GW - 71-0

GENERAL CORRESPONDENCE

YEAR(S): 1993-1987

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
Ecological Services
Suite D, 3530 Pan American Highway, NE
Albuquerque, New Mexico 87107

November 23, 1993

Permit# GW94008

Mr. William J. Lemay
Director, State of New Mexico
Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Dear Mr. Lemay:

This responds to the notice of publication received by the U.S. Fish and Wildlife Service (Service) on November 22, 1993, regarding the Oil Conservation Division (OCD) discharge plan applications submitted by El Paso Natural Gas, on fish, shellfish, and wildlife resources in New Mexico.

The Service has the following comments on the issuance of the following discharge permit.

> GW-71 El Paso Natural Gas Co., Chaco Canyon Gas Processing Plant located in section 16, T. 26 N., R. 12 W., San Juan County. The modification of the previously approved discharge plan consists of a proposal to continue use of the unlined wastewater evaporation ponds for disposal of cooling tower water. The proposal includes the installation of monitoring wells and implementation of plant discharge and well monitoring procedures.

Disposal or discharge of cooling tower water into wastewater evaporation ponds shall not cause or contribute to the taking of any endangered or threatened species of plant, fish or wildlife or interfere with or cause harm to migratory birds. The operator(s) shall notify the appropriate fish and wildlife agency in the event of any significant fish, wildlife or migratory bird/endangered species kill or die-off on or near the lagoons. If discharges result in the take of migratory birds, the operator(s) should take the steps necessary to ensure that further migratory bird deaths do not occur. Such steps could include screening or netting of lagoons to physically exclude migratory birds from the lagoons.

If no action is taken to avoid further migratory bird deaths associated with wastewater disposal, the operators of such facilities may be held liable under the enforcement provisions of the Migratory Bird Treaty Act (MBTA). The MBTA makes it unlawful for anyone at anytime or in any manner to pursue, hunt, take, capture, kill, transport, or possess any migratory

birds unless authorized by a permit issued by the Department of Interior. Illegal take has been interpreted by the courts to include among other things, accidental poisoning or accumulation of harmful levels of contaminates by migratory birds, even if the contamination event was accidental or the perpetrator was unaware of the fact that his/her actions (or failure to take action) could ultimately prove harmful to migratory birds. The strict liability enforcement provision of the MBTA precludes the necessity of proving intent and permits criminal prosecution of the persons, associations, partnerships, or corporations which inadvertently or intentionally "kill or illegally take" one or more migratory birds.

If you have any questions concerning our comments, please contact Mary Orms at (505) 883-7877.

Sincerely,

for Michael J. Spear

Jennifer Fowler-Propst
State Supervisor

cc:
Director, New Mexico Department of Game and Fish, Santa Fe, New Mexico
Regional Administrator, U.S. Environmental Protection Agency, Dallas, Texas

NOTICE OF PUBLICATION
STATE OF NEW MEXICO
ENERGY, MINERALS & NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following discharge plan renewal application has been submitted to the Director of the Oil Conservation Division, State Land Office Building, P.O. Box 2088, Santa Fe, New Mexico 87504-2088, Telephone (505) 827-5800:

(GW-71) - El Paso Natural Gas Company, Kris Alan Sinclair, Compliance Engineer, P.O. Box 4990, Farmington, New Mexico, 87499, has submitted an application for modification of its previously approved discharge plan for their Chaco Canyon Gas Processing Plant located in Section 16, Township 28 North, Ranger 12 West, NMPM, San Juan County, New Mexico. The modification consists of a proposal to continue use of the unlined wastewater evaporation ponds for the disposal of cooling tower water. The proposal includes the installation of monitoring wells and implementation of plant discharge and well monitoring procedures. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed, as well as disposal of waste oil and solid wastes.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The discharge plan application may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday through Friday. Prior to ruling on any proposed discharge plan or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of the publication of this notice during which comments may be submitted to him a public hearing may be requested by any interested person. Requests for public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed plan based on information available. If a public hearing is held, the Director will approve or disapprove the proposed plan based on information in the plan and information submitted at the hearing.

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 24th day of September, 1993.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION
William J. LeMay
Director

Journal: November 29, 1993

STATE OF NEW MEXICO
County of Bernalillo

OIL CONSERVATION DIVISION
RECEIVED
'93 DE 6 AM 9 11

ss

Paul D. Campbell being duly sworn declares and says that he is National Advertising Manager of **The Albuquerque Journal**, and that this newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Session Laws of 1937, and that payment therefore has been made or assessed as court costs; that the notice, copy of which is hereto attached, was published in said paper in the regular daily edition, for 1 times, the first publication being on the 29 day of Nov., 1993, and the subsequent consecutive publications on _____, 1993

Paul D Campbell

Sworn and subscribed to before me, a notary Public in and for the County of Bernalillo and State of New Mexico, this 29 day of Nov., 1993.

Bernadette Cantwell

PRICE $30.47

12-18-93 Statement to come at end of month.

CLA-22-A (R-1/93) ACCOUNT NUMBER C81184

AFFIDAVIT OF PUBLICATION

No. 32567

STATE OF NEW MEXICO,
County of San Juan:

C.J. SALAZAR being duly sworn, says: "That she is the CLASSIFIED MANAGER of The Farmington Daily Times, a daily newspaper of general circulation published in English in Farmington, said county and state, and that the hereto attached LEGAL NOTICE

was published in a regular and entire issue of the said Farmington Daily Times, a daily newspaper duly qualified for the purpose within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico for ONE consecutive (DAYS) (/////) on the same day as follows:

First Publication MONDAY, NOVEMBER 29, 1993

Second Publication

Third Publication

Fourth Publication

and the cost of publication was $ 46.91

C.J. Salazar

On Dec 6, 1993 C.J. Salazar appeared before me, whom I know personally to be the person who signed the above document.

Jimmy Beck

Notary Public, San Juan County,
New Mexico

My Comm expires: APRIL 2, 1996

NOTICE OF PUBLICATION

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

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GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 24th day of September, 1993.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION
WILLIAM J. LEMAY, Director

Legal No. 32567 published in the Farmington Daily Times, Farmington, New Mexico on Monday, November 29, 1993.

NOTICE OF PUBLICATION

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

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GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 24th day of September, 1993.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

for William J. LeMay

S E A L

WILLIAM J. LEMAY, Director

State of New Mexico
ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT
Santa Fe, New Mexico 87505

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☐ Telephone ☒ Personal	Time	Date
	10:00 am	Nov 17, 1993

Originating Party	Other Parties
~~Kurt~~ Kris. Sinclair EPNG	B. Myers, R. Anderson, B. Olson

Subject Chaco Canyon - response to OCD's 8/2/93 letter

Discussion discussed submittal

1) • didn't find any Cd in their analyses - statelab error?

2) • 20" discharge - don't need to monitor BTEX quarterly - but should quarterly monitor WQCC metals - ICAP's & mercury & TDS, unfiltered; ~~annual~~ cation/anion
• don't need individual ~~to~~ CT sampling

3) • 4 monitor wells; propose to use ponds 3, 4, 5, 6 & runoff; close others (1 & 2)
• can use their new lab; we will do split sampling for confirmation
* try to find background well in area (Pond #8?) with emergency overflow will make connection*
• installing new contact drain ~~sys~~ system & O/W separators
** ~~Kurt~~ want project on hold til they decide gradient w/ background well OVER

Conclusions or Agreements

We'll wait for their analysis of gradient, but go ahead w/ public notice
↳ & background groundwater analysis

Distribution

Signed Robert Myers II

- initially test monitor wells quarterly; then annual later

File copy

El Paso
Natural Gas Company

P. O. BOX 4990
FARMINGTON, NEW MEXICO 87499

William J. Lemay
New Mexico Oil Conservation Division
310 Old Santa Fe Trail
Santa Fe, NM 87501

November 12, 1993

RE: Discharge Plan GW-71
Chaco Canyon Gas Processing Plant
San Juan County, New Mexico

Dear Mr. Lemay:

El Paso Natural Gas Company submits the following report in response to the August 2, 1993, NMOCD letter concerning the proposed Chaco Plant Discharge plan modifications. In this letter four questions were raised: 1) How EPNG would address the heavy metal concentrations in the cooling tower effluent. 2) What steps EPNG would take to monitor the discharge quality. 3) What steps EPNG would take to monitor ground water quality. 4) To which ponds the non-contact waste waters will be discharged.

1. **Heavy metal concentrations in excess of WQCC levels in the cooling tower effluent:**

   Samples collected July 1991 by the NMOCD from the cooling towers and pond #3 indicated cadmium levels in excess of WQCC limits. EPNG initially sampled the discharge and ponds September 1991 for the Discharge Plan, and again in August and September, 1993, in response to the NMOCD data. All analysis showed Cadmium levels below detection levels. (See Tab 1 for cooling tower and pond metals analysis)

2. **Plan for monitoring discharge quality:**

   EPNG will sample the 20" common discharge Quarterly for:

   - Metals
   - BTEX

   The 20" common discharge contains the blowdown from all three cooling towers and the boiler. EPNG is currently rerouting the boiler blowdown to the contact drain system, this will be completed by December 1993. A lined pond is scheduled to be constructed in 1994 . When this is completed all contact water will be routed to it, leaving the 20" discharge as the sole source of water for the unlined ponds. (See Tab 2 for 20" metals analysis. BTEX analysis will be monitored after the boiler blowdown is eliminated from the 20" discharge stream.)

3. **Plan for monitoring ground water quality down gradient of the ponds:**

EPNG, in preparation for this Discharge Plan Modification, drilled four monitor wells adjacent to the ponds. (See Tab 3 for monitor well locations and construction diagrams) These wells and pond #3 will be sampled annually for:

- Metals
- BTEX
- General Chemistry

(See Tab 4 for monitor well and pond #3 water quality analysis)

4. **To which ponds the non-contact waste water will be discharged:**

Ponds 3,4,5,6,8,9,10, and the surface water runoff pond will be used for waste water discharge. Ponds 1 and 2 will be abandoned and closed. (See tab 5 for pond locations)

Since the plant discharge contains no harmful chemicals in excess of the WQCC limits, EPNG believes continued use of the unlined ponds will cause no adverse effects to ground water. If you have any questions or comments feel free to call me at (505) 599-2175.

Sincerely,

Kris Alan Sinclair

Kris Alan Sinclair
Compliance Engineer

cc: W.D. Hall, EPNG
William Olson, NMOCD
Bobby Meyers, NMOCD
Roger Anderson, NMOCD
Denny Foust, NMOCD - w/o attachments

Metals Laboratory Report

Lab Number : 50613

Plant/Generator Name : EL PASO NATURAL GAS - CHACO DISCHARGE PLAN
Sample Type : WATER - PROJECT #K5577
Date of Receipt : 11/05/93 Analyst: BB/~~BLW~~/EL
Date of Report : 11/09/93 QC Checked: 11/9/93
Parameters for Analysis: TOTAL CHROMIUM
Outside Lab : NONE Outside Lab Report No:

TOTAL CHROMIUM BY SW-846 6010.

	50613-10	50613-11	50613-12
Metals:	N31220	N31221	N31222
Chromium	0.044	<0.010	<0.010
	Super Charger (unfiltered)	"A" Oil Suction Header (Filtered)	"A" Oil SUCTION Header (unfiltered)

Comments and Conclusions:

RESULTS REPORTED AS MG/L.

Metals Laboratory Report

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Sample Type : WATER - PROJECT #K5577
Date of Receipt : 11/05/93 Analyst: BB/BLW/EL
Date of Report : 11/09/93 QC Checked: 11/9/93
Parameters for Analysis: TOTAL CHROMIUM
Outside Lab : NONE Outside Lab Report No:

TOTAL CHROMIUM BY SW-846 6010.

Metals:	50613-3 N31213	50613-4 N31214	50613-4 DUP N31214-DUP	50613-5 N31215
Chromium	0.034	0.040	0.040	0.033
	"A" SS Filter-Out (Filtered)	"A" SS Filter-Out (unfiltered)	Lab Duplicate RPD = 0%	"A" SS Filter IN (Filtered)

Acceptable Quality Control.
11/9/93

Comments and Conclusions:

RESULTS REPORTED AS MG/L.

Metals Laboratory Report

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Parameters for Analysis: TOTAL CHROMIUM
Outside Lab : NONE Outside Lab Report No:

TOTAL CHROMIUM BY SW-846 6010.

	50613-6	50613-7	50613-8	50613-9
Metals:	N31216	N31217	N31218	N31219
Chromium	0.038	0.015	0.015	0.034
	"A" SS Filter IN (unfiltered)	Jacket water Pump 4 (Filtered)	Jacket water Pump 4 (unfiltered)	Super Charger (Filtered)

Comments and Conclusions:

RESULTS REPORTED AS MG/L.

Analytical Technologies, Inc.

METALS RESULTS

ATI I.D. : 309319

CLIENT : EL PASO NATURAL GAS CO.
PROJECT # : (NONE)
PROJECT NAME : CHACO COOLING TW. "A" TOWER

DATE RECEIVED : 09/09/93
REPORT DATE : 09/29/93

PARAMETER	UNITS	01	02
SILVER (EPA 200.7/6010)	MG/L	<0.010	<0.010
ARSENIC (EPA 206.2/7060)	MG/L	0.008	0.008
BARIUM (EPA 200.7/6010)	MG/L	0.279	0.428
CADMIUM (EPA 213.2/7131)	MG/L	<0.0005	<0.0005
CHROMIUM (EPA 200.7/6010)	MG/L	0.060	0.105
MERCURY (EPA 245.1/7470)	MG/L	<0.0002	0.0019
LEAD (EPA 239.2/7421)	MG/L	0.004	0.002
SELENIUM (EPA 270.2/7740)	MG/L	<0.005	<0.005

FILTERED NON-FILTERED

Analytical Technologies, Inc.

METALS RESULTS

ATI I.D. : 308319

CLIENT : EL PASO NATURAL GAS CO.
PROJECT # : (NONE)
PROJECT NAME : CHACO CT

DATE RECEIVED : 08/06/93
REPORT DATE : 08/27/93

PARAMETER	UNITS	01	02	03	04	05
SILVER (EPA 200.7/6010)	MG/L	<0.010	<0.010	<0.010	<0.010	<0.010
ARSENIC (EPA 206.2/7060)	MG/L	0.005	0.005	0.006	0.006	0.006
BARIUM (EPA 200.7/6010)	MG/L	0.155	0.161	0.174	0.189	0.386
CADMIUM (EPA 213.2/7131)	MG/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
CHROMIUM (EPA 200.7/6010)	MG/L	<0.010	<0.010	0.060	0.107	0.017
MERCURY (EPA 245.1/7470)	MG/L	<0.0002	<0.0002	<0.0002	0.0036	<0.0002
LEAD (EPA 239.2/7421)	MG/L	<0.002	0.004	0.004	0.003	0.003
SELENIUM (EPA 270.2/7740)	MG/L	<0.005	<0.005	<0.005	<0.005	<0.005
		"C"	"C"	"A"	"A"	"B"
		Filtered	unfiltered	Filt	unf.	Filt

Analytical Technologies, Inc.

METALS RESULTS

ATI I.D. : 308319

CLIENT : EL PASO NATURAL GAS CO.
PROJECT # : (NONE)
PROJECT NAME : CHACO CT

DATE RECEIVED : 08/06/93
REPORT DATE : 08/27/93

PARAMETER	UNITS	06
SILVER (EPA 200.7/6010)	MG/L	<0.010
ARSENIC (EPA 206.2/7060)	MG/L	0.006
BARIUM (EPA 200.7/6010)	MG/L	0.407
CADMIUM (EPA 213.2/7131)	MG/L	<0.0005
CHROMIUM (EPA 200.7/6010)	MG/L	0.018
MERCURY (EPA 245.1/7470)	MG/L	<0.0002
LEAD (EPA 239.2/7421)	MG/L	0.003
SELENIUM (EPA 270.2/7740)	MG/L	<0.005

"B"
unfiltered.

Analytical Technologies, Inc.

METALS RESULTS

ATI I.D. : 310328

CLIENT : EL PASO NATURAL GAS CO.
PROJECT # : K5577
PROJECT NAME : CHACO M.W.

DATE RECEIVED : 10/08/93
REPORT DATE : 10/26/93

PARAMETER	UNITS	01	02	03	04	05
SILVER (EPA 200.7/6010)	MG/L		<0.010			
ARSENIC (EPA 206.2/7060)	MG/L		<0.005			
BARIUM (EPA 200.7/6010)	MG/L		0.245			
CADMIUM (EPA 213.2/7131)	MG/L		<0.0005			
CHROMIUM (EPA 200.7/6010)	MG/L		<0.010			
MERCURY (EPA 245.1/7470)	MG/L		<0.0002			
LEAD (EPA 239.2/7421)	MG/L		<0.002			
SELENIUM (EPA 270.2/7740)	MG/L		<0.005			

Pond #3

Analytical Technologies, Inc.

METALS RESULTS

ATI I.D. : 310328

CLIENT : EL PASO NATURAL GAS CO.
PROJECT # : K5577
PROJECT NAME : CHACO M.W.

DATE RECEIVED : 10/08/93
REPORT DATE : 10/26/93

PARAMETER	UNITS	01
SILVER (EPA 200.7/6010)	MG/L	<0.010
ARSENIC (EPA 206.2/7060)	MG/L	0.007
BARIUM (EPA 200.7/6010)	MG/L	0.334
CADMIUM (EPA 213.2/7131)	MG/L	<0.0005
CHROMIUM (EPA 200.7/6010)	MG/L	0.025
MERCURY (EPA 245.1/7470)	MG/L	<0.0002
LEAD (EPA 239.2/7421)	MG/L	<0.002
SELENIUM (EPA 270.2/7740)	MG/L	<0.005

20" Total
Discharge

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 31032801

TEST : POLYNUCLEAR AROMATICS (EPA METHOD 8310)

CLIENT	: EL PASO NATURAL GAS CO.	DATE SAMPLED	: 10/06/93
PROJECT #	: K5577	DATE RECEIVED	: 10/08/93
PROJECT NAME	: CHACO M.W.	DATE EXTRACTED	: 10/09/93
CLIENT I.D.	: N31070 – 20" Total Discharg	DATE ANALYZED	: 10/12/93
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
NAPHTHALENE	<0.50
ACENAPHTHYLENE	<1.0
ACENAPHTHENE	<0.50
FLUORENE	<0.10
PHENANTHRENE	<0.05
ANTHRACENE	<0.05
FLUORANTHENE	<0.10
PYRENE	<0.10
BENZO(A)ANTHRACENE	<0.10
CHRYSENE	<0.10
BENZO(B)FLUORANTHENE	<0.10
BENZO(K)FLUORANTHENE	<0.10
BENZO(A)PYRENE	<0.10
DIBENZO(a,h)ANTHRACENE	<0.20
BENZO(g,h,i)PERYLENE	<0.10
INDENO(1,2,3-CD)PYRENE	<0.10
1-METHYLNAPHTHALENE	<0.30
2-METHYLNAPHTHALENE	<0.30
SURROGATE PERCENT RECOVERIES	
2-CHLORONAPHTHALENE (%)	70

El Paso Natural Gas Company

MEMORANDUM

To: John Lambdin **Date:** October 11, 1993

From: Dennis Bird **Place:** Field Services Engineering-Lab

Subject: Chaco Plant Monitor Wells

On Wednesday, October 6, 1993, Richard Benson and I went to Chaco Plant to sample the monitor wells. The following analytical parameters are to be performed on the groundwater samples: General Chemistry, NO_3-N, BTXE 8020, Polynuclear Aromatics, RCRA Metals By Total Digestion. The requested analysis for Polynuclear Aromatics, and RCRA Metals By Total Digestion was sent to Analytical Technologies Inc. in Albuquerque N. M. for analysis. The Field Services Laboratory will be performing the General Chemistry, NO_3-N, and BTXE 8020 in our lab.

We also collected a sample from the 20 inch total discharge, and a sample from the Pond #3. The same parameters will be analyzed as the monitor wells.

The following information was collected on each well.

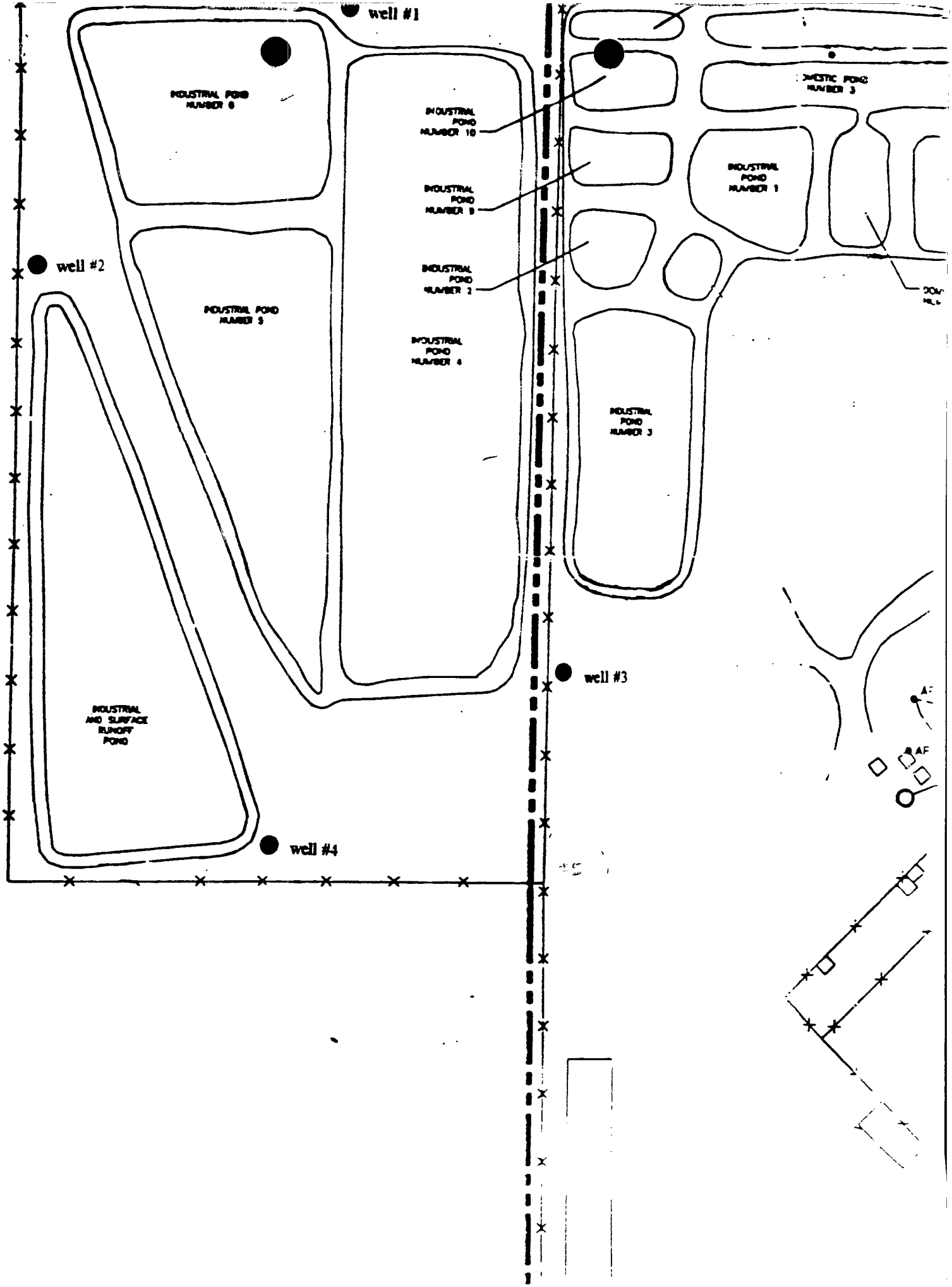
Monitor Well #	Pipe ID	Static Level	Total Depth	Gallons Bailed
MW-1	4"	14.35'	25.5'	21.0
MW-2	4"	17.95'	27.6'	30.0
MW-3	4"	11.15'	22.4'	25.0
MW-4	4"	20.4'	30.9'	30.0

All bailing and sampling was done with disposable, one time use equipment and bottles. All samples were preserved and stored on ice immediately after collection. The static level and total depth was measured from the top of the pipe. A field duplicate was collected on monitor well MW-4. The metals by total digestion was filtered on location at time of sampling. A nalgene analytical filter unit with polycarbonate membrane filter was used for the filtering.

Should you have any question or comments, please let me know.

Dennis P. Bird

cc: David Hall
Nancy Prince
Kris Sinclair


well #1
well #2
well #3
well #4
INDUSTRIAL POND NUMBER 8
INDUSTRIAL POND NUMBER 10
INDUSTRIAL POND NUMBER 9
INDUSTRIAL POND NUMBER 2
INDUSTRIAL POND NUMBER 5
INDUSTRIAL POND NUMBER 4
INDUSTRIAL POND NUMBER 1
INDUSTRIAL POND NUMBER 3
INDUSTRIAL AND SURFACE RUNOFF POND

RECORDS OF SUBSURFACE EXPLORATION

RECORD OF SUBSURFACE EXPLORATION

Borehole # MW - 1
Well # MW - 1
Page 1 of 1

Burlington Environmental Inc.
4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Project Name EPNG - Chaco Plant
Project Number 10942 Phase 2001 / 77
Project Location San Juan County, NM

Elevation
Borehole Location MW - 1
GWL Depth 15'
Logged By Scott Pope
Drilled By Rodgers Inc.
Date/Time Started 9-29-93 / 0830
Date/Time Completed 9-29-93 / 1000

Well Logged By Scott Pope
Personnel On-Site Scott Pope
Contractors On-Site Rodgers Inc.
Client Personnel On-Site Gerry Garibay

Drilling Method HSA 6 1/4" ID
Air Monitoring Method HNU, CGI

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: NDU BZ	BH	S	Drilling Conditions & Blow Counts
0										
5	1	5	SS 24	Brown SAND with Silt, fine-grained Sand, moist, loose.	SM		0	0	0	
10	2	10	SS 24	Brown SAND with Silt, fine-medium grained, trace Clay, moist, loose.			0	0	0	- Noted wet cuttings at 10'.
						13.0				
15	3	15	SS 24	Brown SAND, medium-coarse grained, trace Clay, trace Silt, moist, medium dense.			0	0	0	- Water estimated at 15'.
20	4	20	SS 9	Brown SAND, med.-coarse Sand, trace Silt, sporadic cementation. Noted coal fragments, moist, very dense, possibly cemented.	SW		0	0	0	- Sample refusal at 9". - Noted saturated cuttings at 20.5'. Noted clay in cuttings.
25	5	25	SS 6	Brown cemented SAND, med.-coarse grained Sand, trace fine Gravel, some oxistains, moist, very dense.			0	0	0	- Sample refusal at 6". *
30				TOB - 23.8'						
35										
40										

Comments: * Let sit to see if water would accumulate. Had 8" of water in augers. Discussed with Gerry Garibay. Will set well at 23'.

Geologist Signature Scott T. Pope

RECORD OF SUBSURFACE EXPLORATION

Burlington Environmental Inc.
4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Borehole # MW - 2
Well # MW - 2
Page 1 of 1

Project Name EPNG - Chaco Plant
Project Number 10942 Phase 2001 / 77
Project Location San Juan County, NM

Elevation
Borehole Location MW - 2
GWL Depth 15'
Logged By Scott Pope
Drilled By Rodgers Inc.
Date/Time Started 9-30-93 / 1415
Date/Time Completed 9-30-93 / 1545

Well Logged By Scott Pope
Personnel On-Site Scott Pope
Contractors On-Site Rodgers Inc.
Client Personnel On-Site Kris Sinclair

Drilling Method HSA 6 1/4" ID
Air Monitoring Method HNU, CGI

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: NDU BZ	BH	S	Drilling Conditions & Blow Counts
0										
5	1	5	SS 24	Brown-Gray CLAY with Silt and fine Sand, evaporate filling of voids, roots, Organic Matter, oxistaining, moist, very stiff.	CL		0	0	0	- Tight drilling.
						8.0				
10	2	10	SS 18	Lt. Brown Silty SAND, fine-medium grained, trace Clay, oxistaining, moist, dense.	SM		0	0	0	- Sample refusal at 18". Tight drilling continues.
						13.0				- Tight drilling continues.
15	3	15	SS 6	Brown-Lt. Brown SAND, coarse grained, trace Silt, trace coarse gravel, moist, very dense, cemented fragments.			0	0	0	- Sample Refusal at 6".
20	4	20	SS 6	Same as above. Saturated.	SW		0	0	0	- Sample Refusal at 6".
25	5	25	SS 6	Same as above. Sample was moist at bottom. TOB - 25'			0	0	0	- Sample Refusal at 6". Seemed to be getting out of saturated zone. Will set well at 25'.
30										
35										
40										

Comments:

Geologist Signature Scott T. Pope

RECORD OF SUBSURFACE EXPLORATION

Borehole # MW - 3
Well # MW - 3
Page 1 of 1

Burlington Environmental Inc.
4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Project Name EPNG - Chaco Plant
Project Number 10942 Phase 2001 / 77
Project Location San Juan County, NM

Elevation
Borehole Location MW - 3
GWL Depth 8'
Logged By Scott Pope
Drilled By Rodgers Inc.
Date/Time Started 9-29-93 / 1230
Date/Time Completed 9-29-93 / 1345

Well Logged By Scott Pope
Personnel On-Site Scott Pope
Contractors On-Site Rodgers Inc.
Client Personnel On-Site Kris Sinclair

Drilling Method HSA 6 1/4" ID
Air Monitoring Method HNU, CGI

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: NDU BZ	BH	S	Drilling Conditions & Blow Counts
0										
5	1	5	SS 24	Brown SAND with Silt, fine grained Sand, trace organic matter, moist, loose.	SW		0	0	0	- Noted wet cuttings starting at 6'.
						8.0	0	0	0	- Water at 8'.
10	2	10	SS 24	Dark Gray-Black SAND, fine-medium grained, with Silt, saturated, loose.	SW	9.7				- Noted dark gray-black staining at 8-10' w/sewage odor. No PID readings.
				Grayish-Green Silty CLAY, with evaporate filling of voids, oxistains, low plasticity, moist, very stiff.	CL	13.0				
15	3	15	SS 24	Grayish-Green Silty CLAY, w/Sand, fine-med. Sand, low plasticity, moist, stiff.			0	0	0	- Noted grey-dark grey discoloration throughout, slight sewage odor.
						16.5				- Sample refusal at 3'.
20	4	20	SS 3	Brown-Gray SAND, coarse grained, moist, very dense, possibly cemented.	SP		0	0	0	No odors.
				TOB - 20'						
25										
30										
35										
40										

Comments: Will set well at 20'.

Geologist Signature Scott T. Pope

RECORD OF SUBSURFACE EXPLORATION

Burlington Environmental Inc.
4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Borehole # MW - 4
Well # MW - 4
Page 1 of 1

Project Name EPNG - Chaco Plant
Project Number 10942 Phase 2001 / 77
Project Location San Juan County, NM

Elevation
Borehole Location MW - 4
GWL Depth 20'
Logged By Scott Pope
Drilled By Rodgers Inc.
Date/Time Started 9-30-93 / 0945
Date/Time Completed 9-30-93 / 1210

Well Logged By Scott Pope
Personnel On-Site Scott Pope
Contractors On-Site Rodgers Inc.
Client Personnel On-Site Kris Sinclair

Drilling Method HSA 6 1/4" ID
Air Monitoring Method HNU, CGI

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: NDU BZ	BH	S	Drilling Conditions & Blow Counts
0										
5	1	5	SS 18	Brown Silty Sandy CLAY, fine-medium Sand, trace moisture, very stiff, trace fine Gravel, evaporate filling of voids.	CL		0	0	0	
						8.0				- Sample Refusal at 16".
10	2	10	SS 16	Brown-Lt.Brown Silty SAND w/Clay, fine-med. Sand, some oxistaining, moist, very dense.	SM		0	0	0	- Very tight drilling. Had to add water (5 gal) to get cuttings to exit hole.
				Lt. Brown-Yellow CLAY w/Sand, trace moisture, very stiff (cuttings).	CL	11.0				
15	3	15	SS 6	Lt. Brown-Yellow SAND with Silt, trace Clay, medium-coarse Sand, moist, very dense, probably cemented.	SW	13.0	0	0	0	- Very hard drilling. - Driller felt like he got through tight layer at 17'.
						18.0				
20	4	20	SS 6	Lt. Brown coarse SAND, trace Gravel, trace Silt, moist, very dense, possibly cemented.	SP		0	0	0	- Refusal at 6". - Had 4" water in hole. - Noted gravel in cuttings, some as large as 2".
						23.0				- Refusal at 12".
25	5	25	S 12	4" of Gray CLAY surrounding coarse, moist Sand and coarse Gravel, very stiff, changing to Yellow Sandy Gravelly CLAY with coarse to very coarse Sand and coarse Gravel. Noted some wet zones within sand and gravel.	CL		0	0	0	- Had approximately 2" of water enter hole after sitting 10 min. - Noted abundant saturated cuttings.
						28.0				- Driller noted changes at 27'.
30	6	30	SS 24	Gray Silty CLAY w/periodic fine Sand lenses, oxi-staining, trace coal, low plasicity, moist, very stiff. Appeared laminated in some areas.	CL					
				TOB - 30'						
35										
40										

Comments: Will set well at 28'.

Geologist Signature Scott T. Pope

10/06/93 /MW4LOG.WK1

MONITORING WELL INSTALLATION DIAGRAMS

MONITORING WELL INSTALLATION RECORD

Burlington Environmental Inc.
4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Borehole # MW-1
Well # MW-1
Page 1 of 1

Project Name EPNG CHACO
Project Number 10942 Phase 2001
Project Location CHACO PLANT

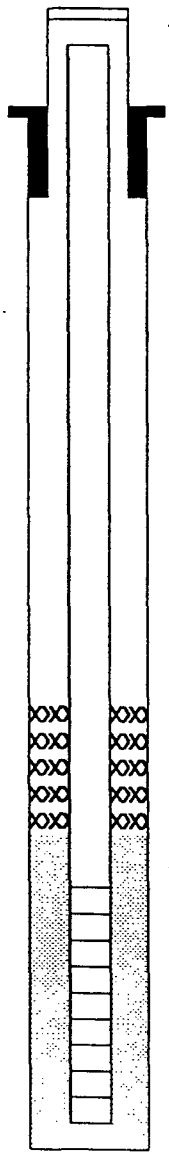
Elevation
Well Location MW-1
GWL Depth 15.0
Installed By RODGERS, INC.

Date/Time Started 9/29/93 1000
Date/Time Completed 9/29/93 1100

On-Site Geologist S. POPE
Personnel On-Site S. POPE
Contractors On-Site RODGERS, INC.
Client Personnel On-Site GERRY GARIBAY
KRIS SINCLAIR

Depths in Reference to Ground Surface

Item	Material	Depth (feet)
Top of Protective Casing	8" STEEL	+2.5
Bottom of Protective Casing		-1.5
Top of Permanent Borehole Casing		N/A
Bottom of Permanent Borehole Casing		N/A
Top of Concrete	PREMIX	+.3
Bottom of Concrete		0.0
Top of Grout	5% BENTONITE	0.0
Bottom of Grout		-3.3
Top of Well Riser	4" SCH 40 PVC	+2.2
Bottom of Well Riser		-7.8
Top of Well Screen	4" SCH 40 PVC	-7.8
Bottom of Well Screen	.010 SLOT	-23.0
Top of Peltonite Seal	1/4" BENTONITE PELLETS	-3.3
Bottom of Peltonite Seal		-5.8
Top of Gravel Pack	10-20 SILICA	-5.8
Bottom of Gravel Pack		-23.8
Top of Natural Cave-In		N/A
Bottom of Natural Cave-In		N/A
Top of Groundwater		-15.0
Total Depth of Borehole		-23.8



Top of Protective Casing +2.5
Top of Riser +2.2
Ground Surface 0.0
Top of Seal -3.3
Top of Gravel Pack -5.8
Top of Screen -7.8
Bottom of Screen -23.0
Bottom of Borehole -23.8

Comments: 8 BAGS OF SAND, 1 BUCKET OF PELLETS

Geologist Signature Scott T. Pope

JAL_MW2.WK1

MONITORING WELL INSTALLATION RECORD

Burlington Environmental Inc.
4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Borehole # MW-2
Well # MW-2
Page 1 of 1

Project Name EPNG CHACO
Project Number 10942 Phase 2001
Project Location CHACO PLANT

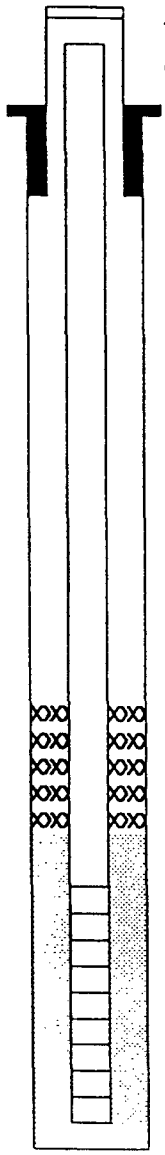
Elevation
Well Location MW-2
GWL Depth 15'
Installed By RODGERS, INC.

Date/Time Started 9/30/93 1545
Date/Time Completed 9/30/93 1700

On-Site Geologist S. POPE
Personnel On-Site S. POPE
Contractors On-Site RODGERS, INC.
Client Personnel On-Site KRIS SINCLAIR

Depths in Reference to Ground Surface

Item	Material	Depth (feet)
Top of Protective Casing	8" STEEL	-2.8
Bottom of Protective Casing		-1.2
Top of Permanent Borehole Casing		N/A
Bottom of Permanent Borehole Casing		N/A
Top of Concrete	PREMIX	+.3
Bottom of Concrete		0.0
Top of Grout	5% BENTONITE	0.0
Bottom of Grout		-5.8
Top of Well Riser	4" SCH 40 PVC	+2.5
Bottom of Well Riser		-9.8
Top of Well Screen	4" SCH 40 PVC	-9.8
Bottom of Well Screen	.010 SLOT	-25.0
Top of Peltonite Seal	1/4" BENTONITE PELLETS	-5.8
Bottom of Peltonite Seal		-7.8
Top of Gravel Pack	10-20 SILICA	-7.8
Bottom of Gravel Pack		-25.0
Top of Natural Cave-In		N/A
Bottom of Natural Cave-In		N/A
Top of Groundwater		-15.0
Total Depth of Borehole		-25.0



Top of Protective Casing +2.8
Top of Riser +2.5
Ground Surface 0.0
Top of Seal -5.8
Top of Gravel Pack -7.8
Top of Screen -9.8
Bottom of Screen -25.0
Bottom of Borehole -25.0

Comments: 16.3 WATER LEVEL AFTER INSTALLATION, 7.0 BAGS OF SAND, 1 BUCKET OF PELLETS

Geologist Signature Steve T. Pope

JAL_MW2.WK1

MONITORING WELL INSTALLATION RECORD

Burlington Environmental Inc.
4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Borehole # MW-3
Well # MW-3
Page 1 of 1

Project Name EPNG CHACO PLANT
Project Number 10942 Phase 2001
Project Location CHACO PLANT

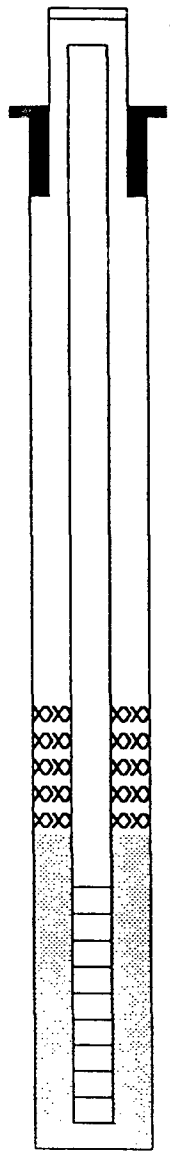
Elevation
Well Location MW-3
GWL Depth 8'
Installed By RODGERS, INC.

Date/Time Started 9/29/93 1345
Date/Time Completed 9/29/93 1500

On-Site Geologist S. POPE
Personnel On-Site S. POPE
Contractors On-Site RODGERS, INC.
Client Personnel On-Site KRIS SINCLAIR

Depths in Reference to Ground Surface

Item	Material	Depth (feet)
Top of Protective Casing	8" STEEL	+2.5
Bottom of Protective Casing		-1.5
Top of Permanent Borehole Casing		N/A
Bottom of Permanent Borehole Casing		N/A
Top of Concrete	PREMIX	+.3
Bottom of Concrete		0.0
Top of Grout	5% BENTONITE	0.0
Bottom of Grout		-1.5
Top of Well Riser	4" SCH 40 PVC	+2.2
Bottom of Well Riser		-4.5
Top of Well Screen	4" SCH 40 PVC	-4.5
Bottom of Well Screen	.010 SLOT	-19.8
Top of Peltonite Seal	1/4" BENTONITE PELLETS	-1.5
Bottom of Peltonite Seal		-3.5
Top of Gravel Pack	10-20 SILICA	-3.5
Bottom of Gravel Pack		-20.0
Top of Natural Cave-In		N/A
Bottom of Natural Cave-In		N/A
Top of Groundwater		-8.0
Total Depth of Borehole		-20.0



Top of Protective Casing +2.5
Top of Riser +2.2
Ground Surface 0.0
Top of Seal -1.5
Top of Gravel Pack -3.5
Top of Screen -4.5
Bottom of Screen -19.8
Bottom of Borehole -20.0

Comments: 6 BAGS OF SAND, 1½ BUCKET OF PELLETS
WELL WAS PULLED UP 3" DUE TO BRIDGING SAND. WATER LEVEL AFTER INSTALLATION 11.3' BGS.

Geologist Signature Scott T. Pope

JAL_MW2.WK1

MONITORING WELL INSTALLATION RECORD

Burlington Environmental Inc.
4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Borehole # MW-4
Well # MW-4
Page 1 of 1

Project Name EPNG CHACO
Project Number 10942 Phase 2001
Project Location EPNG CHACO PLANT

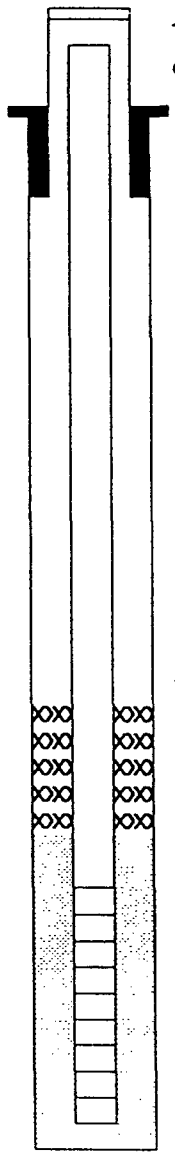
Elevation
Well Location MW-4
GWL Depth 20'
Installed By RODGERS, INC.

Date/Time Started 9/30/93 1210
Date/Time Completed 9/30/93 1330

On-Site Geologist S..POPE
Personnel On-Site S. POPE
Contractors On-Site RODGERS, INC.
Client Personnel On-Site KRIS SINCLAIR

Depths in Reference to Ground Surface

Item	Material	Depth (feet)
Top of Protective Casing	8" STEEL	+2.8
Bottom of Protective Casing		-1.2
Top of Permanent Borehole Casing		N/A
Bottom of Permanent Borehole Casing		N/A
Top of Concrete	PREMIX	+.3
Bottom of Concrete		0.0
Top of Grout	5% BENTONITE	0.0
Bottom of Grout		-9.0
Top of Well Riser	4" SCH 40 PVC	+2.5
Bottom of Well Riser		-12.8
Top of Well Screen	4" SCH 40 PVC	-12.8
Bottom of Well Screen	.010 SLOT	-28.0
Top of Peltonite Seal	1/2" BENTONITE CHIPS	-9.0
Bottom of Peltonite Seal		-11.0
Top of Gravel Pack	10-20 SILICA	-11.0
Bottom of Gravel Pack		-28.0
Top of Natural Cave-In		N/A
Bottom of Natural Cave-In		N/A
Top of Groundwater		-20.0
Total Depth of Borehole		-28.0



Top of Protective Casing +2.8
Top of Riser +2.5
Ground Surface 0.0
Top of Seal -9.0
Top of Gravel Pack -11.0
Top of Screen -12.8
Bottom of Screen -28.0
Bottom of Borehole -28.0

Comments: WATER LEVEL AT 17.5 AFTER INSTALLATION. 7.5 BAGS OF SAND, 1½ BUCKETS OF SAND

Geologist Signature Steve T. Pope

JAL_MW2.WK1

WELL DEVELOPMENT DATA SHEETS

WELL DEVELOPMENT & PURGING

BURLINGTON ENVIRONMENTAL

GENERAL DATA

SERIAL NO. WD _____
PAGE 1 OF 1

PROJECT NAME CHACO WELL NO. MW-1
PROJECT NO. 10942 MAJOR TASK 2002 SUB TASK 77
DATE 9/30/93 FORM COMPLETED BY ROBERT THOMPSON

WELL CONSTRUCTION

TOTAL DEPTH (FT) 25.24 BOREHOLE DIAMETER (IN) 10"
GRAVEL PACK INTERVAL (FT) 17' WELL DIAMETER INSIDE (IN) 4"
WELL PROTECTOR: X YES ___ NO PADLOCK NO. 2532
QUANTITY OF FLUID INJECTED DURING DRILLING (GALLONS) N/A

WATER VOLUME CALCULATION

DATE OF MEASUREMENT 9.30.93
MEASURING POINT TOR ELEV. _____
WATER LEVEL INSTRUMENT USED SOLINST
INITIAL WATER LEVEL (FT) 13.70
LINEAR FEET OF WATER 11.54
LINEAR FEET SATURATED GRAVEL PACK 11.54

ITEM	WATER VOLUME	
	FT³	GAL
WELL CASING		7.53
GRAVEL PACK		—
DRILLING FLUIDS		—
TOTAL		7.53

NOTE: QUANTITIES ARE TO BE CALCULATED PRIOR TO DEVELOPMENT.

DEVELOPMENT CRITERIA

METHOD OF DEVELOPMENT TEFLON BAILER
WATER QUALITY MEASUREMENTS X YES ___ NO
WELL VOLUME (ANNULUS) (GAL) N/A WELL CASING VOLUME (PIPE) (GAL) 2.53
WATER VOLUME TO BE REMOVED (GAL) MINIMUM 37.65 MAXIMUM 75.3

NOTE: DEVELOPMENT IS TO BE PERFORMED IN ACCORDANCE WITH PROJECT-SPECIFIC WELL DEVELOPMENT PLAN.

WATER QUALITY INSTRUMENTS

DATE	INSTRUMENT	SERIAL NO.	CALIBRATION PERFORMED (/)	TECH	COMMENTS
9.30.93	HYDAC CONDUCTIVITY TEMP., PH, TESTER		✓	R.T	

COMMENTS _____

DATE 9/30/93 WELL NO. MW-1

DEVELOPMENT TECHNIQUES

DATE	DEVELOPMENT METHOD	MATERIAL OR SERIAL NO.	DEVELOPMENT TECHNICIAN	VOLUMES REMOVED/TYPE
9-30-93	TEFLON BAILER		R.T.	

WATER QUALITY/WATER REMOVAL

WATER QUALITY READINGS | WATER REMOVAL DATA

DATE	TIME	TOTAL INCREMENT GALLONS REMOVED	TOTAL WELL INCREMENT VOLUMES REMOVED	TEMP (°C)	pH	CONDUCTIVITY (umhos/cm)	APPEARANCE/ COMMENTS	DEVELOPMENT START TIME	DEVELOPMENT STOP TIME	REMOVAL RATE (GPM)	PUMP INTAKE LEVEL	WATER LEVEL BEFORE DEVELOPMENT	WATER LEVEL AFTER DEVELOPMENT
9.30.93	1100	5	5	58.9	7.29	1,940	CLOUDY	1050			25.24	13.20	
	1104	10	5	58.8	7.20	1,870	CLOUDY						
	1109	15	5	58.4	7.12	1,880	CLOUDY						
	1124	20	5	58.9	7.15	1,980	CLOUDY						
	1213	25	5	59.7	7.54	1,990	CLOUDY						
9.30.93	1303	30	5	60.1	7.55	2,170	CLEAR		1305				24.00

COMMENTS _____

NOTES:

1. COMMENTS SHOULD DELINEATE FINAL SAMPLE AND REPLICATE MEASUREMENTS.
2. ANY INSTRUMENTATION CALIBRATION OR USE ANOMALIES SHOULD BE NOTED.
3. APPEARANCE SHOULD BE NOTED BEFORE, DURING, AND AFTER DEVELOPMENT.

WELL DEVELOPMENT & PURGING

BURLINGTON ENVIRONMENTAL

GENERAL DATA

SERIAL NO. WD _____
PAGE ___ OF ___

PROJECT NAME CHACO WELL NO. MW-2
PROJECT NO. _____ MAJOR TASK 2002 SUB TASK 77
DATE 10/1/93 FORM COMPLETED BY WILL SMITH

WELL CONSTRUCTION

TOTAL DEPTH (FT) 27.47 BOREHOLE DIAMETER (IN) 10"
GRAVEL PACK INTERVAL (FT) 17' WELL DIAMETER INSIDE (IN) 4"
WELL PROTECTOR: X YES ___ NO PADLOCK NO. 2532
QUANTITY OF FLUID INJECTED DURING DRILLING (GALLONS) N/A

WATER VOLUME CALCULATION

DATE OF MEASUREMENT 10-1-93
MEASURING POINT TOR ELEV. _____
WATER LEVEL INSTRUMENT USED SOLINST
INITIAL WATER LEVEL (FT) 17.74
LINEAR FEET OF WATER 9.73
LINEAR FEET SATURATED GRAVEL PACK 9.73

ITEM	WATER VOLUME	
	FT³	GAL
WELL CASING		6.35
GRAVEL PACK		—
DRILLING FLUIDS		—
TOTAL		6.35

NOTE: QUANTITIES ARE TO BE CALCULATED PRIOR TO DEVELOPMENT.

DEVELOPMENT CRITERIA

METHOD OF DEVELOPMENT TEFLON BAILER
WATER QUALITY MEASUREMENTS X YES ___ NO
WELL VOLUME (ANNULUS) (GAL) N/A WELL CASING VOLUME (PIPE) (GAL) 6.35
WATER VOLUME TO BE REMOVED (GAL) MINIMUM 31.75 MAXIMUM 63.5

NOTE: DEVELOPMENT IS TO BE PERFORMED IN ACCORDANCE WITH PROJECT-SPECIFIC WELL DEVELOPMENT PLAN.

WATER QUALITY INSTRUMENTS

DATE	INSTRUMENT	SERIAL NO.	CALIBRATION PERFORMED (/)	TECH	COMMENTS
10-1-93	HYDAC CONDUCTIVITY TEMP PH		✓	W.S.	

COMMENTS _____

DATE 10/1/93 WELL NO. MW-2

DEVELOPMENT TECHNIQUES

DATE	DEVELOPMENT METHOD	MATERIAL OR SERIAL NO.	DEVELOPMENT TECHNICIAN	VOLUMES REMOVED/TYPE
10-1-93	TEFLON BAILER		WILL SMITH	

WATER QUALITY/WATER REMOVAL

WATER QUALITY READINGS | WATER REMOVAL DATA

DATE	TIME	TOTAL INCREMENT GALLONS REMOVED	TOTAL WELL INCREMENT VOLUMES REMOVED	TEMP (°C)	pH	CONDUCTIVITY (umhos/cm)	APPEARANCE/ COMMENTS	DEVELOPMENT START TIME	DEVELOPMENT STOP TIME	REMOVAL RATE (GPM)	PUMP INTAKE LEVEL	WATER LEVEL BEFORE DEVELOPMENT	WATER LEVEL AFTER DEVELOPMENT
10-1-93	1015	5	5	64.2	7.20	2,090	LIGHT BROWN	1009				17.74	
	1036	10	5	64.2	7.59	2,040	LIGHT BROWN						
	1043	15	5	63.1	7.60	2,050	LIGHT BROWN						
	1051	20	5	62.9	7.62	2,140	LIGHT BROWN						
	1056	25	5	62.0	7.67	2,100	LIGHT BROWN						
	1104	30	5	62.5	7.74	2,180	CLOUDY						
	1112	35	5	63.7	7.67	2,260	CLOUDY		1112				24.80

COMMENTS _____

NOTES:

1. COMMENTS SHOULD DELINEATE FINAL SAMPLE AND REPLICATE MEASUREMENTS.
2. ANY INSTRUMENTATION CALIBRATION OR USE ANOMALIES SHOULD BE NOTED.
3. APPEARANCE SHOULD BE NOTED BEFORE, DURING, AND AFTER DEVELOPMENT.

WELL DEVELOPMENT & PURGING

BURLINGTON ENVIRONMENTAL

GENERAL DATA

SERIAL NO. WD _____
PAGE 1 OF 1

PROJECT NAME CHACO WELL NO. MW-3
PROJECT NO. 10942 MAJOR TASK 2002 SUB TASK 77
DATE 9/30/93 FORM COMPLETED BY ROBERT THOMPSON

WELL CONSTRUCTION

TOTAL DEPTH (FT) 22.27 BOREHOLE DIAMETER (IN) 10"
GRAVEL PACK INTERVAL (FT) 17' WELL DIAMETER INSIDE (IN) 4"
WELL PROTECTOR: X YES ___ NO PADLOCK NO. 2532
QUANTITY OF FLUID INJECTED DURING DRILLING (GALLONS) N/A

WATER VOLUME CALCULATION

DATE OF MEASUREMENT 9.30.93
MEASURING POINT TOR ELEV. _____
WATER LEVEL INSTRUMENT USED SOLINST
INITIAL WATER LEVEL (FT) 16.90
LINEAR FEET OF WATER 5.37
LINEAR FEET SATURATED GRAVEL PACK 5.37

ITEM	WATER VOLUME	
	FT³	GAL
WELL CASING		3.5
GRAVEL PACK		
DRILLING FLUIDS		
TOTAL		3.5

NOTE: QUANTITIES ARE TO BE CALCULATED PRIOR TO DEVELOPMENT.

DEVELOPMENT CRITERIA

METHOD OF DEVELOPMENT TEFLON BAILER
WATER QUALITY MEASUREMENTS X YES ___ NO
WELL VOLUME (ANNULUS) (GAL) N/A WELL CASING VOLUME (PIPE) (GAL) 3.5
WATER VOLUME TO BE REMOVED (GAL) MINIMUM 17.5 MAXIMUM [redacted] 35.0

NOTE: DEVELOPMENT IS TO BE PERFORMED IN ACCORDANCE WITH PROJECT-SPECIFIC WELL DEVELOPMENT PLAN.

WATER QUALITY INSTRUMENTS

DATE	INSTRUMENT	SERIAL NO.	CALIBRATION PERFORMED (/)	TECH	COMMENTS
9.30.93	HYDAC CONDUCTIVITY, TEMP, PH, TURB		✓	R.T.	

COMMENTS _____

DATE 9/30/93 WELL NO. MW-3

DEVELOPMENT TECHNIQUES

DATE	DEVELOPMENT METHOD	MATERIAL OR SERIAL NO.	DEVELOPMENT TECHNICIAN	VOLUMES REMOVED/TYPE
9.30.93	TEFLON BAILER		R.T.	

WATER QUALITY/WATER REMOVAL

WATER QUALITY READINGS | WATER REMOVAL DATA

	DATE	TIME	TOTAL INCREMENT GALLONS REMOVED	TOTAL WELL INCREMENT VOLUMES REMOVED	TEMP (°C)	pH	CONDUCTIVITY (umhos/cm)	APPEARANCE/ COMMENTS	DEVELOPMENT START TIME	DEVELOPMENT STOP TIME	REMOVAL RATE (GPM)	PUMP INTAKE LEVEL	WATER LEVEL BEFORE DEVELOPMENT	WATER LEVEL AFTER DEVELOPMENT
	9.30.93	1009	5	5	16.22	7.88	2420	DARK BROWN	0955			22.27	16.98	
*		1017	10	5	16.02	7.03	1.980	LIGHT BROWN						
**		1030	15	5	58.7	7.21	2.000	LIGHT BROWN						
***	9.30.93	1038	20	5	59.2	7.12	2,040	CLOUDY		1040				20.50

COMMENTS * Bailed dry after 10 gallons 1017. ** Bailed dry after 5 additional gallons removed. *** Bailed dry after 20 total gallons removed

NOTES:

1. COMMENTS SHOULD DELINEATE FINAL SAMPLE AND REPLICATE MEASUREMENTS.
2. ANY INSTRUMENTATION CALIBRATION OR USE ANOMALIES SHOULD BE NOTED.
3. APPEARANCE SHOULD BE NOTED BEFORE, DURING, AND AFTER DEVELOPMENT.

WELL DEVELOPMENT & PURGING

BURLINGTON ENVIRONMENTAL

GENERAL DATA

SERIAL NO. WD _____
PAGE ____ OF ____

PROJECT NAME CHACO WELL NO. MW-4
PROJECT NO. 10942 MAJOR TASK 2002 SUB TASK 77
DATE 10/1/93 FORM COMPLETED BY WILL SMITH

WELL CONSTRUCTION

TOTAL DEPTH (FT) 30.70 BOREHOLE DIAMETER (IN) 10"
GRAVEL PACK INTERVAL (FT) 17' WELL DIAMETER INSIDE (IN) 4"
WELL PROTECTOR: X YES ___ NO PADLOCK NO. 2532
QUANTITY OF FLUID INJECTED DURING DRILLING (GALLONS) _____

WATER VOLUME CALCULATION

DATE OF MEASUREMENT 10-1-93
MEASURING POINT TOR ELEV. _____
WATER LEVEL INSTRUMENT USED SOLINST
INITIAL WATER LEVEL (FT) 20.04
LINEAR FEET OF WATER 10.66
LINEAR FEET SATURATED GRAVEL PACK 10.66

ITEM	WATER VOLUME	
	FT^3	GAL
WELL CASING		6.95
GRAVEL PACK		—
DRILLING FLUIDS		—
TOTAL		6.95

NOTE: QUANTITIES ARE TO BE CALCULATED PRIOR TO DEVELOPMENT.

DEVELOPMENT CRITERIA

METHOD OF DEVELOPMENT TEFLON BAILER
WATER QUALITY MEASUREMENTS X YES ___ NO
WELL VOLUME (ANNULUS) (GAL) _____ WELL CASING VOLUME (PIPE) (GAL) 6.95
WATER VOLUME TO BE REMOVED (GAL) MINIMUM 34.75 MAXIMUM _____

NOTE: DEVELOPMENT IS TO BE PERFORMED IN ACCORDANCE WITH PROJECT-SPECIFIC WELL DEVELOPMENT PLAN.

WATER QUALITY INSTRUMENTS

DATE	INSTRUMENT	SERIAL NO.	CALIBRATION PERFORMED (/)	TECH	COMMENTS
10-1-93	HYDAC		✓	W.S.	

COMMENTS _____

DATE 10,1,93 WELL NO. MW-7

DEVELOPMENT TECHNIQUES

DATE	DEVELOPMENT METHOD	MATERIAL OR SERIAL NO.	DEVELOPMENT TECHNICIAN	VOLUMES REMOVED/TYPE
10-1-93	TEFLON BAILER		GLENN SMITH	

WATER QUALITY/WATER REMOVAL

WATER QUALITY READINGS | WATER REMOVAL DATA

DATE	TIME	TOTAL INCREMENT GALLONS REMOVED	TOTAL WELL INCREMENT VOLUMES REMOVED	TEMP (°C)	pH	CONDUCTIVITY (umhos/cm)	APPEARANCE/ COMMENTS	DEVELOPMENT START TIME	DEVELOPMENT STOP TIME	REMOVAL RATE (GPM)	PUMP INTAKE LEVEL	WATER LEVEL BEFORE DEVELOPMENT	WATER LEVEL AFTER DEVELOPMENT
10-1-93	11:50	5	5	67	7.0	6,590	LIGHT BROWN	1130				20.04	
	12:02	10	5	67.5	6.69	6,860	LIGHT BROWN						
	12:06	15	5	66.0	6.63	6,730	LIGHT BROWN						
	12:14	20	5	65.0	6.65	6,950	LIGHT BROWN						
	12:21	25	5	63.5	6.71	7,100	LIGHT BROWN						
	12:28	30	5	62.5	7.83	7,030	CLOUDY						
	12:35	35	5	62.3	6.94	6,730	CLOUDY		1240				23.05

COMMENTS _____

NOTES:

1. COMMENTS SHOULD DELINEATE FINAL SAMPLE AND REPLICATE MEASUREMENTS.
2. ANY INSTRUMENTATION CALIBRATION OR USE ANOMALIES SHOULD BE NOTED.
3. APPEARANCE SHOULD BE NOTED BEFORE, DURING, AND AFTER DEVELOPMENT.

El Paso Natural Gas Company - Field Service Lab Report

LOCATION: Chaco Plant
DATE OF REPORT: 10/15/93
SAMPLED BY: Dennis Bird

PROJECT: M.W.
SAVE FILE: N31072

SAMPLE POINT	Monitor Well MW-1	Monitor Well MW-2	Monitor Well MW-3	Monitor Well MW-4	Monitor Well MW-4 Dup
LAB ID #	N31072	N31073	N31074	N31075	N31076
Date Of Sample	6-Oct-93	6-Oct-93	6-Oct-93	6-Oct-93	6-Oct-93
pH (Units)	7.15	7.81	7.18	6.92	6.89
ALKALINITY AS CO3	0	0	0	0	0
ALKALINITY AS HCO3	449	647	859	549	550
CALCIUM AS Ca	264	34	85	469	469
MAGNESIUM AND Mg	36	8	19	86	86
TOTAL HARDNESS AS CACO3	807	118	290	1525	1525
CHLORIDE AS Cl	61	223	170	515	524
SULFATE AS SO4	764	291	278	3030	3081
SILICA AS SiO2					
FLUORIDE AS F					
POTASSIUM AS K	6	<2	<2	12	12
SODIUM AS Na	219	465	427	1343	1352
TOTAL DISSOLVED SOLIDS	1728	1384	1462	6136	6128
CONDUCTIVITY (umhos)	2070	2100	2120	6600	6590
NITRATES AS NO3-N	2.9	4.1	<1.0	3.8	3.8

All Results Expressed as ppm or umhos

REMARKS:

Approvals:

Analyst: Dennis Bird Date: 10-15-93

Lab Super.: John Fuller Date: 10/18/93

Anion/Cation Balance Information and Calculations

Sample Number:	N31072	N31073	N31074	N31075	N31076
SAMPLE POINT	Monitor Well MW-1	Monitor Well MW-2	Monitor Well MW-3	Monitor Well MW-4	Monitor Well MW-4 Dup
Concentration:	meq/l	meq/l	meq/l	meq/l	meq/l
CATIONS:					
CALCIUM AS Ca	13.17	1.70	4.24	23.40	23.40
MAGNESIUM AS Mg	2.96	0.66	1.56	7.08	7.08
POTASSIUM AS K	0.15	0.00	0.00	0.31	0.31
SODIUM (+/- Difference)	8.78	20.74	18.94	56.05	57.38
SODIUM (Actual)	9.52	20.22	18.57	58.39	58.78
CATIONS TOT(w/o Na)	16.29	2.35	5.80	30.79	30.79
CATIONS TOT(w/act. Na)	25.81	22.57	24.37	89.18	89.57
CATIONS TOT(w/cal. Na)	25.07	23.10	24.75	86.84	88.17
ANIONS:					
ALKALINITY AS CO3	0.00	0.00	0.00	0.00	0.00
ALKALINITY AS HCO3	7.36	10.60	14.08	9.00	9.01
CHLORIDE AS Cl	1.72	6.29	4.80	14.53	14.78
SULFATE AS SO4	15.91	6.06	5.79	63.09	64.15
FLUORIDE AS F	0.08	0.14	0.08	0.23	0.23
ANIONS (TOTAL)	25.07	23.10	24.75	86.84	88.17
TDS (ACTUAL)	1728	1384	1462	6136	6128
TDS (CALC. w/cal. Na)	1557	1356	1413	5679	5770
PERCENT DIFF. w/cal. Na	10	2	3	7	6
TDS (CALC. w/act. Na)	1574	1345	1405	5733	5803
PERCENT DIFF. w/act. Na	9	3	4	7	5
SODIUM (CALCULATED)	202	477	435	1289	1319
SODIUM AS Na (ACTUAL)	219	465	427	1343	1352
Relative % Difference RPD	2%	1%	0%	1%	1%
ANION/CATION % Difference	97.12	102.32	101.54	97.38	98.43

El Paso Natural Gas Company - Field Services Lab Report

LOCATION: Chaco Plant
DATE OF REPORT: 11/15/93
SAMPLED BY: Dennis Bird

PROJECT:
SAVE FILE: N31070

SAMPLE POINT	Total Discharge	Pond #3			
LAB ID #	N31070	N31071			
Date Of Sample	6-Oct-93	6-Oct-93			
pH (Units)	7.48	7.58			
ALKALINITY AS CO3	0	0			
ALKALINITY AS HCO3	115	202			
CALCIUM AS Ca	183	177			
MAGNESIUM AND Mg	42	41			
TOTAL HARDNESS AS CACO3	630	611	0	0	0
CHLORIDE AS Cl	43	91			
SULFATE AS SO4	688	630			
SILICA AS SiO2					
FLUORIDE AS F	2.3	2.5			
POTASSIUM AS K	39	27			
SODIUM AS Na	115	149			
TOTAL DISSOLVED SOLIDS	1314	1356			
CONDUCTIVITY (umhos)	1542	1672			
NITRATES AS NO3-N	2.1	<1			

All Results Expressed as ppm or umhos

REMARKS:

Approvals:

Analyst: Dennis Bird Date:

Lab Super.: Date: 11/15/93

Anion/Cation Balance Information and Calculations

Sample Number:	N31070	N31071	0	0	0
SAMPLE	Total	0	0	0	0
POINT	Discharge	Pond #3	0	0	0
	0	0	0	0	0
Concentration:	meq/l	meq/l	meq/l	meq/l	meq/l
CATIONS:					
CALCIUM AS Ca	9.13	8.83	0.00	0.00	0.00
MAGNESIUM AS Mg	3.46	3.37	0.00	0.00	0.00
POTASSIUM AS K	1.00	0.69	0.00	0.00	0.00
SODIUM (+/- Difference)	3.90	6.17	0.00	0.00	0.00
SODIUM (Actual)	5.00	6.48	0.00	0.00	0.00
CATIONS TOT(w/o Na)	13.59	12.90	0.00	0.00	0.00
CATIONS TOT(w/act. Na)	18.59	19.37	0.00	0.00	0.00
CATIONS TOT(w/cal. Na)	17.49	19.06	0.00	0.00	0.00
ANIONS:					
ALKALINITY AS CO3	0.00	0.00	0.00	0.00	0.00
ALKALINITY AS HCO3	1.88	3.31	0.00	0.00	0.00
CHLORIDE AS Cl	1.21	2.57	0.00	0.00	0.00
SULFATE AS SO4	14.32	13.12	0.00	0.00	0.00
FLUORIDE AS F	0.06	0.07	0.00	0.00	0.00
ANIONS (TOTAL)	17.49	19.06	0.00	0.00	0.00
TDS (ACTUAL)	1314	1356	0	0	0
TDS (CALC. w/cal. Na)	1144	1210	0	0	0
PERCENT DIFF. w/cal. Na	13	11	#DIV/0!	#DIV/0!	#DIV/0!
TDS (CALC. w/act. Na)	1169	1217	0	0	0
PERCENT DIFF. w/act. Na	11	10	#DIV/0!	#DIV/0!	#DIV/0!
SODIUM (CALCULATED)	90	142	0	0	0
SODIUM AS Na (ACTUAL)	115	149	0	0	0
Relative % Difference RPD	6%	1%	#DIV/0!	#DIV/0!	#DIV/0!
ANION/CATION % Difference	94.09	98.40	#DIV/0!	#DIV/0!	#DIV/0!

El Paso Natural Gas Company - Field Service Lab Report

LOCATION: Chaco Plant
DATE OF REPORT: 11/15/93
SAMPLED BY: Dennis Bird

PROJECT:
SAVE FILE: N31070

SAMPLE POINT	Total Discharge	Pond #3			
LAB ID #	N31070	N31071			
Date Of Sample	6-Oct-93	6-Oct-93			
pH (Units)	7.48	7.58			
ALKALINITY AS CO3	0	0			
ALKALINITY AS HCO3	115	202			
CALCIUM AS Ca	183	177			
MAGNESIUM AND Mg	42	41			
TOTAL HARDNESS AS CACO3	630	611	0	0	0
CHLORIDE AS Cl	43	91			
SULFATE AS SO4	688	630			
SILICA AS SiO2					
FLUORIDE AS F	2.3	2.5			
POTASSIUM AS K	39	27			
SODIUM AS Na	115	149			
TOTAL DISSOLVED SOLIDS	1314	1356			
CONDUCTIVITY (umhos)	1542	1672			
NITRATES AS NO3-N	2.1	<1			

All Results Expressed as ppm or umhos

REMARKS:

Approvals:

Analyst: Dennis Bird Date: _____

Lab Super.: _____ Date: 11/15/93

Anion/Cation Balance Information and Calculations

Sample Number:	N31070	N31071	0	0	0
SAMPLE	Total	0	0	0	0
POINT	Discharge	Pond #3	0	0	0
	0	0	0	0	0
Concentration:	meq/l	meq/l	meq/l	meq/l	meq/l
CATIONS:					
CALCIUM AS Ca	9.13	8.83	0.00	0.00	0.00
MAGNESIUM AS Mg	3.46	3.37	0.00	0.00	0.00
POTASSIUM AS K	1.00	0.69	0.00	0.00	0.00
SODIUM (+/- Difference)	3.90	6.17	0.00	0.00	0.00
SODIUM (Actual)	5.00	6.48	0.00	0.00	0.00
CATIONS TOT(w/o Na)	13.59	12.90	0.00	0.00	0.00
CATIONS TOT(w/act. Na)	18.59	19.37	0.00	0.00	0.00
CATIONS TOT(w/cal. Na)	17.49	19.06	0.00	0.00	0.00
ANIONS:					
ALKALINITY AS CO3	0.00	0.00	0.00	0.00	0.00
ALKALINITY AS HCO3	1.88	3.31	0.00	0.00	0.00
CHLORIDE AS Cl	1.21	2.57	0.00	0.00	0.00
SULFATE AS SO4	14.32	13.12	0.00	0.00	0.00
FLUORIDE AS F	0.06	0.07	0.00	0.00	0.00
ANIONS (TOTAL)	17.49	19.06	0.00	0.00	0.00
TDS (ACTUAL)	1314	1356	0	0	0
TDS (CALC. w/cal. Na)	1144	1210	0	0	0
PERCENT DIFF. w/cal. Na	13	11	#DIV/0!	#DIV/0!	#DIV/0!
TDS (CALC. w/act. Na)	1169	1217	0	0	0
PERCENT DIFF. w/act. Na	11	10	#DIV/0!	#DIV/0!	#DIV/0!
SODIUM (CALCULATED)	90	142	0	0	0
SODIUM AS Na (ACTUAL)	115	149	0	0	0
Relative % Difference RPD	6%	1%	#DIV/0!	#DIV/0!	#DIV/0!
ANION/CATION % Difference	94.09	98.40	#DIV/0!	#DIV/0!	#DIV/0!

El Paso Natural Gas Company

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER: N31072
MATRIX: Water
SAMPLE DATE: 6-Oct-93
SAMPLE TIME (Hrs.): 1512
SAMPLED BY: Dennis Bird
PROJECT: Chaco Plant Discharge Plan
FACILITY ID: 5212
SAMPLE LOCATION: Monitor Well , MW-1
SAMPLE POINT: Well Opening
DATE OF ANALYSIS: 12-Oct-93

REMARKS: None

EPA Method 8020 (BTEX) RESULTS

PARAMETER	RESULT PPB	QUALIFIER	WQCC LIMIT PPB
BENZENE	<5.0	None	10
TOLUENE	<5.0	None	740
ETHYLBENZENE	<5.0	None	750
TOTAL XYLENES	<5.0	None	620
SURROGATE % RECOVERY	80	Allowed Range 80 to 120 %	

NOTES:

Acceptable Quality Control.

Approved By: _____ 14-Oct-93
Date

El Paso Natural Gas Company

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER: N31073
MATRIX: Water
SAMPLE DATE: 6-Oct-93
SAMPLE TIME (Hrs.): 1545
SAMPLED BY: Dennis Bird
PROJECT: Chaco Plant Discharge Plan
FACILITY ID: 5212
SAMPLE LOCATION: Monitor Well , MW-2
SAMPLE POINT: Well Opening
DATE OF ANALYSIS: 12-Oct-93

REMARKS: None

EPA Method 8020 (BTEX) RESULTS

PARAMETER	RESULT PPB	QUALIFIER	WQCC LIMIT PPB
BENZENE	<5.0	None	10
TOLUENE	<5.0	None	740
ETHYLBENZENE	<5.0	None	750
TOTAL XYLENES	<5.0	None	620
SURROGATE % RECOVERY	80	Allowed Range 80 to 120 %	

NOTES:

Acceptable Quality Control.

Approved By: John Fowler

14-Oct-93
Date

El Paso Natural Gas Company

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER: N31074
MATRIX: Water
SAMPLE DATE: 6-Oct-93
SAMPLE TIME (Hrs.): 1612
SAMPLED BY: Dennis Bird
PROJECT: Chaco Plant Discharge Plan
FACILITY ID: 5212
SAMPLE LOCATION: Monitor Well , MW-3
SAMPLE POINT: Well Opening
DATE OF ANALYSIS: 12-Oct-93

REMARKS: None

EPA Method 8020 (BTEX) RESULTS

PARAMETER	RESULT PPB	QUALIFIER	WQCC LIMIT PPB
BENZENE	<5.0	None	10
TOLUENE	<5.0	None	740
ETHYLBENZENE	<5.0	None	750
TOTAL XYLENES	<5.0	None	620
SURROGATE % RECOVERY	80	Allowed Range 80 to 120 %	

NOTES:

Acceptable Quality Control.

Approved By: John Laulder

14-Oct-93
Date

El Paso Natural Gas Company

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER: N31075
MATRIX: Water
SAMPLE DATE: 6-Oct-93
SAMPLE TIME (Hrs.): 1705
SAMPLED BY: Dennis Bird
PROJECT: Chaco Plant Discharge Plan
FACILITY ID: 5212
SAMPLE LOCATION: Monitor Well , MW-4
SAMPLE POINT: Well Opening
DATE OF ANALYSIS: 12-Oct-93

REMARKS: None

EPA Method 8020 (BTEX) RESULTS

PARAMETER	RESULT PPB	QUALIFIER	WQCC LIMIT PPB
BENZENE	<5.0	None	10
TOLUENE	<5.0	None	740
ETHYLBENZENE	<5.0	None	750
TOTAL XYLENES	<5.0	None	620
SURROGATE % RECOVERY	80	Allowed Range 80 to 120 %	

NOTES:

Acceptable Quality Control.

Approved By: John Labadie

14-Oct-93
Date

El Paso Natural Gas Company

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER: N31076
MATRIX: Water
SAMPLE DATE: 6-Oct-93
SAMPLE TIME (Hrs.): 1705
SAMPLED BY: Dennis Bird
PROJECT: Chaco Plant Discharge Plan
FACILITY ID: 5212
SAMPLE LOCATION: Monitor Well , MW-4 Field Duplicate
SAMPLE POINT: Well Opening
DATE OF ANALYSIS: 12-Oct-93

REMARKS: This was a field duplicate for QA/QC purposes.

EPA Method 8020 (BTEX) RESULTS

PARAMETER	RESULT PPB	QUALIFIER	WQCC LIMIT PPB
BENZENE	<5.0	None	10
TOLUENE	<5.0	None	740
ETHYLBENZENE	<5.0	None	750
TOTAL XYLENES	<5.0	None	620
SURROGATE % RECOVERY	81	Allowed Range 80 to 120 %	

NOTES:

Acceptable Quality Control.

Approved By: _____ 14-Oct-93
Date

El Paso Natural Gas Company

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER: N31071
MATRIX: Water
SAMPLE DATE. 6-Oct-93
SAMPLE TIME (Hrs.): 1153
SAMPLED BY: Dennis Bird
PROJECT: Chaco Plant Discharge Plan
FACILITY ID: 5212
SAMPLE LOCATION: Pond #3
SAMPLE POINT: South West Corner
DATE OF ANALYSIS: 12-Oct-93

REMARKS: None

EPA Method 8020 (BTEX) RESULTS

PARAMETER	RESULT PPB	QUALIFIER	WQCC LIMIT PPB
BENZENE	<5.0	None	10
TOLUENE	<5.0	None	740
ETHYLBENZENE	<5.0	None	750
TOTAL XYLENES	<5.0	None	620
SURROGATE % RECOVERY	81	Allowed Range 80 to 120 %	

NOTES:

Acceptable Quality Control.

Approved By: _____ 14-Oct-93
Date

Analytical Technologies, Inc.

METALS RESULTS

ATI I.D. : 310328

CLIENT : EL PASO NATURAL GAS CO.
PROJECT # : K5577
PROJECT NAME : CHACO M.W.

DATE RECEIVED : 10/08/93
REPORT DATE : 10/26/93

PARAMETER	UNITS	01	02	03	04	05
SILVER (EPA 200.7/6010)	MG/L		<0.010	<0.010	<0.010	<0.010
ARSENIC (EPA 206.2/7060)	MG/L		<0.005	0.006	<0.005	0.022
BARIUM (EPA 200.7/6010)	MG/L		0.245	0.101	0.028	0.080
CADMIUM (EPA 213.2/7131)	MG/L		<0.0005	<0.0005	<0.0005	<0.0005
CHROMIUM (EPA 200.7/6010)	MG/L		<0.010	<0.010	<0.010	<0.010
MERCURY (EPA 245.1/7470)	MG/L		<0.0002	<0.0002	<0.0002	<0.0002
LEAD (EPA 239.2/7421)	MG/L		<0.002	<0.002	<0.002	<0.002
SELENIUM (EPA 270.2/7740)	MG/L		<0.005	<0.005	<0.005	<0.005

Dand=3 MW=1 MW#2 MW#3

Analytical Technologies, Inc.

METALS RESULTS

ATI I.D. : 310328

CLIENT : EL PASO NATURAL GAS CO.
PROJECT # : K5577
PROJECT NAME : CHACO M.W.

DATE RECEIVED : 10/08/93
REPORT DATE : 10/26/93

PARAMETER	UNITS	06
SILVER (EPA 200.7/6010)	MG/L	<0.010
ARSENIC (EPA 206.2/7060)	MG/L	<0.005
BARIUM (EPA 200.7/6010)	MG/L	0.021
CADMIUM (EPA 213.2/7131)	MG/L	<0.0005
CHROMIUM (EPA 200.7/6010)	MG/L	<0.010
MERCURY (EPA 245.1/7470)	MG/L	<0.0002
LEAD (EPA 239.2/7421)	MG/L	<0.002
SELENIUM (EPA 270.2/7740)	MG/L	0.012

mw = 4

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 31032803

TEST : POLYNUCLEAR AROMATICS (EPA METHOD 8310)

CLIENT	: EL PASO NATURAL GAS CO.	DATE SAMPLED	: 10/06/93
PROJECT #	: K5577	DATE RECEIVED	: 10/08/93
PROJECT NAME	: CHACO M.W.	DATE EXTRACTED	: 10/09/93
CLIENT I.D.	: N31072 - MW #1	DATE ANALYZED	: 10/12/93
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
NAPHTHALENE	<0.50
ACENAPHTHYLENE	<1.0
ACENAPHTHENE	<0.50
FLUORENE	<0.10
PHENANTHRENE	<0.05
ANTHRACENE	<0.05
FLUORANTHENE	<0.10
PYRENE	<0.10
BENZO(A)ANTHRACENE	<0.10
CHRYSENE	<0.10
BENZO(B)FLUORANTHENE	<0.10
BENZO(K)FLUORANTHENE	<0.10
BENZO(A)PYRENE	<0.10
DIBENZO(a,h)ANTHRACENE	<0.20
BENZO(g,h,i PERYLENE	<0.10
INDENO(1,2,3-CD)PYRENE	<0.10
1-METHYLNAPHTHALENE	<0.30
2-METHYLNAPHTHALENE	<0.30
SURROGATE PERCENT RECOVERIES	
2-CHLOROANTHRACENE (%)	84

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 31032804

TEST : POLYNUCLEAR AROMATICS (EPA METHOD 8310)

CLIENT	: EL PASO NATURAL GAS CO.	DATE SAMPLED	: 10/06/93
PROJECT #	: K5577	DATE RECEIVED	: 10/08/93
PROJECT NAME	: CHACO M.W.	DATE EXTRACTED	: 10/09/93
CLIENT I.D.	: N31073 - MW #2	DATE ANALYZED	: 10/12/93
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
NAPHTHALENE	<0.50
ACENAPHTHYLENE	<1.0
ACENAPHTHENE	<0.50
FLUORENE	<0.10
PHENANTHRENE	<0.05
ANTHRACENE	<0.05
FLUORANTHENE	<0.10
PYRENE	<0.10
BENZO(A)ANTHRACENE	<0.10
CHRYSENE	<0.10
BENZO(B)FLUORANTHENE	<0.10
BENZO(K)FLUORANTHENE	<0.10
BENZO(A)PYRENE	<0.10
DIBENZO(a,h)ANTHRACENE	<0.20
BENZO(g,h,i)PERYLENE	<0.10
INDENO(1,2,3-CD)PYRENE	<0.10
1-METHYLNAPHTHALENE	<0.30
2-METHYLNAPHTHALENE	<0.30
SURROGATE PERCENT RECOVERIES	
2-CHLOROANTHRACENE (%)	63

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 31032805

TEST : POLYNUCLEAR AROMATICS (EPA METHOD 8310)

CLIENT	: EL PASO NATURAL GAS CO.	DATE SAMPLED	: 10/06/93
PROJECT #	: K5577	DATE RECEIVED	: 10/08/93
PROJECT NAME	: CHACO M.W.	DATE EXTRACTED	: 10/09/93
CLIENT I.D.	: N31074 - MW #3	DATE ANALYZED	: 10/12/93
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
NAPHTHALENE	<0.50
ACENAPHTHYLENE	<1.0
ACENAPHTHENE	<0.50
FLUORENE	0.53
PHENANTHRENE	<0.05
ANTHRACENE	<0.05
FLUORANTHENE	<0.10
PYRENE	<0.10
BENZO(A)ANTHRACENE	<0.10
CHRYSENE	<0.10
BENZO(B)FLUORANTHENE	<0.10
BENZO(K)FLUORANTHENE	<0.10
BENZO(A)PYRENE	<0.10
DIBENZO(a,h)ANTHRACENE	<0.20
BENZO(g,h,i)PERYLENE	<0.10
INDENO(1,2,3-CD)PYRENE	<0.10
1-METHYLNAPHTHALENE	<0.30
2-METHYLNAPHTHALENE	<0.30
SURROGATE PERCENT RECOVERIES	
2-CHLOROANTHRACENE (%)	81

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 31032806

TEST : POLYNUCLEAR AROMATICS (EPA METHOD 8310)

CLIENT	: EL PASO NATURAL GAS CO.	DATE SAMPLED	: 10/06/93
PROJECT #	: 55577	DATE RECEIVED	: 10/08/93
PROJECT NAME	: CHACO M.W.	DATE EXTRACTED	: 10/09/93
CLIENT I.D.	: N31075 — mw #4	DATE ANALYZED	: 10/12/93
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
NAPHTHALENE	<0.50
ACENAPHTHYLENE	<1.0
ACENAPHTHENE	<0.50
FLUORENE	<0.10
PHENANTHRENE	<0.05
ANTHRACENE	<0.05
FLUORANTHENE	<0.10
PYRENE	<0.10
BENZO(A)ANTHRACENE	<0.10
CHRYSENE	<0.10
BENZO(B)FLUORANTHENE	<0.10
BENZO(K)FLUORANTHENE	<0.10
BENZO(A)PYRENE	<0.10
DIBENZO(a,h)ANTHRACENE	<0.20
BENZO(g,h,i)PERYLENE	<0.10
INDENO(1,2,3-CD)PYRENE	<0.10
1-METHYLNAPHTHALENE	<0.30
2-METHYLNAPHTHALENE	<0.30

SURROGATE PERCENT RECOVERIES

2-CHLOROANTHRACENE (%)	73

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 31032802

TEST : POLYNUCLEAR AROMATICS (EPA METHOD 8310)

CLIENT	: EL PASO NATURAL GAS CO.	DATE SAMPLED	: 10/06/93
PROJECT #	: K5577	DATE RECEIVED	: 10/08/93
PROJECT NAME	: CHACO M.W.	DATE EXTRACTED	: 10/09/93
CLIENT I.D.	: N31071 - POND #3	DATE ANALYZED	: 10/14/93
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
NAPHTHALENE	<0.50
ACENAPHTHYLENE	<1.0
ACENAPHTHENE	<0.50
FLUORENE	<0.10
PHENANTHRENE	<0.05
ANTHRACENE	<0.05
FLUORANTHENE	<0.10
PYRENE	<0.10
BENZO(A)ANTHRACENE	<0.10
CHRYSENE	<0.10
BENZO(B)FLUORANTHENE	<0.10
BENZO(K)FLUORANTHENE	<0.10
BENZO(A)PYRENE	<0.10
DIBENZO(a,h)ANTHRACENE	<0.20
BENZO(g,h,i)PERYLENE	<0.10
INDENO(1,2,3-CD)PYRENE	<0.10
1-METHYLNAPHTHALENE	<0.30
2-METHYLNAPHTHALENE	<0.30
SURROGATE PERCENT RECOVERIES	
2-CHLOROANTHRACENE (%)	66

DOMESTIC WASTEWATER
OVERFLOW PITS

INDUSTRIAL POND NUMBER 6

INDUSTRIAL POND NUMBER 10

INDUSTRIAL POND NUMBER 9

INDUSTRIAL POND NUMBER 2

INDUSTRIAL POND NUMBER 5

INDUSTRIAL POND NUMBER 4

INDUSTRIAL POND NUMBER 3

DOMESTIC POND NUMBER 3

DOMESTIC NUMBER

INDUSTRIAL POND NUMBER 1

Close

Close

DOMESTIC POND NUMBER 2

FLARE PIT

INDUSTRIAL AND SURFACE RUNOFF POND

SLOP OIL TANK

PRO STO

WATER TREATMENT BUILDING

BOILER HOUSE

INDUSTRIAL POND NUMBER 8

El Paso
Natural Gas Company

P. O. BOX 4990
FARMINGTON, NEW MEXICO 87499

8/20/93

Mr. William C. Olson
New Mexico Oil Conservation Division
310 Old Santa Fe Trail
Santa Fe, NM 87501

RE: Discharge Plan GW-71
EPNG Chaco Canyon Gas Processing Plant
San Juan County, New Mexico

Dear Mr. Olson:

Chaco Gas Plant during the week of August 9,1993 completed its annual turnaround. At this time all below grade sumps, with the exception of the Bisti sumps and the oil/water separators, were inspected for integrity.

The Bisti sumps were not tested because of upcoming plans to pipe the Bisti compressor effluent directly to the drain system. The sumps will be removed at that time. The oil/water separators were not tested because they are scheduled to be replaced with a new system. The new drain system and the new separator are scheduled to be completed by the end of the year.

Attached is a summary of the test results. Photographs of the sumps that were visually inspected are available for your inspection.

If you have any questions or wish to view the photographs do not hesitate to contact me at (505) 599-2175.

Sincerely,

Kris Alan Sinclair
Compliance Engineer

cc: W.D. Hall, EPNG
Denny Foust, NMOCD

Summary of Sump Inspection for 1993

Name	Description	Contents	Test	Status
Bisti Sump 1	Cylindrical Metal	Oil & Water From Bisti Compresssor	Not Tested	NA
Bisti Sump 2	Cylindrical Metal	Oil & Water From Bisti Compressor	Not Tested	NA
A Gas Compressor Sump 1	Cylindrical Metal With Secondary Containment	Oil & Water From A Gas Compressor	*	Pass
A Gas Compressor Sump 2	Cylindrical Metal With Secondary Containment	Oil & Water From A Gas Compressor	*	Pass
A Oil/Water Separator	Retangular Concrete	Oil & Water From A Gas Plant	Not Tested	NA
B Oil/Water Separator	Retangular Concrete	Oil & Water From B Gas Plant	Not Tested	NA
B Gas Compressor Sump	Cylindrical Metal	Oil & Water From B Gas Compressor	Liquid Level Monitoring	Pass
B Air Compressor Sump	Cylindrical Metal	Condensate From B Air Compressors	Liquid Level Monitoring	Pass
Waste Oil Sump	Retangular Concrete	Used Oil	Liquid Level Monitoring	Pass
A Cooling Tower	Rectangular Concrete	Cooling Water	Visually Inspected	Pass
B Cooling Tower	Rectangular Concrete	Cooling Water	Visually Inspected	Pass
C Cooling Tower	Rectangular Concrete	Cooling Water	Visually Inspected	Pass

* For those sumps with secondary containment the leak dection wells were checked for liquids.

El Paso
Natural Gas Company

P. O. BOX 4990
FARMINGTON, NEW MEXICO 87499

August 6, 1993

Mr. Bill Olson
New Mexico Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87504

Subject : Chaco Plant Cooling Tower Basin Sediments

El Paso Natural Gas Company's (EPNG)Chaco Plant will be shut down during the week of August 9th. During shutdown, various maintenance activities are performed. One maintenance activity is the removal of any sediments and accumulated biological growth in the bottom of the cooling towers.

On July 20th, EPNG obtained three cooling tower basin sediment samples. One sample was obtained from each of the three cooling towers for TCLP testing. Analysis results are under Tab 1. The samples did not exceed TCLP limits. Therefore, we request permission to remove the sediments and place them in an old unlined domestic sewage pond which is no longer in use. A map showing the proposed disposal site is under Tab 2. The domestic sewage pond was used in the past to contain domestic wastewater from the Chaco Plant camp housing.

Please give us permission to place the cooling tower sediments in the old unlined domestic sewage pond. If you need additional information or have any questions please call me at 599-2176.

Anu Pundari

Anu Pundari
Sr. Compliance Engineer

cc: Mr. David Hall (EPNG)

Approved 8/6/93

SOUND ANALYTICAL SERVICES, INC.

SPECIALIZING IN INDUSTRIAL & TOXIC WASTE ANALYSIS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

(1)

Report To: Burlington Environmental
Seattle Facility

Date: August 2, 1993

Report On: Analysis of Sludge

Lab No.: 33624
Page 1 of 15

IDENTIFICATION:
Samples received on 07-23-93
Project: EPNG - Choco Plant
P.O. No. 39691

ANALYSIS:

Chaco "A" Tower Sump

Lab Sample No. 33624-1

Client ID: N30799
48313-1

Toxicity Characteristic Leaching Procedure (TCLP) Method 1311
Volatile Organics per EPA SW-846 Method 8240
Date Extracted: 7-25-93
Date Analyzed: 7-27-93

Compound	Concentration (mg/L)	PQL (mg/L)	Max. Conc. (mg/L)	Flags
Vinyl Chloride	ND	0.10	0.2	
Chloroform	ND	0.050	6.0	
1,2-Dichloroethane	ND	0.050	0.5	
Carbon Tetrachloride	ND	0.050	0.5	
Benzene	ND	0.050	0.5	
Chlorobenzene	ND	0.050	100	
1,1-Dichloroethylene	ND	0.050	0.7	
Methyl Ethyl Ketone	0.040	0.25	200	J
Tetrachloroethylene	ND	0.050	0.7	
Trichloroethylene	ND	0.050	0.5	

ND - Not Detected
PQL - Practical Quantitation Limit

Surrogate Compound	Percent Recovery	Flags	Control Limits
Toluene - D8	107		88 - 110
Bromofluorobenzene	101		86 - 115
1,2-Dichloroethane D4	95		76 - 114

Acceptable
8/6/93

Continued . . . .

Burlington Environmental Seattle Facility
Project: EPNG - Choco Plant
Page 2 of 15
Lab No. 33624
August 2, 1993

Lab Sample No. 33624-1 Client ID: N30799
48313-1

Toxicity Characteristic Leaching Procedure (TCLP) Method 1311
Semivolatile Organics per EPA SW-846 Method 8270
Date Extracted: 7-25-93
Date Analyzed: 7-29-93

Compound	Concentration (mg/L)	PQL (mg/L)	Max. Conc. (mg/L)	Flags
1,4-Dichlorobenzene	ND	0.023	7.5	
Hexachloroethane	ND	0.023	3.0	
Nitrobenzene	ND	0.023	2.0	
Hexachlorobutadiene	ND	0.023	0.5	
2,4,6-Trichlorophenol	ND	0.023	2.0	
2,4,5-Trichlorophenol	ND	0.023	400	
2,4-Dinitrotoluene	ND	0.023	0.13	
Hexachlorobenzene	ND	0.023	0.13	
Pentachlorophenol	ND	0.12	100	
o-Cresol	ND	0.023	200	
m & p-Cresol	0.037	0.023	200	
Pyridine	ND	0.023	5.0	

ND - Not Detected
PQL - Practical Quantitation Limit

SEMIVOLATILE SURROGATES

Surrogate Compound	Percent Recovery	Flags	Control Limits Water	Control Limits Soil
Nitrobenzene - d_5	49		35 - 114	23 - 120
2-Fluorobiphenyl	43		43 - 116	30 - 115
p-Terphenyl-d_{14}	74		33 - 141	18 - 137
Phenol-d_6	19		10 - 94	24 - 113
2-Fluorophenol	39		21 - 100	25 - 121
2,4,6-Tribromophenol	65		10 - 123	19 - 122

Acceptable
JR
8/6/93

Continued . . . .

SOUND ANALYTICAL SERVICES INC.

(3)

Burlington Environmental Seattle Facility
Project: EPNG - Choco Plant

Lab No. 33624
August 2, 1993

Lab Sample No. 33624-1 Client ID: N30799
48313-1

Toxicity Characteristic Leaching Procedure (TCLP) Method 1311

ICP Metals by EPA Method 6010
Date Extracted: 7-25-93
Date Analyzed: 7-28-93

Parameter	Concentration (mg/L)	PQL	Max Conc., (mg/L)
Arsenic	ND	0.10	5.0
Barium	1.1	0.005	100.0
Cadmium	ND	0.005	1.0
Chromium	0.01	0.01	5.0
Lead	ND	0.05	5.0
Selenium	ND	0.15	1.0
Silver	0.01	0.01	5.0

Mercury by Cold Vapor AA Method 7470
Date Analyzed: 7-28-93

Parameter	Concentration (mg/L)	PQL	Max Conc., (mg/L)
Mercury	ND	0.002	0.2

PQL - Practical Quantitation Limit
ND - Not Detected

Continued . . . .

SOUND ANALYTICAL SERVICES, INC.

(4)

Burlington Environmental Seattle Facility
Project: EPNG - Choco Plant

Lab No. 33624
August 2, 1993

Lab Sample No. 33624-1 Client ID: N30799
48313-1

Toxicity Characteristic Leaching Procedure (TCLP) Method 1311
Chlorinated Pesticides per EPA SW-846 Method 8080
Date Extracted: 7-25-93
Date Analyzed: 7-29-93

Compound	Concentration (mg/L)	PQL (mg/L)	Max. Conc. (mg/L)
Chlordane(technical)	ND	0.01	0.03
Endrin	ND	0.001	0.02
Heptachlor	ND	0.001	0.008
y-BHC (Lindane)	ND	0.001	0.4
Methoxychlor	ND	0.002	10
Toxaphene	ND	0.01	0.5

SURROGATE RECOVERY, %

2,4,5,6-Tetrachloro-m-xylene	98
Decachlorobiphenyl	96

Acceptable
98
8/4/93

ND - Not Detected

PQL - Practical Quantitation Limit

Continued . . . . .

SOUND ANALYTICAL SERVICES, INC.

(5)

Burlington Environmental Seattle Facility
Project: EPNG - Choco Plant

Lab No. 33624
August 2, 1993

Lab Sample No. 33624-1

Client ID: N30799
48313-1

Toxicity Characteristic Leaching Procedure (TCLP) Method 1311
Chlorinated Herbicides per EPA SW-846 Method 8150
Date Extracted: 7-25-93
Date Analyzed: 7-28-93

Compound	Concentration (mg/L)	PQL (mg/L)	Max. Conc. (mg/L)
2,4-D	ND	0.01	10.0
2,4,5-TP	ND	0.01	1.0

SURROGATE RECOVERY, %

2,4,6 Tribromophenol 104

ND - Not Detected

PQL - Practical Quantitation Limit

Acceptable
BS
6/4/93

Continued . . . .

SOUND ANALYTICAL SERVICES, INC.

(6)

Burlington Environmental Seattle Facility
Project: EPNG - Choco Plant

Lab No. 33624
August 2, 1993

Choco "B" Cooling tower Sump

Lab Sample No. 33624-2 Client ID: N30800
48313-2

Toxicity Characteristic Leaching Procedure (TCLP) Method 1311
Volatile Organics per EPA SW-846 Method 8240
Date Extracted: 7-25-93
Date Analyzed: 7-27-93

Compound	Concentration (mg/L)	PQL (mg/L)	Max. Conc. (mg/L)	Flags
Vinyl Chloride	ND	0.10	0.2	
Chloroform	ND	0.050	6.0	
1,2-Dichloroethane	ND	0.050	0.5	
Carbon Tetrachloride	ND	0.050	0.5	
Benzene	ND	0.050	0.5	
Chlorobenzene	ND	0.050	100	
1,1-Dichloroethylene	ND	0.050	0.7	
Methyl Ethyl Ketone	0.024	0.25	200	J
Tetrachloroethylene	ND	0.050	0.7	
Trichloroethylene	ND	0.050	0.5	

ND - Not Detected
PQL - Practical Quantitation Limit

Surrogate Compound	Percent Recovery	Flags	Control Limits
Toluene - D8	107		88 - 110
Bromofluorobenzene	99		86 - 115
1,2-Dichloroethane D4	96		76 - 114

Doug John
8/6/93

Continued . . . .

SOUND ANALYTICAL SERVICES, INC.

(7)

Burlington Environmental Seattle Facility
Project: EPNG - Choco Plant

Lab No. 33624
August 2, 1993

Lab Sample No. 33624-2 Client ID: N30800
48313-2

Toxicity Characteristic Leaching Procedure (TCLP) Method 1311
Semivolatile Organics per EPA SW-846 Method 8270
Date Extracted: 7-25-93
Date Analyzed: 7-29-93

Compound	Concentration (mg/L)	PQL (mg/L)	Max. Conc. (mg/L)	Flags
1,4-Dichlorobenzene	ND	0.081	7.5	
Hexachloroethane	ND	0.081	3.0	
Nitrobenzene	ND	0.081	2.0	
Hexachlorobutadiene	ND	0.081	0.5	
2,4,6-Trichlorophenol	ND	0.081	2.0	
2,4,5-Trichlorophenol	ND	0.081	400	
2,4-Dinitrotoluene	ND	0.081	0.13	
Hexachlorobenzene	ND	0.081	0.13	
Pentachlorophenol	ND	0.40	100	
o-Cresol	ND	0.081	200	
m & p-Cresol	ND	0.081	200	
Pyridine	ND	0.081	5.0	

ND - Not Detected
PQL - Practical Quantitation Limit

SEMIVOLATILE SURROGATES

Surrogate Compound	Percent Recovery	Flags	Control Limits Water	Control Limits Soil
Nitrobenzene - d_5	53		35 - 114	23 - 120
2-Fluorobiphenyl	48		43 - 116	30 - 115
p-Terphenyl-d_{14}	83		33 - 141	18 - 137
Phenol-d_6	28		10 - 94	24 - 113
2-Fluorophenol	49		21 - 100	25 - 121
2,4,6-Tribromophenol	72		10 - 123	19 - 122

Continued . . . .

Acceptable
8/4/93

Burlington Environmental Seattle Facility
Project: EPNG - Choco Plant
Page 8 of 15
Lab No. 33624
August 2, 1993

Lab Sample No. 33624-2 Client ID: N30800
48313-2

Toxicity Characteristic Leaching Procedure (TCLP) Method 1311

ICP Metals by EPA Method 6010
Date Extracted: 7-25-93
Date Analyzed: 7-28-93

Parameter	Concentration (mg/L)	PQL	Max Conc., (mg/L)
Arsenic	ND	0.10	5.0
Barium	0.94	0.005	100.0
Cadmium	ND	0.005	1.0
Chromium	ND	0.01	5.0
Lead	ND	0.05	5.0
Selenium	ND	0.15	1.0
Silver	ND	0.01	5.0

Mercury by Cold Vapor AA Method 7470
Date Analyzed: 7-28-93

Parameter	Concentration (mg/L)	PQL	Max Conc., (mg/L)
Mercury	ND	0.002	0.2

PQL - Practical Quantitation Limit
ND - Not Detected

Continued . . . .

SOUND ANALYTICAL SERVICES, INC.

(9)

Burlington Environmental Seattle Facility
Project: EPNG - Choco Plant

Lab No. 33624
August 2, 1993

Lab Sample No. 33624-2 Client ID: N30800
48313-2

Toxicity Characteristic Leaching Procedure (TCLP) Method 1311
Chlorinated Pesticides per EPA SW-846 Method 8080
Date Extracted: 7-25-93
Date Analyzed: 7-28-93

Compound	Concentration (mg/L)	PQL (mg/L)	Max. Conc. (mg/L)
Chlordane(technical)	ND	0.01	0.03
Endrin	ND	0.001	0.02
Heptachlor	ND	0.001	0.008
y-BHC (Lindane)	ND	0.001	0.4
Methoxychlor	ND	0.002	10
Toxaphene	ND	0.01	0.5

SURROGATE RECOVERY, %

2,4,5,6-Tetrachloro-m-xylene	81
Decachlorobiphenyl	96

Acceptable
8/4/93

ND - Not Detected

PQL - Practical Quantitation Limit

Continued . . . . .

SOUND ANALYTICAL SERVICES, INC.

10

Burlington Environmental Seattle Facility
Project: EPNG - Choco Plant
Page 9 of 15
Lab No. 33624
August 2, 1993

Lab Sample No. 33624-2 Client ID: N30800
48313-2

Toxicity Characteristic Leaching Procedure (TCLP) Method 1311
Chlorinated Herbicides per EPA SW-846 Method 8150
Date Extracted: 7-25-93
Date Analyzed: 7-28-93

Compound	Concentration (mg/L)	PQL (mg/L)	Max. Conc. (mg/L)
2,4-D	ND	0.01	10.0
2,4,5-TP	ND	0.01	1.0

SURROGATE RECOVERY, %

2,4,6 Tribromophenol 100

Acceptable
8/6/93

ND - Not Detected

PQL - Practical Quantitation Limit

Continued . . . .

SOUND ANALYTICAL SERVICES, INC.

(11)

Burlington Environmental Seattle Facility
Project: EPNG - Choco Plant
Page 11 of 15
Lab No. 33624
August 2, 1993

Choco "C" Cooling Tower Sump.

Lab Sample No. 33624-3 Client ID: N30801
48313-3

Toxicity Characteristic Leaching Procedure (TCLP) Method 1311
Volatile Organics per EPA SW-846 Method 8240
Date Extracted: 7-25-93
Date Analyzed: 7-27-93

Compound	Concentration (mg/L)	PQL (mg/L)	Max. Conc. (mg/L)	Flags
Vinyl Chloride	ND	0.10	0.2	
Chloroform	ND	0.050	6.0	
1,2-Dichloroethane	ND	0.050	0.5	
Carbon Tetrachloride	ND	0.050	0.5	
Benzene	ND	0.050	0.5	
Chlorobenzene	ND	0.050	100	
1,1-Dichloroethylene	ND	0.050	0.7	
Methyl Ethyl Ketone	0.012	0.25	200	J
Tetrachloroethylene	ND	0.050	0.7	
Trichloroethylene	ND	0.050	0.5	

ND - Not Detected
PQL - Practical Quantitation Limit

Surrogate Compound	Percent Recovery	Flags	Control Limits
Toluene - D8	106		88 - 110
Bromofluorobenzene	100		86 - 115
1,2-Dichloroethane D4	95		76 - 114

Acceptable
8/6/93

Continued . . . .

SOUND ANALYTICAL SERVICES, INC.

(12)

Burlington Environmental Seattle Facility
Project: EPNG - Choco Plant

Lab No. 33624
August 2, 1993

Lab Sample No. 33624-3 Client ID: N30801
48313-3

Toxicity Characteristic Leaching Procedure (TCLP) Method 1311
Semivolatile Organics per EPA SW-846 Method 8270
Date Extracted: 7-25-93
Date Analyzed: 7-29-93

Compound	Concentration (mg/L)	PQL (mg/L)	Max. Conc. (mg/L)	Flags
1,4-Dichlorobenzene	ND	0.037	7.5	
Hexachloroethane	ND	0.037	3.0	
Nitrobenzene	ND	0.037	2.0	
Hexachlorobutadiene	ND	0.037	0.5	
2,4,6-Trichlorophenol	ND	0.037	2.0	
2,4,5-Trichlorophenol	ND	0.037	400	
2,4-Dinitrotoluene	ND	0.037	0.13	
Hexachlorobenzene	ND	0.037	0.13	
Pentachlorophenol	ND	0.19	100	
o-Cresol	ND	0.037	200	
m & p-Cresol	0.021	0.037	200	J
Pyridine	ND	0.037	5.0	

ND - Not Detected
PQL - Practical Quantitation Limit

SEMIVOLATILE SURROGATES

Surrogate Compound	Percent Recovery	Flags	Control Limits Water	Control Limits Soil
Nitrobenzene - d_5	53		35 - 114	23 - 120
2-Fluorobiphenyl	50		43 - 116	30 - 115
p-Terphenyl-d_{14}	77		33 - 141	18 - 137
Phenol-d_6	26		10 - 94	24 - 113
2-Fluorophenol	46		21 - 100	25 - 121
2,4,6-Tribromophenol	71		10 - 123	19 - 122

Accepted
8/6/93

Continued . . . .

SOUND ANALYTICAL SERVICES, INC.

(13)

Burlington Environmental Seattle Facility
Project: EPNG - Choco Plant

Lab No. 33624
August 2, 1993

Lab Sample No. 33624-3 Client ID: N30801
48313-3

Toxicity Characteristic Leaching Procedure (TCLP) Method 1311

ICP Metals by EPA Method 6010
Date Extracted: 7-25-93
Date Analyzed: 7-28-93

Parameter	Concentration (mg/L)	PQL	Max Conc., (mg/L)
Arsenic	ND	0.10	5.0
Barium	0.65	0.005	100.0
Cadmium	0.006	0.005	1.0
Chromium	0.02	0.01	5.0
Lead	ND	0.05	5.0
Selenium	ND	0.15	1.0
Silver	ND	0.01	5.0

Mercury by Cold Vapor AA Method 7470
Date Analyzed: 7-28-93

Parameter	Concentration (mg/L)	PQL	Max Conc., (mg/L)
Mercury	ND	0.002	0.2

PQL - Practical Quantitation Limit
ND - Not Detected

Continued . . . .

SOUND ANALYTICAL SERVICES, INC.

(14)

Burlington Environmental Seattle Facility
Project: EPNG - Choco Plant

Lab No. 33624
August 2, 1993

Lab Sample No. 33624-3 Client ID: N30801
48313-3

Toxicity Characteristic Leaching Procedure (TCLP) Method 1311
Chlorinated Pesticides per EPA SW-846 Method 8080
Date Extracted: 7-25-93
Date Analyzed: 7-29-93

Compound	Concentration (mg/L)	PQL (mg/L)	Max. Conc. (mg/L)
Chlordane(technical)	ND	0.01	0.03
Endrin	ND	0.001	0.02
Heptachlor	ND	0.001	0.008
y-BHC (Lindane)	ND	0.001	0.4
Methoxychlor	ND	0.002	10
Toxaphene	ND	0.01	0.5

SURROGATE RECOVERY, %

2,4,5,6-Tetrachloro-m-xylene	94
Decachlorobiphenyl	92

ND - Not Detected

PQL - Practical Quantitation Limit

8/6/93

SOUND ANALYTICAL SERVICES, INC.

(15)

Burlington Environmental Seattle Facility
Project: EPNG - Choco Plant

Lab No. 33624
August 2, 1993

Lab Sample No. 33624-3 Client ID: N30801
48313-3

Toxicity Characteristic Leaching Procedure (TCLP) Method 1311
Chlorinated Herbicides per EPA SW-846 Method 8150
Date Extracted: 7-25-93
Date Analyzed: 7-28-93

Compound	Concentration (mg/L)	PQL (mg/L)	Max. Conc. (mg/L)
2,4-D	ND	0.01	10.0
2,4,5-TP	ND	0.01	1.0

SURROGATE RECOVERY, %

2,4,6 Tribromophenol 97

Acceptable
8/4/93

ND - Not Detected

PQL - Practical Quantitation Limit

Continued . . . .

SOUND ANALYTICAL SERVICES INC.

SPECIALIZING IN INDUSTRIAL & TOXIC WASTE ANALYSIS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 • TELEPHONE (206) 922-2310 • FAX (206) 922-5047

(16)

DATA QUALIFIER FLAGS

ND: Indicates that the analyte was analyzed for but was not detected. The associated numerical value is the practical quantitation limit, corrected for sample dilution.

J: The analyte was analyzed for and positively identified, but the associated numerical value is an estimated quantity.

C: The identification of this analyte was confirmed by GC/MS.

B1: This analyte was also detected in the associated method blank. The reported sample results have been adjusted for moisture, final extract volume, and/or dilutions performed during extract preparation. The analyte concentration was evaluated prior to sample preparation adjustments, and was determined not to be significantly higher than the associated method blank (less than ten times the concentration reported in the blank).

B2: This analyte was also detected in the associated method blank. However, the analyte concentration in the sample was determined to be significantly higher than the method blank (greater than ten times the concentration reported in the blank).

E: The concentration of this analyte exceeded the instrument calibration range.

D: The reported result for this analyte is calculated based on a secondary dilution factor.

A: This TIC is a suspected aldol-condensation product.

M: Quantitation Limits are elevated due to matrix interferences.

S: The calibration quality control criteria for this compound were not met. The reported concentration should be considered an estimated quantity.

X1: Contaminant does not appear to be "typical" product. Elution pattern suggests it may be _____.

X2: Contaminant does not appear to be "typical" product. Further testing is suggested for identification.

X3: Identification and quantification of peaks was complicated by matrix interference; GC/MS confirmation is recommended.

X4: RPD for duplicates outside QC limits. Sample was re-analyzed with similar results. Sample matrix is nonhomogeneous.

X4a: RPD for duplicates outside QC limits due to analyte concentration near the method practical quantitation limit/detection limit.

X5: Matrix spike was diluted out during analysis.

X6: Recovery of matrix spike outside QC limits. Sample was re-analyzed with similar results.

X7: Recovery of matrix spike outside QC limits. Matrix interference is indicated by blank spike recovery data.

X7a: Recovery and/or RPD values for MS/MSD outside QC limits due to high contaminant levels.

X8: Surrogate was diluted out during analysis.

X9: Surrogate recovery outside QC limits due to matrix composition.

X10: Surrogate recovery outside QC limits due to high contaminant levels.

(1)

El Paso Natural Gas Company

CHAIN OF CUSTODY RECORD

Project No.	Project Name			Total No. of Containers	Chain of Custody Seals	Intact?	Requested Analysis: Composite or Grab	See Attached	BTEX			Contract Laboratory
	Chaco Plant - CT Sump											EPNG
Samplers: (Signature)		Date	Receiving Temp. (°F)									
Joyce Rangel		7-21-93										
Lab ID	Date	Time	Matrix	Sample Number								Remarks
ACT	7-20-93	1310	Slurry	N30799	3			G		X		(All Containers shipped to BEI
BCT	7-20-93	1330	Slurry	N30800	3			G		X		
CCT	7-20-93	1410	Slurry	N30801	3			G		X		

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
		Roger E Linzell			
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:	
Results & Invoices to::		Charge Code	Date Results Reported / by: (Signature)		

WHITE-Testing Laboratory YELLOW-EPNG Lab PINK-Field Sampler

san juan repro Form 71-65

Property line

Chaco Plant

Proposed
Disposal
Site for
Cooling Tower Basin Sediment

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

August 2, 1993

CERTIFIED MAIL
RETURN RECEIPT NO. P-667-242-369

Mr. Kris Alan Sinclair
El Paso Natural Gas Company
P. O. Box 4990
Farmington, New Mexico 87499

RE: DISCHARGE PLAN GW-71 MODIFICATION
EPNG CHACO CANYON GAS PROCESSING PLANT
SAN JUAN COUNTY, NEW MEXICO

Dear Mr. Sinclair:

The New Mexico Oil Conservation Division (EPNG) is in the process of reviewing El Paso Natural Gas Company's (EPNG) July 14, 1993 proposed modification of the previously approved discharge plan GW-71 for the EPNG Chaco Canyon Gas Processing Plant. The modification request proposes continuing use of unlined ponds at the facility for the disposal of non-contact waste water from the cooling towers.

The OCD has the following questions, comments and requests for information and/or commitments regarding the proposed modification:

1. The proposal does not address heavy metals contained in the cooling tower effluent which were observed during the OCD sampling of all cooling towers on July 16, 1991. The level of cadmium in the water from all three cooling towers sampled on this date was in excess of the New Mexico Water Quality Control Commission (WQCC) ground water standards (see enclosed analyses). Please provide a current analysis of heavy metal concentrations in waters from all cooling towers and propose a method to reduce and/or control constituents in excess of WQCC standards.

2. The document does not contain a plan for monitoring the quality of the discharge. Please submit a plan for monitoring the discharge quality.

3. The OCD requires ground water monitoring of all unlined ponds. Please provide a plan for monitoring ground water quality downgradient of the ponds.

4. The currently approved discharge plan contained a commitment to close the existing unlined ponds. OCD will require that any pond which previously received hydrocarbons be assessed for the extent of contamination prior to approval for continued use. However, the proposed modification does not indicate to which pond or ponds the non-contact wastewater will be discharged. Please provide this information.

Receipt of the above information will allow OCD to continue a review of this proposal.

Please be advised that OCD considers this modification a major modification of the facility discharge plan which is subject to the public notice and discharge plan fee provisions under part 3 of the WQCC Regulations.

If you have any questions, please contact me at (505) 827-5885.

Sincerely,

William C. Olson
Hydrogeologist
Environmental Bureau

Enclosures

xc: OCD Aztec Office

ACKNOWLEDGEMENT OF RECEIPT OF CHECK/CASH

I hereby acknowledge receipt of check No. [redacted] dated 7/15/93,

or cash received on 7/23/93 in the amount of $ 50.00

from El Paso Natural Gas Company

for Chaco Gas Plant (Facility Name) GW-71 (DP No.)

Submitted by: _____ Date: _____

Submitted to ASD by: Kathy Brown Date: 7/23/93

Received in ASD by: [illegible] Date: 7/23/93

Filing Fee X New Facility ___ Renewal ___

Modification ___ Other _____ (specify)

Organization Code 521.07 Applicable FY ~~93~~ 94

To be deposited in the Water Quality Management Fund.

Full Payment ___ or Annual Increment ___

El Paso Natural Gas Company

P.O. BOX 1492
EL PASO, TX 79978

PAYABLE AT
CITIBANK DELAWARE
A SUBSIDIARY OF CITICORP
ONE PENN'S WAY
NEW CASTLE, DE 19720

CONTROL NO. [redacted]

232 CBD

62-20
311

07/15/93
Date

PAY TO THE ORDER OF

NEW MEXICO OIL CONSERVATION
DIVISON
ENERGY MINERALS & NATURAL
RESOURCES DEPARTMENT
P O BOX 2088
SANTA FE NM 87504

PAY AMOUNT
$50.00
Void After 1 Year

John M. Green

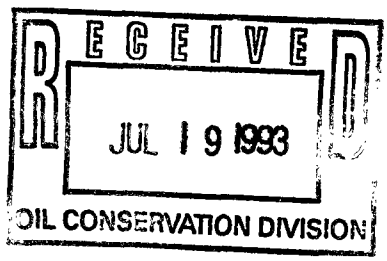
Authorized Signatory

[redacted]

El Paso
Natural Gas Company

P. O. BOX 4990
FARMINGTON, NEW MEXICO 87499

William J. Lemay
New Mexico Oil Conservation Division
310 Old Santa Fe Trail
Santa Fe, NM 87501



July 14,1993

RE: Discharge Plan GW-71
Chaco Canyon Gas Processing Plant
San Juan County, New Mexico

Dear Mr. Lemay:

El Paso Natural Gas Company is requesting modification of the Chaco Gas Plant Discharge Plan. EPNG would like to modify the Discharge Plan to allow the continued use of the unlined ponds for non-contact waste water, and to waive the requirement to test the non-contact drain system. The current Discharge Plan requires the closure of all unlined ponds and the testing of all drain lines in excess of 25 years old. These requirements were designed to ensure that ground water would not be adversely impacted in the vicinity of the plant. Based upon information obtained from wells drilled on Chaco Plant property, EPNG believes continued use of the unlined ponds and drain lines for non-contact water, poses no threat to ground water.

This view is based upon the following:

1. Quality of the non-contact waste water exceeds that of the ground water.
   In 1992 EPNG drilled three deep well ground beds to a depth of 505 feet in the northwest corner of Chaco Plant property. Water analysis were performed on all three deep well ground beds, A, B, and C cooling towers, and ponds 1 - 5. This analysis shows that discharge water quality exceeds that of the ground water. (See tab A)

2. At least 50 feet of unsaturated low permeability shale is present above the regional aquifer at the plant site.
   The driller's logs show the plant site resting on less than 50 feet of sandy deposits above the lower shale unit of the Nacimento Formation. A 15 to 20 foot thick sandstone of the Ojo Alamo Formation was encountered below the shale unit. (See tab B)

3. Depth to ground water of 120 feet.
   The drillers's logs did not indicate a shallow unconfined aquifer. Water was first encountered at a depth of 120 feet in the Ojo Alamo Formation. No other water bearing zones were reported to the total depth of 505 feet. (See tab B)

4. Nearest water well to the plant is over a mile away.
   The closest domestic water well to the plant site as reported by the State Engineer is in section 22 over a mile away. This well was drilled in 1963 to a depth of 255 feet. No information on the current status of the well is available.

5. All contact waste water will be routed to a lined pond.
   To ensure continued protection of ground water quality, all contact waste water will be routed to a lined pond scheduled to be constructed in 1994.

6. The contact and non-contact waste water systems will be separate systems.
   A survey of all contact drain lines will be performed to ensure no contact drain lines are connected to the non-contact drain system.

EPNG believes for the above mentioned reasons that continued use of the unlined ponds for non-contact waste water will not pose a threat to ground water. EPNG also believes that if approval is granted to continue use of the unlined ponds, testing the non-contact discharge lines to the ponds would be unnecessary.

Enclosed is a check covering the filing fee. If you have any questions or comments feel free to call me at (505) 599-2175.

Sincerely,

Kris Alan Sinclair
Compliance Engineer

cc: W.D. Hall, EPNG
N.K. Prince, EPNG
William Olson, NMOCD
Denny Foust, NMOCD

Summary of water analysis

Sample points	Date of sample	pH	Alkalinity as HCO3	Chloride as Cl	Sulfate as SO4	Sodium as Na	T.D.S	Conductivity (umhos)
Well #2966	09/04/92	8.3	233	172	739	520	1616	2610
Well #2967	09/04/92	7.91	152	673	1013	760	2460	3010
Well #2968	09/09/92	7.38	621	61	1375	706	3150	3770
A Tower	06/22/93	7.17	106	15	912	131	1579	1990
B Tower	06/22/93	8.04	162	18	860	119	1552	1990
C Tower	06/22/93	7.41	113	9	357	51	630	908
Pond 1*	06/22/93	8.02	221	40	585	111	1128	1635
Pond 2*	06/22/93	7.91	332	39	506	113	1126	1624
Pond 3*	06/22/93	7.26	151	27	554	91	1040	1493
Pond 4*	06/22/93	6.95	114	22	576	93	1092	1510
Pond 5*	06/22/93	8.43	576	300	457	401	1682	2730

* At the time of analysis, evaporation pond water contained both contact and non-contact waters.

EL PASO NATURAL GAS COMPANY
FIELD SERVICES LABORATORY – WATER ANALYSIS

LOCATION: Chaco
SOURCE: CPS 2966 & 2967
DATE OF SAMPLE: 09-04-92
SAMPLED BY: Billy Hindriks

PROJECT: CPS Waters
SAVE FILE: 21-13095
REPORT DATE: Sept. 18, 1992

SAMPLE POINT	CPS #2966	CPS #2967		
LAB ID #	21-13095	21-13096		
pH	8.3	7.91		
ALKALINITY AS CO3	5	0		
ALKALINITY AS HCO3	233	152		
CALCIUM AS Ca	48	63		
MAGNESIUM AND Mg	8	13		
TOTAL HARDNESS AS CaCO3	153	211		
CHLORIDE AS Cl	172	673		
SULFATE AS SO4	739	1013		
SILICA AS SiO2	7	6		
FLUORIDE AS F	3	3		
POTASSIUM AS K	4	5		
SODIUM (CALCULATED)	486	880		
TOTAL DISSOLVED SOLIDS	* 1616	2460		
CONDUCTIVITY (umhos)	2610	3010		
SODIUM (ACTUAL)	520	760		

-- All Results expressed as ppm or umhos --

REMARKS:

* TDS Shown for CPS #2966 is calculated as there was not enough sample to run the test.

Teresa White 9/18/92
Analyst Date

John Fowler 9-18-92
Lab Superintendent Date

SAMPLE POINT	CPS #2966	CPS #2967	0 0	0 0
	meq/l	meq/l	meq/l	meq/l
CALCIUM AS Ca	2.40	3.14	0.00	0.00
MAGNESIUM AND Mg	0.66	1.07	0.00	0.00
POTASSIUM AS K	0.10	0.14	0.00	0.00
SODIUM (+/– Difference)	21.15	38.30	0.00	0.00
SODIUM (Actual)	22.61	33.04	0.00	0.00
CATIONS TOT(w/o Na)	3.16	4.35	0.00	0.00
CATIONS TOT(w/act. Na)	25.76	37.40	0.00	0.00
CATIONS TOT(w/cal. Na)	24.31	42.65	0.00	0.00
ALKALINITY AS CO3	0.17	0.00	0.00	0.00
ALKALINITY AS HCO3	3.82	2.49	0.00	0.00
CHLORIDE AS Cl	4.85	18.98	0.00	0.00
SULFATE AS SO4	15.39	21.09	0.00	0.00
FLUORIDE AS F	0.08	0.08	0.00	0.00
ANIONS (TOTAL)	24.31	42.65	0.00	0.00
Anion/Cation % Difference	**5.8**	**13.1**	**ERR**	**ERR**
TDS (ACTUAL)	* 1616	2460	0	0
TDS (CALC. w/cal. Na)	1575	2726	0	0
PERCENT DIFF. w/cal. Na	ERR	–11	ERR	ERR
TDS (CALC. w/act. Na)	1616	2611	0	0
PERCENT DIFF. w/act. Na	ERR	–6	ERR	ERR

EL PASO NATURAL GAS COMPANY
FIELD SERVICES LABORATORY – WATER ANALYSIS

LOCATION: Chaco
SOURCE: CPS 2968
DATE OF SAMPLE: 09–09–92
SAMPLED BY: Billy Hindriks

PROJECT: CPS Waters
SAVE FILE: 21–13103
REPORT DATE: Sept. 18, 1992

SAMPLE POINT	CPS #2968			
LAB ID #	21–13103			
pH	7.38			
ALKALINITY AS CO3	0			
ALKALINITY AS HCO3	621			
CALCIUM AS Ca	165			
MAGNESIUM AND Mg	11			
TOTAL HARDNESS AS CaCO3	457			
CHLORIDE AS Cl	61			
SULFATE AS SO4	1375			
SILICA AS SiO2	6			
FLUORIDE AS F	Not Run			
POTASSIUM AS K	8			
SODIUM (CALCULATED)	717			
TOTAL DISSOLVED SOLIDS	3150			
CONDUCTIVITY (umhos)	3770			
SODIUM (ACTUAL)	706			

–– All Results expressed as ppm or umhos ––

REMARKS:

Teresa White 9/18/92
Analyst Date

John Fabri 9-18-92
Lab Superintendent Date

SAMPLE POINT	CPS #2968	0 0	0 0	0 0
	meq/l	meq/l	meq/l	meq/l
CALCIUM AS Ca	8.23	0.00	0.00	0.00
MAGNESIUM AND Mg	0.91	0.00	0.00	0.00
POTASSIUM AS K	0.20	0.00	0.00	0.00
SODIUM (+/– Difference)	31.19	0.00	0.00	0.00
SODIUM (Actual)	30.70	0.00	0.00	0.00
CATIONS TOT(w/o Na)	9.34	0.00	0.00	0.00
CATIONS TOT(w/act. Na)	40.03	0.00	0.00	0.00
CATIONS TOT(w/cal. Na)	40.53	0.00	0.00	0.00
ALKALINITY AS CO3	0.00	0.00	0.00	0.00
ALKALINITY AS HCO3	10.18	0.00	0.00	0.00
CHLORIDE AS Cl	1.72	0.00	0.00	0.00
SULFATE AS SO4	28.63	0.00	0.00	0.00
FLUORIDE AS F	0.00	0.00	0.00	0.00
ANIONS (TOTAL)	40.53	0.00	0.00	0.00
Anion/Cation % Difference	1.2	ERR	ERR	ERR
TDS (ACTUAL)	3150	0	0	0
TDS (CALC. w/cal. Na)	2642	0	0	0
PERCENT DIFF. w/cal. Na	16	ERR	ERR	ERR
TDS (CALC. w/act. Na)	2637	0	0	0
PERCENT DIFF. w/act. Na	16	ERR	ERR	ERR

El Paso Natural Gas Company

MEMORANDUM

TO: Kris Sinclair

DATE: June 25, 1993

FROM: John Lambdin

PLACE: Field Services
Engineering Lab

Project: Chaco Plant Cooling Tower and Pond Results

On June 22, 1993 the Farmington Field Services Engineering Laboratory collected eight (8) water samples from the cooling towers and ponds at Chaco Plant. The samples were assigned Field Services Laboratory numbers N30719 to N30726.

The samples were analyzed by our lab for general chemistry components in accordance with methods found in the 18th edition of Standard Methods for the Examination of Water and Wastewater.

Please let me know, if you have any questions.

John Lambdin

cc: David Hall
Joe Barnett
Results Log Book
File

Enclosures

El Paso Natural Gas Company - Field Services Lab Report

LOCATION: Chaco Plant
DATE OF REPORT: 6/25/93
SAMPLED BY: Lupe Rangel

PROJECT: W.W. Discharge Plan
SAVE FILE: N30719

SAMPLE POINT	"C" Cooling Tower	"A" Cooling Tower	"B" Cooling Tower	Pond #1 West of Plant	Pond #2 West of Pond #1
LAB ID #	N30719	N30720	N30721	N30722	N30723
Date Of Sample	22-Jun-93	22-Jun-93	22-Jun-93	22-Jun-93	22-Jun-93
pH (Units)	7.41	7.17	8.04	8.02	7.91
ALKALINITY AS CO3	0	0	0	0	0
ALKALINITY AS HCO3	113	106	162	221	332
CALCIUM AS Ca	99	221	229	166	164
MAGNESIUM AND Mg	24	48	55	37	37
TOTAL HARDNESS AS CACO3	346	749	798	567	562
CHLORIDE AS Cl	9	15	18	40	39
SULFATE AS SO4	357	912	860	585	506
SILICA AS SiO2					
FLUORIDE AS F	2.0	3.0	3.0	2.0	2.0
POTASSIUM AS K	13	37	27	23	31
SODIUM AS Na	51	131	119	111	113
TOTAL DISSOLVED SOLIDS	630	1579	1552	1128	1126
CONDUCTIVITY (umhos)	908	1990	1990	1635	1624

All Results Expressed as ppm or umhos

REMARKS:

Approvals:

Analyst: _____ Date: _____

Lab Super.: John Fields Date: 6/25/93

El Paso Natural Gas Company - Field Services Lab Report

Anion/Cation Balance Information and Calculations

Sample Number:	N30719	N30720	N30721	N30722	N30723
SAMPLE POINT	"C" Cooling Tower	"A" Cooling Tower	"B" Cooling Tower	Pond #1 West of Plant	Pond #2 West of Pond #1
Concentration:	meq/l	meq/l	meq/l	meq/l	meq/l
CATIONS:					
CALCIUM AS Ca	4.94	11.03	11.43	8.28	8.18
MAGNESIUM AS Mg	1.97	3.95	4.53	3.04	3.04
POTASSIUM AS K	0.33	0.95	0.69	0.59	0.79
SODIUM (+/- Difference)	2.35	5.31	4.51	5.07	5.11
SODIUM (Actual)	2.22	5.70	5.17	4.83	4.91
CATIONS TOT(w/o Na)	7.25	15.92	16.64	11.92	12.02
CATIONS TOT(w/act. Na)	9.46	21.62	21.82	16.74	16.93
CATIONS TOT(w/cal. Na)	9.59	21.23	21.15	16.99	17.13
ANIONS:					
ALKALINITY AS CO3	0.00	0.00	0.00	0.00	0.00
ALKALINITY AS HCO3	1.85	1.74	2.65	3.62	5.44
CHLORIDE AS Cl	0.25	0.42	0.51	1.13	1.10
SULFATE AS SO4	7.43	18.99	17.91	12.18	10.54
FLUORIDE AS F	0.06	0.08	0.08	0.06	0.06
ANIONS (TOTAL)	9.59	21.23	21.15	16.99	17.13
TDS (ACTUAL)	630	1579	1552	1128	1126
TDS (CALC. w/cal. Na)	614	1410	1375	1078	1060
PERCENT DIFF. w/cal. Na	3	11	11	4	6
TDS (CALC. w/act. Na)	611	1419	1391	1073	1055
PERCENT DIFF. w/act. Na	3	10	10	5	6
SODIUM (CALCULATED)	54	122	104	117	118
SODIUM AS Na (ACTUAL)	51	131	119	111	113
Relative % Difference RPD	1%	2%	3%	1%	1%
ANION/CATION % Difference	101.37	98.21	96.95	101.46	101.17

El Paso Natural Gas Company - Field Services Lab Report

LOCATION: Chaco Plant
DATE OF REPORT: 6/25/93
SAMPLED BY: Lupe Rangel

PROJECT: W.W. Discharge Plan
SAVE FILE: N30719

SAMPLE POINT	Pond #3 North of Pond #1	Pond #4 North of Flare Pit	Pond #5		
LAB ID #	N30724	N30725	N30726		
Date Of Sample	22-Jun-93	22-Jun-93	22-Jun-93		
pH (Units)	7.26	6.95	8.43		
ALKALINITY AS CO3	0	0	7		
ALKALINITY AS HCO3	151	114	576		
CALCIUM AS Ca	144	147	69		
MAGNESIUM AND Mg	33	32	47		
TOTAL HARDNESS AS CACO3	495	499	366	0	0
CHLORIDE AS Cl	27	22	300		
SULFATE AS SO4	554	576	457		
SILICA AS SiO2					
FLUORIDE AS F	2.0	2.0	3.0		
POTASSIUM AS K	39	37	39		
SODIUM AS Na	91	93	401		
TOTAL DISSOLVED SOLIDS	1040	1092	1682		
CONDUCTIVITY (umhos)	1493	1510	2730		

All Results Expressed as ppm or umhos

REMARKS:

Approvals:

Analyst: _____ Date: _____

Lab Super.: John Labbe Date: 6/25/93

El Paso Natural Gas Company - Field Services Lab Report

Anion/Cation Balance Information and Calculations

Sample Number:	N30724	N30725	N30726		
SAMPLE	Pond #3	Pond #4	Pond #5	0	0
POINT	North of	North of	0	0	0
	Pond #1	Flare Pit	0	0	0
Concentration:	meq/l	meq/l	meq/l	meq/l	meq/l
CATIONS:					
CALCIUM AS Ca	7.19	7.34	3.44	0.00	0.00
MAGNESIUM AS Mg	2.72	2.63	3.87	0.00	0.00
POTASSIUM AS K	1.00	0.95	1.00	0.00	0.00
SODIUM (+/- Difference)	3.93	3.62	19.43	0.00	0.00
SODIUM (Actual)	3.96	4.04	17.43	0.00	0.00
CATIONS TOT(w/o Na)	10.90	10.91	8.31	0.00	0.00
CATIONS TOT(w/act. Na)	14.86	14.96	25.74	0.00	0.00
CATIONS TOT(w/cal. Na)	14.83	14.54	27.74	0.00	0.00
ANIONS:					
ALKALINITY AS CO3	0.00	0.00	0.24	0.00	0.00
ALKALINITY AS HCO3	2.47	1.87	9.44	0.00	0.00
CHLORIDE As Cl	0.76	0.62	8.46	0.00	0.00
SULFATE AS SO4	11.53	11.99	9.51	0.00	0.00
FLUORIDE AS F	0.06	0.06	0.08	0.00	0.00
ANIONS (TOTAL)	14.83	14.54	27.74	0.00	0.00
TDS (ACTUAL)	1040	1092	1682	0	0
TDS (CALC. w/cal. Na)	964	955	1645	0	0
PERCENT DIFF. w/cal. Na	7	13	2	#DIV/0!	#DIV/0!
TDS (CALC. w/act. Na)	964	965	1599	0	0
PERCENT DIFF. w/act. Na	7	12	5	#DIV/0!	#DIV/0!
SODIUM (CALCULATED)	90	83	447	0	0
SODIUM AS Na (ACTUAL)	91	93	401	0	0
Relative % Difference RPD	0%	3%	3%	#DIV/0!	#DIV/0!
ANION/CATION % Difference	99.81	97.19	107.76	#DIV/0!	#DIV/0!

THE LOFTIS COMPANY

DEEP WELL GROUNDBED DATA

DATE September 1, 1992

COMPANY El Paso Natural Gas Company COUNTY San Juan STATE N.M.

CONTRACT NO. 5848 UNIT NO. CPS 296-6

LOCATION Chaco Sta. - 20 miles S. of Farmington, N.M.

GROUNDBED: Depth 500 Ft., Dia. 7 7/8 In., Anodes (25) 2 x 60

CASING: Size 8 5/8 In., Depth 100 Ft. Anotec SHA-2

DEPTH FT.	DRILLER'S LOG	RESISTIVITY OHMS	RESISTIVITY AMPS	ANODE NUMBER	DEPTH TO ANODE TOP	BEFORE COKE	AFTER COKE
5	Top Soil						
10	"						
15	Sand						
20	"						
25	"						
30	Blue Shale						
35	"						
40	"						
45	"						
50	"						
55	"						
60	"						
65	"						
70	"						
75	"						
80	"						
85	"						
90	"						
95	"						
100	"						
105	Sandstone		1.1				
110	"		0.9				
115	"		0.9				
120	"		0.9				
125	Water		0.8				
130	"		1.0				
135	Sandstone		1.7				
140	"		1.4				
145	Blue Clay & Shale		1.7				
150	"		1.7				
155	"		2.0				
160	"		1.8				
165	"		1.8				
170	"		1.8				
175	"		1.8				
180	"		1.8				
185	"		1.7				
190	"		1.7	25		2.5	7.9
195	"		1.8				
200	"		1.6	24		1.7	7.8
205	"		1.5				
210	"		1.5	23		2.4	7.8
215	"		1.3				
220	"		1.4	22		1.8	6.6
225	"		1.6				
230	"		1.8	21		2.4	6.3
235	"		1.7				
240	Blue Clay & Shale		1.7	20		2.3	6.3

M1142

COMPANY El Paso Natu[illegible] Gas Co. DATE Septe[illegible]r 1, 1992

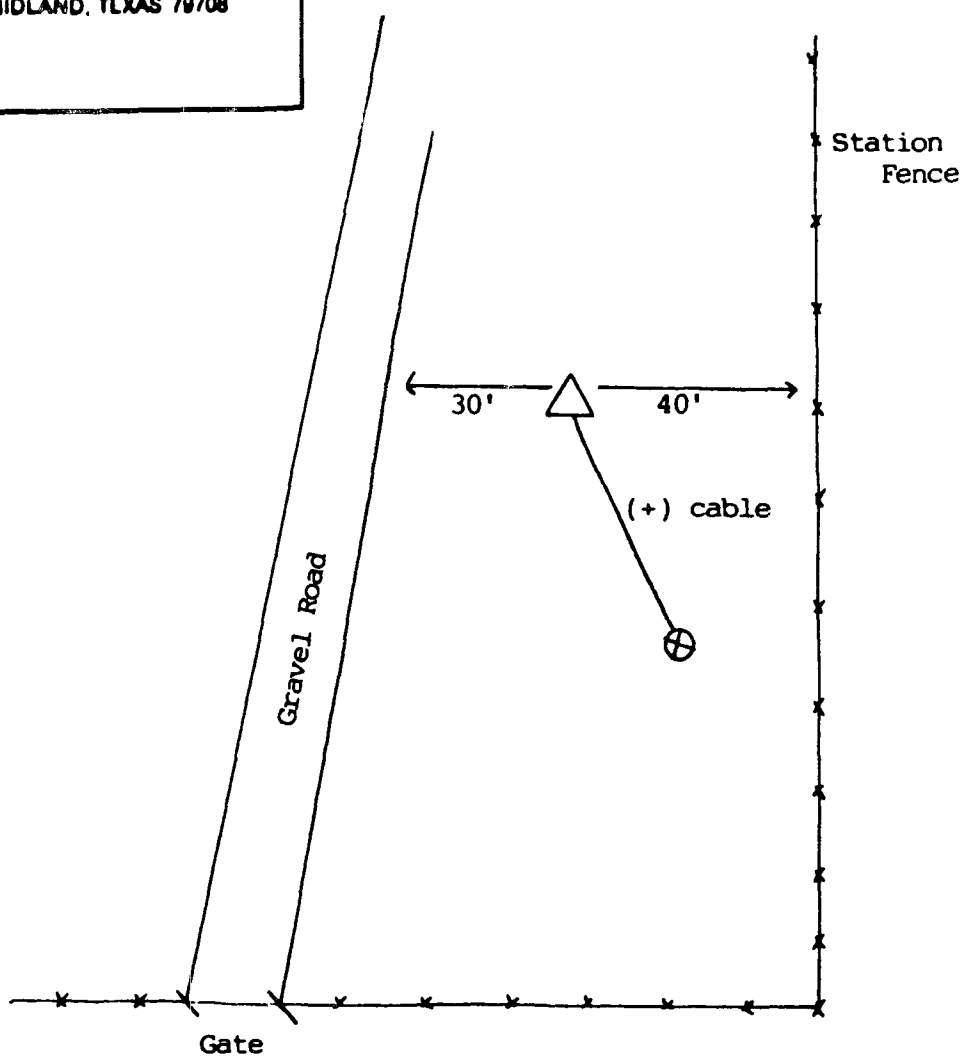
LOCATION Chaco Sta. UNIT NUMBE[illegible] CPS 296-6

DEPTH FT.	DRILLER'S LOG	RESISTIVITY OHMS	RESISTIVITY AMPS	ANODE NUMBER	DEPTH TO ANODE TOP	BEFORE COKE	AFTER COKE
245	Blue Clay & Shale		1.6				
250	"		1.6	19		1.9	6.9
255	"		1.5				
260	"		1.5	18		1.9	5.9
265	"		1.6				
270	"		1.6	17		2.0	6.3
275	"		1.5				
280	"		1.5	16		1.9	6.5
285	"		1.6				
290	"		1.5	15		1.7	5.7
295	"		1.0				
300	"		1.6				
305	Sandstone & Blue Shale		1.5	14		1.9	5.6
310	"		1.0				
315	"		0.9				
320	"		1.0				
325	"		1.0				
330	"		0.9				
335	"		0.9				
340	"		1.6				
345	"		1.5	13		1.7	5.8
350	"		0.9				
355	Sandstone		1.6	12		1.8	6.0
360	"		1.3				
365	Blue Clay & Shale		1.6	11		2.1	5.8
370	"		1.9				
375	"		1.5	10		1.8	5.9
380	"		1.6				
385	"		1.6	9		1.9	6.5
390	"		1.8				
395	"		1.7	8		2.0	6.5
400	"		1.5				
405	"		1.4	7		1.7	6.3
410	"		1.5				
415	"		1.5	6		1.8	5.9
420	"		1.4				
425	"		1.3	5		1.6	5.1
430	"		1.1				
435	"		0.9				
440	"		1.2				
445	"		1.7				
450	"		1.4	4		1.7	5.4
455	"		1.0				
460	"		0.8				
465	"		1.4				
470	"		1.5	3		1.8	5.8
475	"		1.7				
480	"		1.6	2		1.8	5.9
485	"		1.6				
490	"		1.6	1		2.0	6.0
495	"		1.7				
500	Blue Clay & Shale		1.7				
505							
510							

M1142

THE LOFTIS COMPANY
P O BOX 7847
MIDLAND, TEXAS 79708

AS-BUILT



LEGEND	
△	Groundbed
▽	Rectifier
●	Negative
▭	Junction Box
↑	Marker/Vent
⊗	Old Groundbed

LOCATION: CPS 296-6, Chaco Station San Juan County, N.M. 20 mi. S. of Farmington, N.M.		CLIENT: El Paso Natural Gas Company		
		PROJECT: Cathodic Protection System Contract #5848		
DATE COMPLETED: 09/10/92	NOT TO SCALE			
DATE DRILLED: 09/01/92	DRAWN BY: JM/MI	APPROVED BY: MFL	DRAWING NO.:	1

M1142

THE LOFTIS COMPANY Page 1 of _____

DEEP WELL GROUNDBED DATA DATE 9-3-92

COMPANY E.P.N.G COUNTY S.J STATE N.M

CONTRACT NO. J 3242 UNIT NO. 296-7

LOCATION Chaco PLANT

GROUNDBED: Depth 500 Ft., Dia. 7 7/8 In., Anodes 25

CASING: Size 8 5/8 In., Depth 100 Ft. 100

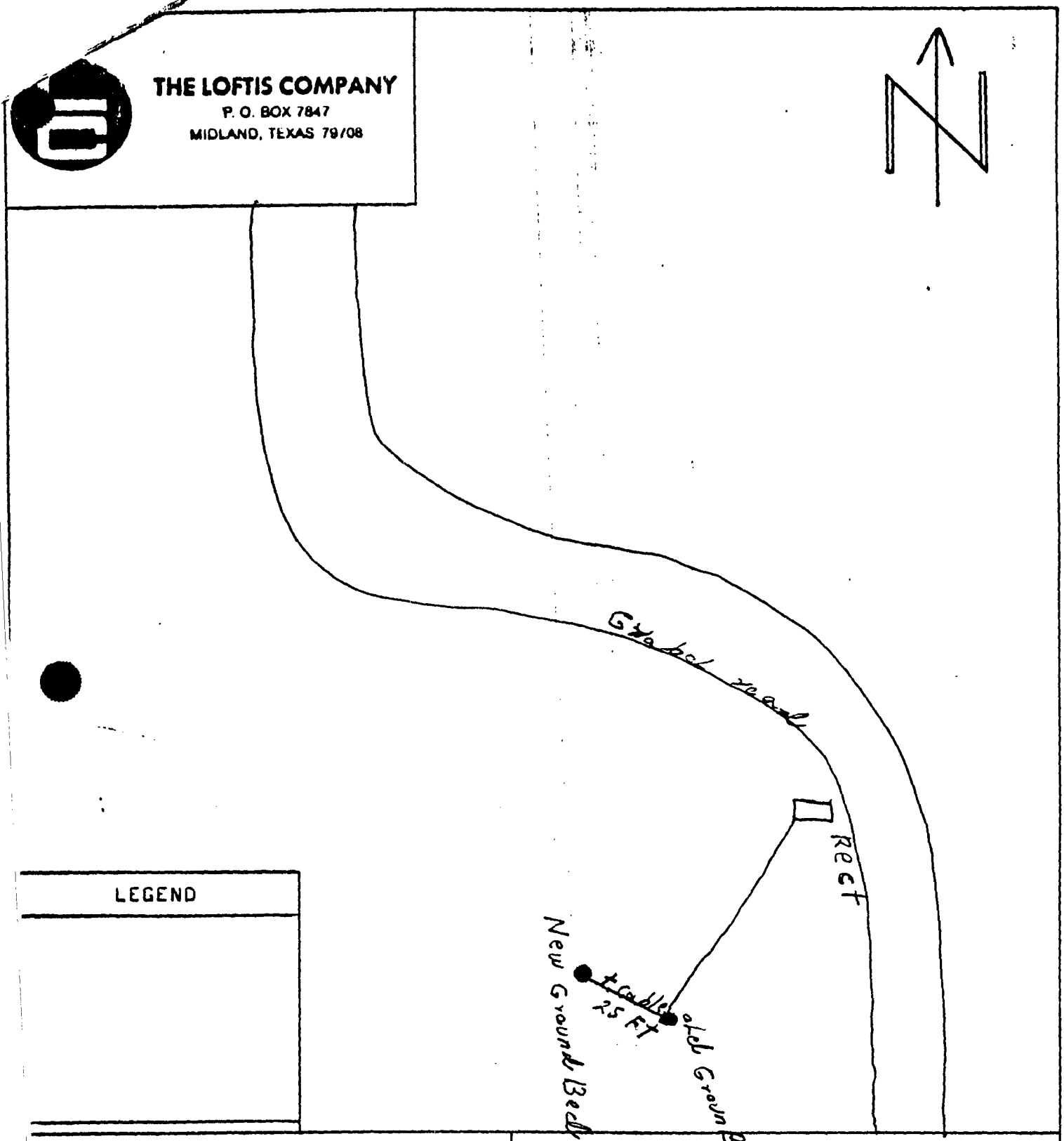
DEPTH FT.	DRILLER'S LOG	RESISTIVITY OHMS	RESISTIVITY AMPS	ANODE NUMBER	DEPTH TO ANODE TOP	BEFORE COKE	AFTER COKE
5	sand						
10							
15							
20							
25							
30							
35							
40							
45							
50							
55	Blue Shale						
60							
65							
70							
75							
80							
85							
90							
95							
100							
105	sandston		2.4				
110			1.7				
115			1.7				
120	wa-ter		1.4				
125			1.1				
130			1.0				
135	Blue Shale & sandston		1.5				
140			1.5				
145			1.2				
150			1.4				
155			1.5				
160			2.1	25		3.2	5.8
165			2.1	24		3.1	5.7
170			2.6				
175			2.7				
180			2.8				
185			2.8				
190			2.7				
195			2.6				
200			2.4	23		3.1	6.4
205			2.6	2.2		3.4	6.5
210			2.9				
215			2.3	21		3.7	6.4
220			2.1	20		2.8	6.1
225			2.6				
230			2.2	19		3.1	6.6
235			2.5	18		3.6	7.0
240			2.6				

DATE _____

ATION _____ UNIT NUMBER _____

TH T.	DRILLER'S LOG	RESISTIVITY OHMS	RESISTIVITY AMPS	ANODE NUMBER	DEPTH TO ANODE TOP	BEFORE COKE	AFTER COKE
245	Blue Shale & Sandstone		2.5	17		3.8	6.8
250			2.4	16		3.5	6.6
255			1.9	15		2.9	5.8
260			1.2				
265			1.0				
270			1.1				
275			1.5				
280			1.7				
285			1.5	14		2.4	4.7
290			1.5				
295			1.8				
300			2.4	13		3.3	6.1
305			2.4	12		3.4	6.0
310			1.9				
315			1.4				
320			1.3				
325			1.4				
330			1.3				
335			2.1	11		2.8	4.7
340			1.7				
345			1.3				
350			1.7				
355			2.0				
360			2.2	10		3.1	5.3
365			1.6				
370			2.0	9		2.5	5.1
375			2.5	8		3.3	5.4
380			1.6				
385			1.3				
390			1.4	~~8~~			
395			2.4	7		3.0	5.2
400			2.6				
405			2.4	6		3.2	5.6
410			2.1	5		2.7	5.2
415			1.6				
420			1.5				
425			1.6				
430			1.7				
435			2.0				
440			2.1	4		2.5	5.4
445			2.5	3		3.2	5.7
450			1.7				
455			1.3				
460			1.5				
465			1.6				
470			1.6				
475			1.6				
480			2.2	2		2.8	5.6
485			3.4	1		3.0	5.5
490			2.2				
495			2.0				
500			2.0				
505							
510							

THE LOFTIS COMPANY
P. O. BOX 7847
MIDLAND, TEXAS 79708



LEGEND

LOCATION: chaco PLANT		CLIENT: E.P.N.G.	
		PROJECT:	
ITE COMPLETED: 9-9-92	NOT TO SCALE		
TE DRILLED:	DRAWN BY:	APPROVED BY:	DRAWING NO.:

THE LOFTIS COMPANY

DEEP WELL GROUNDBED DATA

DATE September 9, 1992

COMPANY El Paso Natural Gas Company COUNTY San Juan STATE N.M.

CONTRACT NO. 5848 UNIT NO. CPS 296-8

LOCATION Chaco Station - 20 miles S. of Farmington, N.M.

GROUNDBED: Depth 500 Ft., Dia. 7 7/8 In., Anodes (25) 2 x 60

CASING: Size 8 5/8 In., Depth 100 Ft. Anotec SHA-2

DEPTH FT.	DRILLER'S LOG	RESISTIVITY OHMS	RESISTIVITY AMPS	ANODE NUMBER	DEPTH TO ANODE TOP	BEFORE COKE	AFTER COKE
5	Sand						
10	"						
15	"						
20	"						
25	"						
30	"						
35	"						
40	"						
45	"						
50	Sandstone & Shale						
55	"						
60	"						
65	"						
70	"						
75	"						
80	"						
85	"						
90	"						
95	"						
100	Sandstone						
105	"		1.5				
110	"		1.0				
115	"		0.9				
120	Water Sand		0.9				
125	"		0.9				
130	"		1.1				
135	Sandstone & Shale		1.4				
140	"		1.4				
145	"		1.6				
150	"		1.5				
155	"		1.3				
160	"		1.3				
165	"		1.4				
170	"		1.5				
175	"		1.5				
180	"		1.5	25		1.8	2.4
185	"		1.5				
190	"		1.5	24		1.7	2.4
195	"		1.5				
200	"		1.4	23		1.6	2.4
205	"		1.2				
210	"		1.3	22		1.5	2.3
215	"		1.4				
220	"		1.4	21		1.6	2.3
225	"		1.4				
230	"		1.3	20		1.4	2.3
235	"		1.4				
240	Sandstone & Shale		1.3	19		1.5	2.2

M1142

COMPANY El Paso Natural Gas Company DATE September 9, 1992

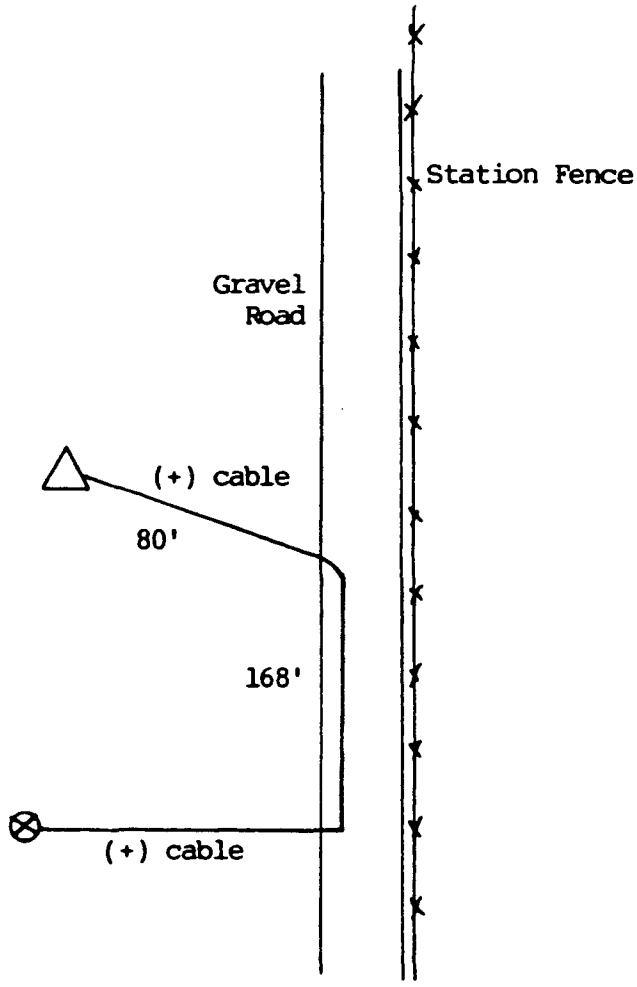
LOCATION Chaco Station UNIT NUMBER CPS 296-8

DEPTH FT.	DRILLER'S LOG	RESISTIVITY OHMS	RESISTIVITY AMPS	ANODE NUMBER	DEPTH TO ANODE TOP	BEFORE COKE	AFTER COKE
245	Sandstone & Shale		1.2				
250	"		1.2	18		1.3	2.0
255	"		1.2				
260	Rock		0.9				
265	"		0.7				
270	"		0.8				
275	Shale		1.2				
280	"		1.0				
285	"		0.9				
290	Rock		0.9				
295	"		1.1				
300	"		1.4	17		1.7	2.3
305	Sandstone & Shale		1.5				
310	"		1.3	16		1.5	2.2
315	"		1.0				
320	"		0.9				
325	"		0.9				
330	"		1.2				
335	"		1.3	15		1.5	2.2
340	"		1.4				
345	"		1.4	14		1.6	2.3
350	"		1.5				
355	"		1.3	13		1.4	2.2
360	"		1.4				
365	"		1.2	12		1.2	1.8
370	"		1.1				
375	"		1.3				
380	"		1.4	11		1.5	2.2
385	"		1.4				
390	"		1.5	10		1.6	2.1
395	"		1.5				
400	"		1.5	9		1.6	2.2
405	"		1.5				
410	"		1.4	8		1.4	2.1
415	"		1.3				
420	"		1.3	7		1.3	2.1
425	"		1.2				
430	"		1.2	6		1.2	2.1
435	"		1.1				
440	"		1.1				
445	"		1.3				
450	"		1.4	5		1.3	2.2
455	"		1.3				
460	"		1.2	4		1.3	2.1
465	"		1.1				
470	"		1.4	3		1.5	2.1
475	"		1.5				
480	"		1.4	2		1.4	2.1
485	"		1.4				
490	"		1.3	1		1.3	1.9
495	"		1.3				
500	Sandstone & Shale		1.3				
505							
510							

M1142

THE LOFTIS COMPANY
P O BOX 7847
MIDLAND, TEXAS 79708

AS-BUILT



LEGEND	
△	Groundbed
▽	Rectifier
●	Negative
▭	Junction Box
↑	Marker/Vent
⊗	Old Groundbed

LOCATION: CPS 296-8, Chaco Station San Juan County, N.M. 20 mi. S. of Farmington, N.M.		**CLIENT:** El Paso Natural Gas Company		
		PROJECT: Cathodic Protection System Contract #5848		
TE COMPLETED: 09/09/92	NOT TO SCALE			
DATE DRILLED: 09/09/92	DRAWN BY: JM/MI	APPROVED BY: MFL	DRAWING NO.:	3

M1142

El Paso
Natural Gas Company

P. O. BOX 4990
FARMINGTON, NEW MEXICO 87499

May 13,1993

Mr. William C. Olson
New Mexico Oil Conservation Division
310 Old Santa Fe Trail
Santa Fe, NM 87501

Dear Mr. Olson:

Subject: Proposal for a Modification of the Chaco Plant Discharge Plan, NMOCD # GW-71

El Paso Natural Gas Company submitted a discharge plan for Chaco Plant on November 15,1991, and received NMOCD approval May 18, 1992. El Paso is requesting consideration to continue using the existing unlined ponds at Chaco Plant to receive only noncontact water. EPNG believes that due to depth to groundwater, low permeability of the underlying strata, and high quality of the noncontact water continued use of the unlined ponds will not pose a threat to current and future ground water supplies.

Collection of data

To determine the local lithology, and accurate ground water quality, EPNG proposes to install a monitor well near the existing ponds. Using data gathered during the drilling of the monitor well and water samples from the completed well, EPNG will determine:

* Existing groundwater quality
* Depth to groundwater
* Thickness and depth of underlying strata
* Permeability of the underlying strata

Based on this information and knowledge of effluent characteristics, EPNG & the NMOCD will be able to evaluate if continued use of the unlined ponds will pose a risk to future groundwater supplies.

If this proposal is acceptable to the NMOCD or you need additional information, please call me at (505) 599-2175. EPNG realizes that if the NMOCD approves this proposal to gather information, continued use of the unlined ponds is dependant upon formal NMOCD approval to modify the discharge plan.

Sincerely,

Kris Alan Sinclair
Compliance Engineer

El Paso
Natural Gas Company

P. O. BOX 4990
FARMINGTON, NEW MEXICO 87499

September 25, 1992

Mr. William C. Olson
New Mexico Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87504

Dear Mr. Olson:

Recently Chaco Plant completed its annual shut down for repairs. At that time all below grade sumps were inspected for integrity.

Attached is a summary of the test results. Photographs of the tests are available for your inspection.

If you have any questions or wish to view the photographs do not hesitate to contact me at (505) 599-2175.

Sincerely,

Kris Alan Sinclair

Kris Alan Sinclair
Compliance Engineer

cc: W.D. Hall, EPNG
Denny Foust, NMCCD

El Paso
Natural Gas Company

P. O. BOX 4990
FARMINGTON, NEW MEXICO 87499

SUMMARY OF SUMP INSPECTION

NAME	DESCRIPTION	CONTENTS	TEST	STATUS
BISTI 1	CYLINDRICAL METAL	OIL & WATER FROM BISTI COMPRESSOR	LIQUID LEVEL MONITORING	PASS
BISTI 2	CYLINDRICAL METAL	OIL & WATER FROM BISTI COMPRESSOR	LIQUID LEVEL MONITORING	PASS
A GAS COMPRESSOR SUMP 1	CYLINDRICAL METAL WITH SECONDARY CONTAINMENT	OIL & WATER FROM A GAS COMPRESSOR	*	PASS
A GAS COMPRESSOR SUMP 2	CYLINDRICAL METAL WITH SECONDARY CONTAINMENT	OIL & WATER FROM A GAS COMPRESSOR	*	PASS
A OIL/WATER SEPARATOR	RECTANGULAR CONCRETE	OIL & WATER FROM A GAS PLANT	VISUALLY INSPECTED	PASS
B GAS COMPRESSOR SUMP	CYLINDRICAL METAL	OIL & WATER FROM B GAS COMPRESSOR	LIQUID LEVEL MONITORING	PASS
B AIR COMPRESSOR SUMP	CYLINDRICAL METAL	CONDENSATE FROM B AIR COMPRESSORS	LIQUID LEVEL MONITORING	PASS
B OIL/WATER SEPARATOR	RECTANGULAR CONCRETE	OIL & WATER FROM B GAS PLANT	VISUALLY INSPECTED	PASS
WASTE OIL SUMP	RECTANGULAR CONCRETE	USED OIL	LIQUID LEVEL MONITORING	PASS
A COOLING TOWER	RECTANGULAR CONCRETE	COOLING WATER	VISUALLY INSPECTED	PASS
B COOLING TOWER	RECTANGULAR CONCRETE	COOLING WATER	VISUALLY INSPECTED	PASS
C COOLING TOWER	RECTANGULAR CONCRETE	COOLING WATER	VISUALLY INSPECTED	PASS

* For those sumps with secondary containment the leak detection wells were checked for liquids.

El Paso
Natural Gas Company

OIL CONSERVATION DIVISION
RECEIVED
'92 SEP 9 AM 8 45

P. O. BOX 4990
FARMINGTON, NEW MEXICO 87499

September 4, 1992

Mr. William C. Olson
New Mexico Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87504

Dear Mr. Olson:

Chaco Plant will be shut down for annual repairs September 13-17. At that time the sumps for the cooling towers and the oil classifiers will be drained for cleaning.

On Thursday September 3, I contacted you about the possibility of visually inspecting these sumps for integrity. You stated that would be acceptable to OCD.

All other sumps will be isolated for twenty four hours and the liquid level monitored to determine integrity.

If you have any questions do not hesitate to contact me at (505) 599-2175.

Sincerely,

Kris Alan Sinclair

Kris Alan Sinclair
Compliance Engineer

cc: W.D. Hall, EPNG
Denny Foust, NMOCD

El Paso
Natural Gas Company

P. O. BOX 4990
FARMINGTON, NEW MEXICO 87499

August 31, 1992

Mr. William C. Olson
New Mexico Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87504

Dear Mr. Olson:

On March 16, 1992 El Paso Natural Gas (EPNG) received approval to operate a soil remediation site (SRS) at Chaco plant. Due to changes in EPNG's operating procedure the SRS at Chaco plant will not be used at the present time. EPNG is evaluating alternate sites for a permanent SRS facility.

On July 27, 1992 Anu Pundari contacted you about the SRS site at Chaco Plant. At that time you said that since the site was temporary, the 5 ft hogwire fence specified in the Scope of Work for SRS's would not needed.

Presently, the site is bermed. It will be disked once a month until the contaminant levels meet NMOCD guidelines. Once these levels have been reached the site will be considered clean.

If you have any questions do not hesitate to contact me at (505) 599-2175.

Sincerely,

Kris Alan Sinclair

Kris Alan Sinclair

cc: W.D. Hall
A.N. Pundari/S.D. Miller/file 24322- SRS records

ACKNOWLEDGEMENT OF RECEIPT
OF CHECK/CASH

I hereby acknowledge receipt of check No. [redacted] dated 6/4/92,
or cash received on 6/12/92 in the amount of $ 3335.00
from El Paso Natural Gas Company
for Chaco Gas Processing Plant (Facility Name) GW-71 (DP No.)
Submitted by: _____ Date: _____
Submitted to ASD by: Kathy Brown Date: 6/12/92
Received in ASD by: Sherry Gonzales Date: 6/12/92

Filing Fee ___ New Facility ___ Renewal ___

Modification ___ Other _____ (specify)

Organization Code 521.07 Applicable FY 80

To be deposited in the Water Quality Management Fund.

Full Payment X or Annual Increment ___

EL PASO NATURAL GAS COMPANY
EL PASO, TEXAS

CONTROL NO. [redacted]

232 CBD

62-20
311

06/04/92
Date

PAYABLE AT
CITIBANK - DELAWARE
WILMINGTON, DEL
PAY TO THE ORDER OF

NMED WATER QUALITY MANAGEMENT
STATE LAND OFFICE BUILDING
P O BOX 2088
SANTA FE NM 87504

PAY AMOUNT
$3,335.00
Void After 1 Year

Thomas E. Roberts
Authorized Signature

[redacted]

El Paso
Natural Gas Company

P. O. BOX 1492
EL PASO, TEXAS 79978
PHONE: 915-541-2600

June 4, 1992

William L. LeMay, Director
New Mexico Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87504

Re: Discharge Plan GW-71
Chaco Canyon Gas Processing Plant

Dear Mr. LeMay:

Enclosed is our check number 07180237 in the amount of $3,335 covering renewal of the discharge plan for our Chaco Canyon Gas Processing Plant.

Very truly yours,

W. David Hall

Wm. David Hall, P.E.
Manager
Field Services Engineering

Detach and retain this statement for your records

EL PASO NATURAL GAS COMPANY

REMITTANCE ADVICE

Vendor Number
018711 001

Check Date
06/04/92

Check Number
[redacted]

VOUCHER NUMBER	INVOICE NUMBER	AMOUNT		
		Invoice	Discount	Net
REFER PAYMENT INQUIRIES TO ACCOUNTS PAYABLE (915) 541-5354				
VOUCHER NO	INVOICE NO	GROSS	DISCOUNT	NET
000077249	CKREQ920528	3,335.00	.00	3,335.00
CHACO CANYON GAS PROCESSING PLANT				
DISCHARGE PLAN GW-71				
	TOTALS	3,335.00	.00	3,335.00

FM SS0044 (REV. 8-90)

Roger

OIL CONSERVATION DIVISION
RECEIVED
'92 MAY 20 PM 2 34

El Paso Natural Gas Company

P. O. BOX 4990
FARMINGTON, NEW MEXICO 87499

May 18, 1992

Mr. Ernie Bush
New Mexico Oil Conservation Division
1000 Rio Brazos Road
Aztec, New Mexico 87410

Dear Mr. Bush:

Enclosed is a follow up report to the verbal notification given to your office on 5/11/92. The report details an incident where a cracked fitting on an acid tank union resulted in the release of sulfuric acid onto the ground. The release occurred at El Paso Natural Gas Co.'s Chaco Plant. The tank has a concrete containment berm surrounding it. The containment has an earthen floor.

The spill did not result in injury or loss of life. The majority of the acid was recovered by pumping it out of the containment berm, back into a tank.

If you have any questions or comments concerning this matter, please call me at 599-2141.

Sincerely,

EL PASO NATURAL GAS COMPANY

Sandra D. Miller

Sandra D. Miller
Sr. Environmental Scientist

Enclosure

RECEIVED
MAY 18 1992
OIL CON. DIV
DIST. 3

DISTRICT I
...ox 1980, Hobbs, NM 88241-1980
DISTRICT II
.O. Drawer DD, Artesia, NM 88211-0719
DISTRICT III
1000 Rio Brazos Rd, Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

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

SUBMIT 2 COPIES TO APPROPRIATE DISTRICT OFFICE IN ACCORDANCE WITH RULE ... ON BACK SIDE OF ...

NOTIFICATION OF FIRE, BREAKS, SPILLS, LEAKS, AND BLOWOUTS

599-2141

OPERATOR						ADDRESS	TELEPHONE #
El Paso Natural Gas Co.						P.O. Box 4990 Farmington, NM	87499

REPORT OF	FIRE	BREAK	SPILL	LEAK	BLOWOUT	OTHER*
			X			

TYPE OF FACILITY	DRLG WELL	PROD WELL	TANK BTRY	PIPE LINE	GASO PLNT	OIL RFY	OTHER*
							Cooling Tower Acid Tank

FACILITY NAME: Chaco Plant

LOCATION OF FACILITY Qtr/Qtr Sec. or Footage	SEC.	TWP.	RGE.	COUNTY
SW	16	26	12	SJ

DISTANCE AND DIRECTION FROM NEAREST TOWN OR PROMINENT LANDMARK: 10 miles Southwest of Bloomfield, NM

DATE AND HOUR OF OCCURRENCE	DATE AND HOUR OF DISCOVERY
5/8/92 @ 4:30 PM	Same

WAS IMMEDIATE NOTICE GIVEN?	YES	NO	NOT REQUIRED	IF YES, TO WHOM
			X	

BY WHOM	DATE AND HOUR

TYPE OF FLUID LOST	QUANTITY OF LOSS	VOLUME RECOVERED
Sulfuric Acid	350 gals	Approx. 200 gals

DID ANY FLUIDS REACH A WATERCOURSE?	YES	NO	QUANTITY
		No	NA

IF YES, DESCRIBE FULLY**

NA

DESCRIBE CAUSE OF PROBLEM AND REMEDIAL ACTION TAKEN**

A cracked union on the manifold system of a cooling tower acid tank resulted in a leak. The tank contents were released into the containment berm. The berm has an earthen floor.

DESCRIBE AREA AFFECTED AND CLEANUP ACTION TAKEN**

Excess acid was pumped back into a tank. The containment floor was covered with soda ash with the intent of neutralizing the soil. Plans are in place to line containment berms in the plant.

DESCRIPTION OF AREA	FARMING	GRAZING	URBAN	OTHER*
				Plant yard

SURFACE CONDITIONS	SANDY	SANDY LOAM	CLAY	ROCKY	WET	DRY	SNOW
	X					X	

DESCRIBE GENERAL CONDITIONS PREVAILING (TEMPERATURE, PRECIPITATION, ETC.)**

Windy, Partly Cloudy, 65 °F

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

SIGNED Sandra D. Miller

PRINTED NAME AND TITLE Sandra D. Miller, Sr. Environmental Scientist

DATE 5/18/92

*SPECIFY

**ATTACH ADDITIONAL SHEETS IF NECESSARY

El Paso
Natural Gas Company

P. O. BOX 1492
EL PASO, TEXAS 79978
PHONE: 915-541-2600

May 14, 1992

Mr. Roger Anderson
Acting Bureau Chief
New Mexico Oil Conservation Division
P.O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87504

Re: Discharge Plan GW-71
Chaco Plant
San Juan County, New Mexico

Dear Mr. Anderson:

This letter is in response to your request for additional information for the referenced discharge plan (copy attached). The responses are numbered as in your original request.

1. EPNG will comply with all NMOCD submittal and approval requirements of plans and specifications for the construction of the proposed evaporation ponds. Additionally, closure plans of existing ponds will be submitted for NMOCD approval prior to closure.

2. Only non hazardous and RCRA exempt soils will be accepted at the Chaco Soil Remediation Site (SRS) in accordance with the NMOCD approved procedures currently in place.

3. El Paso is currently evaluating the feasibility of testing the existing drain lines. Based on the conclusions of this study, the drain lines will be tested by means of positive internal pressure or will be replaced if testing does not seem possible. The decision to test or replace will be made by the third quarter of 1992 with testing or replacement scheduled for the first quarter of 1993. A detailed testing plan and timetable will be provided as soon as possible.

4. El Paso Natural Gas Co. has opened work orders to install proper containment for those areas with chemical holding tanks and drum storage. Completion of these installations is expected by the third quarter of 1992.

5. El Paso intends to inspect and leak test existing sumps during the annual plant shutdown scheduled for the end of June 1992. The leak test will simply consist of isolating the sumps from all influent and monitoring liquid level for the duration of the shutdown. This procedure will be incorporated into the annual shutdown activities. Any new sump installations will be designed with appropriate leak detection systems.

Due to the extended time required for finalization of the Discharge Plan, El Paso respectfully requests consideration of amending the schedule for tasks as detailed in Section 6.0 of the Plan. The proposed task and completion dates are as follows:

* Berm Areas Around Chemical Tanks - Fall 1992

* Install New Smokeless Flare - Summer 1993

* Retire Existing Flare Pit - Summer 1993

* Begin Water Conservation Study - Fall 1992 (no change)

* Complete Water Conservation Study - Spring 1993 (no change)

* Begin Evaporation Pond Construction - Fall 1994

* Complete Evaporation Pond Construction - Spring 1995

* Close Existing Ponds/French Drains - Spring 1995

If there are any questions, please give me a call at (915) 541-3531.Thank you for your prompt consideration in this matter.

Sincerely,

W. David Hall

W. David Hall
Manager
Field Services Division
Compliance Engineering

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

March 16, 1992

CERTIFIED MAIL
RETURN RECEIPT NO. P-670-683-508

Mr. David Hall
Manager, Compliance Engineering
El Paso Natural Gas Company
P.O. Box 4990
Farmington, New Mexico 87499

RE: Discharge Plan GW-71
Chaco Compressor Station
San Juan, New Mexico

Dear Mr. Hall:

The Oil Conservation Division (OCD) has received your request, dated March 11, 1992, for approval to commence operations for Soil Remediation Site (SRS) located at Chaco Plant. The objective and operational procedures appear in Section 4.2 and appendix C of the discharge plan for the Chaco Plant submitted by EPNG on November 5, 1991.

Based on the information provided in the discharge plan application, commencement of operations for the SRS is hereby approved.

Please be aware that this approval does not relieve you of liability should your operation result in actual pollution of surface or ground waters or the environment actionable under other laws and/or regulations.

If you have any questions do not hesitate to contact me at (505) 827-5884.

Sincerely,

Kathy M. Brown

Kathy M. Brown
Geologist

xc: Denny Foust, OCD Aztec Office

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

New Mexico DRUG FREE It's a State of Mind!

BRUCE KING
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

March 12, 1992

CERTIFIED MAIL
RETURN RECEIPT NO. P-670-683-506

Mr. David Hall
Manager, Compliance Engineering
El Paso Natural Gas Company
P.O. Box 4990
Farmington, New Mexico 87499

RE: Discharge Plan GW-71
Chaco Compressor Station
San Juan, New Mexico

Dear Mr. Hall:

The Oil Conservation Division (OCD) has received your request, dated March 11, 1992, for an extension to discharge without an approved discharge plan until the submitted plan is approved. The discharge plan for the Chaco Plant was submitted by EPNG on November 15, 1991, at which time the OCD granted an extension through March 15, 1992, to discharge with out an approved discharge plan. The discharge plan is currently under review by the OCD Environmental Bureau.

Pursuant to Water Quality Control Commission Regulation 3-106.A., and for good cause shown, EPNG is granted an extension to discharge without an approved discharge plan to September 15, 1992.

If you have any questions please call Kathy Brown at (505) 827-5884.

Sincerely,

William J. LeMay, Director

WJL/kmb

El Paso Natural Gas Company

P. O. BOX 4990
FARMINGTON, NEW MEXICO 87499
PHONE: 505-325-2841

VIA OVERNIGHT MAIL

March 11, 1992

Mr. Roger Anderson
Energy, Minerals and Natural Resources Department
New Mexico Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87504

Re: EPNG's Chaco Plant Discharge Plan; Request for extension to continue discharge without an approved Discharge Plan.

Dear Mr. Anderson:

On August 30, 1991, EPNG received an extension to submit a discharge plan for Chaco Plant until November 15, 1991. At the same time, the Oil Conservation Division (OCD) granted an extension through March 15, 1992, to discharge without an approved discharge plan. The OCD letter to EPNG is attached for your reference.

EPNG submitted the Chaco Plant discharge plan on November 15, 1991, which has not yet been approved. Therefore, EPNG respectfully requests an extension to discharge without an approved discharge plan until the submitted plan is approved.

Furthermore, EPNG requests your approval as soon as possible to commence operations for Soil Remediation Site (SRS) which will be located at Chaco Plant. The SRS objective and operational procedures appear in Section 4.2 and appendix C of the discharge plan.

Should you or agency personnel have any information requests, please direct questions to myself at (915) 541-3531 or to Richard Duarte, (505) 599-2175.

Thank you for your prompt consideration to these matters.

Sincerely,

Richard Duarte for

W. David Hall, PE
Manager
Compliance Engineering
Field Services Division

attachment

1AA
5212-www

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

SEP 1991
NORTH REGION ENGINEERING

August 30, 1991

CERTIFIED MAIL -
RETURN RECEIPT NO. P-756-666-147

Mr. Thomas D. Hutchins, Manager
North Region Compliance Engineering
El Paso Natural Gas Company
P. O. Box 1492
El Paso, Texas 79978

RE: Discharge Plan GW-71
Chaco Compressor Station
San Juan, New Mexico

Dear Mr. Hutchins:

The Oil Conservation Division (OCD) has received your request, dated August 23, 1991, for an extension from September 1 to November 15, 1991 for submission of a discharge plan application for the above referenced facility. The August 23 letter included a work schedule for completion of discharge plan preparation. The extension will allow El Paso Natural Gas (EPNG) Gas Company's consultant sufficient time to analyze EPNG's operations at the facility and prepare a comprehensive plan for a submittal.

Pursuant to Water Quality Control Commission Regulation 3-106.A. and for good cause shown, your request for an extension to November 15, 1991 to submit a discharge application for the Chaco Compressor station is hereby approved.

In addition, pursuant to WQCC Regulation 3-106.A, EPNG is granted an extension to March 15, 1991 (sic) 92 to discharge without an approved discharge plan.

If you have any questions please call Roger Anderson at (505) 827-5884.

Sincerely,

William J. LeMay, Director

WJL/RCA/sl

cc: OCD Aztec Office

Post-it™ routing request pad 7664

ROUTING - REQUEST

Please
☐ READ
☐ HANDLE
☐ APPROVE
and
☐ FORWARD
☐ RETURN
☐ KEEP OR DISCARD
☐ REVIEW WITH ME

To Copy Henry, Nancy, Lee, Richard, Ken Thornton + Lyndell Smith.

Thx

From Tom

Date

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

March 6, 1992

BRUCE KING
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

CERTIFIED MAIL
RETURN RECEIPT NO P-327-278-298

Mr. Larry R. Tarver, Vice President
El Paso Natural Gas Company
P.O. Box 1492
El Paso, Texas 79978

Re: Discharge Plan GW-71
Chaco Plant
San Juan County, New Mexico

Dear Mr Tarver:

The Oil Conservation Division (OCD) has received and is in the process of reviewing the discharge plan application, dated November, 1991, for the above referenced facility. The following comments and requests for additional information and/or commitments are based on review of the application and observations from the July 16, 1991 site visit:

1. EPNG proposes to close the existing ponds and pits and construct new evaporation ponds. The OCD requires the plans and specifications of all proposed pits, ponds and below grade installations be submitted to and approved by the Division prior to construction. The OCD further requires that all closure plans be submitted to and approved by the Division prior to beginning work.

2. Appendix C contains information on the proposed soil remediation site. Non-hazardous and RCRA exempt soils only will be allowed at this site.

3. Since the facility is in excess of twenty five years of age, the underground waste lines are required to be tested for integrity. Submit a procedure and timetable for testing all underground waste piping in excess of twenty five years of age.

4. There were a number of drums at the facility where unintentional spills and/or leaks had allowed contaminants to accumulate on the ground. It is OCD's policy that all drums are required to be on containment that prevents contaminants from spilling on the ground.

5. Numerous sumps that were not equipped with leak detection were observed during the site visit. All existing sumps that do not have leak detection must be visually inspected for integrity on an annual basis. All newly constructed or replaced sumps must incorporate leak detection in the design.

Submission of the above information and/or commitments will allow review of the application to continue. If you have any questions please call me at (505) 827-5812.

Sincerely:

Roger C. Anderson
Environmental Engineer

xc: Denny Foust - OCD Aztec
David Hall - EPNG

STATE OF NEW MEXICO
County of Bernalillo ss

OIL CONSERVATION DIVISION
RECEIVED
'91 DEC 20 AM 8 46

Thomas J. Smithson being duly sworn declares and says that he is National Advertising manager of the **Albuquerque Journal**, and that this newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chaper 167, Session Laws of 1937, and that payment therefore has been made or assessed as court costs; that the notice, a copy of which is hereto attached, was published in said paper in the regular daily edition,

for 1 times, the first publication being on the 18 day of Dec., 1991, and the subsequent consecutive publications on ....., 1991.

Thomas J. Smithson

Sworn and subscribed to before me, a Notary Public in and for the County of Bernalillo and State of New Mexico, this 18 day of Dec, 1991.

Bernadette Gutierrez
NOTARY PUBLIC
12-18-93

PRICE $52.54

Statement to come at end of month.

CLA-22-A (R-12/91) ACCOUNT NUMBER C81184

NOTICE OF PUBLICATION
STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following discharge plan applications have been submitted to the Director of the Oil Conservation Division, State Land Office Building, P.O. Box 2088, Santa Fe, New Mexico 87504-2088, Telephone (505) 827-5800:

(GW-93)-Meridian Oil Inc., Danny W. Hill, Plant/Pipeline Manager, PO Box 4289, Farmington, New Mexico 87499-4289, has submitted a discharge plan application for their Rattlesnake Compressor Station located in the NW/4, Section 36, Township 31 North, Range 9 West, NMPM, San Juan County, New Mexico. Approximately 67 gallons per day of waste water is stored in an above ground steel tank prior to transport to an OCD approved off-site disposal facility. Ground water most likely to be affected by an accidental discharge is at a depth of approximately 25 feet with a total dissolved solids concentration of approximately 1200 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed

(GW-71)-El Paso Natural Gas Company, Larry R. Tarver, Vice President, North Region, PO Box 1492, El Paso, Texas, 79978, has submitted a discharge plan application for their Chaco Canyon Gas Processing Plant located in Section 16, Township 26 North, Range 12 West, NMPM, San Juan County, New Mexico. Approximately 180,000 gallons per day of process waste water is disposed of in four unlines lagoons. The discharge application proposes closure of the unlined lagoons and construction of double lined evaporation ponds equipped with leak detection. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 220 feet with a total dissolved solids concentration of approximately 560 mg/l. The discharge plan addresses how spills, leaks and other accidental discharges to the surface will be managed

(GW-92)-El Paso Natural Gas Company, Larry R. Tarver, Vice President, North Region, PO Box 1492, El Paso, Texas, 79978, has submitted a discharge plan application for their proposed Rio Vista Compressor Station located in Section 27, Township 29 North, Range 11 West, NMPM, San Juan County, New Mexico. The compressor station is designed to minimize the generation of wastes. Any wastes generated will stored in a below grade steel tank equipped with secondary containment and leak detection. Those wastes that cannot be recycled will be transported offsite to an OCD approved disposal site. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 24 feet with a total dissolved solids concentration of approximately 3400 mg/l. The discharge plan addresses how spills, leaks and other accidental discharges to the surface will be managed

(GW-88)-BHP-Petroleum (Americas), Inc., Jessee L. Roberts, Manager-Regulatory and Environmental Affairs, 5847 San Felipe, Suite 3600, Houston, Texas, 77057, has submitted a discharge plan application for their proposed Gallegos Canyon Compressor Station located in Section 21, Township 29 North, Range 12 West, NMPM, San Juan County, New Mexico. Approximately 2800 gallons per day of waste water will be stored in an above grade steel tank prior to transport to an OCD approved offsite Class II disposal well. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 200 feet with a total dissolved solids concentration of approximately 1000 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed

(GW-91)-Williams Field Services, Sandy Fishler, Environmental Specialist, PO Box 58900, M.S. 10368, Salt Lake City, Utah, 84158-0900, has submitted a discharge plan application for their proposed 32-9 CDP (Central Delivery Point) located in the NE/4 SE/4, Section 15, and the NW/4 SW/4, Section 14, Township 31 North, Range 10 West, NMPM, San Juan County, New Mexico. Approximately 10 gallons per day of waste water will be stored in an above grade steel tank prior to transport to an OCD approved offsite disposal facility. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 500 feet with a total dissolved solids concentration of approximately 300 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The discharge plan application may be viewed at the above address between 8:00 a.m. and 5:00 p.m., Monday through Friday. Prior to ruling on any proposed permit or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted to him and public hearing may be requested by any interested person. Requests for public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines there is significant public interest

If no public hearing is held, the Director will approve or disapprove the propose plan based on information available. If a public hearing is held, the director will approve or disapprove the proposed plan based on information in the plan and information submitted at the hearing

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 4th day of December, 1991.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION
WILLIAM J. LEMAY, Director

Journal: December 18, 1991

AFFIDAVIT OF PUBLICATION

No. 28702

STATE OF NEW MEXICO,
County of San Juan:

CHRISTINE HILL being duly sworn, says: "That she is the NATIONAL AD MANAGER of The Farmington Daily Times, a daily newspaper of general circulation published in English in Farmington, said county and state, and that the hereto attached LEGAL NOTICE

was published in a regular and entire issue of the said Farmington Daily Times, a daily newspaper duly qualified for the purpose within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico for ONE consecutive (days) (/////) on the same day as follows:

First Publication WEDNESDAY, DECEMBER 11, 1991

Second Publication

Third Publication

Fourth Publication

and that payment therefore in the amount of $ 78.27 has been made.

Christine Hill

Subscribed and sworn to before me this 18th day of DECEMBER, 1991.

Connie Andrae

Notary Public, San Juan County, New Mexico

My Comm expires: JULY 3, 1993

COPY OF PUBLICATI

NOTICE OF PUBLICATION
STATE OF NEW MEXICO
ENERGY, MINERALS AND
NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following discharge plan applications have been submitted to the Director of the Oil Conservation Division, State Land Office Building, P.O. Box 2088, Santa Fe, New Mexico 87504-2088, Telephone (505) 827-5800:

(GW-93) - Meridian Oil Inc., Danny W. Hill, Plant /Pipeline Manager, P.O. Box 4289, Farmington, New Mexico, 87499-4289, has submitted a discharge plan application for their Rattlesnake Compressor Station located in the NW/4, Section 36, Township 31 North, Range 9 West, NMPM, San Juan County, New Mexico. Approximately 67 gallons per day of waste water is stored in an above ground steel tank prior to transport to an OCD approved off-site disposal facility. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 25 feet with a total dissolved solids concentration of approximately 1200 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-71) - El Paso Natural Gas Company, Larry R. Tarver, Vice President, North Region, P.O. Box 1492, El Paso, Texas, 79978, has submitted a discharge plan application for their Chaco Canyon Gas Processing Plant located in Section 16, Township 26 North, Range 12 West, NMPM, San Juan County, New Mexico. Approximately 180,000 gallons per day of process waste water is disposed of in four unlined lagoons. The discharge application proposes closure of the unlined lagoons and construction of double lined evaporation ponds equipped with leak detection. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 220 feet with a total dissolved solids concentration of approximately 560 mg/l. The discharge plan addresses how spill, leaks, and other accidental discharges to the surface will be managed.

(GW-92) - El Paso Natural Gas Company, Larry R. Tarver, Vice President, North Region, P.O. Box 1492, El Paso Texas, 79978, has submitted a discharge plan application for their proposed Rio Vista Compressor Station located in Section 27, Township 29 North, Range 11 West, NMPM, San Juan County, New Mexico. The compressor station is designed to minimize the generation of wastes. Any wastes generated will stored in a below grade steel tank equipped with secondary containment and leak detection. Those wastes that cannot be recycled will be transported offsite to an OCD approved disposal site. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 24 feet with a total dissolved solids concentration of approximately 3400 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-88) - BHP-Petroleum (Americas), Inc., Jessee L. Roberts, Manager-Regulatory and Environmental Affairs, 5847 San Felipe, Suite 3600, Houston, Texas, 77057, has submitted a discharge plan application for their proposed Gallegos Canyon Compressor Station located in Section 21, Township 29 North, Range 12 West, NMPM, San Juan County, New Mexico. Approximately 2800 gallons per day of waste water will be stored in an above grade steel tank prior to transport to an OCD approved offsite Class II disposal well. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 200 feet with a total dissolved solids concentration of approximately 1000 mg /l The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-91) - Williams Field Services, Sandy Fishler, Environmental Specialist, P.O. Box 58900, M.S. 10368, Salt Lake City, Utah, 84158-0900, has submitted a discharge plan application for their proposed 32-9 CDP (Central Delivery Point) located in the NE/4 SE/4, Section 15, and the NW/4 SW/4, Section 14, Township 31 North, Range 10 West, NMPM, San Juan County, New Mexico. Approximately 10 gallons per day of waste water will be stored in an above grade steel tank prior to transport to an OCD approved offsite disposal facility. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 500 feet with a total solids concentration of approximatley 300 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The discharge plan application may be viewed at the above address between 8:00 a.m. and 5:00 p.m., Monday through Friday. Prior to ruling on any proposed discharge plan or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during

NOTICE OF PUBLICATION

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following discharge plan applications have been submitted to the Director of the Oil Conservation Division, State Land Office Building, P.O. Box 2088, Santa Fe, New Mexico 87504-2088, Telephone (505) 827-5800:

(GW-93) - Meridian Oil Inc., Danny W. Hill, Plant/Pipeline Manager, P.O. Box 4289, Farmington, New Mexico, 87499-4289, has submitted a discharge plan application for their Rattlesnake Compressor Station located in the NW/4, Section 36, Township 31 North, Range 9 West, NMPM, San Juan County, New Mexico. Approximately 67 gallons per day of waste water is stored in an above ground steel tank prior to transport to an OCD approved off-site disposal facility. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 25 feet with a total dissolved solids concentration of approximately 1200 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-71) - El Paso Natural Gas Company, Larry R. Tarver, Vice President, North Region, P.O. Box 1492, El Paso, Texas, 79978, has submitted a discharge plan application for their Chaco Canyon Gas Processing Plant located in Section 16, Township 26 North, Range 12 West, NMPM, San Juan County, New Mexico. Approximately 180,000 gallons per day of process waste water is disposed of in four unlined lagoons. The discharge application proposes closure of the unlined lagoons and construction of double lined evaporation ponds equipped with leak detection. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 220 feet with a total dissolved solids concentration of approximately 560 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-92) - El Paso Natural Gas Company, Larry R. Tarver, Vice President, North Region, P.O. Box 1492, El Paso Texas, 79978, has submitted a discharge plan application for their proposed Rio Vista Compressor Station located in Section 27, Township 29 North, Range 11 West, NMPM, San Juan County, New Mexico. The compressor station is designed to minimize the generation of wastes. Any wastes generated will stored in a below grade steel tank equipped with secondary containment and leak detection. Those wastes that cannot be recycled will be transported offsite to an OCD approved disposal site. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 24 feet with a total dissolved solids concentration of approximately 3400 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-88) - BHP-Petroleum (Americas), Inc., Jessee L. Roberts, Manager-Regulatory and Environmental Affairs, 5847 San Felipe, Suite 3600, Houston, Texas, 77057, has submitted a discharge plan application for their proposed Gallegos Canyon Compressor Station located in Section 21, Township 29 North, Range 12 West, NMPM, San Juan County, New Mexico. Approximately 2800 gallons per day of waste water will be stored in an above grade steel tank prior to transport to an OCD approved offsite Class II disposal well. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 200 feet with a total dissolved solids concentration of approximately 1000 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-91) - Williams Field Services, Sandy Fishler, Environmental Specialist, P.O. Box 58900, M.S. 10368, Salt Lake City, Utah, 84158-0900, has submitted a discharge plan application for their proposed 32-9 CDP (Central Delivery Point) located in the NE/4 SE/4, Section 15, and the NW/4 SW/4, Section 14, Township 31 North, Range 10 West, NMPM, San Juan County, New Mexico. Approximately 10 gallons per day of waste water will be stored in an above grade steel tank prior to transport to an OCD approved offsite disposal facility. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 500 feet with a total dissolved solids concentration of approximately 300 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The discharge plan application may be viewed at the above address between 8:00 aa.m. and 5:00 p.m., Monday through Friday. Prior to ruling on any proposed discharge plan or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted to him and public hearing may be requested by any interested person. Requests for public hearing shall set forth the reasons why a hearing should be held., A hearing will be held if the Director determines there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed plan based on information available. If a public hearing is held, the director will approve or disapprove the proposed plan based on information in the plan and information submitted at the hearing.

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 4th day of December, 1991.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

S E A L

WILLIAM J. LEMAY, Director

El Paso
Natural Gas Company

P. O. BOX 1492
EL PASO, TEXAS 79978
PHONE: 915-541-2600

November 22, 1991

Mr. William J. LeMay, Director
Energy, Minerals and Natural Resources Department
New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, NM 87504

Re: Discharge Plan for El Paso Natural Gas Company's (El Paso) Chaco Plant

Dear Mr. LeMay:

Enclosed is the $50 filing for the Chaco Plant Discharge Plan we submitted to your office on November 15, 1991.

Sincerely,

Thomas D. Hutchins

Thomas D. Hutchins, P.E.
Manager
North Region Compliance

gb

ACKNOWLEDGEMENT OF RECEIPT
OF CHECK/CASH

I hereby acknowledge receipt of check No. [redacted] dated 11/21/91,

or cash received on 12/3/91 in the amount of $ 50.00

from EL PASO NATURAL GAS CO

for CHACO GAS PLANT GW-71
(Facility Name) (DP No.)

Submitted by: [signature] Date: 12/3/91

Submitted to ASD by: _____ Date: _____

Received in ASD by: _____ Date: _____

Filing Fee X New Facility ____ Renewal ____

Modification ____ Other _____
(specify)

Organization Code 521.07 Applicable FY 80

To be deposited in the Water Quality Management Fund.

Full Payment ____ or Annual Increment ____

EL PASO NATURAL GAS COMPANY
EL PASO, TEXAS

CONTROL NO. [redacted]

232 CBD

62-20
311

11/21/91
Date

PAYABLE AT
CITIBANK - DELAWARE
WILMINGTON, DEL
PAY TO THE ORDER OF

NEW MEXICO ENVIRONMENT DEPT
WATER QUALITY MANAGEMENT
P O BOX 26110
SANTA FE NM 87502

PAY AMOUNT
$50.00
Void After 1 Year

Thomas E. Kelly
Authorized Signatory

[redacted]

Detach and retain this statement for your records

EL PASO NATURAL GAS COMPANY

REMITTANCE ADVICE

Vendor Number
008137 002

Check Date
11/21/91

Check Number
[redacted]

VOUCHER NUMBER	INVOICE NUMBER	AMOUNT		
		Invoice	Discount	Net
REFER PAYMENT INQUIRIES TO ACCOUNTS PAYABLE (915) 541-5354				
VOUCHER NO	INVOICE NO	GROSS	DISCOUNT	NET
000007077	CKREQ911115	50.00	.00	50.00
FILING FEE (CHACO DISCHARGE PLAN) GW-71				
BACKUP INFORMATION IN NORTH REGION				
COMPLIANCE FILES				
	TOTALS	50.00	.00	50.00

FM SS0044 (REV. 8-90)

El Paso
Natural Gas Company

P. O. BOX 1492
EL PASO, TEXAS 79978
PHONE: 915-541-2600

November 15, 1991

Mr. William J. LeMay, Director
Energy, Minerals and Natural Resources Department
New Mexico Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87504

Re: Discharge Plan for El Paso Natural Gas Company's (El Paso) Chaco Plant

Dear Mr. LeMay:

Enclosed for your review are three sets of the Discharge Plan for El Paso's natural gas processing and compressor facility known as Chaco Plant. The Discharge Plan details proposed procedures to ensure compliance with the New Mexico Water Quality Control Commission Regulations.

El Paso respectfully requests your approval of this plan and will meet with you or agency personnel whenever necessary should more information be required.

The $50 filing fee is not included with the Discharge Plan due to an oversight. However, a check will be sent to you next week. Should you or agency personnel have any information requests, please direct questions to myself at (915) 541-3531.

Thank you for your consideration to this matter.

Sincerely,

Thomas D. Hutchins

Thomas D. Hutchins, PE
Manager
North Region Compliance Engineering

enclosure

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

August 30, 1991

BRUCE KING
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

CERTIFIED MAIL -
RETURN RECEIPT NO. P-756-666-147

Mr. Thomas D. Hutchins, Manager
North Region Compliance Engineering
El Paso Natural Gas Company
P. O. Box 1492
El Paso, Texas 79978

RE: Discharge Plan GW-71
Chaco Compressor Station
San Juan, New Mexico

Dear Mr. Hutchins:

The Oil Conservation Division (OCD) has received your request, dated August 23, 1991, for an extension from September 1 to November 15, 1991 for submission of a discharge plan application for the above referenced facility. The August 23 letter included a work schedule for completion of discharge plan preparation. The extension will allow El Paso Natural Gas (EPNG) Gas Company's consultant sufficient time to analyze EPNG's operations at the facility and prepare a comprehensive plan for a submittal.

Pursuant to Water Quality Control Commission Regulation 3-106.A. and for good cause shown, your request for an extension to November 15, 1991 to submit a discharge application for the Chaco Compressor station is hereby approved.

In addition, pursuant to WQCC Regulation 3-106.A, EPNG is granted an extension to March 15, 1991 to discharge without an approved discharge plan.

If you have any questions please call Roger Anderson at (505) 827-5884.

Sincerely,

William J. LeMay, Director

WJL/RCA/sl

cc: OCD Aztec Office

El Paso
Natural Gas Company

OIL CONSERV[illegible]ON DIVISION
RE[illegible]VED
'91 AUG 26 AM 9 37

P. O. BOX 1492
EL PASO, TEXAS 79978
PHONE: 915-541-2600

August 23, 1991

Mr. Roger C. Anderson
Environmental Engineer
New Mexico Oil Conservation Division
P.O. Box 2088
Land Office Building
Santa Fe, New Mexico 87504-2088

RE: Discharge Plan GW-71, for El Paso Natural Gas Company's Chaco Compressor Station, San Juan County, New Mexico

Dear Mr. Anderson:

El Paso has awarded the contract for preparation of the subject discharge plan to Camp, Dresser & McKee, Inc. (CDM). Enclosed is a copy of the project schedule provided by CDM.

The CDM schedule cannot meet the current submission date of September 1. Dr. Henry Van and I have reviewed the schedule, and feel the schedule is realistic based upon the magnitude of work involved with providing an acceptable plan that covers all the bases. We are proceeding to develop the discharge plan in conjunction with CDM and do not foresee any difficulty in providing the plan as the schedule proposes.

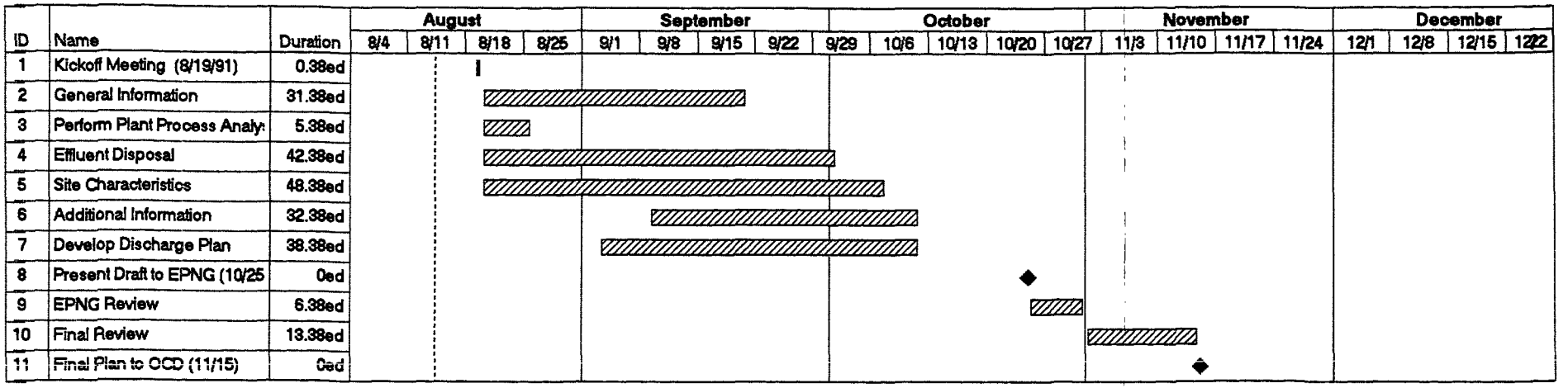
Therefore, in accordance with the enclosed schedule, El Paso is respectfully requesting an extension until November 15, 1991, for submission of the discharge plan. I look forward to your reply and please let me know if you have any questions.

Very truly yours,

Thomas D. Hutchins

Thomas D. Hutchins
Manager, North Region
Compliance Engineering

CHACO PLANT DISCHARGE PLAN
PROJECT SCHEDULE



ID	Name	Duration
1	Kickoff Meeting (8/19/91)	0.38ed
2	General Information	31.38ed
3	Perform Plant Process Analy:	5.38ed
4	Effluent Disposal	42.38ed
5	Site Characteristics	48.38ed
6	Additional Information	32.38ed
7	Develop Discharge Plan	38.38ed
8	Present Draft to EPNG (10/25	0ed
9	EPNG Review	6.38ed
10	Final Review	13.38ed
11	Final Plan to OCD (11/15)	0ed

ed = elapsed days

Critical Noncritical Progress Milestone Summary

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ANALYSIS REQUEST FORM

Contract Lab IML Contract No.

OCD Sample No. 9107161146

Collection Date	Collection Time	Collected by—Person/Agency
7/16/91	11:46 AM	Anderson/Olson/Brown /OCD

SITE INFORMATION

Sample location Cooling Tower A - EPNG Chaco Plant

Collection Site Description

Township, Range, Section, Tract: | | | + | | + | + | | |

SEND FINAL REPORT TO

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

SAMPLING CONDITIONS

☐ Bailed ☐ Pump
☒ Dipped ☐ Tap

pH(00400) 7.0

Water Temp. (00010) 18°C

Water level

Discharge

Sample type

Conductivity (Uncorrected) 2200 μmho

Conductivity at 25° C μmho

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted:

☒ **NF:** Whole sample (Non-filtered)
☐ **F:** Filtered in field with 0.45 μ membrane filter
☐ **PF:** Pre-filtered w/45 μ membrane filter

☒ **NA:** No acid added
☐ **A:** HCL
☐ **A:** 2ml H_2SO_4/L added
☐ **A:** 5ml conc. HNO_3 added
☐ **A:** 4ml fuming HNO_3 added

FIELD COMMENTS:

LAB ANALYSIS REQUESTED:

ITEM	DESC	METHOD	ITEM	DESC	METHOD	ITEM	DESC	METHOD
☐ 001	VOA	8020	☐ 013	PHENOL	604	☐ 026	Cd	7130
☐ 002	VOA	602	☐ 014	VOC	8240	☐ 027	Pb	7421
☐ 003	VOH	8010	☐ 015	VOC	624	☐ 028	Hg(L)	7470
☐ 004	VOH	601	☐ 016	SVOC	8250	☐ 031	Se	7740
☐ 005	SUITE	8010-8020	☐ 017	SVOC	625	☒ 032	ICAP	6010
☐ 006	SUITE	601-602	☐ 018	VOC	8260	☒ 033	CATIONS/ANIONS	
☐ 007	HEADSPACE		☐ 019	SVOC	8270	☐ 034	N SUITE	
☐ 008	PAH	8100	☐ 020	O&G	9070	☐ 035	NITRATE	
☐ 009	PAH	610	☐ 022	AS	7060	☐ 036	NITRITE	
☐ 010	PCB	8080	☐ 023	Ba	7080	☐ 037	AMMONIA	
☐ 011	PCB	608	☐ 024	Cr	7190	☐ 038	TKN	
☐ 012	PHENOL	8040	☐ 025	Cr6	7198	☐	OTHER	

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

EPNG - CHACO

CLIENT:	NMOCD	DATE REPORTED:	08/06/91
ID:	9107161146		
SITE:	Cooling Tower A	DATE RECEIVED:	07/18/91
LAB NO:	F6695	DATE COLLECTED:	07/16/91

Lab pH (s.u.)	7.98	
Lab conductivity, umhos/cm	2520	
Lab resistivity, ohm-m	3.97	
Total dissolved solids (180), mg/l	2410	
Total dissolved solids (calc), mg/l	2250	
Total alkalinity as CaC03, mg/l	158	
Total hardness as CaC03, mg/l	1230	
Sodium absorption ratio	2.52	
	mg/l	meq/l
Bicarbonate as HC03	193	3.17
Carbonate as C03	0	0
Chloride	58.1	1.64
Sulfate	1420	29.6
Calcium	386	19.2
Magnesium	64.3	5.29
Potassium	25.6	0.65
Sodium	203	8.81
Major cations		34
Major anions		34.4
Cation/anion difference		0.57 %

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

EPNG - CHACO

CLIENT: NMOCD
ID: 9107161146
SITE: Cooling Tower A
LAB NO: F6695

DATE REPORTED: 08/06/91
DATE RECEIVED: 07/18/91
DATE COLLECTED: 07/16/91

Trace metals by ICAP (dissolved concentration), mg/l

	Analytical Result:	Detection Limit:
Silver (Ag)	ND	<0.01
Aluminum (Al)	ND	<0.1
Arsenic (As)	ND	<0.005
Boron (B)	0.27	<0.01
Barium (Ba)	ND	<0.5
Beryllium (Be)	ND	<0.005
Calcium (Ca)	161.0	<0.5
Cadmium (Cd)	0.042	<0.002
Cobalt (Co)	ND	<0.05
Chromium (Cr)	ND	<0.02
Copper (Cu)	0.02	<0.01
Iron (Fe)	0.45	<0.05
Potassium (K)	25.3	<0.5
Manganese (Mn)	0.03	<0.02
Molybdenum (Mo)	ND	<0.02
Magnesium (Mg)	68.4	<0.5
Sodium (Na)	172.0	<0.5
Nickel (Ni)	0.01	<0.01
Lead (Pb)	ND	<0.02
Antimony (Sb)	ND	<0.05
Selenium (Se)	ND	<0.005
Silicon (Si)	41.0	<0.2
Thallium (Tl)	ND	<0.2
Vanadium (V)	ND	<0.05
Zinc (Zn)	0.08	<0.01

ND - Analyte "not detected" at the stated detection limit.

Wanda Orso
Water Lab Manager

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ANALYSIS REQUEST FORM

Contract Lab IML Contract No.

OCD Sample No. 9107161155

Collection Date	Collection Time	Collected by—Person/Agency
7/16/91	11:55 A.M	Anderson/Olson/Brown /OCD

SITE INFORMATION

Sample location: Cooling Tower B - EANG Chaco Plant

Collection Site Description:

Township, Range, Section, Tract: | | | + | | + | + | | |

SEND FINAL REPORT TO ▸
ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

SAMPLING CONDITIONS

☐ Bailed ☐ Pump
☒ Dipped ☐ Tap

pH(00400) 7

Water Temp. (00010) 23°C

Water level:

Discharge:

Sample type:

Conductivity (Uncorrected) 2300 μmho

Conductivity at 25° C μmho

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted:

☒ **NF:** Whole sample (Non-filtered)
☐ **F:** Filtered in field with 0.45 μ membrane filter
☐ **PF:** Pre-filtered w/45 μ membrane filter

☒ **NA:** No acid added
☐ **A:** HCL
☐ **A:** 2ml H_2SO_4/L added
☐ **A:** 5ml conc. HNO_3 added
☐ **A:** 4ml fuming HNO_3 added

FIELD COMMENTS:

LAB ANALYSIS REQUESTED:

ITEM	DESC	METHOD	ITEM	DESC	METHOD	ITEM	DESC	METHOD
☐ 001	VOA	8020	☐ 013	PHENOL	604	☐ 026	Cd	7130
☐ 002	VOA	602	☐ 014	VOC	8240	☐ 027	Pb	7421
☐ 003	VOH	8010	☐ 015	VOC	624	☐ 028	Hg(L)	7470
☐ 004	VOH	601	☐ 016	SVOC	8250	☐ 031	Se	7740
☐ 005	SUITE	8010-8020	☐ 017	SVOC	625	☒ 032	ICAP	6010
☐ 006	SUITE	601-602	☐ 018	VOC	8260	☒ 033	CATIONS/ANIONS	
☐ 007	HEADSPACE		☐ 019	SVOC	8270	☐ 034	N SUITE	
☐ 008	PAH	8100	☐ 020	O&G	9070	☐ 035	NITRATE	
☐ 009	PAH	610	☐ 022	AS	7060	☐ 036	NITRITE	
☐ 010	PCB	8080	☐ 023	Ba	7080	☐ 037	AMMONIA	
☐ 011	PCB	608	☐ 024	Cr	7190	☐ 038	TKN	
☐ 012	PHENOL	8040	☐ 025	Cr6	7198	☐	OTHER	

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

CLIENT: NMOCD
ID: 9107161155
SITE: Cooling Tower B
LAB NO: F6694

DATE REPORTED: 08/06/91
DATE RECEIVED: 07/18/91
DATE COLLECTED: 07/16/91

Trace metals by ICAP (dissolved concentration), mg/l

	Analytical Result:	Detection Limit:
Silver (Ag)	ND	<0.01
Aluminum (Al)	ND	<0.1
Arsenic (As)	ND	<0.005
Boron (B)	0.28	<0.01
Barium (Ba)	0.5	<0.5
Beryllium (Be)	ND	<0.005
Calcium (Ca)	145.0	<0.5
Cadmium (Cd)	0.070	<0.002
Cobalt (Co)	ND	<0.05
Chromium (Cr)	ND	<0.02
Copper (Cu)	0.02	<0.01
Iron (Fe)	0.40	<0.05
Potassium (K)	30.2	<0.5
Manganese (Mn)	0.03	<0.02
Molybdenum (Mo)	ND	<0.02
Magnesium (Mg)	55.1	<0.5
Sodium (Na)	147.0	<0.5
Nickel (Ni)	0.04	<0.01
Lead (Pb)	ND	<0.02
Antimony (Sb)	ND	<0.05
Selenium (Se)	ND	<0.005
Silicon (Si)	34.1	<0.2
Thallium (Tl)	ND	<0.2
Vanadium (V)	ND	<0.05
Zinc (Zn)	0.11	<0.01

ND - Analyte "not detected" at the stated detection limit.

Wanda Orso
Water Lab Manager

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

EPNG - CHACO

CLIENT:	NMOCD	DATE REPORTED:	08/06/91
ID:	9107161155		
SITE:	Cooling Tower B	DATE RECEIVED:	07/18/91
LAB NO:	F6694	DATE COLLECTED:	07/16/91

Lab pH (s.u.)	7.58
Lab conductivity, umhos/cm	2050
Lab resistivity, ohm-m	4.89
Total dissolved solids (180), mg/l	1840
Total dissolved solids (calc), mg/l	1760
Total alkalinity as CaC03, mg/l	126
Total hardness as CaC03, mg/l	946
Sodium absorption ratio	2.32

	mg/l	meq/l
Bicarbonate as HC03	154	2.52
Carbonate as C03	0	0
Chloride	44.3	1.25
Sulfate	1100	23
Calcium	287	14.3
Magnesium	55.7	4.58
Potassium	27.8	0.71
Sodium	164	7.12
Major cations		26.8
Major anions		26.7
Cation/anion difference		0.03 %

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ANALYSIS REQUEST FORM

Contract Lab IML Contract No.

OCD Sample No. 9107161140

Collection Date	Collection Time	Collected by —Person/Agency
7/16/91	11:40 A.m	Anderson/Olson/Brown /OCD

SITE INFORMATION

Sample location Cooling Tower C - EPNG Chaco Plant

Collection Site Description

Township, Range, Section, Tract:

SEND FINAL REPORT TO ▸ ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

SAMPLING CONDITIONS

☐ Bailed ☐ Pump
☒ Dipped ☐ Tap

pH(00400) 8.0

Water Temp. (00010) 20° C

Water level

Discharge

Sample type

Conductivity (Uncorrected) 1800 µmho

Conductivity at 25° C µmho

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted:

☒ NF: Whole sample (Non-filtered)
☐ F: Filtered in field with 0.45 µ membrane filter
☐ PF: Pre-filtered w/45 µ membrane filter

☒ NA: No acid added
☐ A: HCL
☐ A: 2ml H_2SO_4/L added
☐ A: 5ml conc. HNO_3 added
☐ A: 4ml fuming HNO_3 added

FIELD COMMENTS:

LAB ANALYSIS REQUESTED:

ITEM	DESC	METHOD	ITEM	DESC	METHOD	ITEM	DESC	METHOD
☐ 001	VOA	8020	☐ 013	PHENOL	604	☐ 026	Cd	7130
☐ 002	VOA	602	☐ 014	VOC	8240	☐ 027	Pb	7421
☐ 003	VOH	8010	☐ 015	VOC	624	☐ 028	Hg(L)	7470
☐ 004	VOH	601	☐ 016	SVOC	8250	☐ 031	Se	7740
☐ 005	SUITE	8010-8020	☐ 017	SVOC	625	☒ 032	ICAP	6010
NO ☒ 006	SUITE	601-602	☐ 018	VOC	8260	☒ 033	CATIONS/ANIONS	
☐ 007	HEADSPACE		☐ 019	SVOC	8270	☐ 034	N SUITE	
☐ 008	PAH	8100	☐ 020	O&G	9070	☐ 035	NITRATE	
☐ 009	PAH	610	☐ 022	AS	7060	☐ 036	NITRITE	
☐ 010	PCB	8080	☐ 023	Ba	7080	☐ 037	AMMONIA	
☐ 011	PCB	608	☐ 024	Cr	7190	☐ 038	TKN	
☐ 012	PHENOL	8040	☐ 025	Cr6	7198	☐	OTHER	

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

EPNA - CHACO

CLIENT:	NMOCD	DATE REPORTED:	08/06/91
ID:	9107161140		
SITE:	Cooling Tower C	DATE RECEIVED:	07/18/91
LAB NO:	F6693	DATE COLLECTED:	07/16/91

Lab pH (s.u.)	8.41
Lab conductivity, umhos/cm	1970
Lab resistivity, ohm-m	5.09
Total dissolved solids (180), mg/l	1740
Total dissolved solids (calc), mg/l	1670
Total alkalinity as CaC03, mg/l	248
Total hardness as CaC03, mg/l	844
Sodium absorption ratio	2.65

	mg/l	meq/l	
Bicarbonate as HC03	286	4.69	
Carbonate as C03	8.4	0.28	
Chloride	44.1	1.24	
Sulfate	944	19.7	
Calcium	263	13.1	
Magnesium	45.8	3.76	
Potassium	50	1.28	
Sodium	177	7.69	
Major cations		25.8	
Major anions		25.9	
Cation/anion difference		0.05	%

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

CLIENT: NMOCD
ID: 9107161140
SITE: Cooling Tower C
LAB NO: F6693

DATE REPORTED: 08/06/91
DATE RECEIVED: 07/18/91
DATE COLLECTED: 07/16/91

Trace metals by ICAP (dissolved concentration), mg/l

	Analytical Result:	Detection Limit:
Silver (Ag)	ND	<0.01
Aluminum (Al)	ND	<0.1
Arsenic (As)	0.020	<0.005
Boron (B)	0.25	<0.01
Barium (Ba)	ND	<0.5
Beryllium (Be)	ND	<0.005
Calcium (Ca)	134.8	<0.5
Cadmium (Cd)	0.090	<0.002
Cobalt (Co)	ND	<0.05
Chromium (Cr)	ND	<0.02
Copper (Cu)	0.20	<0.01
Iron (Fe)	0.18	<0.05
Potassium (K)	56.1	<0.5
Manganese (Mn)	0.02	<0.02
Molybdenum (Mo)	ND	<0.02
Magnesium (Mg)	50.2	<0.5
Sodium (Na)	157	<0.5
Nickel (Ni)	0.04	<0.01
Lead (Pb)	ND	<0.02
Antimony (Sb)	ND	<0.05
Selenium (Se)	ND	<0.005
Silicon (Si)	32.3	<0.2
Thallium (Tl)	ND	<0.2
Vanadium (V)	ND	<0.05
Zinc (Zn)	0.13	<0.01

ND - Analyte "not detected" at the stated detection limit.

Wanda Orso
Water Lab Manager

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ANALYSIS REQUEST FORM

Contract Lab IML Contract No.

OCD Sample No. 9107161210

Collection Date	Collection Time	Collected by—Person/Agency
7/16/91	12:10 PM	Anderson/Olson/Brown /OCD

SITE INFORMATION

Sample location Pond #3 - Chaco Plant

Collection Site Description

Township, Range, Section, Tract: | | | + | | + | + | | |

SEND FINAL REPORT TO

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

SAMPLING CONDITIONS

- ☐ Bailed ☐ Pump
- ☒ Dipped ☐ Tap

Water level

Discharge

Sample type

pH(00400) 8.5

Conductivity (Uncorrected) 2500 μmho

Water Temp. (00010) 26.5°C

Conductivity at 25° C μmho

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 3

- ☒ **NF:** Whole sample (Non-filtered)
- ☐ **F:** Filtered in field with 0.45 μ membrane filter
- ☐ **PF:** Pre-filtered w/45 μ membrane filter

- ☒ **NA:** No acid added
- ☐ **A:** HCL
- ☐ **A:** 2ml H_2SO_4/L added
- ☐ **A:** 5ml conc. HNO_3 added
- ☐ **A:** 4ml fuming HNO_3 added

Vials HgCl

FIELD COMMENTS:

LAB ANALYSIS REQUESTED:

ITEM	DESC	METHOD	ITEM	DESC	METHOD	ITEM	DESC	METHOD
☐ 001	VOA	8020	☐ 013	PHENOL	604	☐ 026	Cd	7130
☐ 002	VOA	602	☐ 014	VOC	8240	☐ 027	Pb	7421
☐ 003	VOH	8010	☐ 015	VOC	624	☐ 028	Hg(L)	7470
☐ 004	VOH	601	☐ 016	SVOC	8250	☐ 031	Se	7740
☐ 005	SUITE	8010-8020	☐ 017	SVOC	625	☒ 032	ICAP	6010
☒ 006	SUITE	601-602	☐ 018	VOC	8260	☒ 033	CATIONS/ANIONS	
☐ 007	HEADSPACE		☐ 019	SVOC	8270	☐ 034	N SUITE	
☐ 008	PAH	8100	☐ 020	O&G	9070	☐ 035	NITRATE	
☐ 009	PAH	610	☐ 022	AS	7060	☐ 036	NITRITE	
☐ 010	PCB	8080	☐ 023	Ba	7080	☐ 037	AMMONIA	
☐ 011	PCB	608	☐ 024	Cr	7190	☐ 038	TKN	
☐ 012	PHENOL	8040	☐ 025	Cr6	7198	☐	OTHER	

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

EPNG - CHACO

CLIENT:	NMOCD	DATE REPORTED:	08/06/91
ID:	9107161210		
SITE:	Pond #3	DATE RECEIVED:	07/18/91
LAB NO:	F6691	DATE COLLECTED:	07/16/91

Lab pH (s.u.)	8.21	
Lab conductivity, umhos/cm	2440	
Lab resistivity, ohm-m	4.11	
Total dissolved solids (180), mg/l	1550	
Total dissolved solids (calc), mg/l	1460	
Total alkalinity as CaC03, mg/l	562	
Total hardness as CaC03, mg/l	485	
Sodium absorption ratio	7.45	
	mg/l	meq/l
Bicarbonate as HC03	683	11.2
Carbonate as C03	0	0
Chloride	454	12.8
Sulfate	98.8	2.06
Calcium	145	7.25
Magnesium	29.9	2.46
Potassium	18.4	0.47
Sodium	377	16.4
Major cations		26.6
Major anions		26.1
Cation/anion difference		0.91 %

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

CLIENT: NMOCD
ID: 9107161210
SITE: Pond #3
LAB NO: F6691

DATE REPORTED: 08/06/91
DATE RECEIVED: 07/18/91
DATE COLLECTED: 07/16/91

Trace metals by ICAP (dissolved concentration), mg/l

	Analytical Result:	Detection Limit:
Silver (Ag)	ND	<0.01
Aluminum (Al)	ND	<0.1
Arsenic (As)	ND	<0.005
Boron (B)	0.43	<0.01
Barium (Ba)	ND	<0.5
Beryllium (Be)	ND	<0.005
Calcium (Ca)	99.8	<0.5
Cadmium (Cd)	0.049	<0.002
Cobalt (Co)	ND	<0.05
Chromium (Cr)	ND	<0.02
Copper (Cu)	0.03	<0.01
Iron (Fe)	0.19	<0.05
Potassium (K)	16.2	<0.5
Manganese (Mn)	0.13	<0.02
Molybdenum (Mo)	ND	<0.02
Magnesium (Mg)	26	<0.5
Sodium (Na)	330.2	<0.5
Nickel (Ni)	0.05	<0.01
Lead (Pb)	ND	<0.02
Antimony (Sb)	ND	<0.05
Selenium (Se)	ND	<0.005
Silicon (Si)	17.5	<0.2
Thallium (Tl)	ND	<0.2
Vanadium (V)	ND	<0.05
Zinc (Zn)	0.05	<0.01

ND - Analyte "not detected" at the stated detection limit.

Wanda Orso
Water Lab Manager

Inter·Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

EPNG Chaco Pond #3

METHOD 601
PURGEABLE HALOCARBONS

Client:	**OCD**		
Project Name:	Farmington	Report Date:	08/08/91
Sample ID:	9107161210	Date Sampled:	07/16/91
Sample Number:	F6691/C3449	Date Received:	07/19/91
Sample Matrix:	Water	Date Analyzed:	07/26/91
Preservative:	Cool		
Condition:	Intact		

Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Bromodichloromethane	ND	1.0
Bromoform	ND	1.0
Bromomethane	ND	1.0
Carbon tetrachloride	ND	1.0
Chlorobenzene	ND	1.0
Chloroethane	ND	1.0
2-Chloroethylvinyl ether	ND	1.0
Chloroform	ND	1.0
Chloromethane	ND	1.0
Dibromochloromethane	ND	1.0
1,2-Dichlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
Dichlorodifluoromethane	ND	1.0
1,1-Dichloroethane	ND	1.0
1,2-Dichloroethane	ND	1.0
1,1-Dichloroethene	ND	1.0
trans-1,2-Dichloroethene	ND	1.0
1,2-Dichloropropane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
Methylene Chloride	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
Tetrachloroethene	ND	1.0
1,1,1-Trichloroethane	ND	1.0
1,1,2-Trichloroethane	ND	1.0
Trichloroethene	ND	1.0
Trichlorofluoromethane	ND	1.0
Vinyl chloride	ND	1.0

ND - Analyte not detected at stated detection limit

Inter·Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

METHOD 601
PURGEABLE HALOCARBONS
Page 2 - Quality Control

Client:	**OCD**		
Project Name:	Farmington	Report Date:	08/08/91
Sample ID:	9107161210	Date Sampled:	07/16/91
Sample Number:	F6691/C3449	Date Received:	07/19/91
Sample Matrix:	Water	Date Analyzed:	07/26/91
Preservative:	Cool		
Condition:	Intact		

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Toluene-d8	97.8%	85-110%
4-Bromofluorobenzene	88.6%	80-105%

Reference: Method 601 - Purgeable Halocarbons
Code of Federal Regulations, 40 CFR Part 136, USEPA, October 1984

Comments:

Analyst

Review

Inter-Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

METHOD 602
PURGEABLE AROMATICS

Client:	**OCD**		
Project Name:	Farmington	Report Date:	08/08/91
Sample ID:	9107161210	Date Sampled:	07/16/91
Sample Number:	F6691/C3449	Date Received:	07/19/91
Sample Matrix:	Water	Date Analyzed:	07/26/91
Preservative:	Cool		
Condition:	Intact		

Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
Chlorobenzene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

ND - Analyte not detected at stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Toluene-d8	97.8%	85-110%
4-Bromofluorobenzene	88.6%	80-105%

Reference: Method 602 - Purgeable Aromatics
Code of Federal Regulations, 40 CFR Part 136, USEPA, October 1984

Comments:

Analyst

Review

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ANALYSIS REQUEST FORM

Contract Lab IML Contract No.

OCD Sample No. 9107161230

Collection Date	Collection Time	Collected by —Person/Agency
7/16/91	12:30 P.M.	Anderson / Olson / Brown /OCD

SITE INFORMATION

Sample location Pond #4 - EPNG Chaco Plant

Collection Site Description

Township, Range, Section, Tract: | | | + | | + | + | |

SEND FINAL REPORT TO

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

SAMPLING CONDITIONS

☐ Bailed ☐ Pump
☒ Dipped ☐ Tap

pH(00400) 8.5

Water Temp. (00010) 26°C

Water level

Discharge

Sample type

Conductivity (Uncorrected) 2600 μmho

Conductivity at 25° C μmho

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 3

☐ NF: Whole sample (Non-filtered)
☐ F: Filtered in field with 0.45 μ membrane filter
☐ PF: Pre-filtered w/45 μ membrane filter

☒ NA: No acid added
☐ A: HCL
☐ A: 2ml H_2SO_4/L added
☐ A: 5ml conc. HNO_3 added
☐ A: 4ml fuming HNO_3 added

Vials HgCl

FIELD COMMENTS:

LAB ANALYSIS REQUESTED:

ITEM	DESC	METHOD	ITEM	DESC	METHOD	ITEM	DESC	METHOD
☐ 001	VOA	8020	☐ 013	PHENOL	604	☐ 026	Cd	7130
☐ 002	VOA	602	☐ 014	VOC	8240	☐ 027	Pb	7421
☐ 003	VOH	8010	☐ 015	VOC	624	☐ 028	Hg(L)	7470
☐ 004	VOH	601	☐ 016	SVOC	8250	☐ 031	Se	7740
☐ 005	SUITE	8010-8020	☐ 017	SVOC	625	☒ 032	ICAP	6010
☒ 006	SUITE	601-602	☐ 018	VOC	8260	☒ 033	CATIONS/ANIONS	
☐ 007	HEADSPACE		☐ 019	SVOC	8270	☐ 034	N SUITE	
☐ 008	PAH	8100	☐ 020	O&G	9070	☐ 035	NITRATE	
☐ 009	PAH	610	☐ 022	AS	7060	☐ 036	NITRITE	
☐ 010	PCB	8080	☐ 023	Ba	7080	☐ 037	AMMONIA	
☐ 011	PCB	608	☐ 024	Cr	7190	☐ 038	TKN	
☐ 012	PHENOL	8040	☐ 025	Cr6	7198	☐	OTHER	

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

EPNG - CHACO

CLIENT:	NMOCD	DATE REPORTED:	08/06/91
ID:	9107161230		
SITE:	Pond #4	DATE RECEIVED:	07/18/91
LAB NO:	F6692	DATE COLLECTED:	07/16/91

Lab pH (s.u.)	8.11	
Lab conductivity, umhos/cm	2540	
Lab resistivity, ohm-m	3.93	
Total dissolved solids (180), mg/l	1610	
Total dissolved solids (calc), mg/l	1550	
Total alkalinity as CaC03, mg/l	499	
Total hardness as CaC03, mg/l	529	
Sodium absorption ratio	7.12	

	mg/l	meq/l	
Bicarbonate as HC03	608	9.97	
Carbonate as C03	0	0	
Chloride	464	13.1	
Sulfate	206	4.3	
Calcium	155	7.74	
Magnesium	34.5	2.84	
Potassium	20	0.51	
Sodium	376	16.4	
Major cations		27.5	
Major anions		27.4	
Cation/anion difference		0.18	%

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

CLIENT: NMOCD
ID: 9107161230
SITE: Pond #4
LAB NO: F6692

DATE REPORTED: 08/06/91
DATE RECEIVED: 07/18/91
DATE COLLECTED: 07/16/91

Trace metals by ICAP (dissolved concentration), mg/l

	Analytical Result:	Detection Limit:
Silver (Ag)	ND	<0.01
Aluminum (Al)	ND	<0.1
Arsenic (As)	ND	<0.005
Boron (B)	0.31	<0.01
Barium (Ba)	ND	<0.5
Beryllium (Be)	ND	<0.005
Calcium (Ca)	102.6	<0.5
Cadmium (Cd)	0.024	<0.002
Cobalt (Co)	ND	<0.05
Chromium (Cr)	ND	<0.02
Copper (Cu)	0.01	<0.01
Iron (Fe)	0.13	<0.05
Potassium (K)	17.8	<0.5
Manganese (Mn)	0.07	<0.02
Molybdenum (Mo)	ND	<0.02
Magnesium (Mg)	28.6	<0.5
Sodium (Na)	325	<0.5
Nickel (Ni)	0.04	<0.01
Lead (Pb)	ND	<0.02
Antimony (Sb)	ND	<0.05
Selenium (Se)	ND	<0.005
Silicon (Si)	19.3	<0.2
Thallium (Tl)	ND	<0.2
Vanadium (V)	ND	<0.05
Zinc (Zn)	0.03	<0.01

ND - Analyte "not detected" at the stated detection limit.

Wanda Orso
Water Lab Manager

Inter·Mountain Laboratories, Inc.
3304 Longmire
College Station, Texas 77845

EPNG Chaco Pond #1

METHOD 601
PURGEABLE HALOCARBONS

Client:	**OCD**		
Project Name:	Farmington	Report Date:	08/08/91
Sample ID:	9107161230	Date Sampled:	07/16/91
Sample Number:	F6692/C3450	Date Received:	07/19/91
Sample Matrix:	Water	Date Analyzed:	07/26/91
Preservative:	Cool		
Condition:	Intact		

Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Bromodichloromethane	ND	1.0
Bromoform	ND	1.0
Bromomethane	ND	1.0
Carbon tetrachloride	ND	1.0
Chlorobenzene	ND	1.0
Chloroethane	ND	1.0
2-Chloroethylvinyl ether	ND	1.0
Chloroform	ND	1.0
Chloromethane	ND	1.0
Dibromochloromethane	ND	1.0
1,2-Dichlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
Dichlorodifluoromethane	ND	1.0
1,1-Dichloroethane	ND	1.0
1,2-Dichloroethane	ND	1.0
1,1-Dichloroethene	ND	1.0
trans-1,2-Dichloroethene	ND	1.0
1,2-Dichloropropane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
Methylene Chloride	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
Tetrachloroethene	ND	1.0
1,1,1-Trichloroethane	ND	1.0
1,1,2-Trichloroethane	ND	1.0
Trichloroethene	ND	1.0
Trichlorofluoromethane	ND	1.0
Vinyl chloride	ND	1.0

ND - Analyte not detected at stated detection limit

Inter-Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

METHOD 601
PURGEABLE HALOCARBONS
Page 2 - Quality Control

Client:	**OCD**		
Project Name:	Farmington	Report Date:	08/08/91
Sample ID:	9107161230	Date Sampled:	07/16/91
Sample Number:	F6692/C3450	Date Received:	07/19/91
Sample Matrix:	Water	Date Analyzed:	07/26/91
Preservative:	Cool		
Condition:	Intact		

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Toluene-d8	95.8%	85-110%
4-Bromofluorobenzene	86.5%	80-105%

Reference: Method 601 - Purgeable Halocarbons
Code of Federal Regulations, 40 CFR Part 136, USEPA, October 1984

Comments:

Analyst

Review

Inter'Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

METHOD 602
PURGEABLE AROMATICS

Client:	**OCD**		
Project Name:	Farmington	Report Date:	08/08/91
Sample ID:	9107161230	Date Sampled:	07/16/91
Sample Number:	F6692/C3450	Date Received:	07/19/91
Sample Matrix:	Water	Date Analyzed:	07/26/91
Preservative:	Cool		
Condition:	Intact		

Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
Chlorobenzene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

ND - Analyte not detected at stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Toluene-d8	95.8%	85-110%
4-Bromofluorobenzene	86.5%	80-105%

Reference: Method 602 - Purgeable Aromatics
Code of Federal Regulations, 40 CFR Part 136, USEPA, October 1984

Comments:

Analyst

Review

Inter·Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

QUALITY CONTROL REPORT - MATRIX SPIKE
Method 601 - PURGEABLE HALOCARBONS

Sample Number: C3450SPK
Sample Matrix: Water
Preservative: Cool
Condition: Intact

Date Sampled: 07/16/91
Date Received: 07/19/91
Date Analyzed: 07/29/91

Analyte	Spike Added (ug/L)	Sample Result (ug/L)	Spike Result (ug/L)	Percent Recovery	Acceptance Limit
Carbon tetrachloride	10.0	ND	12.0	120%	43-143%
Chlorobenzene	20.0	ND	18.0	90.1%	38-150%
Chloroform	10.0	ND	9.4	94.5%	49-133%
Dibromochloromethane	10.0	ND	9.1	90.9%	24-191%
1,1-Dichloroethane	10.0	ND	11.6	116%	47-132%
1,1-Dichloroethene	10.0	ND	10.8	108%	28-167%
1,2-Dichloropropane	10.0	ND	11.2	112%	44-156%
Methylene Chloride	10.0	ND	8.0	80.3%	25-162%
Tetrachloroethene	10.0	ND	8.6	86.3%	26-162%
1,1,2-Trichloroethane	10.0	ND	8.7	86.8%	39-136%

ND - Analyte not detected at stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Toluene-d8	*	85-110%
4-Bromofluorobenzene	*	80-105%

Reference: Method 601 - Purgeable Halocarbons
Environmental Protection Agency, 40 CFR Part 136, October 1984.

Comments: * - Surrogates not added

Analyst

Review

Inter·Mountain Laboratories, Inc.

3304 Longmire
College Station, Texas 77845

QUALITY CONTROL REPORT - MATRIX SPIKE
Method 602 - PURGEABLE AROMATICS

Sample Number: C3450SPK
Sample Matrix: Water
Preservative: Cool
Condition: Intact

Date Sampled: 07/16/91
Date Received: 07/19/91
Date Analyzed: 07/29/91

Analyte	Spike Added (ug/L)	Sample Result (ug/L)	Spike Result (ug/L)	Percent Recovery	Acceptance Limit
Benzene	10.0	ND	10.0	97.5%	39-150%
Toluene	10.0	ND	10.0	99.7%	46-148%
Ethylbenzene	10.0	ND	8.0	80.3%	32-160%
1,3-Dichlorobenzene	10.0	ND	10.2	102%	50-141%
1,4-Dichlorobenzene	10.0	ND	11.0	110%	42-143%
1,2-Dichlorobenzene	10.0	ND	9.8	97.7%	37-154%

ND - Analyte not detected at stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Toluene-d8	*	85-110%
4-Bromofluorobenzene	*	80-105%

Reference: Method 602 - Purgeable Aromatics
Environmental Protection Agency, 40 CFR Part 136, October 1984.

Comments: * - Surrogates not added

Analyst

Review

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

June 18, 1991

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

CERTIFIED MAIL -
RETURN RECEIPT NO. P-327-278-193

Mr. Thomas D. Hutchins, Manager
North Region Compliance Engineering
El Paso Natural Gas Company
P. O. Box 1492
El Paso, Texas 79978

RE: Discharge Plan GW-71
Chaco Gas Processing Plant
San Juan County, New Mexico

Dear Mr. Hutchins:

The Oil Conservation Division (OCD) has received your request, dated June 7, 1991, for a sixty (60) day extension to September 1, 1991 to submit a discharge plan application for the above referenced facility. The notification of discharge plan requirement was dated March 1, 1991 and required the submission of a discharge plan application by July 1, 1991.

Pursuant to Section 3-106 of the New Mexico Water Quality Control Commission Regulations and for good cause shown, El Paso Natural Gas Company is hereby granted on extension until September 1, 1991 for submission of a discharge plan application. This extension will allow El Paso Natural to complete development of a comprehensive plan.

If you have any questions please contact David Boyer at (505) 827-5812 or Roger Anderson at (505) 827-5884.

Sincerely,

for William J. LeMay

William J. LeMay
Director

WJL/RCA/sl

cc: OCD Aztec Office

El Paso
Natural Gas Company

P. O. BOX 1492
EL PASO, TEXAS 79978
PHONE: 915-541-2600

June 7, 1991

Mr. David Boyer
Environmental Bureau Chief
New Mexico Oil Conservation Division
P.O. Box 2088
Land Office Building
Santa Fe, New Mexico 87504-2088

RE: Discharge Plan GW-71
Chaco Gas Processing Plant, San Juan County, New Mexico

Dear Mr. Boyer:

On March 3, El Paso Natural Gas Company (EPNG) received your letter advising EPNG to submit a discharge plan for the subject facility within 120 days from receipt of the letter.

As you know, EPNG was in the process of negotiating for the sale of the Chaco Plant in the period of March, April and May. All indications were that EPNG would not be responsible for the facility after June of this year. However, on May 24, it was announced that the negotiations had ceased and the facilities would continue to be owned and operated by EPNG.

In accordance with our previous discussions, EPNG has assembled the data pertinent to the plant's location, geological and hydrogeologic setting and current processes. Also, as discussed we were going to allow the new owner to complete and submit the discharge plan. Since EPNG will now be responsible for completing and submitting the plan, we are in the process of contracting with a consultant to complete the plan's development for your review and approval. However, we will not be able to meet the July 1, deadline for submitting the plan.

Therefore, I am requesting an extension of sixty (60) days to complete and submit the plan. I look forward to your reply and please let me know if you have any questions.

Very truly yours,

Thomas D. Hutchins

Thomas D. Hutchins
Manager
North Region Compliance Engr.

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

March 1, 1991

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

CERTIFIED MAIL
RETURN RECEIPT NO. P-327-278-075

Mr. Thomas D. Hutchins, Manager
North Region Compliance Engineering
El Paso Natural Gas Company
P. O. Box 1492
El Paso, Texas 79978

RE: Discharge Plan GW-71
Chaco Gas Processing Plant
San Juan County, New Mexico

Dear Mr. Hutchins:

Under the provisions of the Water Quality Control Commission (WQCC) Regulations, you are hereby notified that the filing of a discharge plan is required for your existing Chaco Gas Processing Plant located in Section 16, Township 26 North, Range 12 West (NMPM), San Juan County, New Mexico

This notification of discharge plan requirement is pursuant to Sections 3-104 and 3-106 of the WQCC Regulations. The discharge plan, defined in Section 1.101.P. of the WQCC Regulations, should cover all discharges of effluent or leachate at the plant site or adjacent to the plant site. Included in the application should be plans for controlling spills and accidental discharges at the facility (including detection of leaks in buried underground tanks and/or piping), and closure plans for any ponds whose use will be discontinued.

A copy of the regulations is enclosed for your convenience. Also enclosed is a copy of an OCD guide to the preparation of discharge plans for gas processing plants. The guidelines are presently being revised to include berming of tanks, curbing and paving of process areas susceptible to leaks or spills and the disposition of any solid wastes. Please include these items in your application. Three copies of your discharge plan should be submitted for review purposes.

Section 3-106.A of the regulations requires a submittal of the discharge plan within 120 days of receipt of this notice unless an extension of this time period is sought and approved for good cause. Section 3-106.A also allows the discharge to continue without an approved discharge plan until 240 days after written notification by the Director of the OCD that a discharge plan is required. An extension of this time be sought and approved for good cause.

If there are any questions on this matter, please feel free to call David Boyer at 827-5812, or Roger Anderson at 827-5884 as they have the assigned responsibility for review of all discharge plans.

Sincerely,

William J. LeMay
Director

WJL/RCA/sl

cc: OCD Aztec Office

STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

May 14, 1987

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

Mr. Kenneth Beasley III
Compliance Engineer
El Paso Natural Gas Co.
P.O. Box 4990
Farmington, NM 87499

RE: Centralized Disposal Impoundments

Dear Mr. Beasley:

We have received and evaluated the pit registration forms and construction design drawings you submitted for the proposed lined pits at your Blanco, Chaco and Lindrith Plants. The pits are to accept primarily produced fluids from those fields identified in the pit registration forms. The fluids generated at the gas processing plants that will be disposed of in these pits must be identified in the individual plant's discharge plan. If a discharge plan is not currently in force at the plant, then the streams must be identified in the discharge plan application when one is requested.

The design and specifications are adequate for the protection of ground water and are approved with the following provisions:

1) An adequate freeboard will be maintained at all times to prevent over-topping of the side walls.

2) Monthly inspections of the leak detection system will be performed. If fluids are detected in the leak detection sump, notification will be made to this office, samples taken and analyzed and prompt repairs made on the primary liner if required.

Please be advised that this approval does not relieve you of liability should your operation result in actual pollution of surface or ground waters which may be actionable under other laws and/or regulations.

If you have any questions please do not hesitate to call me at (505) 827-5885.

Sincerely,

Roger Anderson
Environmental Engineer

xc OCD-Aztec

El Paso
Natural Gas Company

P. O. BOX 4990
FARMINGTON, NEW MEXICO 87499
PHONE: 505-325-2841

May 4, 1987

Mr. David G. Boyer
Hydrogeologist/Environmental Bureau Chief
Energy and Minerals Department
Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87501-2088

Subject: Centralized Disposal or Collection Pit Registration Form

Dear Mr. Boyer:

Enclosed are Registration forms and construction drawings for lined surface impoundments to be installed at El Paso's Blanco, Chaco and Lindrith Plants. Please feel free to contact me if you require additional information or clarification.

Sincerely Yours,

Kenneth E. Beasley III
Compliance Engineer

KEB:cm

Enclosures

CHACO PLANT

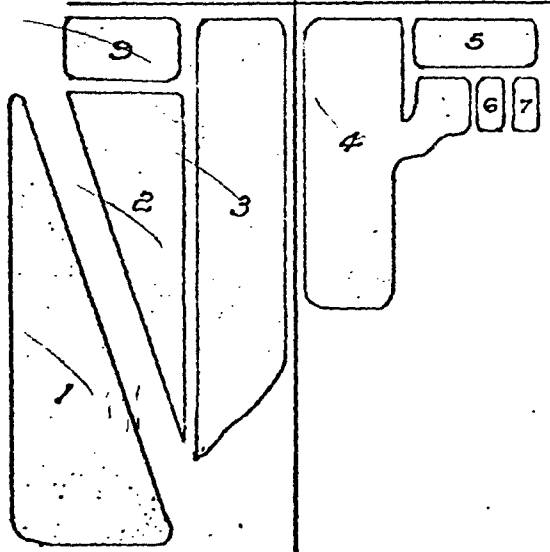
All ponds at this site are connected and of the same quality.

Analysis 2-9442 covers all ponds.

Annual volume - 66,914,000 gallons.

Ponds are not lined.

1 750' x 300' X4'
2 600' x 250' X4'
3 850' x 300' X5'
4 980' x 450' X6'
5 430' x 100' X5'
6 200' x 120' X5'
7 200' x 120' X5'
8 440' x 280' X8'
9 400' x 100' X6'



4

5

8

Posted
2/12/79

S·17 | S·16

S·20 | S·21

T·26·N | R·12·W

Chaco Plant

EL PASO NATURAL GAS COMPANY
SAN JUAN DIVISION LABORATORY

WATER ANALYSIS

CHACO DISPOSAL POND

Secured 1-2-79

ANALYSIS NUMBER: 2-9442

pH	6.7
Total hardness as $CaCO_3$	112
Calcium as $CaCO_3$	52
Magnesium as $CaCO_3$	60
P Alkalinity as $CaCO_3$	0
Total Alkalinity as $CaCO_3$	236
Cloride as Cl	28
Sulfate as SO_4	164
Silica as SiO_2	
Iron as Fe	
Total Solids	552
Sodium as Na	137
Conductivity @ 25°C	1200
Phosphate	25

--all results expressed as parts per million --- trace is less than 0.1 ppm --

REMARKS:

cc: D. O. Vilven
File + 2

Joe Barnett
Chemist

RZE

State of New Mexico
Energy and Minerals Department

OIL CONSERVATION DIVISION
P. O. Box 2088
Santa Fe, New Mexico 87501
(505) 827-5800

CENTRALIZED DISPOSAL OR COLLECTION
PIT REGISTRATION FORM

Owner/Operator: EL PASO NATURAL GAS
(List information only for pits operated by you at a lease or at other locations)

Address: P.O. Box 4990 Farmington, New Mexico 87499

Well and Lease, or Facility Name: CHACO PLANT

Location: SE1/4 SW1/4 Section 16 T-26-N R-12-W San Juan Co., N.M.

(A) Pit Fluid Sources	(B) Pit Fluid Type: 1. Produced Water 2. Completion Fluids 3. Drilling Fluids 4. Drill Cuttings	(C) Maximum Daily Discharge to each Pit	(D) Pit Type: 1. Unlined 2. Lined 3. Tank
List all Wells & Locations that Contribute Fluid to Pit			
1. Bisti Gathering Systems SW1/4 SW1/4 Section 16, T-26-N, R-12-W a) Drip Y-1 water phase	P.W.	20 Bbl.E	Lined
2. Bisti Compressor #1 SW1/4 Sec.29, T-25-N,R-10-W a) Drip	P.W.	20 Bbl.E	
3. Bisti Compressor #6 SW1/4 Sec.7,T-26-N-R-11W a) Inlet scrubber	P.W.	20 Bbl.E	
4. Bisti Compressor #9 NE1/4 Sec.13,T-27-N-R-13-W a) Inlet scrubber	P.W.	20 Bbl.E	
5. Ballard Plant SE1/4 Sec.26,T-26N,R-9-W			

(Continued on attached sheet)

Is this facility located in or within 100 horizontal feet of a watercourse? Yes_____ No X

Watercourse: Any lake-bed or gully, draw, stream bed, wash, arroyo, or natural or man-made channel through which water flows or has flowed.

Is ground water at the site at 10 feet or less from the base of the pit? Yes_____ No X

I hereby certify that I am familiar with the information contained in and submitted with this application and that such information is true, accurate and complete to the best of my knowledge and belief."

(Signature) — MAY 4, 1987 (Date)

KENNETH E. BEASLEY III (Printed Name of Person Signing) — COMPLIANCE ENGINEER (Title)

(A) Pit Fluid Sources	(B) Pit Fluid Type: 1. Produced Water 2. Completion Fluids 3. Drilling Fluids 4. Drill Cuttings	(C) Maximum Daily Discharge to each Pit	(D) Pit Type: 1. Unlined 2. Lined 3. Tank
List all Wells & Locations that Contribute Fluid to Pit	SUPPLEMENTAL INFORMATION		
a) Scrubber blowdown tank	P.W.	20 Bbl.E.	
b) Dehydration water tank	P.W.	20 Bbl.E	
6. Ballard Field T-24N thru 27N, R-8W thru 13W			
a) Miscellaneous drips	P.W.	20 Bbl.E	
7. Angel Peak Field T-27N thru 29N, R-9W thru 15W			
a) Miscellaneous line drips	P.W.	20 Bbl.E	