake Depth	Ending Water Depth	Water Volume Removed (gal)		Product Volume Removed (gallons)		Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
		Pump	Bailer	(gal/min)	(feet)	(feet)	Increment	Cumulative	Increment	Cumulative					
3-30-98	1400										10.0	6.38	4300		
3-30-98	1405						5.0	5.0			10.1	6.32	4230		
3-30-98	1410						5.0	10.0			11.0	6.84	3900		
3-30-98	1418						5.0	15.0			11.8	7.02	3820		
3-30-98	1425						5.0	20.0			10.5	6.63	3710		
3-30-98	1437						5.0	25.0			10.3	7.08	3930	3.5	

Comments THE WELL HAD 0.66' OF FREE FLOATING HYDROCARBON.

Developer's Signature Dennis Bird Date 3-30-98 Reviewer Jon Kruse Date 4/10/98

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX

Samples: 980260 to 980265, 980267 to 980273, 980276 to 980278

QA/QC for 4/6/98 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	48.9	97.9	75 - 125 %	X	
Toluene	Standard	50.0	52.7	105	75 - 125 %	X	
Ethylbenzene	Standard	50.0	53.3	107	75 - 125 %	X	
m & p - Xylene	Standard	100	107.8	107.8	75 - 125 %	X	
o - Xylene	Standard	50.0	52.5	105	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	24.3	97.2	39 - 150	X	
Toluene	Standard	25.0	26.2	105	46 - 148	X	
Ethylbenzene	Standard	25.0	26.5	106	32 - 160	X	
m & p - Xylene	Standard	50.0	54.1	108	Not Given	X	
o - Xylene	Standard	25.0	26.2	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	45.9	91.8	75 - 125 %	X	
Toluene	Standard	50.0	52.0	104.0	75 - 125 %	X	
Ethylenzene	Standard	50.0	53.6	107.1	75 - 125 %	X	
m & p - Xylene	Standard	100	108.1	108.1	75 - 125 %	X	
o - Xylene	Standard	50.0	52.2	104	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	47.7	95.4	75 - 125 %	X	
Toluene	Standard	50.0	51.5	103.1	75 - 125 %	X	
Ethylbenzene	Standard	50.0	51.7	103.4	75 - 125 %	X	
m & p - Xylene	Standard	100	104.3	104.3	75 - 125 %	X	
o - Xylene	Standard	50.0	51.3	102.6	75 - 125 %	X	

Narrative: Acceptable.

SAMPLE NUMBER CCV LA-52589 50 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	Standard	50.0	49.4	98.7	75 - 125 %	X	
Toluene	Standard	50.0	50.9	101.7	75 - 125 %	X	
Ethylbenzene	Standard	50.0	52.0	104.0	75 - 125 %	X	
m & p - Xylene	Standard	100	104.8	104.8	75 - 125 %	X	
o - Xylene	Standard	50.0	50.9	101.7	75 - 125 %	X	

Narrative: Acceptable.

SAMPLE NUMBER CCV LA-52589 50 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	Standard	50.0	49.5	99.0	75 - 125 %	X	
Toluene	Standard	50.0	49.9	99.7	75 - 125 %	X	
Ethylbenzene	Standard	50.0	50.4	100.8	75 - 125 %	X	
m & p - Xylene	Standard	100	101.0	101.0	75 - 125 %	X	
o - Xylene	Standard	50.0	49.5	98.9	75 - 125 %	X	

Narrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE ID 980260	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE RANGE	YES	NO
Benzene	Matrix Duplicate	9.1	9.3	1.59	+/- 20 %	X	
Toluene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X	
Ethylbenzene	Matrix Duplicate	14.80	14.84	0.25	+/- 20 %	X	
m & p - Xylene	Matrix Duplicate	<2	<2	0.00	+/- 20 %	X	
o - Xylene	Matrix Duplicate	2.90	2.92	0.65	+/- 20 %	X	

Narrative: Acceptable.

LABORATORY SPIKES:

SAMPLE ID 2nd Analysis 980260	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	50	9.1	52.8	87.3	75 - 125 %	X	
Toluene	50	<1	52.3	105	75 - 125 %	X	
Ethylbenzene	50	14.8	66.0	102	75 - 125 %	X	
m & p - Xylene	100	<2	107.7	107.7	75 - 125 %	X	
o - Xylene	50	2.9	54.5	103	75 - 125 %	X	

Narrative: Acceptable

LABORATORY DUPLICATES:

SAMPLE ID 980271	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 980271	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	50	<1	49.5	99.0	75 - 125 %	X	
Toluene	50	<1	51.2	102	75 - 125 %	X	
Ethylbenzene	50	<1	51.4	103	75 - 125 %	X	
m & p - Xylene	100	<2	103.9	103.9	75 - 125 %	X	
o - Xylene	50	<1	51.0	102	75 - 125 %	X	

Narrative: Acceptable

AUTO BLANK	SOURCE	PPB (2 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.

TRIP BLANK	SOURCE	PPB (2 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: CAC Approved By: John Fowler Date: 4/10/98

April 6, 1998

Semi-Annual ANALYTICAL REPORT

Chaco Plant
Monitor Well #1, 8
Lab Sample #'s 980250 to 980252
Sampled 3/24/98
Sampled by Dennis Bird

REMARKS:
These samples represents the first round 1998 semi-annual testing requirements for these two monitor wells. 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 Hansen - W/O Attachments
Results Log Book

Attachments

El Paso Natural Gas Company

A 2630

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Type and No. of Sample Containers	Preservation Technique	Requested Analysis				Remarks
	CHACO PLANT			BTXE	Cl, Cr, Hg			
Samplers: (Signature) Dennis Bird	Date: 3-24-98							

MATRIX	Date	Time	Comp.	GRAB	Sample Number							
WATER	3-24-98	1121		X	980250	G-1	4°C	X	X			MONITOR WELL MW-1
WATER	3-24-98	1145		X	980251	G-1	4°C	X	X			MONITOR WELL MW-8
WATER	3-24-98	1145		X	980252	G-1	4°C	X	X			MONITOR WELL MW-8 FIELD DUP
WATER	3-24-98	—		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	3-24-98 1572				
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:	
		Marlon Hopper	3/25/98 1630		

Carrier Co:

Carrier Phone No.

Air Bill No.:

Date Results Reported / by: (Signature)

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
CHACO PLANT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	980250
MTR CODE | SITE NAME:	N/A	Chaco Plant
SAMPLE DATE | TIME (Hrs):	3/24/98	1121
PROJECT:	Monitor Well	
DATE OF BTEX EXT. | ANAL.:	3/27/98	3/27/98
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 98.1 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: Jon Fowler Date: 4/3/98

980250BTEXChaco,3/31/98

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
CHACO PLANT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	980251
MTR CODE | SITE NAME:	N/A	Chaco Plant
SAMPLE DATE | TIME (Hrs):	3/24/98	1148
PROJECT:	Monitor Well	
DATE OF BTEX EXT. | ANAL.:	3/27/98	3/27/98
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 99.5 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Fowler Date: 4/3/98

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
CHACO PLANT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	980252
MTR CODE | SITE NAME:	N/A	Chaco Plant
SAMPLE DATE | TIME (Hrs):	3/24/98	1148
PROJECT:	Monitor Well	
DATE OF BTEX EXT. | ANAL.:	3/27/98	3/27/98
TYPE | DESCRIPTION:	MW-8 Field Dup	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 99.2 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By: John Leach Date: 4/3/98

980252BTEXChaco,3/31/98

EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name CHACO PLANT

Meter Code NA

Development Criteria

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

Water Volume Calculation

Initial Depth of Well (feet) 25.15
Initial Depth to Water (feet) 18.66
Height of Water Column in Well (feet) 6.49
Diameter (inches): Well 4 Gravel Pack_____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		4.3	12.9
Gravel Pack			
Drilling Fluids			
Total			

Instruments

☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☒ Other D.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	Cumulative	Increment	Cumulative					
3-24-98	0935										15.3	6.36	1935		
3-24-98	0944						5.0	5.0			14.1	6.93	2020		
3-24-98	0953						3.0	8.0			14.1	7.20	2080		
3-24-98	1005						2.0	10.0			14.5	7.38	2150	7.0	

Comments THE WELL BAILED DRY @ 10.0 GALLONS.

Developer's Signature Dennis Bird Date 3-24-98 Reviewer [signature] Date 4/3/98

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_____

Water Volume Calculation

Initial Depth of Well (feet) 21.80
Initial Depth to Water (feet) 11.05
Height of Water Column in Well (feet) 10.75

Diameter (inches): Well_____ Gravel Pack_____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		7.1	21.3
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Methods of Development

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

☐ Other_____

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					
3-24-98	1022										14.2	7.79	2360		
3-24-98	1033						5.0	5.0			13.4	7.66	2380		
3-24-98	1038						5.0	10.0			13.3	7.63	2350		
3-24-98	1050						5.0	15.0			14.0	7.68	2420		
3-24-98	1055						5.0	20.0			14.0	7.62	2560		
3-24-98	1105						5.0	25.0			14.5	7.75	2340	5.5	

Comments_____

Developer's Signature Dennis Bird Date 3-24-98 Reviewer Joe Franklin Date 4/3/98

Polynuclear Aromatic Hydrocarbon

PARAGON ANALYTICS, INC.

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

April 1, 1998

EPFS Sample #
980250
980251
Chaco Plant
MW-1 + MW-8

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

RE: Paragon Workorder: 98-03-173
Client Project Name: Chaco Plant Monitor Wells
Client Project Number: Not Submitted

Dear Mr. Lambdin:

Two soil samples were received from El Paso Natural Gas Co. on March 25, 1998. The samples were scheduled for PAHs by HPLC analysis. The results for this analysis are contained in the enclosed report pages 1-5.

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

Sincerely,

Adrienne Mackzum

Paragon Analytics, Inc.
Adrienne Mackzum
Project Manager

AM/nmu
Enclosure: Report

Reviewed & Accepted
4/10/98

Paragon Analytics, Inc.

PAHs by HPLC Case Narrative

El Paso Field Services

Chaco Plant Monitor Wells

Order Number - 9803173

1. This report consists of 2 water samples received by Paragon on 3/25/98.

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 acceptance criteria.

9. 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 — 3/31/98
Preston Mathiesen
HPLC Analyst
Date

EN — 3-31-98
Reviewer's Initials
Date

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: WMB1, 3/25/98

Sample Matrix: Water
Cleanup: N/A

Date Collected: N/A
Date Extracted: 3/25/98
Date Analyzed: 3/27/98

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	50	35 - 119

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

POLYNUCLEAR AROMATIC HYDROCARBONS

Method 8310

Chaco
MW-1

Sample ID
980250

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

Lab Sample ID: 9803173-1

Sample Matrix: Water
Cleanup: N/A

Date Collected: 3/24/98
Date Extracted: 3/25/98
Date Analyzed: 3/27/98

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	62	35 - 119

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

POLYNUCLEAR AROMATIC HYDROCARBONS

Method 8310

Chaco MW-8

Sample ID
980251

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

Lab Sample ID: 9803173-2

Sample Matrix: Water
Cleanup: N/A

Date Collected: 3/24/98
Date Extracted: 3/25/98
Date Analyzed: 3/27/98

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

Analyte	Conc (ug/L)	Reporting Limit (ug/L)
Naphthalene	3.7 K	0.50
Acenaphthylene	5.3 K	1.0
1-Methylnaphthalene	0.55 J, K	1.0
2-Methylnaphthalene	ND	1.0
Acenaphthene	ND	1.0
Fluorene	1.8	0.10
Phenanthrene	0.15	0.050
Anthracene	0.16	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

Total Naphthalenes = 3.7
Benzo(a)Pyrene = <0.10

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2-Chloroanthracene	67	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.

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

Sample ID: **Blank Spike**

Lab Sample ID: WLCS1, 3/25/98

Date Extracted: 3/25/98
Date Analyzed: 3/27/98

Sample Matrix: Water
Cleanup: N/A

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	6.41	64	36 - 93
Phenanthrene	1.00	0.649	65	45 - 107
Pyrene	1.00	0.719	72	40 - 104
Benzo(k)fluoranthene	0.250	0.177	71	61 - 126
Dibenzo(a,h)anthracene	1.00	0.670	67	55 - 113

Lab Sample ID: WCLSD1, 3/25/98

Analyte	Spike Added (ug/L)	BSD Concentration (ug/L)	BSD Percent Recovery	RPD	QC Limits RPD
Acenaphthylene	10.0	5.90	59	8	20
Phenanthrene	1.00	0.586	59	10	20
Pyrene	1.00	0.678	68	6	20
Benzo(k)fluoranthene	0.250	0.173	69	2	20
Dibenzo(a,h)anthracene	1.00	0.660	66	2	20

SURROGATE RECOVERY BS/BSD

Analyte	% Recovery BS	% Recovery BSD	% Rec Limits
2-Chloroanthracene	70	62	35 -119

Paragon Analytics, Incorporated

Sample Number(s) Cross-Reference Table

Paragon OrderNum: 9803173
Client Name: El Paso Field Services
Client Project Name:
Client Project Number: Chaco Plant Monitor Wells
Client PO Number:

Client Sample	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
980250	9803173-1		Water	3/24/98	11:21
980251	9803173-2		Water	3/24/98	11:48

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 3-24-98 Page 1 of 1

*ACCESSION NUMBER (LAB ID) 980373

REPORT TO: JOHN CAMBRIN
COMPANY: EL PASO FIELD SERVICE
ADDRESS: 614 REILLY AVENUE
FARMINGTON NM 87401

SAMPLER: DENNIS BIRD
505-599-2347 505-599-2261
PHONE NO. 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
980250	3-24-98	1121	WATER	01											X																					2
980251	3-24-98	1143	WATER	02											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
SEALS INTACT? Y / N / NA
REC'D GOOD COND./COLD?

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

RELINQUISHED BY: 1	RELINQUISHED BY: 2	RELINQUISHED BY: 3
Sign. D Bird Time 1446	Sign. Time	Sign. Time
Print DENNIS BIRD Date 3-24-98	Print Date	Print Date
Company EL PASO FIELD SERVICE	Company Fedex	Company
RECEIVED BY: 1	**RECEIVED BY: 2**	**RECEIVED BY: 3**
Sign. Time	Sign. J Hunter Time 930	Sign. Time
Print Date	Print J Hunter Date 3-25-98	Print Date
Company Fedex	Company PAI	Company

* 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 Service SHIPPING CONTAINER #: Cooler-PA1

WORKORDER NO. 9803173 INITIALS: H DATE: 3/25/98

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:_____

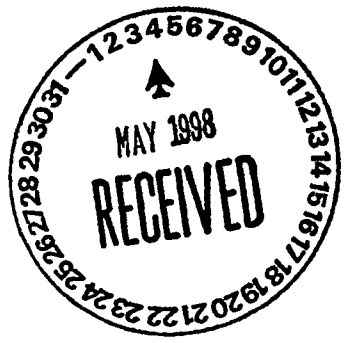
Cooler Temperature: 1°C

FRM 201FC7 (30/7/97)

Metals

American Environmental Network, Inc.

AEN I.D. **804370**



May 1, 1998

El Paso Field Service
614 Rielly Avenue
Farmington, NM 87401

Project Name/Number: CHACO MW'S (NONE)

Attention: John Lambdin

On **04/15/98**, 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 (OR), Inc., 17400 SW Upper Boones Ferry Road, Suite 270, Durham, OR.

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

Revised & Approved
J. Sanchez
5/4/98

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

American Environmental Network, Inc.

CLIENT	: EL PASO FIELD SERVICE	DATE RECEIVED	: 04/15/98
PROJECT #	: (NONE)		
PROJECT NAME	: CHACO MW'S	REPORT DATE	: 05/01/98

AEN ID: 804370

	AEN ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	804370-01	980250	AQUEOUS	03/24/98
02	804370-02	980251	AQUEOUS	03/24/98
03	804370-03	980252	AQUEOUS	03/24/98

---TOTALS---

MATRIX	#SAMPLES
AQUEOUS	3

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.

17400 SW Upper Boones Ferry Road • Suite 270 • Portland, OR 97224 • (503) 684-0447

Kim McNeill
AEN - Albuquerque
2709-D Pan American Fwy NE
Albuquerque, NM 87107

Date: 04/24/1998
AEN Account No.: 90147
AEN Job Number: 98.00959

Project: 804370/El Paso Field Services
Location: CHACO MW's

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample Number	Sample Description	Matrix Type	Date Taken	Date Received
93213	804370-01 (980250)	Water	03/24/1998	04/16/1998
93214	804370-02 (980251)	Water	03/24/1998	04/16/1998
93215	804370-03 (980252)	Water	03/24/1998	04/16/1998

Approved by:

Andi Noevet
Project Manager
AEN, INC.

Rochelle Carpenter
Technical Review
AEN, INC.

ANALYTICAL REPORT

Kim McNeill
AEN - Albuquerque
2709-D Pan American Fwy NE
Albuquerque, NM 87107

04/24/1998
Job No.: 98.00959

Project Name: 804370/El Paso Field Services
Date Received: 04/16/1998

Sample Number 93213 — Sample Description 804370-01 (980250)

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
ICP/AA Digestion - Water	ICP	-			04/21/1998	
Cadmium, ICP	6010	ND	0.002	mg/L	04/21/1998	
Chromium, ICP	6010	ND	0.010	mg/L	04/21/1998	Q,MI
Mercury Prep (W)	7470	-			04/21/1998	
Mercury, CV (W)	7470	ND	0.0002	mg/L	04/22/1998	

Sample Number 93214 — Sample Description 804370-02 (980251)

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
ICP/AA Digestion - Water	ICP	-			04/21/1998	
Cadmium, ICP	6010	ND	0.002	mg/L	04/21/1998	
Chromium, ICP	6010	ND	0.005	mg/L	04/21/1998	
Mercury Prep (W)	7470	-			04/21/1998	
Mercury, CV (W)	7470	ND	0.0002	mg/L	04/22/1998	

Sample Number 93215 — Sample Description 804370-03 (980252)

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
ICP/AA Digestion - Water	ICP	-			04/21/1998	
Cadmium, ICP	6010	ND	0.002	mg/L	04/21/1998	
Chromium, ICP	6010	ND	0.005	mg/L	04/21/1998	
Mercury Prep (W)	7470	-			04/21/1998	
Mercury, CV (W)	7470	ND	0.0002	mg/L	04/22/1998	

All reported below detection limits.

5/4/98

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

QUALITY CONTROL REPORT
CONTINUING CALIBRATION VERIFICATION

AEN - Albuquerque
2709-D Pan American Fwy NE
Albuquerque, NM 87107

Date: 04/24/1998

Job Number: 98.00959

Contact: Kim McNeill
Project: 804370/El Paso Field Services

Analyte	CCV True Concentration	Concentration Found	Percent Recovery	Date Analyzed
Cadmium, ICP	0.500	0.508	101.6	04/21/1998
Chromium, ICP	0.500	0.511	102.2	04/21/1998
Mercury, CV (W)	0.00200	0.00203	101.5	04/22/1998

CCV - Continuing Calibration Verification

American Environmental Network, Inc. (503)684-0447 (503)620-0393 FAX
17400 SW Upper Boones Ferry Rd., Suite 270, Portland, OR 97224

QUALITY CONTROL REPORT
LABORATORY CONTROL STANDARD

AEN - Albuquerque
2709-D Pan American Fwy NE
Albuquerque, NM 87107

Date: 04/24/1998

Job Number: 98.00959

Contact: Kim McNeill
Project: 804370/El Paso Field Services

Analyte	LCS True Concentration	Concentration Found	LCS % Recovery	Flags	Date Analyzed
Cadmium, ICP	0.500	0.475	95.0		04/21/1998
Chromium, ICP	0.500	0.488	97.6		04/21/1998
Mercury, CV (W)	0.00100	0.000936	93.6		04/22/1998

LCS - Laboratory Control Standard

American Environmental Network , Inc. (503)684-0447 (503)620-0393 FAX
17400 SW Upper Boones Ferry Rd., Suite 270, Portland OR 97224

QUALITY CONTROL REPORT
MATRIX SPIKE/MATRIX SPIKE DUPLICATE

AEN - Albuquerque
2709-D Pan American Fwy NE
Albuquerque, NM 87107

Date: 04/24/1998

Job Number: 98.00959

Contact: Kim McNeill
Project: 804370/El Paso Field Services

Analyte	Matrix Spike Result	Sample Result	Spike Amount	Units	Percent Recovery	MSD Result	MSD Spike Amount	Units	Percent Recovery	MS/MSD RPD	Flags
Cadmium, ICP	0.478	ND	0.500	mg/L	95.6	0.485	0.500	mg/L	97.0	1.5	
Chromium, ICP	0.493	ND	0.500	mg/L	98.6	0.496	0.500	mg/L	99.2	0.6	
Mercury, CV (W)	0.00207	ND	0.0020	mg/L	103.5	0.0020	0.0020	mg/L	104.5	1.0	

QC Sample:

NOTE: Matrix Spike Samples may not be samples from this job.

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference
dil.= Diluted Out

American Environmental Network, Inc. (503)684-0447 (503)620-0393 FAX
17400 SW Upper Boones Ferry Rd., Portland, OR 97224

QUALITY CONTROL REPORT
BLANKS

AEN - Albuquerque
2709-D Pan American Fwy NE
Albuquerque, NM 87107

Date: 04/24/1998

Job Number: 98.00959

Contact: Kim McNeill
Project: 804370/El Paso Field Services
Location: CHACO MW's

Analyte	Blank Analysis	Report Limit	Units	Date Analyzed
Cadmium, ICP	ND	0.002	mg/L	04/21/1998
Chromium, ICP	ND	0.005	mg/L	04/21/1998
Mercury, CV (W)	ND	0.0002	mg/L	04/22/1998

American Environmental Network, Inc. (503)684-0447 (503)620-0393 FAX
17400 SW Upper Boones Ferry Rd., Portland, OR 97224

FLAG GLOSSARY

A	This sample does not have a typical gasoline pattern.
B1	This sample does not have a typical diesel pattern.
B	Analyte found in the associated blank as well as the sample.
C	The sample contains a lighter hydrocarbon than gasoline.
CN	See case narrative
CS	Outside control limits or unusual matrix; see case narrative.
D	The sample extends to a heavier hydrocarbon range than gasoline.
d	Results on a dry weight basis
DIL	Result was calculated from dilution.
E	The sample extends to a lighter hydrocarbon range than diesel.
F	The sample extends to a heavier hydrocarbon range than diesel.
G	The positive result for gasoline is due to single component comtamination.
I	The oil pattern for this sample is not typical.
J	The result for this compound is an estimated concentration.
L	The LCS recovery exceeded control limits. See the LCS page of this report.
LM	The LCS recovery exeeded control limits; the MS/MSD were in control validating the batch.
M	MS and/or MSD percent recovery exceeds control limits.
MD	Unable to calculate MS/MSD recovery due to high amount of analyte; greater than 4 times spike level.
MR	The MS/MSD RPD is greater than method critera. The sample was re-extracted and re-analyzed with similar results indica a non-homogeneous sample.
MM	The Matrix Spike exceeded control limits; LCS was in control validating the batch.
MI	Outside control limits due to matrix interference.
N	Manual integration performed on sample for quantification.
N/A	Not Applicable.
NC	Not calcuable.
NO	Not Analyzed.
P	A post digestion spike was analyzed, and recoveries were within control limits.
Q	Detection limits elevated due to sample matrix.
Q1	Detection limits elevated due to high levels of non-target compounds. Sample(s) run at a dilution.
R	The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
RD	RPD not applicable for results less than five times the reporting limit.
RP	MS/MSD RPD is greater than 20%
SR	Surrogate recovery outside control limits. See the surrogate page of the report.
SD	Unable to quantitate surrogate due to sample dilution.
SC	Sample not provided to laboratory in proper sampling container.
V	Volatile analysis was requested, sample container received with headspace.
X1	The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
X	Sample was analyzed outside recommended holding times.
Y	The result for this parameter was greater than the TCLP regulatory limit.
Z	The pattern seen for the parameter being analyzed is not typical.

American Environmental Network (NM), Inc.
Albuquerque • Phoenix • Pensacola • Portland • Pleasant Hills • Columbia

CHAIN OF CUSTODY

DATE: 4/14/98 PAGE: 1 OF 1

AEN LAB ID

SHADED AREAS ARE FOR AEN USE

PROJECT MANAGER: JOHN GAMBOIN

COMPANY: EL PASO FIELD SERVICE
ADDRESS: 614 REILLY AVENUE
FARMINGTON, NM 87401
PHONE: (505) 599-2144
FAX: (505) 599-2261
BILL TO: SAME AS ABOVE
COMPANY:
ADDRESS:

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.
980250	3-24-98	1121	WATER	-01
980251	3-24-98	1148	WATER	-02
980252	3-24-98	1148	WATER	-03

ANALYSIS REQUEST

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: TOTAL MERCURY	CADMIUM CHROMIUM
																										X	X
																										X	X
																										X	X

PROJECT INFORMATION

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

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

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

CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐

RELINQUISHED BY: 1

Signature: Dennis Bird Time: 1133
Printed Name: DENNIS BIRD Date: 4-14-98
Company: EL PASO FIELD SERVICE

Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2

Signature: Time:
Printed Name: Date:
Company:

PLEASE FILL THIS FORM IN COMPLETELY.