GW - 71 -0

### GENERAL CORRESPONDENCE

YEAR(S): 1995

Chact Plant water.

### Chaco Plant Non-Contact Wastewater Use December 21, 1995

Four-Four has requested the use of the non-contact wastewater generated and discharged at El Paso Natural Gas Company's ("El Paso") Chaco Plant pursuant to the approved NMOCD Discharge Plan. El Paso will allow Four-Four Inc. to use the non-contact Wastewater provided Four-Four agree in advance to the following:

- 1. Prior to obtaining the wastewater from the Chaco Ponds, Four-Four truck drivers will notify the Chaco Plant Superintendent;
- 2. Use of the wastewater is limited to Four-Four's oil and natural gas exploration and production activities and will never be used in a way that allows the water to be discharged to any water of the U.S. as defined in the U.S. Clean Water Act (33 U.S.C. §§ 1251 to 1387) and the New Mexico Water Quality Act (N.M. Stat. Ann. §§ 74-6-1 to 74-6B-14);
- 3. The wastewater will never be discharged less that one hundred feet (1 10') from the nearest natural boundary of any wash or arroyo; and,
- Four-Four Inc. releases El Paso from any liability, claims or causes of action which may arise
  from the procurement, use and discharge of the wastewater by Four-Four, its agent, or its
  contractors.

If Four-Four agrees to abide by the above terms and conditions, please indicate Four-Four approval by signing in the space below and return this letter to El Paso Natural Gas (Mr. Patrick Marquez).

this <u>Al</u> day December 1995.

Four-Four Inc.

Signed By Mr Bernie Strunk

Title Bland Susken !

### Chaco Plant Non-Contact Wastewater Use December 21, 1995

Four-Four has requested the use of the non-contact wastewater generated and discharged at El Paso Natural Gas Company's ("El Paso") Chaco Plant pursuant to the approved NMOCD Discharge Plan. El Paso will allow Four-Four Inc. to use the non-contact Wastewater provided Four-Four agree in advance to the following:

- 1. Prior to obtaining the wastewater from the Chaco Ponds, Four-Four truck drivers will notify the Chaco Plant Superintendent;
- 2. Use of the wastewater is limited to Four-Four's oil and natural gas exploration and production activities and will never be used in a way that allows the water to be discharged to any water of the U.S. as defined in the U.S. Clean Water Act (33 U.S.C. §§ 1251 to 1387) and the New Mexico Water Quality Act (N.M. Stat. Ann. §§ 74-6-1 to 74-6B-14);
- 3. The wastewater will never be discharged less that one hundred feet (110') from the nearest natural boundary of any wash or arroyo; and,
- 4. Four-Four Inc. releases El Paso from any liability, claims or causes of action which may arise from the procurement, use and discharge of the wastewater by Four-Four, its agent, or its contractors.

If Four-Four agrees to abide by the above terms and conditions, please indicate Four-Four approval by signing in the space below and return this letter to El Paso Natural Gas (Mr. Patrick Marquez).

AGREED T	O AND ACCEPTED
this <u>al</u>	day December 1995.
Four-Four I	nc.
Signed By	Mr. Bernie Strunk
Title	Lend Dresuent

Chaco Plant Non-Contact Waste Water Acceptance Log

2,21 million gallons

										·		
ŀ							•					
	10		·				·				÷.	
1 4	100											
Signafure	3								:			
	an											
	8			,	·		<i>:</i>					٠.
	(A)			,								
	R											
Final Disposition												
sit	Returned to Pord at Chaco											İ
Spo	455 W								·			
	15 to 1											,
ina	1 7 E				, ,			i	,			
۴-	It a											
	ည	•	•									
	3228 Une											
	228											
9	8											
-	=											
Intended 11ee	36 ::				·					ļ		
3	Test											
	الع)		,		·		'					
	, our		·								,	
	Hydro							·				
11 7												
15 6	,19.											
Amount	52,619.05		·		·							
	1 "											
	g											
2	ש							·				
	Least Least							]				
	खु						ļ ,			·		٠.
'	9									·		
<b>I</b> .	El Paso Nothumbl Gas	<u> </u>		·							,	<b>.</b>
		<del> </del> -	<del> </del>					<del></del>				
وا	e											1
956	216/96		]		· ·							
	2/2											
ł		<del></del>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<del></del>	I	J	L	<u> </u>	<del></del>

Signature	Contract of the								·	
Final Disposition of Water	Katurred to pond at Claro	fetitioned to food at chaico	feturned to pond at clave	Katurund to pond at Claco	11.2 11.11.11.11			,		
Intended Use	36 Line doct the second Shi	300 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1								
Amount (Barrels)	143	571	(1)3 70 70	\$4. \$2.	2					
Company	: 6,75	EL Poso Di tural Seco	and jample of 19		12 12 14 12 17 17 17 17 17 17 17 17 17 17 17 17 17	·				
Date	36/8/	13.30		Constitution of the second	20/0	·				

		Amount		Final Disposition	
Date	Company	(Barrels)	Intended Use	of Water	Signature
12/11/95	El Paso Naturalisas San Juan Triangle Pro	- -	Hydrotest 36" pipe	dumped Back	Benjami Laze
	0	(4)	2/5	1319 CO CO 191	
12/21	EL Paso Natural Ges		Hydrotest 36" Pipe		
11/95	San Juan Triengle Ma.	143	3228 Line		Copyed Haye
121.21	EL Peso Naturel Ges		Hydrotest 36" Pipe		
56/,//	Sav Juan Triangle He	143	3228 35/Line		Bern K
12/11/21	EL Peso Nehunal Gras	1	Hydratest 365 PIPE		)
561	san Ivan triangle Ha	143	3338 Line		Device Any
12/21	Et Pero Netwell Ges		Hydrolast 36" pipe		0
17/95	san Juen triangle An	143	3228 Line	<b>&gt;</b>	Beyon They
12/21	EL Paso Natural Gas		Bewsterine Dipe	dumpes Beck	
54)	SAN JUAN TRIANGLE AD	, 143	3228 Line	CHaco Aust and	1 Superior Kar
12,1	EL Paso Neture 1 Ges		Denztering Pipe	dumped Back	
14/95	SZN JURN TRIONGIE PRO.	. 143	3228 Pipeline	CHaco Plant Pond	distinction of
12/	EL Paso Natural Gas		l L	Dumped Beech	
121/25	San Juan Triangle Pro	1#3	3228. FINE	CHECO Plant Pond	Contractor
12/ /	Er Pego Natural Gos		Dewstaking Pipe	Dumped 132ck	
121/22	Seu Juan Triangle An	143	3228 Line	t Pand.	Deprit
121	EL Paso Natural Gas	·	Denstaling Pipe	Dumpie Beck	
12/25	Bay July Triangle Pro.	040	3228 Fine	coteco Plant And	Bergen For

Signature	a Eshulf	alsoh &	Je Sechat	a British	)			o:		
E	M	Jan	W.	B						
Final Disposition	Returned to pond of Charo	Returned to pond of class	Returned to fond of Charo	Returned topoxel of chaeco				·		
Intended Hee	Hydrotest on bine 3228 36" Acad bor on 7100	HYDRO TEST ON LINE 3228	HYDROTESTON LINE 3228	HYPROTEST ON LINE 3228		•				
Amount	96	90	36	96						
, accessor	EPNG - San Juan Trlangle Project	FONU-San Tuen Triangle troject	El NE-San Suan Triangle Hoject	EpNO-San Fran						
0,50	12/15/95	12/15/95	18/15/94	12/15/95	·					

100	Signature	d Direction of the Contraction o	Some of the state	A Service Are	The Keny	Sen simeller	<u> </u>				
Final Disnosition	of Water	Roturned to pond at Chaco	Return to pond at Chaco	Return to pond at Chaco	Return to fond at Chaco	Return to pond at Chaco					
	Intended Use	Hydrotest 34" pipe Line 3228	Hydrotest 36" puper 3228 Line	Hydrotest 36" pupe 3228 Line	Hydrofest 36" pipe 3228 Line	Hydrotest 36" pipe 3228 bin					
7000	(Barrels)	143	143	143		143.					
	Company	El Paso Matural Gas - San Juan Triango, frigost	El Asa Matural Gas San Juan Triange Pro.	El Paso Noctural Gas San Juan Tri. Project	El Paso Matural Gas San Juan Triangle Pro.	El faso Natural Gas San Juan Trianga Project					
	Date		18/17/95	12/17/95	12/17/95	12/17/95	·				

Signature	Woland Jobble.	Nota Bodel	Heliew Hood						
Final Disposition of Water		Returned to poind at Chaico	Actumed to fond at Chaco				·		
intended Use	34"pipe	Hydrotest pipe on 3411 pipe	Hydrotese pipe on 34"pipe Line 1219 Huy 371.		•				
Amount (Barrels)	80	80	30						
Company	El Paso Matunal Gas (San Juan Triangle Exp)	3 PM FL Paso Naturo (Gas)	(Sau Snaw Trough Exp)					•	
Date	11/22/22/11	56/27	122/95	·					

		Amount	Intended Neo	Final Disposition of Water	Signature
El Paso Matural Cras (San Juan Triangle Paj) 80			6121 12	Dust control on Right of way	Confession of the Confession o
El faso Notwal Gas (San Juan Triange Proj) 80	<b>!</b> .		Audrotest on 34"pipe, 1219 Dine	Dust control on Right of Wong	(Lawie HOLZ
	80		Hydrotest on 34" pipe	Dust control on Right of Way	Church Selve
-	80		Hydrotest on 34" pipe 1219 Lin	Dust control on Right of way	Chill Sells
	•				
				,	
					•
		7			
		1			

		Amount		Final Disposition	
	Company	(Barrels)	Intended Use	of Water	Signature
11/ 20/95	El faso Klaturallas San Tuan Trianglifro.	40	Hydrotest on 3228 live	Return to pond at Chaco	2 Shull
		·			
					·
·					
		·			
	,				

		Amount		Final Disposition	
Date	Company	(Barrels)	Intended Use	of Water	Signature
56/11// <sub>11</sub>	El Paso Matural Gas Son Juan Triangla Proj.	143	Dust control ow right of won, on 1219 hine	Estay on Lay	The first of the second of the
119/95	EL Page Netheric Ens San Juan Franje Pe	1.		Return to Poned ist Chases	Der Kark in A. Cark in C.
		72	faupen into ser for jude first imparable goes and only proceeding	Returned to Yord at Chaeo	Degree teg
·					
		·			

	<del></del>			 		 <del>,</del>	 	 
Signature	Beil	A D						
Final Disposition of Water	Spray water on Right of way	<b>&gt;</b>						
Intended Use	Dust control on Row on Line 1219						·	
Amount (Barrels)	73		,					
Company	El Paso Maturalgas (San Juan Triange Maj)		·					
				·	·			

	4	2		5				•				
Signature	Sex I for	Jerzan Lar		Benzani Koung	•						•	
Final Disposition of Water	Sprayed on Right of way	2		Sprayed on Right of way						·		
Fin			,	۷۶								
Intended Use	Dust control on Right of way	. 1	Dust Control on Right of way	Dust Control on Right of way								
Amount (Barrels)	143	143	143	143			-		•	·		
Company	LGas e Ari)	(1	Es Paso NAtura.1848 San Jaan Trandefra	61 Paso Notheral Gas Sen Jewn TriangleAd								
Date		11/6/95	11/6/92			·						

### 2.0 GENERAL WORKING SPACE REQUIREMENTS AND RESTRICTIONS

- Working space details are provided in DWG. # 1219.1-1. The new pipeline will be constructed on the Navajo Nation, 20 ft. west of an existing EPNG pipeline. The majority of the construction right of way is 80 ft in width. However, there are 18 different areas along the proposed route that will require special right-of-way restrictions or avoidance measures due to cultural resources and one area that will require right-of-way restriction and avoidance due to biological resources. These areas are identified both on Drwgs. 1219.0-1 thru 1219.0-7 and on the Line List in Section 9 of the Environmental Construction Handbook. Where fences or other special barriers are required, they will be put in place by a third-party cultural resources contractor provided by EPNG. The proposed pipeline does not cross any wetlands.
- 2.2 All personnel and equipment shall remain within the working space requirements at all times.

### 3.0 FURNISHED BY EPNG

- 3.1 EPNG will furnish all material as listed on the "Bill of Material" illustrated in Tab 1 of Exhibit "A". EPNG will also furnish water for dust control, hydrostatic testing and tamping from EPNG's Chaco Compressor Station. EPNG will furnish test heads and pigs for hydrostatic testing, sizing pig, corrosion test leads and wire, paint, primer, and coal tar epoxy materials. All other materials and supplies, including form material, reinforcing steel, concrete, transportation (truck and/or pipeline) of water, Fusion Bonded Epoxy Coating for field joints and patch sticks are to be furnished by the Contractor.
- 3.2 Pipe for this project is located at two EPNG Compressor Stations: White Rock and Gallup. Major valves are located at EPNG's Gallup Compressor Station. The remaining items on the Bill of Materials will be available at EPNG's Farmington Warehouse. The Contractor shall load, transport and unload at the site of work all such materials and equipment. Upon receiving such materials and equipment, the Contractor shall assume care for, custody of, and control of it.
- 3.3 Excess pipe and material shall be transported to EPNG's Farmington Warehouse by Contractor.
- 3.4 EPNG will provide the necessary survey control during the course of the job and mark the route of the pipeline with centerline or offset stakes.
- 3.5 EPNG will provide third party environmental compliance inspectors.

### 2.0 GENERAL WORKING SPACE REQUIREMENTS AND RESTRICTIONS

- 2.1 Working space details are provided in DWG. # 1219.1-1. The new pipeline will be constructed on the Navajo Nation, 20 ft. west of an existing EPNG pipeline. The majority of the construction right of way is 80 ft in width. However, there are 18 different areas along the proposed route that will require special right-of-way restrictions or avoidance measures due to cultural resources and one area that will require right-of-way restriction and avoidance due to biological resources. These areas are identified both on Drwgs. 1219.0-1 thru 1219.0-7 and on the Line List in Section 9 of the Environmental Construction Handbook. Where fences or other special barriers are required, they will be put in place by a third-party cultural resources contractor provided by EPNG. The proposed pipeline does not cross any wetlands.
- 2.2 All personnel and equipment shall remain within the working space requirements at all times.

### 3.0 FURNISHED BY EPNG

- 3.1 EPNG will furnish all material as listed on the "Bill of Material" illustrated in Tab 1 of Exhibit "A". EPNG will also furnish water for dust control, hydrostatic testing and tamping from EPNG's Chaco Compressor Station. EPNG will furnish test heads and pigs for hydrostatic testing, sizing pig, corrosion test leads and wire, paint, primer, and coal tar epoxy materials. All other materials and supplies, including form material, reinforcing steel, concrete, transportation (truck and/or pipeline) of water, Fusion Bonded Epoxy Coating for field joints and patch sticks are to be furnished by the Contractor.
- 3.2 Pipe for this project is located at two EPNG Compressor Stations: White Rock and Gallup. Major valves are located at EPNG's Gallup Compressor Station. The remaining items on the Bill of Materials will be available at EPNG's Farmington Warehouse. The Contractor shall load, transport and unload at the site of work all such materials and equipment. Upon receiving such materials and equipment, the Contractor shall assume care for, custody of, and control of it.
- 3.3 Excess pipe and material shall be transported to EPNG's Farmington Warehouse by Contractor.
- 3.4 EPNG will provide the necessary survey control during the course of the job and mark the route of the pipeline with centerline or offset stakes.
- 3.5 EPNG will provide third party environmental compliance inspectors.





December 11, 1995

Mr. Chris Eustice New Mexico Oil Conservation Division 2040 South Pacheco Street Santa Fe, NM 87504

Re: Contact Water Ponds at El Paso Natural Gas Company's Chaco Plant

Mr. Eustice,

As per our conversation on December 5th, EPNG submits this formal request to supplement the information/request faxed to your office on December 4th outlining EPNG's difficulties regarding the contact water ponds at Chaco Plant.

### **Summary**

- The two lined, contact water ponds at Chaco Plant are only days away from full capacity as the aeration system was not fully functional until after the end of the 1995 summer (evaporation season).
- Initial estimates to dispose of water run about \$110,000/pond
- EPNG request permission to place the contact water in an existing pond at Chaco. A temporary 12 mil liner will be installed and maintained through June of 1996.

### Proposal

- Drain both ponds to the temporarily lined pond (see attached map).
- Take advantage, while the ponds are dry, to repair the leaks in the liners as long as the weather permits (as per letter from EPNG David Bays to Roger Anderson November 17, 1995).
- Several contractors are currently using the non-contact water for hydrostatic tests in the area this contact water will be isolated from all other ponds so that no contractors may access it.
- The contact water from the temporary pond will be placed in the permanent lined ponds as space is made available through evaporation.

This course of action should allow the lined ponds to operate through the winter months while EPNG re-evaluates the capacity and operation of the lined ponds. At that time EPNG will request approval for any change in operation of the ponds.

Please call if you require further information at 505 599 2175.

Thank you,

Patrick Marquez

Compliance Engineer

CC

S.Miller/D Bays/File: 5212 Regulatory

B. Yungert/J. Smith

December 4, 1995

Roger Anderson,

### Summary

- The two contact lined ponds at Chaco Plant are only days away from full capacity because the aeration system was not fully functional until after the end of the 1995 summer (evaporation season).
- Initial estimates to dispose of water run about \$110,000/pond
- EPNG request permission to place the contact water in an existing unlined pond at Chaco.

### Proposal

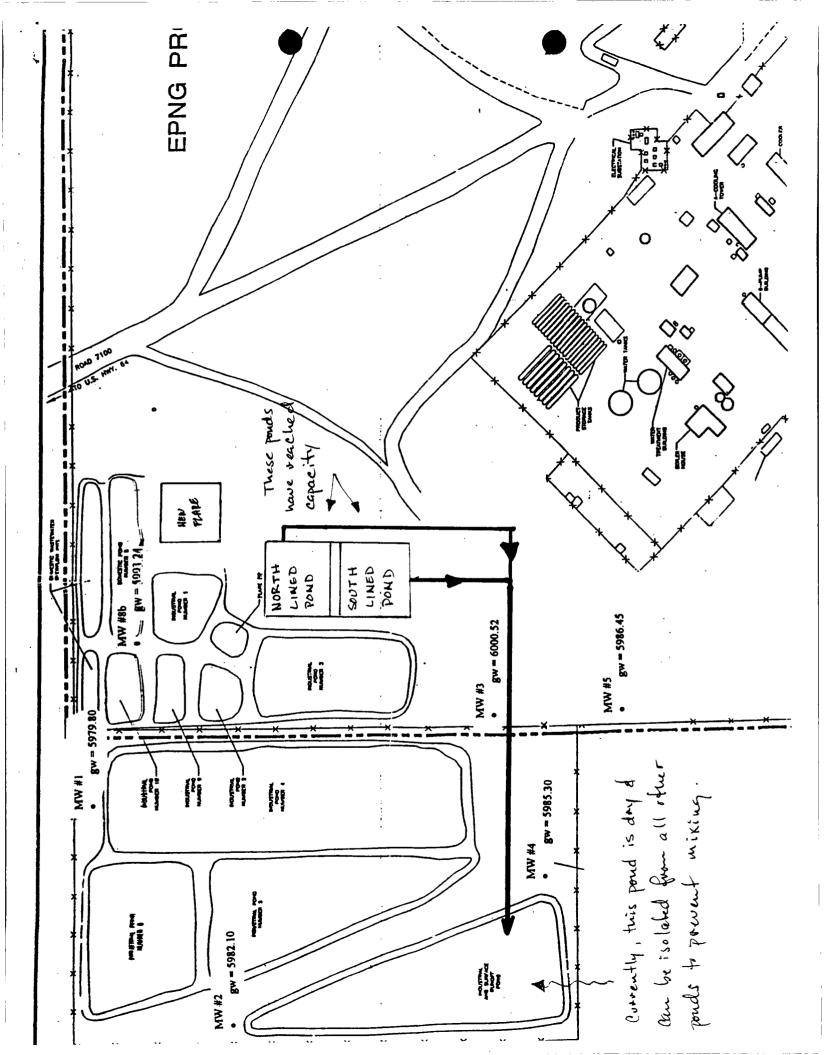
- Drain both ponds to an existing dry, unlined pond (see attached map). Estimate 50,000 bbls/pond
- Take advantage, while the ponds are dry, to repair the leaks in the liners as long as the weather permits (letter from EPNG David Bays to Roger Anderson November 17, 1995).
- EPNG will fertilize and sample the fill pond to ensure minimum impact from the contact water.
- Several contractors are currently using the non-contact water for hydrostatic tests in the area this
  contact water will be isolated from all other ponds so that no contractors may access it.

This should allow the lined ponds to operate through the winter months while EPNG re-evaluates the capacity and operation of the lined ponds.

Please call at 505 599 2175 at your earliest convenience.

Thank you,

Patrick Marquez Compliance Engineer





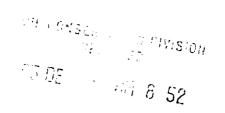
### United States Department of the Interior

### FISH AND WILDLIFE SERVICE

New Mexico Ecological Services Field Office 2105 Osuna NE Albuquerque, New Mexico 87113

Phone: (505) 761-4525 Fax: (505) 761-4542

December 5, 1995



Mr. William J. Lemay
Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87505

Dear Mr. Lemay:

This responds to the Energy, Minerals, and Natural Resources Department Oil Conservation Division's public notice dated October 31, 1995, regarding the State of New Mexico's proposal to approve the discharge plan for the applicant listed below.

(GW-71) - El Paso Natural Gas Company. The Compliance Engineer has submitted a discharge plan modification for the Chaco Gas Processing Plant located in Section 16, Township 26 North, Range 12 West, San Juan County, New Mexico. The modification consists of adding a replacement unit to the facility. Approximately 2405 gallons per day of produced water will be stored in an above ground double lined evaporation pond equipped with leak detection.

The U.S. Fish and Wildlife Service (Service) recommends the use of excluding technology (nets, fences, enclosed tanks, closed-forced evaporation systems, etc.) to prevent migratory bird and other wildlife access to any ponds or lagoons that contain toxic chemicals. We make this recommendation because produced water has the potential to pose a risk to the health of migratory birds.

The composition of produced waters from this and other areas has been known to contain chemicals in toxic quantities (Carey et al. 1992, Fucik 1992, Jacobs et al. 1992, Rogers et al. 1992, Shepherd et al. 1992, Stephenson 1992). The Service's primary concern is that birds that land on waterbodies with an oil sheen have the potential to contaminate their eggs during nesting season. Birkhead et al. (1973) reported that petroleum pollutants carried to the nest on breast feathers, feet, or nesting materials caused reduced hatchability of contaminated eggs. Albers (1977) and Hoffman (1978) showed that as little as 1 to 10 microliters of crude or refined oil topically applied to eggs of various bird species was embryotoxic or teratogenic. We recommend that the Oil Conservation Division or the applicant demonstrate that the pond will have no oil sheen and continue periodic testing to characterize the water quality and determine if any bioaccumulation or ecological risks seem imminent.

During flight, migratory birds may not distinguish between a pond or lagoon from a natural waterbody. Therefore, rather than allow migratory birds access to an attractive nuisance waterbody, we recommend that ponds and lagoons be constructed in a manner that is "bird-free" (i.e., netted), or the applicant demonstrate that the pond or lagoon is "bird-safe" (i.e., can meet New Mexico general water quality standards 1102B, 1102F, and 3101K).

The Service would rather solve the problem of migratory bird access to contaminated ponds and lagoons than take enforcement actions, which are expensive and disruptive to legitimate mineral extraction and production activities. The Migratory Bird Treaty Act (MBTA) makes it unlawful for anyone at anytime or in any manner to take (i.e., pursue, hunt, take, capture, kill, transport, or possess) any migratory bird unless authorized by a permit issued by the Department of the Interior. The courts have interpreted "illegal take" to include accidental poisoning or accumulation of harmful concentrations of contaminants 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 liability provisions of the MBTA preclude the necessity of proving intent and permits criminal prosecution of persons, associations, partnerships, or corporations that inadvertently or intentionally kill or illegally take one or more migratory birds. Therefore, if the creation and operation of a pond or lagoon results in migratory bird death, the operators may be held liable under the enforcement provisions of the MBTA.

Thank you for the opportunity to review and comment on this discharge plan application. If you have any questions, please contact Joel D. Lusk at (505) 761-4525.

Sincerely,

Jennifer Fowler-Props

Field-Supervisor

cc:

Chief, New Mexico Environment Department, Surface Water Quality Bureau, Santa Fe, New Mexico

Director, New Mexico Department of Game and Fish, Santa Fe, New Mexico Senior Resident Agent, U.S. Fish and Wildlife Service, Division of Law Enforcement, Albuquerque, New Mexico

### References Cited

- Albers, P.H. 1977. Effects of external application of fuel oil on hatchability of mallard eggs. Pages 158-173 in Fate and Effects of Petroleum Hydrocarbons in Marine Ecosystems and Organisms, D.A. Wolfe, Ed., Pergamon Press, New York, New York, USA.
- Birkhead, T.R., C. Lloyd, and P. Corkhill. 1973. *Oiled seabirds successfully cleaning their plumage*. Br Birds 66:535-543.
- Carey, J., A. Zaidi, and J. Ribo. 1992. Specific toxic organics in produced waters from in-situ heavy oil recovery operations in western Canada. Pages 133-150 in Produced Water: Technological/Environmental Issues and Solutions, J.P. Ray and F.R. Engelhadt, eds.. Plenum Publishing Corp., New York, New York, USA.
- Fucik, K.W. 1992. Toxicity identification and characteristics of produced water discharges from Colorado and Wyoming. Pages 187-198 in Produced Water: Technological/Environmental Issues and Solutions, J.P. Ray and F.R. Engelhadt, eds.. Plenum Publishing Corp., New York, New York, USA.
- Jacobs, R.P.W.M., R.O.H. Grant, J. Kwant, J.M. Marquenie, and E. Mentzer. 1992.

  The composition of produced water from Shell operated oil and gas production in the North Sea. Pages 14-21 in Produced Water:

  Technological/Environmental Issues and Solutions, J.P. Ray and F.R. Engelhadt, eds.. Plenum Publishing Corp., New York, New York, USA.
- Hoffman, D.J. 1978. *Embryotoxic effects of crude oil in mallard ducks and chicks*. Toxicology and Applied Pharmacology 46:183-191.
- Rogers, J.L., R.T. Hicks, B. Shaw, and J. Jensen. 1992. *Procedure for development of contingency plans to mitigate produced water releases on BLM lands*. Pages 35-44 in Produced Water: Technological/Environmental Issues and Solutions, J.P. Ray and F.R. Engelhadt, eds.. Plenum Publishing Corp., New York, New York, USA.
- Shepherd, M.C., F.L. Shore, S.K. Mertens, and J.S. Gibson. 1992. Characterization of produced waters from natural gas production and storage operations:

  Regulatory analysis of a complex matrix. Pages 163-173 in Produced Water:
  Technological/Environmental Issues and Solutions, J.P. Ray and F.R. Engelhadt, eds.. Plenum Publishing Corp., New York, New York, USA.
- Stephenson, M.T. 1992. A survey of produced water studies. Pages 1-11 in Produced Water: Technological/Environmental Issues and Solutions, J.P. Ray and F.R. Engelhadt, eds.. Plenum Publishing Corp., New York, New York, USA.

GARY E. JOHNSON GOVERNOR JENNIFER A. SALISBURY CABINET SECRETARY

1000 RIO BRAZOS ROAD AZTEC, NEW MEXICO 87410 (505) 334-6178 FAX: (505) 334-6170

Certified: P-987-892-159

December 6, 1995

El Paso Natural Gas Company Att. Patrick Marquez Compliance Engineer PO Box 4990 Farmington NM 87499

RE: Over spray pooling at the lined contact water ponds EPNG Chaco Plant

Dear Mr. Marquez:

During a visit to observe the closure of the abandoned earthen contact water ponds on November 30, 1995, over spray from the lined contact water ponds was observed pooling at the base of the pond containment berms. We specifically discussed this matter and the need for an immediate solution. Over spray from the contact water ponds is to be limited always and never allowed to pool on or run off the berms. Adjustments must be made with the anemometer or pump pressure to eliminate over spray. Plant personnel are responsible for either making these adjustments when over spray occurs or shutting down the system until qualified personnel can make the necessary adjustments.

Hopefully there will be no recurrence of the over spray problem if the anemometer is adjusted properly and is operating. Please contact this office at 334-6178 if you have questions.

Yours truly,

Denny G. Foust

**Environmental Geologist** 

DF/sh

xc:

Chris Eustice

Environmental File

DGF File



P. O. Box 4990 FARMINGTON, NEW MEXICO 87499

November 17, 1995

Registered Mail - Receipt No. P 645 521 867

Mr. Roger Anderson New Mexico Oil Conservation Division 2040 S. Pacheco Santa Fe. NM 87505

Dear Mr. Anderson:

During October 1995, El Paso Natural Gas Co. (EPNG) conducted integrity testing on the liners of four ponds in the San Juan Basin. The locations tested are the Ballard Separator pond, the Kutz Separator Pond, and the two contact wastewater ponds at the Chaco Plant. The testing was conducted by Leak Location Services, Inc. of San Antonio, Texas, using an electrical continuity test probe.

Leaks were found in all four of the pond liners. In the Ballard pond we identified 8 leaks; in the Kutz pond, 19 leaks; in the north Chaco pond, 15 leaks; and in the south Chaco pond, 9 leaks. Almost all of the leaks appeared to be in straight lines, indicating leaking seams.

Attached are the work plans we have developed to repair the liners. Please have your staff review these plans, and provide any comments you may have. For any additional information needed, please contact me at the above address, or at (505) 599-2256.

Sincerely yours,

David Bays, REM

Sr. Environmental Scientist

wil Bay

cc:

Denny Foust, NMOCD - Aztec

David Hall

S. D. Miller/P. J. Marquez/R. D. Cosby

### Chaco Plant Contact Wastewater Ponds Liner Repair Work Plan

### 1. Introduction

During liner integrity testing conducted on the Chaco Plant contact wastewater pond liners, several leaks were identified. This work plan identifies the steps to be followed in making the necessary repairs to those liners.

The liners were tested using an electrical conductivity probe. In order for this type of test method to work properly, it was necessary to inject approximately 20,000 gallons of water into the interstitial space between the upper and lower liners. This water allowed a complete electrical circuit between two probes, one placed in the pond and the other placed in the leak detection zone. When a pin hole was encountered, current flowed between the two probes and tripped an audible alarm to indicate the location of the leak.

### 2. Leak Detection System Monitoring

The first step of the repair process is removal of the water from the interstitial space. The leak detection monitoring wells, located immediately adjacent to each pond will be checked every other week to determine if free liquids are present. A small electric pump will be used to remove any liquids found, and to pump those liquids back into the lined ponds. Biweekly inspections will continue until the beginning of repairs on the liners.

### 3. Leak Repair Process

EPNG proposes to start actual repairs to the liners in May, 1996. It is prudent to delay repairs until the warm weather months, since it is very difficult to ensure a proper seal on the repair material when the liner is too cold. The repairs will be done in several phases. Once construction of the temporary holding pond begins (Paragraph 3.1, below), EPNG estimates that the total repair project can be completed within six weeks.

### 3.1. Temporary Holding Pond

The first phase of the repairs will be to construct a temporary pond to hold excess water from the large wastewater ponds. The temporary pond will be lined with a 10 mil thick hypalon liner, and sized to contain approximately one-half of the water volume from one of the permanent ponds.

### 3.2. North Pond Wastewater Transfer

Using a high volume oil field blender pump, (100 barrels per minute capacity) water will be transferred from the north wastewater pond to the south wastewater pond, until the south pound is full. The remaining volume will then be transferred into the temporary pond.

### 3.3 Liner Repair

Each leak point will be located, based on data from the leak survey. The area around each leak will be thoroughly cleaned using a solvent that is compatible with the liner system. A repair patch will be installed over the leak using a system which extrudes additional plastic into the repair joint, making a "welded" seam. Repair patches will not be attached by using a glue joint only. The minimum sized repair patch will be 18 inches by 18 inches. Larger patches will be used as necessary, depending on the size and location of the leak.

Where patches are placed over existing seams, the seam will first be sanded to a smooth surface. This will prevent attempting to weld the repair patch over an uneven surface.

### 3.4 Testing

All seams around each repair patch will be vacuum tested to ensure a proper seal around all edges of the patch.

### 3.5 South Pond Wastewater Transfer

Again using the high volume blender pump, all wastewater from the south pond will be transferred back to the north pond. The liner repair and testing procedures as described above will then be repeated on the south pond.

### 3.6 Temporary Pond Closure

Finally, the stored water from the temporary pond will be transferred back into the two contact wastewater ponds. Once emptied, the temporary pond will be allowed to air dry, the liner will be destroyed in place using a backhoe, and the area will be leveled to original grade.

### Kutz Separator Wastewater Pond Liner Repair Work Plan

### 1. Introduction

During liner integrity testing conducted on the Kutz Separator wastewater pond liner, several leaks were identified. This work plan identifies the steps to be followed in making the necessary repairs to that liner.

The liner was tested using an electrical conductivity probe. In order for this type of test method to work properly, it was necessary to inject approximately 5,000 gallons of water into the interstitial space between the upper and lower liners. This water allowed a complete electrical circuit between two probes, one placed in the pond and the other placed in the leak detection zone. When a pin hole was encountered, current flowed between the two probes and tripped an audible alarm to indicate the location of the leak.

### 2. Leak Detection System Monitoring

The first step of the repair process is removal of the water from the interstitial space. The leak detection monitoring well, located immediately adjacent to the pond will be checked every other week to determine if free liquids are present. A small electric pump will be used to remove any liquids found, and pump those liquids back into the lined pond. Biweekly inspections will continue until the beginning of repairs on the liner.

### 3. Leak Repair Process

EPNG proposes to both repair the existing liner, and to construct an additional lined pond adjacent to the existing pond. We currently plan to start the project in February, 1996. In anticipation of the construction activity, EPNG will submit an application for a Discharge Plan permit for the facility during January, 1996. The construction and repairs will be done in several phases.

### 3.1 Discharge Plan

The first step will be the submission of a Discharge Plan to obtain NMOCD approval for the expansion of the wastewater handling capacity of the facility. The application will fully identify existing equipment and operations, the planned additional wastewater capacity, and all waste streams handled at the location.

### 3.2 New Pond Construction

Following NMOCD approval, a new pond will be constructed north of the existing lined pond. The new cell will be 120 feet by 120 feet by 4 feet deep. It will be double lined with a leak detection system. Design criteria and installation drawings will be furnished with the Discharge Plan application.

The new cell liner will be tested for leaks prior to use. Once the liner integrity has been confirmed, all water from the existing pond will be transferred into the new pond, using a high volume oil field blender pump, (100 barrels per minute capacity).

### 3.3 Liner Repair

Each leak point in the existing pond will be identified based on data from the leak survey. An area around each leak will be thoroughly cleaned, using a solvent that is compatible with the liner system. A repair patch will then be installed over the leak using a system which extrudes additional plastic into the repair joint, making a "welded" seam. Repair patches will not be attached by using a glue joint only. The minimum sized repair patch will be 18 inches by 18 inches. Larger patches will be used as necessary, depending on the size and location of the leak.

Where patches are placed over existing seams, the seam will first be sanded to a smooth surface. This will prevent attempting to weld the repair patch over an uneven surface.

### 3.4 Testing

All seams around each repair patch will be vacuum tested to ensure a proper seal around all edges of the patch.

### Ballard Separator Wastewater Pond Liner Repair Work Plan

### 1. Introduction

During liner integrity testing conducted on the Ballard Separator wastewater pond liner, several leaks were identified. This work plan identifies the steps to be followed in making the necessary repairs to that liner.

The liner was tested using an electrical conductivity probe. In order for this type of test method to work properly, it was necessary to inject approximately 3,500 gallons of water into the interstitial space between the upper and lower liners. This water allowed a complete electrical circuit between two probes, one placed in the pond and the other placed in the leak detection zone. When a pin hole was encountered, current flowed between the two probes and tripped an audible alarm to indicate the location of the leak.

### 2. Leak Detection System Monitoring

The first step of the repair process is removal of the water from the interstitial space. The leak detection monitoring well, located immediately adjacent to the pond will be checked every other week to determine if free liquids are present. A small electric pump will be used to remove any liquids found, and pump those liquids back into the lined pond. Biweekly inspections will continue until the beginning of repairs on the liner.

### 3. Leak Repair Process

EPNG proposes to both repair the existing liner, and to construct an additional lined pond adjacent to the existing pond. We currently plan to start the project in February, 1996. In anticipation of the construction activity, EPNG will submit an application for a Discharge Plan permit for the facility during January, 1996. The construction and repairs will be done in several phases.

### 3.1 Discharge Plan

The first step will be the submission of a Discharge Plan to obtain NMOCD approval for the expansion of the wastewater handling capacity of the facility. The application will fully identify existing equipment and operations, the planned additional wastewater capacity, and all waste streams handled at the location.

### 3.2 New Pond Construction

Following NMOCD approval, a new pond will be constructed east of the existing lined pond. The new cell will be 120 feet by 120 feet by 4 feet deep. It will be double lined with a leak detection system. Design criteria and installation drawings will be furnished with the Discharge Plan application.

The new cell liner will be tested for leaks prior to use. Once the liner integrity has been confirmed, all water from the existing pond will be transferred into the new pond, using a high volume oil field blender pump, (100 barrels per minute capacity).

### 3.3 Liner Repair

Each leak point will be located based on data from the leak survey. An area around each leak will be thoroughly cleaned, using a solvent that is compatible with the liner system. A repair patch will then be installed over the leak using a system which extrudes additional plastic into the repair joint, making a "welded" seam. Repair patches will not be attached by using a glue joint only. The minimum sized repair patch will be 18 inches by 18 inches. Larger patches will be used as necessary, depending on the size and location of the leak.

Where patches are placed over existing seams, the seam will first be sanded to a smooth surface. This will prevent attempting to weld the repair patch over an uneven surface.

### 3.4 Testing

All seams around each repair patch will be vacuum tested to ensure a proper seal around all edges of the patch.

### NEW MEXICO ENERGY, A NERALS AND NATURAL R JOURCES DEPARTMENT

### OIL CONSERVATION DIVISION

2040 S. Pacheco Santa Fe, New Mexico 87505

November 17, 1995

### CERTIFIED MAIL RETURN RECEIPT NO. Z-765-962-515

Mr. Patrick Marquez
Compliance Engineer
El Paso Natural Gas Company
P.O. Box 4990
Farmington, New Mexico 87499

RE: PIT INVESTIGATION REPORT CHACO GAS PLANT, GW-71 SAN JUAN COUNTY, NEW MEXICO

Dear Mr. Marquez:

The New Mexico Oil Conservation Division (OCD) has reviewed El Paso Natural Gas Company's (EPNG) November 16, 1995 "REQUEST APPROVAL FOR CLOSURE OF CHACO INDUSTRIAL PONDS AND FLARE PIT". This document contains the results of EPNG's investigation of the extent of contamination related to the former use of the unlined flare pit and industrial ponds #1 and #2. The document also contains EPNG's proposed remediation/closure plan for these former disposal areas.

The above referenced remediation/closure plan is approved with the following conditions:

- 1. EPNG will provide the OCD with a report on the remediation/closure activities by February 2, 1996.
- 2. Since monitor well MW-1 is offgradient to monitor well MW-8b, the OCD requests that EPNG submit a work plan to the OCD by February 2, 1995 for additional delineation of the extent of ground water contamination.
- 3. Monitor wells MW-1 and MW-8b will be sampled on a semi-annual basis. Ground water from these wells be sampled and analyzed for benzene, toluene, ethylbenzene, xylene (BTEX), polynuclear aromatic hydrocarbons and heavy metals using EPA approved methods.
- 4. All documents submitted to the OCD for approval will be submitted to the OCD Santa Fe Office with copies provided to the OCD Aztec District Office.

Mr. Patrick Marquez October 13, 1995 Page 2

Please be advised that OCD approval does not relieve EPNG of liability if the remediation/closure activities fail to adequately remediate or contain contamination related to EPNG's activities. In addition, OCD approval does not relieve EPNG of responsibility for compliance with any other federal, state and local laws and/or regulations.

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

Sincerely,

William C. Olson Hydrogeologist

Environmental Bureau

xc: OCD Aztec District Office

### Z 765 962 515

### Receipt for Certified Mail No Insurance Coverage Provided Do not use for International Mail (See Reverse) Sent to

_	OSTAL SERVICE (See Reverse)	
15	Sent to	
1	Street and No.	
t	P.O., State and ZIP Code	
t	Postage	\$
t	Certified Fee	
ł	Special Delivery Fee	
,	Restricted Delivery Fee	
PS Form 3800, March 1990	Return Receipt Showing to Whom & Date Delivered	
arcu	Return Receipt Showing to Whom, Date, and Addressee's Address	
≥ ' 5	TOTAL Postage & Fees	\$
Š	Postmark or Date	
7		
ē		
Š		
	d at line over top of e	nyelone to t

Fold at line over top of envelope to the right of the return address



OH CONSERVE ON DIVISION RECUED

195 NO 24 AM 8 52

November 16, 1995

RECEIVED

NOV 2 9 1995

Environmental Bureau
Oil Conservation Division

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

Re:

Request Approval for Closure of Chaco Industrial Ponds and Flare Pit

Dear Mr. Olson:

EPNG has completed the investigation of the Industrial Ponds and Flare Pit according to the EPNG's Work Plan for Closure. Based on the information gained, EPNG request approval for closure of the subject ponds.

### Investigation

Some generalities existed throughout the investigation: 1) As outlined in the work plan, one source sample was taken approximately five feet beneath the surface of each pond and each was visibly contaminated 2) the perched aquifer was encountered at all but one bore hole (#8) at a depth of eight to fifteen feet from an estimated datum 3) clay was first reported on all drilling logs at depths ranging from fifteen to twenty feet and 4) all drilling logs recorded dry soil immediately beneath the perched aquifer to depth of bore.

As you recall, seven bore locations were drilled to establish the extent of contamination while one monitor well installation was scheduled to monitor the perched aquifer quality immediately down gradient of the ponds. As stated above, the perched aquifer was encountered at locations 1-7 but not at location #8. Soil samples were taken at the eighth location and the monitor well was installed just south of #8 and is referred to as 8b (see site sketch). The absence of ground water at location #8 would indicate that ground water is not moving northward as expected.

Ground water movement has been re-calculated using the latest ground water data and is shown to be moving northwest rather than just east of north as previously believed - see ground water elevation map.

### **Conclusions**

The data gathered during the investigation is summarized in Tables 1 & 2 (Please note: metals analyses are reported as Totals - divide all values by 20 to get a TCLP equivalent). As expected, the source and shallow (1-10 ft) soil samples showed the highest levels of TPH while the deeper analyses show low or no levels of TPH or BTEX. This along with the absence of water at depths below the recorded clay layer would suggest that the contamination and perched aquifer are confined to the shallow depths of the pond area.

The analyses from monitor well #8b show the level of benzene in the perched aquifer immediately (< 30 ft) north of Industrial Pond #1 to be 29.5 parts per billion. This result is not surprising considering the proximity of MW8b to this pond. The historical data from the existing monitor wells and the depth at which each bore hole "cleaned-up" support EPNG's belief that contaminants are not moving offsite in spite of this data point. This is confirmed by the absence of BTEX in monitor well #1 which is directly down gradient of the subject ponds.

### **Proposed Closure Plan**

Based on the data presented in this document and the historical monitor well data provided to your office in October of this year, EPNG proposes fill the ponds with a mixture of earth and manure. The manure will be added to promote the natural biodegradation of the shallow layer of contamination identified by this investigation. Each pond will be capped and contoured with a 6-8" layer of clay to prevent pooling and infiltration of stormwater. EPNG will continue to sample the existing monitor wells as instructed by The NMOCD (Water Quality Monitoring - NMOCD to Patrick Marquez, October 13, 1995).

Further justification for this proposal are as follows:

• Monitor well analyses show that no hydrocarbon constituents have moved off-site via the subsurface water generated by the operation of the ponds.

The analyses provided in the Annual Report show the absence of Benzene, Toluene, Ethylbenzene, Xylene in monitor wells 1-7.

• Presence of 50+ feet of low permeability shale is present above the regional aquifer at the Plant site.

Driller's log show that the Plant site is resting on less than fifty feet of sandy deposits above the lower shale unit of the Nacimento Formation. Fifteen to Twenty feet of sandstone was encountered below the shale layer. Log provided under Tab 3.

• Depth to ground water is approximately 120 feet.

Driller's log reports that water was encountered at a depth of 120 feet in the Ojo Alamo Formation. No other water bearing zones were encountered to a total depth of 505 feet.

All contact water is and will continue to go to the new lined ponds as directed by NMOCD.

### Attachments

- Tab 1 A water table elevation map for all monitor wells at this facility.
- Tab 2 The geologic log for each boring and the monitor well and the as built well completion diagram for each monitor well.
- Tab 3 Driller's Log showing soil classifications to a depth of 500+ feet.

EPNG respectfully request approval to close the Chaco Ponds as described above. Should you require more information, please do not hesitate to call at 505-599-2175.

Thank you,

Patrick J. Marquez

Compliance Engineer

cc:

Denny Foutz NMOCD- Aztec Sandra Miller/David Bays/File: 5212

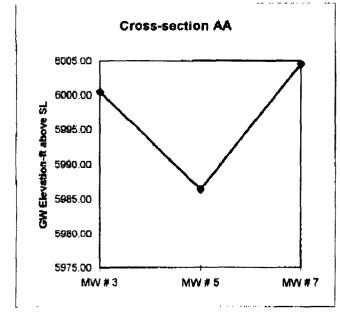
Analyte/Bore Hole Location         1         1           Sample Number         951048         951049           Depth (ft)         5-7         30-32           Total Metals (EPA 6010) mg/kg         3         2           Arsenic         3         2           Barium         ND         ND           Cadmium         ND         ND           Chromium         4         9           Lead         4.6         12           Mercury (7471)         ND         ND           Selenium         ND         ND           Silver         ND         ND	2 951050 10-12 ND													
lalyte/Bore Hole Location 1  Sample Number 951048  Depth (ft) 5-7  Ietals (EPA 6010) mg/kg 3  m ND  lum A4  lum 44  //(7471) ND  n ND  n ND	2 951050 10-12 ND								•					
Sample Number   951048   Depth (ft)   5-7	951050 10-12 ND	7	6	6	4	4	v	vo	9	9	7	7	<b>48</b>	æ
Depth (ft) 5-7  fetals (EPA 6010) mg/kg  3  80  m  ND  Jm  4  4.6  7.7471)  ND  n  ND	10-12 ND	951051	951058	951059	951046	951047	951060	951061	951064	951065	951062	951063	951066	951067
13 3 80 mm ND mm ND 4.6 4.6 (7471) ND	QX	30-32	5-7	30-32	13-15	20-22	10-12	30-32	10-12	30-32	10-12	30-32	40-42	15-17
3 m ND ND 4 Jun 4 4.6 7.(7471) ND ND ND ND ND	Q													
m ND ND 4 4 4.6 7.7471) ND		61	_	9	3	3	£	3	1	9	QN	∞	4	•
uium     4       uium     4       ry (7471)     ND       rm     ND	20	40	08	10	10	50	30	20	50	20	40	40	Q.	20
14 4 4.6 4.6 4.6 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	ON	QN ON	GN.	Ð	ND	Ð	Ð	QN	Q.	QN	S S	QN	QN	S
ry (7471) ND IM ND ND	-	3	3	4	-	3	23	11	9	8	∞	7	2	-
ry (7471) ND Im ND ND ND	2.3	4.5	4.3	5.2	2	18	3.3	14	3.4	6.1	3.1	9.3	3.1	2.9
UN WD	ND	ND	QN	Ð.	ND	Ð	£	QN	Ð	Q.	S S	QN	QX	CN CN
QN	QN	S S	QN	NO ON	S Q	£	Ω Q	QN	Ð	Q.	ΩN	S	QN.	S
	ND	ND	ND	Ð	QN QN	S S	S	QN	Q.	QN	QZ.	QX	QN	CN
Source BTEX (8020) mg/kg														
Benzene <0.5 <0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene <0.5 <0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethyl Benzene <0.5 <0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	7:0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Xylenes 1.5 <1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	4.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	V
Total BTEX 1.5 <3.0	≪3.0	€3.0	≪3.0	3.0	≪3.0	≪3.0	9.8	3.0	3.0	3.0	3.0	3.0	3.0	<b>₽</b>
TPH (418.1 mg/kg) 2068 <10	<10	<10	4300	<10	<10	<10	38400	<10	28100	16	17500	<10	<10	01∨
"Source" Sample?					Source		Source							
High PID * Bottom	*	Bottom	*	Bottom	None	Bottom	*	Bottom	*	Bottom	*	Bottom	Bottom	MW#8
Monitor Well Identification 1 2	3	4	\$	9	7	8b								
MW Elevation - Top of Pipe (ft) 6002.70 5997.40 (	89'11'09	6004.44	6011.07	6021.43	6013.79	6010.63								
Sept. 21, 1995 Static Levels (ft) 22.90 15.30	11.16	19.14	24.62	11.67	9.25	17.39								
Ground Water Elevation (ft) 5979.80 5982.10 (	6000.52	5985.30	5986.45	92.6009	6004.54	5993.24								

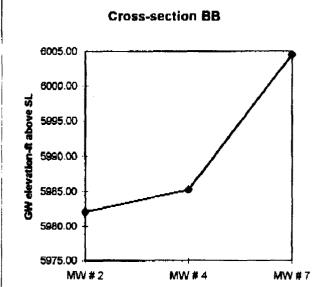
			Monitor Well 8b					
			Sample #951068					
Total Metals	Result	Units	Polynuclear Aromatics	Result	Units	Cations/Anions	Result	Units
Aluminum	2.8	mg/l	Naphthalene	QN	ng/L	Hď	8.02	soyum
Arsenic	0.05	mg/l	Acenaphthylene	Ð.	ng/L	Alkalinity as CO3	0	mdd
Barium	0.1	l/gm	1-Methylnaphthalene	10.5	ug/L	Alkalinity as HCO3	780	mdd
Boron	0.4	mg/l	2-Methylnaphthalene	f9	ng/L	Calcium as Ca	13	mdd
Cadmium	8	mg/l	Acenaphthene	ND	ug/L	Magnesium and Mg	4	mdd
Chromium	<u>S</u>	l/gm	Fluorene	3.6	ng/L	Total Hardness as CACO3	49	mdd
Cobalt	8	mg/l	Phenanthrene	ND	ng/L	Chloride as Cl	158	mdd
Copper	ND	mg/l	Anthracene	ND	J/gn	Sulfate as SO4	289	mdd
Iron	2.2	l/gm	Fluoranthene	ND	ug/L	Flouride as F	2.2	mdd
Lead	<u>R</u>	l/gm	Pyrene	ND	ug/L	Potassium as K	0.65	mdd
Manganese	0.25	mg/l	Benzo(a)anthrecene	ND	ng/L	Sodium	553	mdd
Mercury	Q.		Chrysene	ND	ug/L	Total dissolved Solids	1424	mdd
Molybdenum	QN		Benzo(b)flouranthene	ND	ng/L	Conductivity	2280	soyum
Nickel	QZ	l/gm	Benzo(a)flouranthene	ND	ug/L	Nitrate as NO3-N	<0.1	mdd
Selenium	QN	mg/l	Benzo(a)pyrene	ND	ug/L	Phosphate as PO4	4.2	mdd
Silver	ND	l/gm	Dibenzo(a,h)anthracene	ND	ng/L			
Zinc	0.07	l/gm	Benzo(g,h,i)perylene	ND	ng/L			
BTEX (8020)			Indeno(1,2,3-c,d)pyrene	QN	ng/L			
Benzene	29.5	ddd						
Toluene	<2.5	qdd						
Ethyl Benzene	<2.5	qdd						
Total Xylenes	<7.5	qdd						
ND = Not Detected								
J = Estimate value. Below requested detection limits	ted detection	limits						

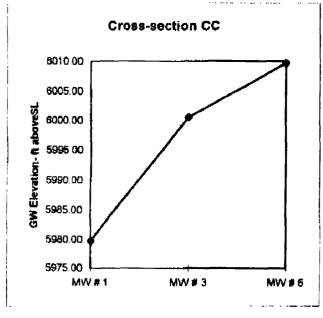


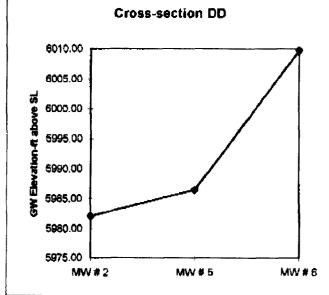


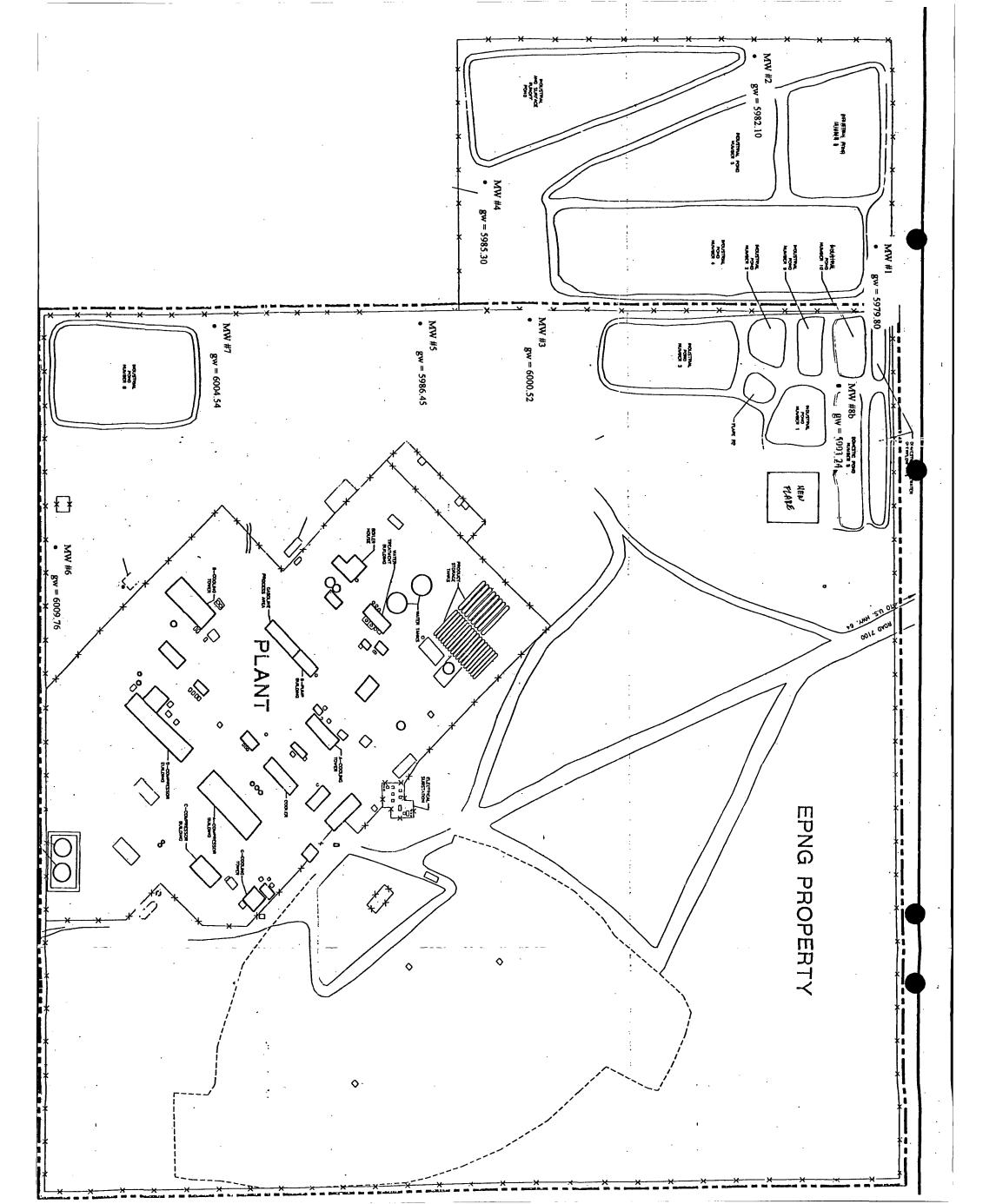
WELL	Water Level	Cross-sec	tion AA	Cross-sec	tion BB
MW # 1	5979.80	MW # 3	6000.52	MW # 2	5982.10
MW # 2	5982.10	MW # 5	5986.45	MW # 4	5985.30
MW # 3	6000.52	MW # 7	6004.54	MW # 7	6004.54
MW # 4	5985.30				
MW # 5	5986.45	Cross-sec	tion CC	Cross-sec	tion DD
MW # 6	6009.76	MW # 1	5979.80	MW # 2	5982.10
MW # 7	6004.54	MW#3	8000.52	MVV # 5	5986.45
MW #8	5993.24	MW # 6	6009.76	MW # 6	6009.76











**Record of Subsurface Exploration** 

Burlington Environmental Inc. 4000 Monroe Road Farmington, New Mexico 87401 (505) 326-2262 FAX (505) 326-2386

Elevation	
Borehole Location	MW - 1
GWL Depth	15'
	cott Pope
	odgers Inc.
Date/Time Started	9-29-93 / 0830
Date/Time Completed	9-29-93 / 1000

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

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

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

	<del>,                                     </del>		Comme			Comments	_			
			Sample Type &	Sample Description	uscs	Depth		Monte		20000000000
Depth	Sample	Sample	1			Change	1	Air Monitoring Units: NDU		Drizing Conditions
(Foot)	Number	Interval	Recovery	Classification System: USCS	Symbol					& Blow Counts
	<b>↓</b>	<del> </del>	(inches)			(Feet)	BZ	BH	<u> </u>	
0	1	ł			ı		l	1		
	1	ł	i i				1	i	İ	]
	1	1			ŧ		l			ļ
<b> </b>   _ ·	L	ļ			l	1	_	_	_	j
	1	l	SS	Brown SAND with Silt, fine-grained Sand,	į		0	0	0	
5	1	5_	24	moist, loose.		1	1		1	i
	1	Ì			SM		1	l		
		1			]		1	l		1
					1	1		_		İ
	1	1	SS	Brown SAND with Silt, fine-medium grained,	1	İ	0	0	0	
10	2	10	24	trace Clay, moist, loose.			1	l		- Noted wet cuttings at 10'.
		1	1				ì			
	1				ì	1	Ì	1	1	1
		<u> </u>	ļ		1	13.0				
			SS	Brown SAND, medium-coarse grained, trace	ł		0	0	0	
15	3	15	24	Clay, trace Silt, moist, medium dense.	i		1	]		- Water estimated at 15'.
		Ī	<b>!</b> .				l			ì
	1	İ				l	l			
							1			]
		ľ	SS	Brown SAND, medcoarse Sand, trace Silt,	SW			1	}	- Sample refusal at 9°.
20	4	20	9	sporadic cementation. Noted coal fragments,		1	0	0	0	- Noted saturated cuttings at
		Ī		moist, very dense, possibly cemented.			l	ł		20.5'. Noted clay in
	1	1	1		ł					cuttings.
I C			<u>l</u>					1	1	
			SS	Brown cemented SAND, medcoarse grained	l	ļ	0	0	0	- Sample refusal at 6°.
<u></u> 25	5	25	6	Sand, trace fine Gravel, some oxistains, moist,	Į.		l			•
		Ι		very dense.	1		1			
		Ì	1	TOB - 23.8'	ł			ļ		1
		1			ł				1	1
	1	l	]		ł		1	l	1	
30	, [	1	1		i					1
	1		İ		1		1	1	1	]
	i	İ			l		l	1	l	
	1	ł			i		1			
	1	ł	1				l		l	1
35		1			1	}	1		1	
	1	ł			1		1		l	1
	1	1	1		I	1	1	1	1	
			1		l	ļ	į .		ł	
	1						1			
40	1		1	İ	1			1		
1	:	1	1		1				İ	
1		1	;		<u> </u>	1		:	i	

Comments:	* Let sit to see if water would accumulate. Had 8° of water in augers	Discussed with Gerry Garibay. Will set wel
	at 23'.	
		1 - 1

Geologist Signature 1. Page

# RECORD OF SUBSURFAC



Burlington Environmental Inc. 4000 Monroe Road Farmington, New Meedco 87401 (505) 328-2282 FAX (505) 328-2388

Borehole s	<i>-</i>	MW-2	
Well #		MW-2	
Page 1	of	1	

Project Name	EPNG - CH	aco Plant	
Project Number	10942	Phase	2001 / 77
Project Location	San Juan C	ounty, NM	

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

_			<del></del>		<del></del>	Depth	_			
1	İ		Sample			1				
Depth	Sample	Sample	Type &	Type & Sample Description USCS Lithology Air Monitoring				ring	Drilling Conditions	
F0	Number	interval	Recovery	Classification System: USCS	Symbol	Change	l u	Inita: NC	DU UK	& Blow Counts
1	1		(inches)	·	1	(foot)	BZ	BH	s	1
	┼		, p		<del></del>	Forty	<del> </del>	T	ГŬ	
<b>_</b> °	1		1		ł	1	1	l	l	
					ł	1	1	l	1	1
			i i		1	l	l	1	ļ	1
1	1		i 1		1	ŀ	i	i	l	
			SS	Brown-Gray CLAY with Silt and fine Sand,	CL.		l	i	1	/
5	1	5	24	evaporate filling of voids, roots, Organic			0	0	٥	- Tight drilling.
	<u> </u>	-	24				١٠	יי	"	- right chang.
l L			l 1	Matter, odstaining, moist, very stiff.			]	1	ľ	
<b>#</b> 1	1		1 1				ļ		l	1
			1 1			8.0	1	l	1	i i
			SS	Lt. Brown Sitty SAND, fine-medium grained,			٥	0	٥	- Sample refusal at 18°.
I		40	1		SM		"	"	i	
10	2_	10	18	trace Clay, oxistaining, moist, dense.	SM		1		1	Tight drilling continues.
	1		j 1				l		l	
	1						1		!	
	1		{			13.0	1		l	- Tight drilling continues.
	<b></b>		ss	Brown-Lt. Brown SAND, coarse grained,	<b>j</b>		0	٥	0	- Sample Refusal at 6".
<b>I</b>								"	U	- Sample Metusal at o.
15	3	15	6	trace Silt, trace coarse gravel, moist,						
1	1			very dense, cemented fragments.	•	İ				
	1									
<b>!</b> ⊢										
1 ├-	<b>—</b>		SS	Same as above.	sw		0	0	0	Comple Detroit of St
<b>I</b>					311		U	U	U	- Sample Refusal at 6".
20	4	20	6	Saturated.						
								l		
<b>■</b>	]									
<b>I</b> ├-	<b> </b>			Como ao abara					_	CI- D-4I -4 61
			SS	Same as above.			0	0	0	- Sample Refusal at 61.
<u></u> 25	5	25	6	Sample was moist at bottom.						Seemed to be getting out
				TOB - 25'						of saturated zone.
										Will set well at 25'.
1 —	1 1					-				77111 OOC 117011 CE ED .
<b>!</b> ⊢	[ [									
I [_	] ]									
30	1 1									
	1 1									
	1 1									
<b>I</b>	1 1					ļ			i	
<b>I</b> ├-	}									
▮┕										
35					i i					
	1 1	į				1				
				!						
<b>1</b> ├─	]			i						
▮⊢	]	1	İ							•
						ļ				•
40	] [								'	
1 —		!								
		:			•	:		:		
L		-								

Comments:	 				
				<del></del>	
		Geologist Signature	din.T.	Para	

# RECORD OF SUBSURFACL



Burlington Environmental Inc. 4000 Monroe Road Farmington, New Mexico 67401 (505) 328-2282 FAX (505) 328-2388

Borehole #_	MW-3	
Well #	MW - 3	_
Page 1 c	1	_

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

Well Logged By
Personnel On-Site
Contractors On-Site
Client Personnel On-Site
Kris Sinclair

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

			Sample			Depth	i			
Depth	Sample	Sample	Type &	Sample Description	USCS	Lithology	AL.	Monitor	ing	Drilling Conditions
(Feet)	Number	interval	Recovery	Classification System: USCS	Symbol	Change	ļυ	nits: NC	XU UX	& Blow Counts
• 1		1	(inches)			(Feet)	BZ	BH	S	
E				D. CAND WH CIR for main of Cond	<b>~</b>					
_ 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'.
Ľ		ļ				8.0	0	0	0	- Water at 8'.
10	2	10	SS 24	Dark Gray-Black SAND, fine-medium grained, with Silt, saturated, loose. Grayish-Green Silty CLAY, with evaporate	sw	9.7				- Noted dark gray-black staining at 8-10' w/sewage
-				filling of voids, oxistains, low plasticity, moist, very stiff.	a	13.0				odor. No PID readings.
15	3	15	SS 24_	Grayish-Green Silty CLAY, w/Sand, fine-med. Sand, low plasticity, moist, stiff.		16.5	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.
25		20	3	TOB - 20'						

Comments:	Will set well at 20'.
	Geologist Signature

# 

Burlington Environmental Inc. 4000 Monroe Road Farmington, New Medico 87401 (505) 326-2282 FAX (505) 326-2388

Elevation	·
Borehole Location	MW - 4
GWL Depth	20'
Logged By S	cott Pope
	odgers Inc.
Date/Time Started	9-30-93 / 0945
Date/Time Completed	9-30-93 / 1210

<b>Borehole</b>	•		MW - 4	<u>}</u>
Well #			MW - 4	
Page 1		of	1	

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

	7		Sample		1	Depth				
Depth	Sample	Sample	Type &	Sample Description	uscs	Lithology		Monitor	100	Drilling Conditions
(Feet)	Number	, ,	Recovery		Symbol	Change		mits: NC	-	•
,	· vollade	a nosival	(inches)	O-Daniel Oyaciii. Oooo	Symbol	(feet)	BZ	BH	~ S	& Blow Counts
0	<del>                                     </del>	<del> </del>	(procavas)		<b></b>	pecy	-	<u> </u>		
~	1	į	<b>!</b>							:
<b> </b>			Į į						l	<b>‡</b>
<b> </b>									l	
<b>!</b>	<u> </u>	<del> </del>	-	Barren City Candy Cl AV for madium Cond				•	Ì	
- <sub>5</sub>		5	SS 18	Brown Sity Sandy CLAY, fine-medium Sand, trace moisture, very stiff, trace fine Gravel,	α		0		0	
I ├─ °	1	3	10	· · · · · · · · · · · · · · · · · · ·	~ ·		U	0		]
<b> </b>			l i	evaporate filling of voids.						
<b> </b>										
<b>I</b>						8.0			_	- Sample Refusal at 16".
			SS	Brown-LLBrown Sity SAND w/Clay, fine-med.			0	0	0	l
10	2	10	16	Sand, some oxistaining, moist, very dense.	SM					- Very tight drilling. Had to add
<b> </b>		ĺ		-, ,-, -,-,-,- ,		11.0				water (5 gal) to get cuttings
<b> </b>	]	l	] ]	Lt. Brown-Yellow CLAY w/Sand, trace	CL					to exit hole.
I 📙				moisture, very stiff (cuttings).		13.0				}
	1	1	SS	LL Brown-Yellow SAND with Silt, trace Clay,						1
<u> </u>	3	15	6	medium-coarse Sand, moist, very dense,	SW		0	0	0	- Very hard dritting.
				probably cemented.		1				- Driller felt like he got through
										tight layer at 17'.
						18.0				
			SS	Lt. Brown coarse SAND, trace Gravel, trace						- Refusal at 6*.
20	4	20	6	Silt, moist, very dense, possibly cemented.		1	0	0	0	- Had 4" water in hole.
		-		·	SP					- Noted gravel in cuttings,
										some as large as 2".
						23.0	- 1			- Refusal at 12".
			S	4° of Gray CLAY surrounding coarse, moist Sand		1				- Had approximately 2° of water
25	5	25	12	and coarse Gravel, very stiff, changing to Yellow	CL	į	0	0	0	ester hole after sitting 10 min.
				Sandy Gravelly CLAY with coarse to very coarse						- Noted abundant saturated
	1			Sand and coarse Gravel.			]			cultings.
	j j			Noted some wet zones within sand and gravel.		28.0				- Driller noted changes at 27'.
			SS	Gray Silty CLAY w/periodic fine Sand lenses, oxi-						
30	6	30	24	staining, trace coal, low plasicity, moist, very stiff.	CL	j				• •
<b>  ├─</b> ~~				Appeared laminated in some areas.			1	1		
	1			TOB - 30'	1	1	I			
-								1		
										1
35							ł			
ا∽⊸ا ا						1				
							Ì	]		]
							}			
-							1			
H 40						i	1	-		
<u>                                   </u>							ļ			
							!			
	1									!

Comments:	Will set well at 28'.		
			Λ
		Geologist Signature	L=T. Pon

Burlington Environmental Inc.

4000 Morroe Read

Fermington, New Mexico 87401 (505) 328-2282 FAX (505) 326-2388

Elevation

Borehole Location

GWL Depth

Logged By

Drilled By

Date/Time Started

Date/Time Completed

Elevation

MW - 05

MW - 05

Scott Pope

Pope

Rodgers Inc.

6-27-94 / 1100

Date/Time Completed

6-27-94 / 1345

Borehole #	MW - 05	_
Wali 2	MW - 05	_
Page 1	of 1	

Project Name EPNG - Chaco Plant
Project Number 12588 Phase 2001 / 77
Project Location San Juan County, NM

Well Logged By Scatt Pape
Personnel On-Site Scatt Pape
Contractors On-Site Radgers Inc.
Client Personnel On-Site Getry Garibay

Drilling Method HSA 6 1/4" ID

Air Monitoring Method HNU, CGI

Dapus (Feet)	Sample Number	Sample Interval	Sample Type & Recovery	Sample Description Classification System: USCS	USCS Symbol	1		ir Monto Jruts: Al	) V	Drilling Canditions & Blow Counts
-			(inahes)		<b> </b> -	Ifeet)	BZ	ВН	<u> </u>	
IF										
5	1	3.5 5.5	\$5 20"	Brown Sandy CLAY, trace Silt, Sand fine-medium grained, some evaporite filling of voids and oxi-stains, medium plasticity, medium stiff, moist.	CL	7.5	0	c	a	
10	2	8.5 10.5	\$5 24"	Brown SAND, fine-medium grained, loose, moist to wet. Brown-gray CLAY, trace fine Sand and	sw	10.5	0	0	0	Driller noted change in conditions @ 7.5'.
15	3	13.5 15.5	SS 6"	Silt, stiff, maist, some evaporite filling of voids. Lt. Brown-Tan SAND, medium-coarse grained, very hard possibly cemented, maist.	<b>C</b> L	13.5	0	0	0	Refusal @ 6".
20	4	18.5 20.5	SS 8"	Ten-Buif SAND, same as above.	sw		0	٥	o	Refusal @ 8".
25	5	23.5 25.5	ss	Lt. Brown-Buff SAND, fine grained, very hard, trace moisture, probably cemented. Lt. Brown-Buff SAND, coarse grained, trace fine Gravel, trace Clay, moist-wet.	SP	24	0	0	0	Refusal @ 8". Noted 1" water in bottom of hole on
30 	6	28.5 30.5	5\$ 10"	Lt. Brown-Buff silty SAND, fine grained, very hard, moist, probably camented. TOB 29.2*	sw	28.5	0	۰	0	driller's tape.  Refusal @ 10" Hole open to 28' Pulled auger up 2' to lot
35				·						water accumulate in borehole. Water came up to 25'.  Discussed well completion with Gerry Garibay, will set @ 28' with 20' of screen.

Comments:					
			2	Λ	
	Geologiet Signature	1	into I	Par	

Burlington Environmental Inc. 4000 Maryon Road farmington, New Mexico 87401

Date/Time Completed

MW - 06 MW . OB Well # Page uf

(606) 328-2282 FAX (50	5) 328-2388
Elevation	
Borehole Location	MW - 06
GWL Depth	11.5
Logged By	Scott Pope
Drilled By	Rodgers Inc.
Data/Time Started	5-28-94 / 0745

6-28-94 / 0910

EPNG - Chaco Plant Project Name 1 2588 Phase San Juan County, NM 2001 / 77 Project Number Project Location

Scott Pope Well Logged By Personnel Cin-Site Scatt Pope Rodgers Inc. Contractors On-Site None Client Personnei On-Site

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

Dapth (Feet)	Semple Number	Semple Interval	Sample Type & Recovery (inches)	Swinkle Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)		Air Monito Uniss: N BN	•	Drilling Conditions & Blow Course
0 5	1	3.5 5.5	\$\$ 12*	Brown-Lt. Brown SAND, fine grained, trace Silt, some evaporite filling of voids, very hard, moist.	SP		0	O	•	Relusal @ 12".
10	2	8.5 10.5	SS 24"	Brown SAND, fine grained, trace Silt, medium dense, moist to wet.			0	٥	0	
15	3	13.5 15.5	SS 24"	Brown CLAY, with Silt and fine Sand, stiff, moist, evaporite filling of voids.	CL	13.5	o	O		Pull augere up 1' to let water accumulate. Water came up 11.5' in borehole. Will set well @ 22.0'.  - Driller felt like lithology changed to sandstone @ 19', but no cutungs to show change.
25				TOB - 22.0°						No additional samples taken past 15.5°.
35										

Comments:		 			 
		 		$\overline{\gamma}$	
	Geologist Signature	rest.	T. 1.	an	

Burlington Environmental Inc.

4000 Morroe Road

Fermington, New Mexico 87401

(606) 326-2262 FAX (606) 326-2388

 Borehole # MW - 07
Well # MW - 07
Page 1 of 1

Project Name EPNG · Chaco Plant
Project Number 12588 Phase 2001 / 77

Project Location

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

San Juan County, NM

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

1	T	I	Sample			Depth				
Depth	Semple	Sample	Type &	Sample Description	uscs	Lithelagy	1 .	Nr Monit	oring	Drilling Conditions
(Feet)	Number	Immerval	Recevery	Classification System; USCS	Symbo	Change	ł	Units: N	: NDU & Blow Counts	
1	1	<b>[</b>		1		-	87			1
		ı	Type & Recovery tinches			Lithelogy	0		_	Drilling Conditions & Blow Counts  - Very easy dulling.  - Will drill to 17' and set well No samples taken after 10.5'.

Comments:	
	Geologist Signature
	descript significant

PHILIP ENVIRONMENTAL

4000 Monroe Road

Farmington, New Mexico 87401 (606) 326-2262 FAX (605) 326-2388

Elevation Bottom of pit ~ | D' deep (Below Berm)

Borehole Location Chaca Plant

GWL Depth Estimated 0 11'

Logged By CM Chance

Date/Time Started 10/11/95 120D

Date/Time Completed 10/11/95 120D

Borehole # <u>B##/</u>
Well #
Page 1 of /

Project Name

EPNG Pits

Project Number

Project Location

Flace Pit

Well Logged By
Personnel On-Site
Contractors On-Site

Client Personnel On-Site

Drilling Method 4141. D. HSA
Air Monitoring Method PID, CGT

Depth	Sample	Sample	Sample Type &	Sample Description	uscs	Depth Lithology	Ai	r Monitor Inits: <del>N</del> S	gino .	Drilling Conditions
(Feet)	Number	interval	Recovery	Classification System: USCS	Symbol	Change			,	& Blow Counts
F			(inches)	Fill +0 ~ 3'		(feet)	BZ	ВН	<u>\$/#s</u>	
5	}	5-7	5"	Gry silty SAND, ut sand, loose,	sm		٥	20	128	-1016 M
10	۵	10-12		BIK silty SAND, VT sand, loose, Saturated,		13'	0	30	13)88	— 10à1 Sample saturated. No Headspace -GW est. @ 11'
15	3	15-17	8	It Br silty CLAY, med stiff, low plastic, saturated			۵			-1027 Sample sat. No Hs -
20	4	90-97	24	It Br silty CLAY, stiff, non plastic, dry	CL		0	0	ola	— 10 <i>39</i>
25	5	6-52		1+ Br silty CLAY, t- vf Sand, v. Stiff, nonplastic, dry			ט	D	٥l٥	-1102
30	6	30-)2	1,3	Br silty CLAY, +n of sand, V. Stiff, non plastic, to evaports filling i			U	D	q <sub>2</sub>	בווו –
35			-	·						
40										

Comments: CMC 14) (5-7') + CM(14) (DD-)2') sent to lab (RTEX, TPH). After talking with f. Maravez, will drill to 30' to ensurabelow GW. BH grouted to surface by transe. Note: GW collected on all sellipsion samples below -11'

Geologist Signature

#### PHILIP ENVIRONMENTAL

4000 Monroe Road

Farmington, New Mexico 87401 (505) 326-2262 FAX (505) 326-2388

Elevation ~5' below berm
Borehole Location Charp Plant
GWL Depth
Logged By CM Change
Drilled By
Date/Time Started 10/11/95 -1255
Date/Time Completed 10/11/9 = 1501)

Borehole # BH#2
Well #
Page / of /

Project Name
Project Number
Project Location
Project Location
Project Location
Project Name
Project Name
Project Name
Project Name
Project Name
Project Name
Project Name
Project Name
Project Name
Project Name
Project Name
Project Name
Project Name
Project Name
Project Name
Project Name
Project Name
Project Name
Project Name
Project Name
Project Name
Project Name
Project Name
Project Name
Project Name
Project Name
Project Name
Project Name
Project Name
Project Name
Project Name
Project Name
Project Name
Project Name
Project Name
Project Name
Project Name
Project Location
Project Location
Project Name
Project Location
Project Name
Project Location
Project Name
Project Location
Project Name
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Project Location
Projec

Well Logged By
Personnel On-Site
Contractors On-Site
Client Personnel On-Site

P. Maray 7

Drilling Method

4/4/.0. H.SA

Air Monitoring Method

P10, CG=

	-		Sample		l	Depth				1
Depth	Sample	Sample	Type &	Sample Description	uscs	Lithology	i	r Monito	-	Drilling Conditions
(Feet)	Number	Interval	Recovery	Classification System: USCS	Symbol	Change		Inita: NE		& Blow Counts
		-	(inches)			(feet)	BZ	ВН	S	
°			1	Fill ru ~5'						
<b> </b>  -										
<b> </b>										
			}							
5			Ì					_	١	
	1	5-7	0	No Recovery			0	8	INA	-1202h
	,			V					1	
l										-Ctags wet
<b> </b>			ь''	BIK SAND, ut sand, med dense	SM.			,		
10	タ	10.17	V	moist	, ,		٥	Ь		-1307
<b> </b>				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					195	(
├-						12'				-6w@~12' -ctngs -at. @ 13'
<b> </b>  -										10,00
<del>    15</del>	3	15-1	18"	In Brsilty CLAY, stiff, mel plastic, to evaporite fillings dry			۵	4	ما	15.150
	,		·	plastic, trevaporite tillings dry			1	7	100	-13/8
				,	_				٥٥٠	
					CL					
<b> </b>				I. R. sandy CLAY, uf sand, stiff,						
20	4	30-75	14"	non plactic sl moist			0	8	0	1327
<u> </u>	,			It B, sandy CLAY, uf sand, stiff, non plastic, sl moist				0	0	
<b> </b>			i			93,				i
<del> </del>				In Br SAND, vf-Fsund, dense,		a)				
25	<	2527	17	ILBY SAND, VT -+ JANU, a ense,	SM		<b>D</b> ′	6	0	-1338
<del> </del>	ر ا	J U.		day	۱ ۲۰۰				0	_
						a7'				
	'		15	It Br/yellow/ dx Br motiled CLAY, dense, dry					l	
30	b	גניסנ	19	I gry general and a second	CL		۵	3	9	(עני
<b> </b>				arvzera z					0	
<b>I</b>					-					
				LOBJA,						
35	.									
<del> </del>				•						
<del> </del>						ľ				
40										
										1

Comments: Note: W From whose is collecting on edit upon. CM(144(10-12)) sent to lab for TPHI.

CMC145 (30-22) sent to lab for RTEX, TPH. BH growt. D to surface by

Geologist Signature

Con Clay

# PHILIP ENVIRONMENTAL

4000 Monroe Road

Farmington, New Mexico 87401 (606) 326-2262 FAX (606) 326-2388

Elevation On B	Berm
	Chaco Plant
GWL Depth	10.5'
Logged By	CM Chance
Drilled By	K. Padilla
Date/Time Started	10/12/95- 0735
Date/Time Complete	ed 10/12/9 = 0930

Borehole #	BH#3
Well #	
Page	of )

Project Name	PNG PITS
Project Number 14	SD9 Phase <u>6010.77</u>
Project Location C	hase Plant BH-3
Well Logged By	CM Chance
Personnel On-Site	F. Rivera, D. Charlie
Contractors On-Site	
Client Personnel On-Site	P. Marquez

Drilling Method 41.1.1. HSA

Air Monitoring Method P10, C GT

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Ai U BZ	r Monitor Inits: 'ND BH	Aonitoring Drilling Conditions ts: NDU & Blow Counts BH \$\frac{1}{2}\tag{2}	
5	1	5- 7	14	BIK sandy CLAY, VF sand, med stiff, lowplastic, dry	CL		0	0	1/25	-0740 Kr
10	٦	(D-1)	8	Gry SANO, vf-Fsand, meddins,	SM	8	0	3	4	-0746 -GW@10.51 Black
15	3	ほっつ	24	BIK silty SAND, of-Fsand, med dense, wet	31		0	1	Q≯	-0756 -Sample Saturated No Headspace
20	ц	30-33	۲۷	L+Br sandy CLAY, vf sand mel stiff, low plassics maist	c٤	20	۵	3	0/0	-0807
25 	5	25-27	20	AA	)	al	۵	ን	olo	-0818
30	6	≫.77	18	It Br clayer SAND, of fand, dense, dry; to evaporite fillings  DK Br CLAY, V. Stiff, lowplastic dry	SC	ک.از	D	0	9/0	-D826
35				ID8371					-	-
40					:					

Comments:	Note: all camples below G	W had GW collecting on split good. CMC 146 (5-7) Sent to lab	
	FOY TPH. (MC147 (30-3	2) sent to lab For BTEX TOHI. BH graviel to	_
	Suitare by tranie	Geologist Signature	_

#### PHILIP ENVIRONMENTAL

4000 Monroe Road

Farmington, New Mexico 87401

(505) 326-2262 FAX (505) 326-2388

Date/Time Completed

Berm

Elevation Sortace Level inside Pit

Borehole Location Chaco Plant

GWL Depth

Logged By CM Chance

Drilled By K Pull 9

Date/Time Started 10/11/95 - 0755

10/11/95

Borehole # B # # Y

Well #

Page | of |

Project Name EPNG PITS

Project Number 745
Project Location

14509 Phase 6010.77
Charo Plant Industrial Pand #6

Well Logged By Personnel On-Site

Rivera O. Charlie

Contractors On-Site
Client Personnel On-Site

P. Maryer

Drilling Method

Air Monitoring Method

I.D.H.SA

			Semple			Depth			•		
Depth	Sample	Sample	Type &	Sample Description	USCS	Lithology	Ai	r Monito	ipq.	Drilling Conditions	
(Feet)	Number	Interval	Recovery (inches)	Classification System: USCS	Symbol	Change (feet)	ВZ	Inits: 190 BH	S	& Blow Counts	
5				Fill to ~10'							
10	ţ	13-15	24 <sup>1</sup>	Br SAND, uf-fsund, well socoed, loose, saturated	SM		0	8	QS	-0810hn -Sample Saturated -Gw est. @ 14'	
20	2	7 º <del>9)</del>	. IZ"	Br CLAY, tr vf sand, med stiff, nonplastic, dry	CL	20.5'	0	72	90	-0904	
30					-						
40		_/		•						ome is to late	

Comments:

CM(14D(13-15) sent to lab (RTEX, TPH). CM(141 GD-2) TPH, BTEXEME TYD (--

BTIX 744. RH growned to suctace by trenie

Geologist Signature

Con Clary

#### PHILIP ENVIRONMENTAL

4000 Monroe Road

Farmington, New Mexico 87401

(505) 326-2262 FAX (505) 326-2388

Elevation On	berm
Borehole Location	Chaco Plans
GWL Depth	12.7'
Logged By	CM Chance
Drilled By	K. Padilla
Date/Time Started	10/12/95-0940
Date/Time Comple	

Borehole # BH-5

Page of

Project Name EPNG PITS
Project Number 14509 Phase 6000.60
Project Location Todastrial Pand #1 BH-5

Well Logged By Personnel On-Site Contractors On-Site

- Rivera, D. Charlie

Client Personnel On-Site

Drilling Method 4/4/D. HSA
Air Monitoring Method PLD, CGT

			Sample			Depth				
Depth	Sample	Sample	Type &	Sample Description	USCS	Lithology	Ai	r Monitor Inits: NC	jer J	Drilling Conditions
(Feet)	Number	Interval	Recovery	Classification System: USCS .	Symbol	Change	l	Inits: NC		& Blow Counts
			(inches)	<u> </u>		(feet)	BZ	ВН	s/H	
				Fill + > ~ 8'						
5		•				·				
10	1	10-13	4	BIK SAND, ut-Fand, med danse, sl moist			0	ပ	209	-0945M
15 15	ž	15-17		Gry SANO, vF-F sand, dense, wet,  BIK silt=SANO, vF sand, dense, maisr			O	Ú		-GW@13.7' Black 0954
20	S	76· <i>79</i>		It Br sandy CLAY, of sand, dense, day, trevaporite filling			۵	۵	0/0	-1001
25 25	ધ	JS-J7		AA OK Br CLAY, V. Stiff, low plassic, day			٥	O	90	-1010
30	ک	T6-5Z		OR Br CLAY, v. stiff, low plassic, dry labor clayer snND, vf -f sand, dense, d-y organic fragments.  Br Sandy CLAY, v. stiff, non plastic, dry, to evaporite filling			0	٥	9/2	-1017
35				TABJL	-					
40										

Comments:	(MC 148 (10-12) sent to lab (BTEX, TAH). Sande had hisher HS also CMC 149 (30-32)	
	Sent to law RTEX.TPH). BH acoused to surface by tremier	
	Geologist Signature	

#### PHILIP ENVIRONMENTAL

4000 Monroe Road

Farmington, New Mexico 87401 (606) 326-2262 FAX (506) 326-2388

Elevation On berm

Borehole Location Chare Plant

GWL Depth 13.6'

Logged By CM Chance

Drilled By K. Palilla

Date/Time Started 10/12/95-1335

Date/Time Completed 10/12/95-1515

Project Name

EPNG PITS

Project Number

Project Location

Chara Plant

BH-b

Well Logged By
Personnel On-Site
Contractors On-Site
Client Personnel On-Site

Client Personnel On-Site

Drilling Method 4 / 4 / 1. D. H.S.A.
Air Monitoring Method PLD, CGT

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change		r Monito Inits: N		Drilling Conditions & Blow Counts
0			(inches)			(feet)	BZ	ВН	s/# <u>(</u>	
5 	l	5-7		ligry SAND, utsand, v. lopse, sl noist. BIKSAND, utsand, v. loose, sl moist	5M		۵	Δ	2/6	- 1342
10 10	۵	10-17		1+ Gry SAN D, VF sand, loose, sl	SM		0	۵	3	- 1347
15	3	15-17		Br clayeySAND, ufsend, loose, sl noisi DK gry-gry SAND, ufsend, mel dense, wer	SM	17	0	1		-6W@/3.6" -1352 -No HS. Sample Saverald
20 	4	70-77	10	L+ Br/Gry mottled CLAY, + r v Tsand, Stiff, med plastic, dry			۵	D	, 20	-1406
- - 25 -	5	קב-גב	6	Lt Br sanky CLAY, v. stiff, non plastic dry	CL		۵	Δ	مو	-1415
- 30 -	Ь	34-75	13	Br/DKBr mothled sand CLAY, vf sand, V. Stiff, deg, tr vf sand Rartings, tr evaporite fillings		·	0	٥	90	- I437
- 35				TDB32'	-					
- - 40										

Comments:

CM(152 (10-12) sent to lab (TPH) CM(153 (30-22) sent to lab (BTEX,TPH)

BH growted to surface of tremse

**Geologist Signature** 

Cong Chang

#### PHILIP ENVIRONMENTAL

4000 Monroe Road

Fermington, New Mexico 87401 (505) 326-2262 FAX (505) 326-2388

Elevation Borehole Location GWL Depth Logged By Drilled By Date/Time Started

Date/Time Completed /p/12/45-1315

Borehole #	BH-7
Well #	
Page	1 01/

Project Name Project Number **Project Location** 

Well Logged By Personnel On-Site Contractors On-Site Client Personnel On-Site

Drilling Method Air Monitoring Method

Depth (Feet)	Sample Number	i '	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Ai U BZ	r Monitor Inits: NO	s)H	Drilling Conditions & Blow Counts
_ °			(inches)			weety	UL		3/14	
5	l	5.7	S	DK gry SANO, ut sand, med donse, slmoist	-		٥	٥	5,7	-1129 hy
10	3	10-17	18	It gry SAND, VF sand, meddence, slmpist			۵	0	22/4	-437
15	3	15-17	16	BIKSAND, of sand, meddense, maisr			Δ	۵	do	-1/39
20	y	70-77	18	Alt Brsilty CLAY, stiff, nonplastic, Dry.	,		0	0	9/0	-1144 - GWQ 20.3' after Setting 10 min -CTNGS SATURATER
25 	S	25-27		BIK clayOSANO, of sand, dense, wet 1+Or-Redish Br SANO, of sand, vidence, dry			٥	۵	%	-1402
30	6	خله ه ل	ادا	IT Br silty SAND, VF sand, V. Dense, Ary, to evaporite fillings			0	٥	٥	-1219
35				T0B32'	` `					
40										

Comments:

BH grouted to surface w/ trans

Geologist Signature

#### PHILIP ENVIRONMENTAL

4000 Monroe Road

Farmington, New Mexico 87401 (606) 326-2262 FAX (605) 326-2388

Elevation On becomes

Borehole Location Q - S - T - R

GWL Depth

Logged By CM CHANCE

Drilled By K Padilla

Date/Time Started | 10/13/95-0820

Date/Time Completed | 10/13/95-1200

Borehole #		BH++ BH8a
Well #		
Page	t	of 3

Project Name
Project Number
Project Location
Project Location
Project Location
Project Location
Project Name

EPNG PITS

14509
Phase
6000
77- 60

Chaca Plant
BH-84

Well Logged By
Personnel On-Site
Contractors On-Site
Client Personnel On-Site

Drilling Method 4 1/4" ID HSA 8 241. D

Air Monitoring Method PID, CGI

Depth	Sample	Sample	Sample Type &	Sample Description	uscs	Depth Lithology	A	ir Monito	ring	Drilling Conditions
(Feet)	Number	Interval	Recovery (inches)	Classification System: USCS	Symbol	Change (feet)	Unit: BZ	e: PPM BH	<u>\$</u> #8	& Blow Counts
0				Fill to ~10'						
								ļ		
- °										
-										
10										
	. }	10-17	4	Br SILT, loose, Dry			0	٥	90	١ ١ ١ ١
		) 								
15	a	15-17	5	Balgry mottled CLAY, to visand, med stiff, low plastic, dry			O	ט	0	- 0844
				Med Stift 100 Processory				ij	0	- 08 4 4
				. /.						
20	3	90-79	4	A/ <del>A</del>			٥	۵	92	-0904
									1	1
			,	1+ R. SAND, VF-F sand, v. dense.		1				- V. hard delag
25	Ч	72-9/	ا	It B. SAND, vf-f sand, v. dense, sl cementel, dry			٥	۵	%	- Refusal @23' W8/4.
									:	W 874.
F 30	5	30-22	4	HBrSAND, F-medsand, v. dense, dry	j					
_				dense, dry			0	a	%	-1026
	1									
35	6	35-37	4	A/A					ره	- 1009
							4	۵	\a	,~ <sub>1</sub>
				2 455 3 50 3 5 5 5				!		
40	7	40-42	Ч	Briff wh SAND, uf-f, t, med sand, occ. cementation dro		Ì	۵	0	90	-1040

comments:	Return of 8/4 1.0 auges @22. Will pull of dell miles hale of 4/4
	CMC 154 (40-42) sent to lab (BTEXITIAL). Refusal @ 45' w/ 4/4 augers. Grout
	BH to surface, Discussed of P. Marguez + will mave S. to install MW
	Geologist Signature

#### PHILIP ENVIRONMENTAL

4000 Monroe Road

Farmington, New Mexico 87401 (506) 326-2262 FAX (505) 326-2388

Elevation

Borehole Location Q - S - T - R

GWL Depth

Logged By CM CHANCE

Drilled By K Padilla

Date/Time Started 10/13/95-0820

Date/Time Completed 10/13/95 - 1200

Borehole	. #	BH-1 BH8a	
Well #			_
Page	a	of 2	

Project Name EPNG PITS

Project Number 14509 Phase 6000 77

Project Location Challe Plant BH-8a

Well Logged By
Personnel On-Site
Contractors On-Site
Client Personnel On-Site

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

	r									
			Sample			Depth	1			
Depth	Sample	I	Type &	Sample Description	USCS	Lithology		ir Monito		Drilling Conditions
(Feet)	Number	Interval	Recovery	Classification System: USCS	Symbol	Change		: PPM	<u>s</u>	& Blow Counts
		ļ	(inches)			(feet)	BZ	ВН	HS	
40					l	l			ł	
<b>   _</b>					l		ļ			ł
l L									1	İ
		:			Ì			1	1	
1 L				. 1			[			
<u>4</u> 5	8	45-45.5	٥	No recovery			0	8	\ \A	- Refusal
	-			TOB45.5'			-	-	<b>′ °</b> ′′	L K 4100 M
				10875.5				}	1	ł
<u>5</u> 。								ĺ		
<b> </b>								l '	1	
<b> </b>										
1 ├										
l	j									
<u></u> _5₅					1				•	
[ <del> </del> _25	- (	Í								
l										
	I	i								
	- 1	ł								
L_60										
	ı				İ					
	ŀ									
		ł								
-	j									
65		1			l i					
—— 🚱°		1								
l	ľ	- 1			İ	1	i			
			]			1				
<b> </b>	ı	J	1							
	I	- 1	i		1	1				
70	[	1	j	į		İ	- 1	[		
	l	j						- 1		
<u> </u>	- 1		1	i	Ì	1	1	- 1	' l	
	- 1			1			1			
	1	-	l							
75	1	1	ŀ	l		Ì		İ		
		İ	1	į į	ļ	ŀ			- 1	
$\vdash$		1	i	i i	1	ŀ	j		- 1	
<b>⊢</b> 1	- 1	1	1	ł	}	1	1	l	ł	1
<b>⊢</b> 1	1	1	į	<b>]</b>		ļ		j	j	
⊢ <u>,</u> ,	1	l	Ì		]	1		ŀ		
[ go	}	]		1		i		ļ	ŀ	!
		_ 1								

Comments:	 	*	 	 	

#### PHILIP ENVIRONMENTAL

4000 Monroe Road

Farmington, New Mexico 87401

(606) 326-2262 FAX (606) 326-2388

Elevation Borehole Location

GWL Depth Logged By

CM CHANCE K Padilla

Drilled By Date/Time Started

10/12/95 -1)35 Date/Time Completed 10/13/95 - 1525

Borehole # Well #

Project Name

Project Number Project Location **EPNG PITS** 

14509 Phase Chaco Plant

6000 7760 MW-8

Well Logged By

Personnel On-Site Contractors On-Site

Client Personnel On-Site

CM Chance

K Padilla, F. Rivera

**Drilling Method** 

4 1/4" ID HSA

Air Monitoring Method PID, CGI

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	1	ir Monito s: PPM BH	ring <u>S</u> HS	Drilling Conditions & Blow Counts
5	ſ	5-10	10	Br SILT, v. soft, dry, or clay			0	۵	8	-1334
10	ょ	10-12	8	1+ Gry SILT, v. soft, dry,+r clay			٥	۵	00	-/343
15	د	15-17	Ь	It bry silty SAND, ufsand, loase, moist			Δ	٥	of 8	-1349 -Split-Spoom has moisyum Anir
20	4	70 77	19	lygry/Br mexicolCLAY, soft, med plasticy moist			0	٥	%	-Water Oripping from 55 -1355
25				Grysaturaed CTNGS TD826'						
30										
35										
40										

Comments:

GW @ 16.2' after serting 15 min. CM ( 155 (15-17') sent to lab (BTEXTAH). Willset well at 26'B65

Geologist Signature

MONITORING WELL INSTALLATION DIAGRAMS

Burlington Environmental Inc. 4000 Monroe Road Farmington, New Meedco 67401 (505) 328-2282 FAX (505) 328-2388

Elevation			
Well Location		MW-1	
GWL Depth	15.0		
Installed By	RODG	ERS, INC.	
Date/Time Start	ed	9/29/93	1000
Date/Time Com	pieted	9/29/93	1100

Borehole # MH-1
Well # MH-1
Page 1 of 1

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

On-Site Geologist
Personnel On-Site
Contractors On-Site
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
	10-20 SILICA	-23.8
Bottom of Gravel Pack		N/A
Top of Natural Cave-In	<del>                                     </del>	
Bottom of Natural Cave-In		N/A
Top of Groundwater		-15.0
otal Depth of Borehole	<u> </u>	-23.8

Burlington Environmental Inc. 4000 Morroe Road Farmington, New Mexico 67401 (509) 328-2262 FAX (505) 328-2388

Elevation				
Well Location		MW-2		
GWL Depth	15'			
Installed By	RODO	GERS,	INC.	
Date/Time Starte	d	9/30	0/93	1545
Date/Time Comp	eleted	9/30	0/93	1700

	Borehole ∉ Well ∉ Page _1_	Mi-2
ect Name	EPNG CHACO	
art Number	10043	Other

Project Number 10942 Phase 2001
Project Location CHACO PLANT

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 Sunace	•
Item-	Material	Depth (feet)
op of Protective Casing	8" STEEL	-2.8
Bottom of Protective Casing		-1.2
op of Permanent Borehole		N/A
Sottom of Permanent Borehole Casing		N/A
op 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 Pettonite 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
otal Depth of Borehole		-25.0

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

Geologist Signature

Burlington Environmental Inc. 4000 Monroe Road Farmington, New Mexico 87401 (505) 328-2282 FAX (505) 326-2388

Well Location	MN-3	
GWL Depth	8	
installed By	RODGERS, INC.	

 Date/Time Started
 9/29/93
 1345

 Date/Time Completed
 9/29/93
 1500

Borehole #	<u>Mi-3</u>
₩eii #	Mi-3
Page _ 1	of _1

RODGERS, INC.

KRIS SINCLAIR

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

On-Site Geologist S. POPE
Personnel On-Site S. POPE

Contractors On-Site

Client Personnel On-Site

Depths in Reference	to Ground Surface	e			Top of Protective Casing	+2.5
Item	Material	Depth (feet)		7 f	Top of Riser Ground Surface	0.0
Top of Protective Casing	8" STEEL	+2.5		H		
Bottom of Protective Casing		-1.5	<b>P</b>			
Top of Permanent Borehole Casing		N/A				-
Bottom of Permanent Borehble 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			Top of Seal	-1.5
Bottom of Well Screen	.010 SLOT	-19.8	) ) ) )	000		
Top of Peltonite Seal	1/4" BENTONITE PELLETS	-1.5	1000	000		
Bottom of Peltonite Seal		-3.5	kox d	000	Top of Gravel Pack	-3.5
Top of Gravel Pack	10-20 SILICA	-3.5		1	Top of Screen	-4.5
Bottom of Gravel Pack		-20.0		1		
Top of Natural Cave-In	ļ	N/A				
Bottom of Natural Cave-In		N/A		13		
Top of Groundwater		-8.0	E	<b>-</b> 1	Bottom of Screen	-19.8
Total Depth of Borehole		-20.0			Bottom of Borehole	-20.0

Comments: 6 BAGS OF SAND.

6 BAGS OF SAND, 12 BUCKET OF PELLETS

WELL WAS PULLED UP 3" DUE TO BRIDGING SAND. WATER LETEL AFTER INSTALLATION 11.3' BGS.

Geologist Signature

Set T. Par

Barlington Environmental Inc. 4000 Monroe Road Fermington, New Mexico 87401 505) \$28-2282 FAX (505) \$28-2388

Elevation		•		
Well Location	M	ii -4		
GWL Depth	20	201		
installed By	RODGERS,	INC.		
Date/Time Star	ted	9/30/93	1210	
Date/Time Con	noleted	9/30/93	1330	

Borehole #	MW-4
Weli #	MH-4
Page 1	of <u>1</u>

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

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	
	<b>_</b>	
Item	Material	Depth (feet)
op of Protective Casing	8" STEEL	+2.8
ottom of Protective Casing		-1.2
p of Permanent Borehole sing	•	N/A
ttom of Permanent Borehole sing		N/A
of Concrete	PREMIX	+.3
ottom of Concrete		0.0
p of Grout	5% BENTONITE	0.0
ottom of Grout		-9.0
op of Well Riser	4" SCH 40 PVC	+2.5
ottom of Well Riser		-12.8
op of Well Screen	4" SCH 40 PVC	-12.8
ottom of Well Screen	.010 SLOT	-28.0
op of Pettonite Seal	CHIPS BENIONITE	-9.0
ottom of Peltonite Seal		-11.0
op of Gravel Pack	10-20 SILICA	-11.0
ottom of Gravel Pack		-28.0
op of Natural Cave-In		N/A
ottom of Natural Cave-In		N/A
op of Groundwater		-20.0
otal Depth of Borehole		-28.0

Comments: WATER LEVEL AT 17.5 AFTER INSTALLATION. 7.5 BAGS OF SAND, 11 BUCKETS OF SAND

Geologist Signature

State T. Por

Burlington Environmental Inc. 4000 Monroe Road Farmington, New Mexico 87401 (2003) 326-2262 FAX (505) 326-2388

Elevation			
Well Location		MM-05	
GWL Depth	23	.0	
Installed By	ROD	GERS, INC.	
Date/Time Starte	d	1345 6/27/94	
Date/Time Comp	ieted	1445 6/27/94	

Borehole # MW-05
Well # MW-05
Page 1 of 1

Project Name EPNG CHACO
Project Number 12588 Phase 2001
Project Location SAN JUAN COUNTY, NEW MEXICO
On-Site Geologist S. POPE
Personnet On-Site G. GARIBAY
Contractors On-Site RODGERS; INC.

Client Personnel On-Site P MARQUEZ

Depths in Reference	to Ground Surface			7	Top of Protective Casing Top of Riser	2.5
Item	Material	Depth (feet)			Ground Surface	0.0
Top of Protective Casing	8" STEEL LOCKING	+2.5				
Bottom of Protective Casing Top of Permanent Borehole		-1.5				
Casing Bottom of Permanent Sorehole Casing		N/A				
Top of Concrete	PREMIX	+.25				
Bottom of Concrete		-1.5				
Top of Grout		N/A				
Bottom of Grout  Top of Well Riser	All CON AN PAIC	N/A				
Bottom of Well Riser	4" SCH 40 PVC	+2.0 -H.O				
Top of Well Screen	4" SCH 40 PVC	-8.0			Top of Seal	1.5
Bottom of Well Screen	.010 SLOT	-28.1	20XQ 20XQ	000 000		
Top of Pettonite Seal	PELLETS	-1.5	XXX	XXX	Top of Gravel Pack	5.7
Bottom of Pettonite Seal	10-20 57777	-5.7 -5.7		.     .	Top of Screen	8.0
Top of Gravel Pack  Bottom of Gravel Pack	10-20 SILICA	-28.1				
Top of Natural Cave-In		-28.1				
Bottom of Natural Cave-In		-29.2		1		
Top of Groundwater		-23.0		1	Bottom of Screen Bottom of Borehole	$\frac{28.1}{29.2}$
Total Depth of Barahole		-29.2	V			

Commems: 10 - 100 LB. BAGS OF SAND, 2 BUCKETS PELLETS, HYDRATED WITH 4 GALLONS OF WATER.

Geologist Signature

Burlington Environmental Inc. 4000 Monroe Head Farmington, New Mexico 87401 (200) 226-2282 FAX (200) 226-2208

Elevation			
Well Location	M	M-06	
GWL Depth	11.5		
installed By	RODGE	RS. INC	•
Date/Time Start	ed	0910	6/28/94
Date/Time Com	bleted	3300	6/28/94

Borefloie # MW-06
Well # MW-06
Page 1 of 1

Project Name EPNG CHACO
Project Number 12588 Phase 2001
Project Location SAN JUAN COUNTY, NEW MEXICO

On-Site Goologist S. POPE
Personnol On-Site G. CARIBAY
Contractors On-Site RODGERS, INC.
Client Personnel On-Site P. MARQUEZ

Depths in Reference	to Ground Surface					Top of Protective Casing Top of Riser	2.5
Item	Material	Depth (teet)				Ground Surface	0.0
Top of Protective Casing	8" STEEL LOCKING	+2.5					
Bottom of Protective Casing		-1.5		1	7		
Top of Permanent Borehole Casing		N/A					
Bottom of Permanent Borehole Casing		N/A					
Top of Concrete	PREMIX	+.25					
Bottom of Concrete		-1.5	1			,	
Top of Grout		N/A					
Bottom of Grout		N/A					
Top of Well Riser	4" SCH 40 PVC	+2.3					
Bottom of Well Riser		-6.9					
Top of Well Screen	4" SCH 40 PVC	-6.9				Top of Geal	1.5
Bottom of Well Screen	.010 SLOT	-22.0		X	XXX		
Top of Petionite Seal	1/4" BENTONITE PELLETS	-1.5	8	X	0X0		
Bottom of Pettonite Seal		-5.0	jo	X	XXX	Top of Gravel Pack	6.9
Top of Gravel Pack	10-20 SILICA	-5.0			1	Top of Screen	0.9
Bottom of Gravel Pack	-	-22.0		F			
Top of Natural Cave-in		N/A			1 1		
Bottom of Natural Cave-in		N/A	}		11		
Top of Groundwater	-	-11.5	-		[	Bottom of Screen	22.0
Total Depth of Borehole		-22.0	L_			Bottom of Borehole	44.U

Comments: HAD PROBLEMS WITH CLAY RING IN LEAD AUGER. HAD TO PULL WELL AND CLEAN AUGER. HOLE STAYED

OPEN AND WELL WENT TO 22.0'. 9 - 100 LB. BAGS OF SAND, 2 BUCKETS PELLETS, HYDRATED WITH 4

GALLONS OF WATER.

Geologist Signature

Barlington Environmental Inc. 4000 Mamor Road Farmington, New Mexico 67401 (506) 326-2262 FAX (505) 326-2388

Elevation	
Well Location	MW-07
GWL Depth	4.0
Installed By R	ODGERS, INC.
Date/Time Started	1615 6/27/94
Date/Time Complete	d 1715 6/27/94

Borehole # <u>MW-07</u> Well # <u>MW-07</u> Pago 1 of 1
Project Name EPNG CHACO
Project Number 12588 Phase 2001
Project Location SAN JUAN COUNTY, NEW MEXIC
On-Site Geologist S. POPE Personnel On-Site S. POPE Contractors On-Site RODGERS, INC. Client Personnel On-Site G. GARIBAY

Depths in Reference	to Ground Surface	1	<del></del>	=	Top of Protective Casing	2.5
	Material	10000		7	Top of Riser Ground Surface	0.0
ltem	Material	Depth (foet)			Ground Suriace	0.0
op of Protective Casing	8" STEEL LOCKING	+2.5				
Bottom of Protective Casing		-1.5				
Top of Permanent Borehole Casing		N/A				
Bottom of Permanent Berehole Casing		N/A				
Top of Concrete	PREMIX	+.3				
Bottom of Concrete	<del> </del>	a.o			·	
Top of Grout		N/A				
Bottom of Grout	<u> </u>	N/A				
Top of Well Riser	4" SCH 40 PVC	+2.3				
Bottom of Well Riser		-1.9				
Top of Well Screen	4" SCH 40 PVC	-1.9	200		Top of Seal	0.0
Bottom of Well Screen	.010 SLOT	-17.0	XXX	OXO OXO		
Top at Peltonite Seat	1/4" BENTONITE PELLETS	0.0	500 500	000 000	Town of Ground Strok	1.5
Bottom of Pettonite Seal		-1.5			Top of Gravel Pack	
Top of Gravet Pack	10-20 SILICA	-1.5		1	Tap of Screen	1.9
Bottom of Gravel Pack		-17-7				
ap of Natural Cave-In		N/A		1		
Sottom of Natural Cave-in		N/A		]		
op of Groundwater		-4.0			Bottom of Screen	17.0 17.7
otal Depth of Borehols		-17.7	<u> </u>		Bottom of Borehole	11.1

Comments: 5 - 100 LB. BAGS OF SAND, 1 BUCKET PELLETS, HYDRATED WITH 4 GALLONS OF WATER. WL AFTER

INSTALLATION 5.0 BGS.

Geologist Signature

Sent Par

Philip Environmental Services Corp. 4000 Monroe Road Farmington, New Mexico 87401

(506) 326-2262 FAX (506) 326-2388

Elevation

Well Location

GWL Depth

Installed By

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Control

Contro

Date/Time Started (D(1)/95-1540

Date/Time Completed 15/13/95-1705

Borehole # BH-9 b
Well # MW-9
Page \_\_\_\_\_ of \_\_\_\_

Project Name EPNG PITS

Project Number 14509 Phase 6001.776/
Project Location Charallant MW-8

On-Site Geologist Personnel On-Site Contractors On-Site CM Chance F.Rivera, D.Charlis

Client Personnel On-Site

Depths in Reference to Ground Surface Top of Protective Casing Top of Riser Material Ground Surface Item Depth Top of Protective Casing **Bottom of Protective Casing** Top of Permanent Borehole Casing **Bottom of Permanent Borehole** Casing Top of Concrete **Bottom of Concrete** -94# Type Top of Grout - SON Bouders **Bottom of Grout** 14" dia SCH40 Top of Well Riser FlushThread PYC **Bottom of Well Riser** 14" dia SCHYD 4.7 Top of Well Screen FluchThread Top of Seal O.DI Slot **Bottom of Well Screen** -SO# Enviro XX Top of Peltonite Seal 6.7 Top of Gravel Pack Bentonite 6.7 **Bottom of Peltonite Seal** 9.7 Top of Screen -50# 10-2D Top of Gravel Pack Silicasand 24.7 **Bottom of Gravel Pack** Top of Natural Cave-In 24.7 26 Bottom of Natural Cave-In Bottom of Screen Top of Groundwater **Bottom of Borehole** 26 Total Depth of Borehole

comments: Bantonite hydrated w/ Sgal patable mater. Gh had no odor or visible

Geologist Signature

Cony Change

,

Well Development Data Sheets

## DEVELOPMENT TECHNIQUES

DATE	DEVELOPMENT METHOD	MATERIAL OR SERIAL NO.	DEVELOPMENT TECHNICIAN	VOLUMES REMOVED/TYPE
10-1:-93	TEFLON BARER		Gum Smith	
}			<del> </del>	
<del> </del>				
		•		_

#### WATER QUALITY/WATER REMOVAL

#### WATER QUALITY READINGS

#### WATER REMOVAL DATA

DATE	TIME	TOTAL INCREMENT GALLONS REMOVED	TOTAL WELL INCREMENT VOLUMES REMOVED	TEMP (C)	На	CONDUCTIVITY (umhos/am)	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	6590	LIGHT BOOWN	1130				2004	
	12:62	0	5	6.5	66	6,860	WHOSE BROWN						
	12:06	15	5	4.0	6.63	6,730	46HT BROWN						· ·
	12:14	20	5	LE L	645	6.950	LIGHT BOWN						
	12:21	25	5	63.5	6.71	7,100	4 GUT BROWN						
	12:28	30		2.5		7,030	CLOUDY					,	
	12:35	35	5	62.3	6.94	6,730	CLOUPY		1240				23.05
									•				
										-			
									-	•			
								<u> </u>					
								,					

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



# GENERAL DATA

SERIAL NO. WD\_

	•	<del>1</del>		_
PROJECT NAME CHACO  PROJECT NO. 10942  DATE 10 (193 SORM COMPLETED)			WELL NO. M	W-4
PROJECT NO. 10942	MAJOR TASK	2002	SUB TASK	7?
DATE 10 11 193 FORM COMPLETED	BY WILL SMI	TH		
	LL CONSTRUCTIO			
TOTAL DEPTH (FT) 30.70	BOREHO	LE DIAME	TER (IN)	100
GRAVEL PACK INTERVAL (FT)				<u>4"</u>
WELL PROTECTOR: XYES NO	PADLOC	K NO	2532	
QUANTITY OF FLUID INJECTED DURING DRILL	LING (GALLONS)	<del></del>		
	_			
*****	VOLUME CALCUL	ATION		
DATE OF MEASUREMENT 10-1-93	1	CEM	WATER	VOLUME
MEASURING POINT TOR ELEV.			FT <sup>3</sup>	GAL
WATER LEVEL INSTRUMENT USED 30LID			<del></del>	6.95
INITIAL WATER LEVEL (FT) 20.04	GRAVE	L PACK NG FLUIDS		
LINEAR FEET OF WATER 10.66	10 66 TOTAL		<del></del>	
LINEAR FEET SATURATED GRAVEL PACK	101AL		<u></u>	6.95
NOTE: QUANTITIES ARE TO BE CALCULATED	PRIOR TO DEVELOP	MENT.	· · · ·	٠
DEVE	LOPMENT CRITE	AIS		. •
METHOD OF DEVELOPMENT TEFLOW BA	LEP			
WATER QUALITY MEASUREMENTS XYE	s NO			•
WELL VOLUME (ANNULUS) (GAL)	WELL CASI	NG YOLUM	E (PIPE) (GAL)	6.95
WATER VOLUME TO BE REMOVED (GAL)	MINIMUM 34.75	-	MUMEKAM	·
NOTE: DEVELOPMENT IS TO BE PERFORMED	IN ACCURUANCE W	IN PROJE	CT-SPECIFIC WE	LL.
DEVELOPMENT PLAN.	•	·	•	•
WATED (	QUALITY INSTRUM	ENTE		· ·
WAIGH		ENIS		
DATE INSTRUMENT SERIAL N	O. CALIBRATION PERFORMED (/)	TECH	COMME	ethe
10-1-13 HYDAC	v	WS.		
	·			
COMMENTS				<u> </u>
		<del></del>		

### DEVELOPMENT TECHNIQUES

DATE	DEVELOPMENT METHOD	MATERIAL OR SERIAL NO.	DEVELOPMENT TECHNICIAN	VOLUMES REMOVED/TYPE
9.30.93	Tefica Baner		R.力.	
			1	

#### WATER QUALITY/WATER REMOVAL

### WATER QUALITY READINGS

WATER REMOVAL DATA

	DATE 	TIME	TOTAL INCREMENT GALLONS REMOVED	TOTAL WELL INCREMENT VOLUMES REMOVED		#4	CONDUCTIVITY (umhos/em)	APPEARANCE/ COMMENTS	DEVELOPMENT START TIME	DEVELOPMENT STOP TIME	REMOVAL RATE (QPM)	PUMP INTAKE LEVEL	Water Level Before Development	WATER LEVEL AFTER DEVELOPMENT
	9.30.93	1009	5	5	22	7.88	2A20	DARK BERUN	955			22.27	11-2	
*		1017	10		602		1.980	LIGHT BAOWN						
**		1030	15	5	58.7	72L	2000	LIGHT BROWN CLOUDY						
** ***	9.309	1038	20	5	59.2	7.12	2,040	CLOUDY		1040				2050
-F '				<u> </u>										
			<u> </u>											
			<u> </u>											
			<u> </u>	<u> </u>						·				
				<u> </u>										
			1							٠	-			
						<u> </u>	<b></b>							
-	·		<u> </u>						ı.					
			1											
						<u> </u>								لــــا

COMMENTS & Boiled dry after	10gallons 10	17 ** 30	iled de after
Sadditional gallons samoval + ++	Briles day of	en 20 bhal co	ilons removed
· J			

#### 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



### **GENERAL DATA**

PAGE \_\_\_\_ OF\_\_\_\_

				WELL NO	MW-3						
PROJECT NO. 10942 MAJOR TASK 2002 SUB TASK 77											
DATE 9 13993 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: XYES NO PADLOCK NO25.32											
QUANTITY OF FEMIL INJECTED BOX	DALLING DAIL	(GALLONS)									
WATER VOLUME CALCULATION											
DATE OF MEASUREMENT 9.30		l u	EM	FT <sup>3</sup>	ER VOLUME GAL						
	ELEV	WELL	CASING		3.5						
WATER LEVEL INSTRUMENT USED	30UNSI	GRAVE	L PACK		<del></del>						
INITIAL WATER LEVEL (FT)	37		CG FLUXDS								
LINEAR FEET OF WATER	7.57 2.07 5 37.	TOTAL			3.5						
LINEAR FEET SATURATED GRAVEL	PACK	<u></u>		<u></u>	<u> </u>						
NOTE: QUANTITIES ARE TO BE CAL	CULATED PRIO	R TO DEVELOP	MENT.	· •• ·	•						
·	•		•								
METHOD OF DEVELOPMENT	DEVELOPE EFLON B	MENT CRITER MILER	MA A								
	Y YES	WATER QUALITY MEASUREMENTS X YESNO									
WELL VOLUME (ANNULUS) (GAL) M/A WELL CASING VOLUME (PIPE) (GAL) 3.5											
			NG VOLUM	IE (PIPE) (GAL	3.5						
	N/A	- WELL CASI		IE (PIPE) (GAL MAXIMUM	3.5 • 35.0						
WELL VOLUME (ANNULUS) (GAL)	A/A MINIM CLAS	WELL CASH	5	_ MUMIXAM	- 35.0						
WELL VOLUME (ANNULUS) (GAL)	A/A  REFORMED IN A	WELL CASH	TH PROJE	_ MUMIXAM	- 35.0						
WELL VOLUME (ANNULUS) (GAL) WATER VOLUME TO BE REMOVED (C NOTE: DEVELOPMENT IS TO BE PER DEVELOPMENT PLAN.  DATE INSTRUMENT	A/A  REFORMED IN A  WATER QUAL	WELL CASH	TH PROJE	MAXIMUM _	- 35.0						
WELL VOLUME (ANNULUS) (GAL) WATER VOLUME TO BE REMOVED (C NOTE: DEVELOPMENT IS TO BE PER DEVELOPMENT PLAN.	A/A  REFORMED IN A  WATER QUAL	WELL CASH  17.5  CCORDANCE WI  ITY INSTRUM  CALIBRATION	TH PROJE	MAXIMUM _	WELL:						
WELL VOLUME (ANNULUS) (GAL) WATER VOLUME TO BE REMOVED (C NOTE: DEVELOPMENT IS TO BE PER DEVELOPMENT PLAN.  DATE INSTRUMENT	A/A  REFORMED IN A  WATER QUAL	WELL CASH  17.5  CCORDANCE WI  ITY INSTRUM  CALIBRATION	TH PROJE	MAXIMUM _	WELL:						
WELL VOLUME (ANNULUS) (GAL) WATER VOLUME TO BE REMOVED (C NOTE: DEVELOPMENT IS TO BE PER DEVELOPMENT PLAN.  DATE INSTRUMENT	A/A  REFORMED IN A  WATER QUAL	WELL CASH  17.5  CCORDANCE WI  ITY INSTRUM  CALIBRATION	TH PROJE	MAXIMUM _	WELL:						
WELL VOLUME (ANNULUS) (GAL) WATER VOLUME TO BE REMOVED (C NOTE: DEVELOPMENT IS TO BE PER DEVELOPMENT PLAN.  DATE INSTRUMENT	A/A  REFORMED IN A  WATER QUAL	WELL CASH  17.5  CCORDANCE WI  ITY INSTRUM  CALIBRATION	TH PROJE	MAXIMUM _	WELL:						
WELL VOLUME (ANNULUS) (GAL) WATER VOLUME TO BE REMOVED (C NOTE: DEVELOPMENT IS TO BE PER DEVELOPMENT PLAN.  DATE INSTRUMENT	A/A  REFORMED IN A  WATER QUAL	WELL CASH  17.5  CCORDANCE WI  ITY INSTRUM  CALIBRATION	TH PROJE	MAXIMUM _	WELL:						
WELL VOLUME (ANNULUS) (GAL) WATER VOLUME TO BE REMOVED (C NOTE: DEVELOPMENT IS TO BE PER DEVELOPMENT PLAN.  DATE INSTRUMENT	A/A  REFORMED IN A  WATER QUAL	WELL CASH  17.5  CCORDANCE WI  ITY INSTRUM  CALIBRATION	TH PROJE	MAXIMUM _	WELL:						
WELL VOLUME (ANNULUS) (GAL) WATER VOLUME TO BE REMOVED (C NOTE: DEVELOPMENT IS TO BE PER DEVELOPMENT PLAN.  DATE INSTRUMENT	A/A  REFORMED IN A  WATER QUAL	WELL CASH  17.5  CCORDANCE WI  ITY INSTRUM  CALIBRATION	TH PROJE	MAXIMUM _	WELL:						
WELL VOLUME (ANNULUS) (GAL) WATER VOLUME TO BE REMOVED (C NOTE: DEVELOPMENT IS TO BE PER DEVELOPMENT PLAN.  DATE INSTRUMENT	A/A  REFORMED IN A  WATER QUAL	WELL CASH  17.5  CCORDANCE WI  ITY INSTRUM  CALIBRATION	TH PROJE	MAXIMUM _	WELL:						
WELL VOLUME (ANNULUS) (GAL) WATER VOLUME TO BE REMOVED (COMOTE: DEVELOPMENT IS TO BE PER DEVELOPMENT PLAN.  DATE INSTRUMENT 9:30.93 HYDAL COMMUNITY TO THE PER PH. TESTER	A/A  REFORMED IN A  WATER QUAL	WELL CASH  17.5  CCORDANCE WI  ITY INSTRUM  CALIBRATION	TH PROJE	MAXIMUM _	WELL:						
WELL VOLUME (ANNULUS) (GAL) WATER VOLUME TO BE REMOVED (C NOTE: DEVELOPMENT IS TO BE PER DEVELOPMENT PLAN.  DATE INSTRUMENT 9:30.93 HYDAC COMMUNITY TO THE PER PH. TESTER	A/A  REFORMED IN A  WATER QUAL	WELL CASH  17.5  CCORDANCE WI  ITY INSTRUM  CALIBRATION	TH PROJE	MAXIMUM _	WELL:						
WELL VOLUME (ANNULUS) (GAL) WATER VOLUME TO BE REMOVED (COMOTE: DEVELOPMENT IS TO BE PER DEVELOPMENT PLAN.  DATE INSTRUMENT 9:30.93 HYDAL COMMUNITY TO THE PER PH. TESTER	A/A  REFORMED IN A  WATER QUAL	WELL CASH  17.5  CCORDANCE WI  ITY INSTRUM  CALIBRATION	TH PROJE	MAXIMUM _	WELL:						

### DEVELOPMENT TECHNIQUES

DATE	DEVELOPMENT METHOD	MATERIAL OR SERIAL NO.	DEVELOPMENT TECHNICIAN	VOLUMES REMOVED/TYPE
10-1-93	TEPLON BALLER		WILL SMITH	
		<u> </u>		
		<del></del>		
		<u></u>	1	<u> </u>

### WATER QUALITY/WATER REMOVAL

WATER OHIAL	ITY REA	DINGS	

WATER REMOVAL DATA

DATE	TIME	AL INCREMENT	TOTAL WELL INCREMENT VOLUMES REMOVED	TEMP ('C)		CONDUCTIVITY (umhos/om)	APPEARANCE/ COMMENTS	DEVELOPMENT START TIME	DEVELOPMENT STOP TIME	REMOVAL RATE (APM)	PUMP INTAKE LEVEL	water level Before development	WATER LEVEL After development
10-1-93	1015	2 TOTAL	5	# CA:2	7.20	<b>3</b> 2090	WHAT BROWN	1009	DEV	REA	<b>§</b>	V 8 17:74	
1	1036	10	5	64.2	7.54	2.040	LIGHT BEOWN						
<del></del>	1043	15		631	7.60	2,050	LIGHT BROWN						·
1	1051	20	5	29	7.62	2,140	LILKE BROWN						
	1056	25	5	620		2,100	46HT BROWN						
	1104	30	5	625	7.74	2,180	CLOUDY						
	1112	35	5	<b>63.7</b>	7.67	2,260	CLOUDY		1112				24.80
									•				
	·												
							· · · · · · · · · · · · · · · · · · ·						
										· ·			
<u> </u>								<u> </u>					
										<u> </u>			
<u> </u>													
	<u> </u>	<u> </u>											

COMMENTS		
	_	•
	•	<del></del>
		<del></del>

### 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 GENERAL DATA



SERIAL NO.	WD	
PAGE	OF	

	• •			1		
ROJECT	NAME CHACO				WELL NO. N	W-2
ROJECT	NO		MAJOR TASI	200	2_ SUB TASK	77
	11,93 FORM					
OTAL DE RAVEL F (ELL PRO LUANTITY	PTH (FT) 27.4  PACK INTERVAL (FT) TECTOR: YES  OF FLUID INJECTED  MEASUREMENT 10.	WELL 7 17'NO DURING DRILLIN WATER VO	CONSTRUCTION BOREHOLD WELL DE PADLOC	ON OLE DIAM! EK NO	ETER (IN) INSIDE (IN) 	4"
	G POINT TOR		1	TEM	FT3	VOLUME
	VEL INSTRUMENT US		WELL	CASING		6.35
	ATER LEVEL (FT)			EL PACK		6.55
MILYT M	EET OF WATER	9.73		NG FLUIDS	3	
MEAR F	EET SATURATED GRAY	E PLOY 9.7	S TOTAL	<del>`</del> -		6.35
ATER QU	OF DEVELOPMENT JALITY MEASUREMENT LUME (ANNULUS) (GAI DLUME TO BE REMOVE	TEFLOI TEFLOI S X YES	NO Well casi	NG VOLUM	IE (PIPE) (GAL)	6.35
OTE: DE	EVELOPMENT IS TO BE	PERFORMED IN	ACCORDANCE W	TTH PROJE	•	
DATE	INSTRUMENT	SERIAL NO.	CALIBRATION PERFORMED (/)	TECH	COMME	NTS
01.93	HIBATE TEMP H		V	W.S.		
	<u> </u>			11		

DATE	9	,3¢,	93
DALE		וייטו	•

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.	
<u></u>				

### WATER QUALITY/WATER REMOVAL

### WATER QUALITY READINGS

### WATER REMOVAL DATA

DATE	TIME	TOTAL INCREMENT AALLONS REMOVED	TOTAL WELL INCREMENT VOLUMES REMOVED	TEMP (°C)	н	CONDUCTIVITY (umhos/om)	APPEARANCE/ COMMENTS	DEVELOPMENT START TIME	DEVELOPMENT STOP TIME	REMOVAL RATE (QPM)	PUMP INTAKE LEVEL	water level Before development	Water Level After Development
9.30.93	1100	5	5	9.82	7.29	1,940	Cloudy	1050			žX	13.70	
	1104	10	.5		7.20	1.870	CLOUDY						
·	1109	15	5	6.82	7.12	7.880	Cloudy						
	1/24	20	5	58.9	7.15	1.980	CLOUDY						
	1213	25	5	59.7		1,990	CLOUDY						
930.93	1303	30	S	60.1	7.55	2,170	(LEAR		1305				24.04
									·				·
				-						-			
·													

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 GENERAL DATA

	BURLINGTON ENVIRONMENTAL
--	-----------------------------

SERIAL NO.	WD	
PAGE	OF_	

				PAG	E_L_ OF_!	<del></del>						
PROJECT	NAME <u>CHA</u> C	<u> </u>	•		WELL NO	NW-1						
ROJECT			_ MAJOR TASK		2 SUB TASK							
	4: 00	COMPLETED BY_	D									
			CONSTRUCTIO			011						
TOTAL DE	ртн (FT)2\$	17/	BOREHO			44						
iravel P	ACK INTERVAL (FT)		WELL D	•		-7						
					4							
MANTITY	OF FLUID INJECTE	D DURING DRILLING	G (GALLONS)		<b>7</b>							
			LUME CALCUL	MOITA	_							
	MEASUREMENT 9	<u>130173</u>	4	TEM.		VOLUME						
	ig point	ELEV			FI <sup>3</sup>	GAL						
	VEL INSTRUMENT U		<u> </u>	CASING	-	7.53						
MITIAL W	ATER LEVEL (FT)	13.70	<del></del>	L PACK NG FLUIDS								
	EET OF WATER	11.54				~ 63						
INEAR F	EET SATURATED GR	AVEL PACK	SH TOTAL			7.53						
NOTE: QU	ANTITIES ARE TO B	SE CALCULATED PR	NOR TO DEVELOP	MENT.		-						
DEVELOPMENT CRITERIA  METHOD OF DEVELOPMENT												
	CLUME TO BE REMO		MUM 37.6		MUMICAM	15.3						
	EVELOPMENT IS TO E		ACCORDANCE W		CT-SPECIFIC WE	u.						
DATE	INSTRUKENT	SERIAL NO.	CALIBRATION PERFORMED (/)	TECH	COMME	erre						
9130.93	TEMP. 24. JESTE	אַתע	V	R.+								
	<del>, , , , ,</del>											
			•									
COMMEN	rs											
· · · · · · · · · · · · · · · · · ·												

	X C	7 =====================================	<b>Jevel</b>	wen Developinent anu		_	rurging Data	RA !	<u> </u>	Development		Well Number		MW-5	
BURLINGTON ENVIRONMENTAL	L Serial	Serial No. WDPD-	ė		ı									Page 1 of	
Project Name	7	CHACO	Q			á I	Project Manager		Sort	SCOTT POPE		Proj	Project No.	12588	
Client Company		NIT	BURLINGTON	SNULL	ENVIRONMENTAL	TAL						Pha	se.Task N	Phase Task No. 2001 77	
Site Name	CHACO	o	PLANT	11			Site Address	55							
Development Criteria	Criteria	<b></b>		-	5	Water Vol	Volume Calculation	lation			Ins	Instruments		Serial No. Ilf applicable	
(M. 3 to 5 Casing Volumes of Water Removal	sing Volu	imes c	of Water	Removal	Ē	itial Depth	Initial Depth of Well (feet)		30.46	.9		M oh Meter		;	
DA Stabilization of Indicator Parameters	on of inc	IC8TO	raramet	S S	Ē	itial Depth	Initial Depth to Water (feet)		35.05	2		Manager C			
					Ĭ	eight of W	Height of Water Column in Well (feet)	in Well		2.41	, د		; 5 ·		)
Methods of Development Pump Bailer	Sevelopn Bailer	ment				lameter (in	Diameter (inchesi: Well	게	<b>E</b>	zck _/0	)	X Conductivity Meter	vity Mete		
Centrifugal	•	3otton Jouhla	M Bottom Valve	'2 VP		tem	Cubic Fast	_	Gellons	Removed					
D Peristaltic		Stainle	☐ Stainless-steel Kemmerer	Gmmerer	<u>, ≥</u> .	Well Casing		3.	.53	17.65	_				
☐ Other			ļ		<u> </u>	Gravel Pack					<b>Š</b>	Water Disposal	sel		
Material Boundary	Ac C les	_			<u> </u>	Drilling Fluids Total				77.65	•				
	0	Orveloamen			Ending	Water Vch	Water Volume Removed	Product Votame	Votume				Sissaffrance		
		Verhod	Removel Aste	o Irraka Depth Chast	<b>≩</b>	1	(galanst		7	Temperature (*C)		Conductivity	Onygen	,	
Date	rime	Purp Baler			_	Increment	Cumulative	Increment C	Curulative	_	Ŧ		radius.	Comments	
16.39.99	1258	$\preceq$		3046		.75	.25				7.40	0656		THN WATER	
	1306	×				.35	4.0			93.9	7.43	7,420		32	
	315	×				, 25	9.0			[ C.19	7.53	0161/2		NAY.	
	331	X	,			1,25	(2.0				7,62	8,310		LIGHT TAN	)
	1450	XI,				.25	14.0		1	3	7.60	8,390		Cloudy	
小	503	X			1701	25	19.0				7.59	8,360		LIGHT CLOUDINESS	
										-		,			
		-						1,3 2,8 2,832						·	
Circle the date and time that the development criteria are met.  Comments RAILED (AELL DOWN)	AILED	he deve	valopment cri	Notal of	FF.	0.0	12.0 GAL LEFT IT TO BOWER, MOVED	fT 1	7 7	Bay	S.R. M		व्य	MW-6. COMPLEED	
DEVELOPING	PING	1780	77	中	1515. WELL	गडल	STRETED	P	BAIL	Down	AGBLA		4	FINISHED, SLOW BOOVER	ROOVER
Developer's Signature(s)	inaturels	عدا	Feet (	Total A	Manalder	- 1	-			Date 6. 29-94	29-94	Rev	riewer S		
				!	_	:		İ				Í			

Project Manager SCOTT PDPE Project No.  Site Address  Water Volume Calculation Instruments Initial Depth of Well (feet) 24.53 Initial Depth of Well (feet) 11.59 Initial Depth of Well (feet) 11.59 Initial Depth of Well (feet) 11.59 Initial Depth of Well (feet) 11.59 Initial Depth of Well (feet) 11.59 Initial Depth of Water (column in Well (feet) 11.59 Initial Depth of Water (column in Well (feet) 11.59 Initial Depth of Water (folium in Well (feet) 11.59 Initial Depth of Water (folium in Well (feet) 11.59 Initial Depth of Water (f		Water Volume Calculation  Water Volume Calculation  Water Volume Calculation  Water Volume Calculation  Water Volume in Well Gest 12.94  Diamreter (inchest: Well 4 Gravel Pack 12 A Conductivity Meter Color Feet Gallons to be taken a Conductivity Meter Color Feet Gallons to be t		NTAL							
Site Address   Site Address   Site Address	. ) C			NTAL		,					
Site Address	<b>Q</b> (	<b>Q</b> (	<b>♥</b> (	NTAL	set Managar		- 1	لر	Pro	ject No.	12588
Water Volume Calculation Initial Depth of Well (feet) 24,53 Initial Depth to Water (feet) 11.59  Chameter (inchest: Well Water Column in Well (feet) 12.94  Diameter (inchest: Well Water Column in Well (feet) 12.94  Water Column in Well (feet) 12.94  Water Column in Well (feet) 12.94  Water Column in Well (feet) 12.94  Water Disposal Content				V.					Pha	se.Task N	2001
Mater Volume Calculation   1.59   Meter   1.59   Meter   Meter   1.59   Meter   Meter   Meter   1.59   Meter		\ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		-	Site Address						
Printial Depth of Well (feet)   11.59		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	\ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Water Volun	ne Calcula	stion		Ë	struments		Serial No. (If applicable)
Height of Water Column in Well fleet		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	\ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	mitial Depth of	Well (feet)		S		A Mere		•
Height of Water Column in Well (feet)   13.44			\ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Initial Depth to	Water (fee			,	Mod D	. <b>t</b> or	
			\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \	Height of Wate	er Column is	n Well (feet)	7	,	K Conducti	vity Meter	
Itam   Cubic Feet   Gallons   Hemoved   Cother				The state of the s	Water Volk	ume in Well	Gallone to be	<b>1</b>	X Tempera	ture Meter	
Well Casing   \$, 45, 42, 25   Water Disposal				Item	Cubic Feet	Gallans	Hemoved	· 	Other		
France   Pack				Well Casing		8.4S	52"th	; <del></del>			
Folding Fluids   Fullic School   Parist Volume   Parist Volu				Gravel Pack				<b>≥</b> 	ater Dispo	sal	
France   Water Volume Removed   Product Volume   Temperature   Carciotovity   Daylors   Carciotovity   Daylors   Carciotovity   Daylors   Carciotovity   Daylors   Carciotovity   Daylors   Carciotovity   Daylors   Carciotovity   Daylors   Carciotovity   Daylors   Carciotovity   Daylors   Carciotovity   C				Orilling Fluids Total							
1.46 25 35.0 64.1 8.41 6.126  2.5 30.0 65.7 8.36 8.90  2.5 30.0 64.2 8.40 5.30  2.5 30.0 64.1 8.41 6.126  2.5 35.0 64.1 8.41 6.126  2.5 35.0 65.7 8.10 5.260	<del>▗</del> ▗▃▄ <del>▗</del> ▗▄▄▄▄▄▄▄▄▄▄▄▄▄ <del>▗</del> ▗▃▄ <u>▄</u> ▄▄▄▄▄▄▄▄▄▄▄▄	<del></del>	<del></del>	<u>_</u>	Removed	Product Volume Remarked (gallons)	Temperatura		Cardudovite	Dissolved	
7.55 . 2.5	~~ <del>~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~</del>		<del></del>	Ч	П		(*CI	PH	tumnestem!	Impil	Comments
7.25 5.0 66.4 8.21 4.980 2.5 15.0 65.7 8.36 5.840 2.5 30.0 641.2 8.40 5.20 2.5 30.0 641.1 8.41 6.120 2.5 30.0 65.7 8.11 5.260 21.40 .25 35.0 62.9 8.21 4.710	<del>~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~</del>		<del></del>		.25		<i>47.5</i>	8,01	S470		MAN
25 10.0 65.3 8.20 4;790 .25 20.0 65.7 8.36 5;840 .25 20.0 64.1 8.41 6,120 .25 30.0 65.7 8.11 5,260 .21.40 .25 35.0 62.9 8.21 4,770	<del></del>			,25	5.0		46.4	8.21	03.67h		LIGHT TAN
25 15.0 65.7 8.36 5.840 25 30.0 64.1 8.41 6.120 25 35.0 65.7 8.11 5.260 21.40 .25 35.0 62.4 8.21 4.770	<del></del>			$\frac{1}{2}$	0.0		65.3	8	4,790		J
25 20.0 64.2 8.40 5.30 25 25.0 64.1 8.41 6.120 21.40 .25 30.0 65.7 8.11 5.260 21.40 .25 35.0 62.9 8.21 4,710	<del></del>	<del></del>	<del></del>	-	0.5		65.7	8.36	5.040		Clount
25. 25.0 21.6, 1.26 21.6, 25. 35.0 21.40 . 25. 35.0 21.40 . 25. 35.0	<del></del>	<del></del>		-	30.0		64.2	8.40	5,300		Grondy
21.46 . 25 35.0 62.9 8.11 5,260 21.46 . 25 35.0 62.9 8.21 4,710	<del></del>	<del></del>	<del></del>	.25	32.0		64. l	8.41	に、		ζτοπυλ
21.46 . 25 35.0 62.9 8.21 4,710	<del></del>		<del></del>	$\dashv$	30.0		65.7	8.11	5,260		CHES. MILKY
	<del></del>		<del></del>	.25	35.0		63.9	8.21	QC 5		LIGHT CHUDINES
	<del></del>	——————————————————————————————————————	——I. I 1⊒4 S		-:. :						
	. 1	. 1 1231	. 1 1271 5		3 13						
	<del>Q</del>	S-WO			Height of Wath Diameter (inch team well Casing Gravel Pack Drilling Fluids Total Total 125 25 25 25 25 25 25 25 25 25 25 25 25 2	Height of Water Column is Diameter (inchest: Well Water Volt Well Casing Gravel Pack Ordling Fluids Signification of Casing Fluids Signification of Casing Fluids Signification of Casing Fluids Signification of Casing Fluids Signification of Casing Fluids Signification of Casing Signification o	Height of Water Column in Well fleeth Diarneter (inchest: Well 4 Gravel Water Volume in Well Itam Well Casing Gravel Pack Orilling Fluids ASSOCAL SET (JELL 3SSOCAL SET (JELL	Height of Water Column in Well fleet)  Diameter (inches): Well 4 Gravel Pack 10  Water Volume in Well  Gallons to be Gravel Pack 10  Well Casing  We	Height of Water Column in Well fleet)   13.94	Height of Water Column in Well fleet   13.94   13.00 Month   Diameter (inches): Well	Height of Water Column in Well fleet

Well Development	and Pu	and Purging Data	Data	A Development	Well Number	1100-1
BURLINGTON ENVIRONMENTAL Serial No. WOPD.					a.	Page of
Project Name ( HMCO	Pro	Project Manager		SLOTT POPE	Project No.	
Client Company BURLINGTON ENVIRONMENTAL	NTAL				Phase Task No.	Phase Task No. 2001. 77
Site Name CHACO PLANT		Site Address				
Development Criteria	Water Volu	Water Volume Calculation	jon		Instruments	Serial No. (f applicable)
3 to 5 Casing Volumes of Water Removal	Initial Depth	Initial Depth of Well (feet)	19.60	0		
Stabilization of Indicator Parameters	Initial Depth	Initial Depth to Water (feet)		2	to the wierd	
Const	Height of Wa	Height of Water Column in Well (feet) 12,05	Well (feet)	12.05	☐ DO Monitor	
Methods of Development	Diameter (inc	Diameter (inches): Well 4 Gravel Pack 10	4 Gravel	osck (Co	Conductivity Meter	
Pump Bailer		Water Volume in Well	ne in Well	Gallons to be	I Temperature Meter	
Submersible Ontible Check Valve	E E	Cubic Feet	Gallons	Removed		
	Well Casing		7.87	39.35		
Cuber	Gravel Pack				Water Disposal	
	Drilling Fluids					
Water Removal Data	Total			39.35		

_														
		Development Mathod	Remove: Rete	Maise Darth	Ending Water Oppin	Wasser Vo	Water Volume Rengved Igalonei	P-Odus Flemove	Product Volume Senaved is alonal	Temperatura		Conductivity	Chasched Cargen	
Date	Time	ALMS GIALS	CIM: MO		[jee []	Incremen	Cumilelve	Professor	Proteinent Cumulative	5	Ŧ	impronum,	11130.1	Comments
6-30-94 Ogo7	LO	X		19.60		.35	. 25			64.4	7.76	7.76 3,220		TAN LATTA
ĕ	9160	×				.25	5.0			63.0	7.91	2,830		Z.d.L
<u>ئ</u>	2930	×				.25	0,0			62.4	7.86	3,010		LIGHT THN
<u>ح</u>	प्रध्य	X				.25	15.0			62.4	7.85	3,060		LIE#7 78M
0	0931	X				.25	20.0			62.4	7.93	3,880		MAY THOU
0	0938	X				25.	25.3	 		62.8	7.87	3,110		Lloudy
Ŏ.	245	×				.25	30,0			63.3	7.89	3,110		CLOUDY
90	29.52	×				.25	35,0		٠,	63.60	7.90	3.150		SLIGHTLY CLOUDY
60	959	X			9.90	,35	Q'Oh			63.7	7.93	3,190		SINCKTLY CLOUNTY

n A0101 Rev. 03:21,94

aper's Signature(s)

Ments BALLED

CLEAR. COMPLETED DEVELOPMENT AT 10:09

Reviewer

Date 6.30.94

S CU'S OUT OF WELL. WELL PRODUCES GOOD AND PERVISES FAST, THORMIDE

STABILIES AND WATER WAS FAIRLY

$\vdash$
∕e
_ =
チ訓

# Development and Purging Data

PHILIP Well Development and Purging Data	and Fu	ırgıng	Data	☐ Development ADPurging	Well Number M to - S	}
Serial No. WDPD.					Page of	Ş
Project Name LPUG PITS	Pro	Project Manager Colf Chance	C6.18 C	hruce	Project No. 14505	ş
Client Company ECP250 N2TURSC 525					Phase.Task No. 60003 . 6.)	1
Site Name Checa Pleat MW-8		Site Address	Site Address Chr C P14	24.5		
Development Criteria	Water Volu	Nater Volume Calculation	tion		Instruments Serial No. (If applicable)	~
Ze to 5 Casing Volumes of Water Removal	Initial Depth	nitial Depth of Well (feet)	276		Sont Meter	
<ul> <li>stabilization of indicator Parameters</li> <li>Other</li> </ul>	Initial Depth	nitial Depth to Water (feet) ノスタタ てのR	17,39	TOR		1
	Height of Wa	Height of Water Column in Well (feet)	Well (feet)	12.01	U Wonitor	ì
s of Deve	Diameter (inc	Diameter (inches): Well 4 Gravel Pack	7 Gravel 1	Pack	(X) Conductivity Meter	1
Pump Bailer		Water Volume in Well	me in Well	Gallons to he	文 Temperature Meter	
ø	Item	Cubic Feat	Gallons	Removed	Other	ŧ
	Well Casing		9,0	6.6 25		ı
□ Other	Gravel Pack				Water Disposal	
	<b>Drilling Fluids</b>				DELMANCE + Trenspired to	1
Water Removal Data	Total			33	KUTH Seperation of Bound Fire	

		Development Method		te Intake Depth	3		Water Volume Removed (gallons)	7 8 6 8 9 6 5 6	Product Volume Removed (gallons)	Temperature		Conductivity	Dissolved Oxygen	
Date	Time	Pump Baller	alter (gai/min)	) (T081)	(feet)	Increment	Cumulative	Increment	ncement Cumulative	® <b>4</b>	됩	(myhos/cm)	(mg/L)	Comments
15-91-01	1/40		Q			5	۶ _			65.7	7.74	2554		CT 9. A. S. LT Y
1	0511					٨	01			64.3	7.72	3,44		
	1205					/0	90			65.6	8.01	372		
	6121					(0)	Œ			63.4	8,0	3.67		
10-16-56	1230		×			5	-14			62.6	18.6 7.81	3.63		4715 + ELTY

Comments NO Oder defected

Developer's Signature(s)

Date 16-15

Reviewer\_

Date

Form A0101 Rev. 03/21/94

PHIL	IP	W	Vater	Sar	npli	ng ]	Dat	ta				Loca	ition (	No. <u>m</u>	w- 4
<u> </u>		S	erial No. <u>W</u>	SD-								Gro	oup Li	st Numb	er
Sample Ty	/pe:	JBP	'Groundw	ater [	] Surfac	e Wate	r 🗆	Oth	er	·				Date _	10-16-55
Project Na	me _ <u>&amp;</u>														05
Project Ma	nager	_C o	cy Cha	سدحر								Phase	.Task	No(	2003 . 61
Site Name	Ches	a 8	Pezu	mw-8											
	sted Sa h Inten	ampl val (1	ing feet) <u>τ</u>	5P 3'		lt		e Ela	osed f	rom	Final				min hours) 15
			<sup>:</sup> ollowing ırging (ho	urs)	·		Initia Nona	al Wa aque	iter De ous Li	epth iauid	(feet) s Pres	ent (Desc	39 cribe)	<u></u>	<b>a</b>
Water Q	alita	./\^/.	otor Coll	laation				uquo		44.0					
Water Q	danty	, , ,	lei Con			lite Co.			<u> </u>		·····	Collection			Cond. = Conductivit
Date	Tim	ne	Sample:		ater Qua	DO (mg/L)	Co (um	ond. nhos/	Volu Remo	me oved	Remov Rate (gal/m	Pump /al Intake Depth		Final Water Depth (feet)	Notes (Explain in Comments Below)
sce	well	,	061.60	or men	<del></del>	1610		171	For						
			,			171	7	,,,,							
			-	1									1.		
-			-										1		
				1			1								
Sample C	Contai	iner										ic; V = V O = Other			O = Other (Specify None
Analytic Parameter				Container		Fil	ield tered			Col	ooled uring lection			6	
		<u> </u>			Volume (m		<del> </del>	-	served	-	No			Comment	:s 
BTEX		_2		9	40		×	1-1		×	-	JAL!	23		<u> </u>
TDS		1		Ρ .	250	-	X	No	ve_	مر	-	JALI	? 3		
···-						_	-	-						•	
		_				-								<u></u> -	
							-								
		-				-}									
						-	$\vdash$						_		
<del></del>						-									<u> </u>
					<del></del>				-					·	
iltor Tunc	1					<u> </u>		-05.0	· · · · ·	lu E	i Ale	ımber			
ilter Type			1			· · · · · · · · · · · · · · · · · · ·	Chain	1-of-C	Custoo	iv Fo	orm No	umber			

Signature \_\_\_\_\_ Date \_\_\_\_\_ Date \_\_\_\_\_ Date \_\_\_\_\_ Date \_\_\_\_\_ Date \_\_\_\_\_

Form A0202 Rev. 02/24/94

Comments \_

COMPANY E1 Paso Ital Gas Company COUNTY and Juan STATE N.M.

CONTRACT NO. 5848 UNIT NO. CPS 296-6

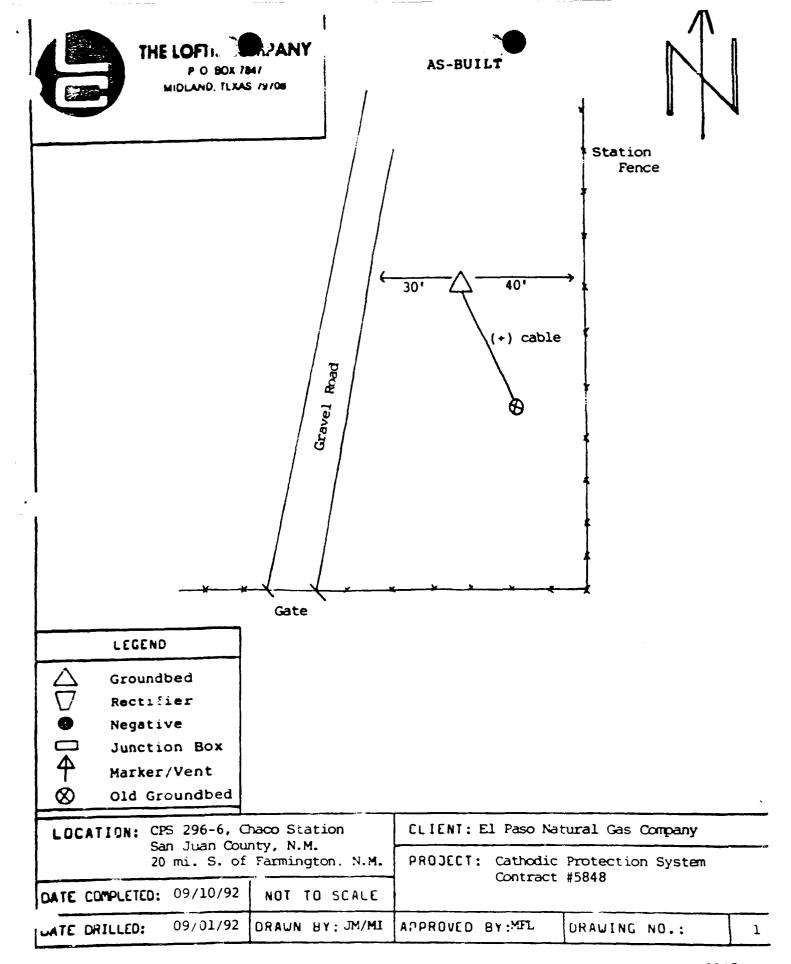
LOCATION Chaco Sta. - 20 miles S. of Farmington, N.M.

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	DRILLER'S LOG		TIVITY		DEPTH TO	BEFORE	AFTER
FT.	DRIELLE 3 Loc	OHMS	AMPS	NUMBER	ANODE TOP	COKE	COKE
5	Top Soil					<del></del>	
10	n		<del></del>	<del> </del>			
15	Sand		<del></del>	<del> </del>			
	м						
20	11		<u> </u>	-			
25	Blue Shale						
30	Bine Sirie		<del></del>	ļ			
35	11						·
40	н						
45	87			ļ			
50				ļ			
55				ļ			
60	#						
65	#						
70	R	<del></del>		<del> </del>			
75	n n						
80	n n						
85	n .						
90	11	<del>-   </del>					· · · · · · · · · · · · · · · · · · ·
95	11						
100							
105	Sandstone		1.1				
110	н		0.9				
115	n		0.9				
120 .	п		0.9				
125	Water		0.8				
130	н		1.0				
135	Sandstone		1.7	<b> </b>			
140	н		1.4				
145	Blue Clay & Shale		1.7	<del>   </del>			<del></del>
150			1.7	<del>   </del>			
155	n		2.0	<b> </b>			
160	н		1.8	<b> </b>			
165	п		1.8	<del>                                     </del>			
170	n		1.8	<del>   </del>			
175	n		1.8	<b>  </b>			
180	н		1.8	<b> </b>			
185	n		1.7	<del> </del>			
190	N		1.7	25		_2.5	7.9
195	n		1.8	<del> </del>			
200	п		1.6	24		1.7	7.8
205	н		1.5				
210	"		1.5	23		2.4	7.8
215	n		1.3	<b></b>			
20	n .		1.4	22		1.8	6.6
225	11		1.6	1			
230	***		1.8	21		2.4	6.3
235	π		1.7	1			
240	Blue Clay & Shale		1.7	20	1	2.3	6.3

 L(	DEATION Chae	UN	IT 🛴	CPS 296-6		
DEPTH	DRILLER'S LOG	RESISTIVITY OHMS : AMPS		DEPTH TO ANODE TOP		AFTER
<u>-T.</u>			NUMBER	ANUUE TUP	LUKE	LUKE
245	Blue Clay & Shale	1.6				
250	n	1.6	19		1.9	6.9
255	n	1.5	10			
260	n	1.5	18		1.9	5.9
265	77	1.6	17		2.0	6.3
275	n	1.5	1 1		2.0	0.3
280	"	1.5	16		1.9	6.5
285	п	1.6				
290	n	1.5	15		1.7_	5.7
295	н	1.0				
300	п	1.6				
305	Sandstone & Blue Shale	1.5	14		1_9	<u>5_6</u>
310	"	1.0				
320	"	1.0				
325	п	1.0				
330	п	0.9				
335		0.9				
340	7	1.6				
345	н	1.5	13		1.7	5.8
350		0.9				
355	Sandstone	1.6	12		1.8	6.0
360		1.3	11		2.1	5.8
365 370	Blue Clay & Shale	1.9	11		2.1	3.6
375	п	1.5	10		1.8	5.9
380	n	1.6			1.0	
385	II	1.6	9		1.9	6.5
390	п	1.8				
395	N	1.7	8		2.0	6.5
400	п	1.5				<del></del>
405	n	1.4	7		1,7	6.3
410		1.5	6		7.0	5.0
420	η	1.4	- 0 -		1.8	5.9
425	н	1.3	5		1.6	5.1
430	7	1.1				
435	м	0.9				
440		1.2				
445	N	1.7				
450	N N	1.4	4		_1.7	5.4
455 460	n n	1.0		<del></del>		<del></del>
465	н	1.4				
470	п	1.5	3		1.8	5.8
475	п	1.7				
480	*	1.6	2		1.8	5.9
485	n	1.6				
490	н	1.6	1		2.0	6.0
T 495	Blue Clay & Shale	1.7		<del></del>		
300 305	blue Clay & Shale	<del></del>				
510						
1						



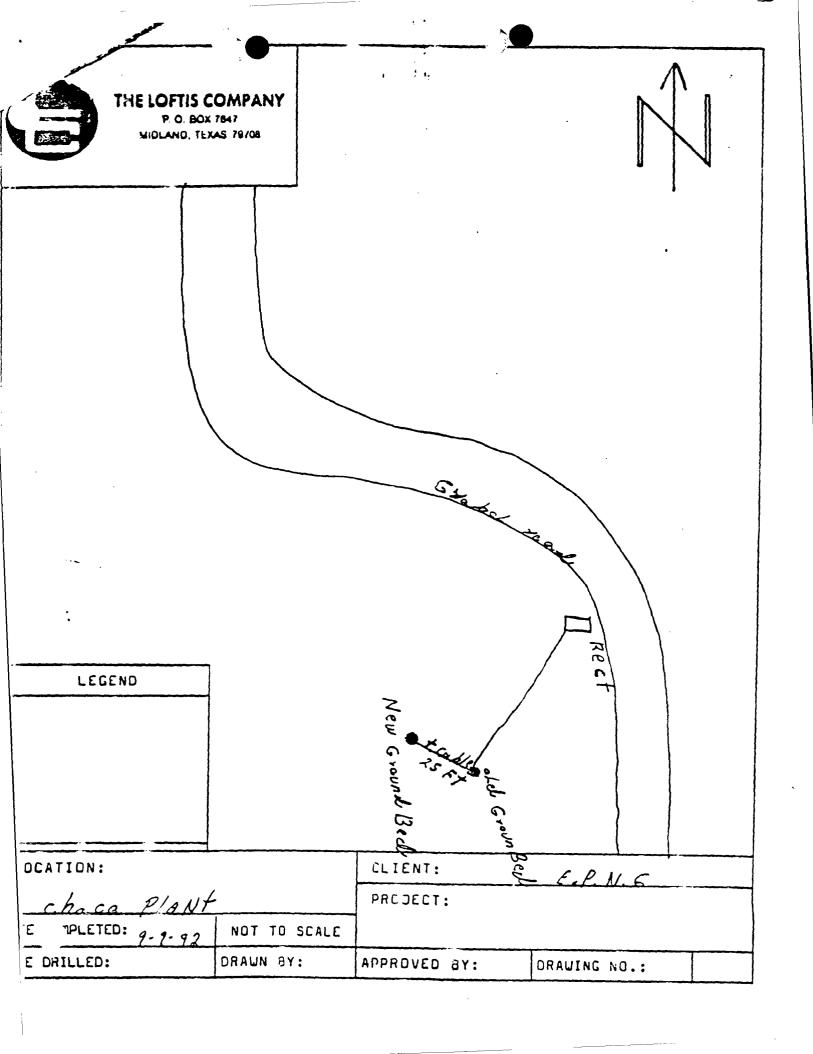
<u> </u>	THE LOFTIS COMP	<b>5</b>	Fage 1 of
DEEP WELL GROU JED DATA	A	LATE 9-3	92
COMPANY E.P.N. G	ເວນ	NTY ST	STATE N. M
CONTRACT NO. 13242	UNI	T NO. 196-7	
LOCATION chaco PIA	v t		
GROUNDBED: Depth 500	_Ft., Dia. <u>7</u> 2	In., Anodes	25
CASING: Size 3/8	In., Depth //	00_Ft.	100

DEPTH FT.	DRILLER'S LOG	RESIST OHMS	IVITY AMPS	ANODE NUMBER	DEPTH TO ANODE TOP	BEFORE COKE	AFTER COKE
5			1.				
10	Sand			<del> </del>			<b> </b>
15			<del></del>	<del> </del>			<b> </b>
20				<del> </del>			ļ
				ļ			
25		<del></del>		ļ			
30				·			
35			<del></del>				
40		<del></del>					
45							
50		<del></del>		+			
55	Rhie Shah?		1 3,				
60				<del></del>			<u> </u>
70			- 1;	<del> </del>			<del></del>
75			- 41 : - 21	<del> </del>	<b></b>		
80		<del></del>	44	<del>                                     </del>			
85			13.				
90				<del> </del>			
95		<del></del>		<del> </del>			
100		<del></del>				<del></del>	
105	sandiston						
110	371		24				
115		<del></del>	<del>/ / /</del>		<del></del>		
120	wa-781	<del></del>	1.4		<del></del>		
125	*	<del></del>	11				
130			1.10		-		
135	Rlue shake as and sto	2	1:5				
140			1.5	,			
145							
150			1.2				
155			1.5				
160			2.1	2.5		3.2	5.8
165			2. [	24		3.1	5.7
170			2-6	-			
275			2.7				
180							
185			2.8				
190			2-7,				
195			2.6				
200			2-4	23		3./	6.4
205			2.6	2.2		3. 4	6.5
210			<u> 2-9</u>				
215			9.3	21		3.2	6.4
220			2-1	20		7.8	6.1
225			1.6				
230			2:2	19		3./	6,6
235		3	2.5	101	1	3.6	7.0

•

UNIT NUMBER

_	ATION		UN:	T NUMBE	R		
1. T.	CRILLER'S LOG	RESIS OHMS	TIVITY	ANODE NUMBER	DEPTH TO	BEFORE COKE	AFTER COKE
1	Blue Shale & Sandis	60	2.5	17		7.8	6.8
250	15/DE SPORTS DANGES		2. 4	16	<del> </del>	<del>3.5</del>	6.6
255		<del> </del>	1. 9	15		2.4	5-8
260		<del> </del>	1 12			<del></del>	2-8
265		<del> </del>	1.0				<del> </del>
270			1.1			<del></del>	<del></del>
275		<del> </del>	17-				
280		<del> </del>	1. 7				<del> </del>
285		<del> </del> -	1.2	14		2.4	4.7
290	<del></del>	<del> </del>	1.2	17			<del>                                     </del>
295			1.5				<del>}</del>
300			2.4	13	<u> </u>	?-3	
305			2.4	13	<del></del>	<del>- 3</del> . 4	6./
310			1.9		<del></del>	J. 7	6.8
315			- 1				÷
320			1 2				<del></del>
325	<u> </u>	<del> </del>	4		· · · · · · · · · · · · · · · · · · ·		<del> </del>
330	:		1. 3				
335		1	2.1	7/		2-8	4.7
340			1.7.				1
345			1.2				
350			7				<del>i</del>
355		1	20				
360			2.2	10		7./	5.3
765			12		·		
70			20	9		2.5	5./
375			2.0	<del></del>		3. 3	5.4
380			1. 5	<del></del>			<del></del>
385			1.3				·
390			1.4	*			
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			911	4		2.5	5.4
445			7.5	3		3.2	5.7
450			1.7				
455			1.3				
460			1.5				
465			1.6				T
470			1.6				
475			16				
480			2.2	-3	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	2.8 3.0	5.6
485			2.4			3.0	5.5
490			2.7				!
95		<del> </del>	2.2				<del></del>
.00	V		2.0				<del></del>
505							<del></del>
510		<u></u> l					<del></del>



DEEP WELL GROWNDED DATA				September 9, 1992  COUNT Juan STATE N.M.				92	
COMPANY El	F.	ural G	as Comir	any	COUN		Juan	STATE	N.M.
CONTRACT NO.	5848						∴PS 296-		
LOCATION Ch	a∞ Stat	ion - 2	20 mile						
GROUNDBED:	Depth	500	_Ft.,	Dia.	7 7/8	In.,	Anodes	(25) 2	x 60
CASING:	Size	8 5/8	In.,	Depth	100	Ft	•	Anote	c SHA-2

I EPTH		PECTO	TIVITY	ANODE	DEPTH TO	BEFORE	AFTER
FT.	DRILLER'S LOG	OHMS	AMPS		ANODE TOP	COKE	COKE
5	Sand			<del> </del>			
10			· · · · · · · · · · · · · · · · · · ·			·	
15	н			ļ		·	
20	11			<u> </u>			
25	**						
30	**						
35.	\$1						
40							
45	**			<b></b>			
50	Sandstone & Shale					<b></b>	
55	п						
60	rt						
65	R						
70	*						
75							
80	н						
85							
90	7	[					
95							
100	Sandstone						
105	•		1.5				
110	Π		1.0				
115	п		0.9	<del> </del>		<del></del>	
120	Water Sand		0.3	<b></b>			
125	н		0.9				
130	п					<del></del>	<del></del>
135	Sandstone & Shale		1-4	<b></b>			
140		<del></del>	1.4				
145	11		1.6				<del></del>
150	π		1.5				
155	*		1.3	<del>   </del>			· <del></del>
160	*	<del></del>	1.3				
165	19	<del>-    </del>	1.4	<del> </del>			<del></del>
170	*		1.5	<del></del>			<del></del>
175	8		1.5	<del>  </del>		<del>- ,  </del>	<del></del>
180			1.5	25		1.8	2,4
185			1.5	<del></del>			
190			1.5 1.5	24		1.7	2.4
195			1.4	23		<del></del>	
200			1.2	23		1.6	2.4
205			1.3	22			
210				22		1.5	2.3
?15			1.4	71			
20	R	-	1.4	21		1.6	2.3
225		<del></del>	1.4	<del></del>			
230			1.3	20		1.4	2.3
235			1.4	10		1 5	2 2
240	Sandstone & Shale		1.3_	19		1.5	2.2

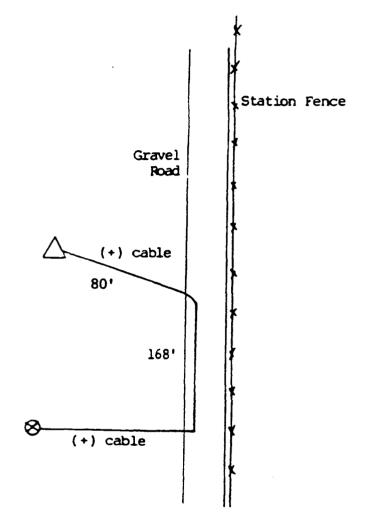
L	CATION Char Cation		UN	IT ******BI	ER <u>CPS 296-8</u>	3	
DEPTH	DRILLER'S LJ	RESIS OHMS	TIVITY		DEPTH TO ANODE TOP		AFTER COKE
1 245	Sandstone & Shale		1.2				
250	M Saintstone & Share		1.2	18		1.3	2.0
255	#		1.2				<del>                                     </del>
260	Rock		0.9				
265	•		0.7				
270	п		0.8				
275	Shale		1.2				
280	11		1.0				
285	ď		0.9				
290	Rock		0.9				
295	H		1.1				
300	н		1.4	17		1.7	2.3
305	Sandstone & Shale		1.5				
310	п		1.3	16		1.5	2.2
315	R .		1.0	<del> </del>			
320	n		0.9				
325	•		0.9				<u> </u>
330	<b>*</b>		1.2				
335	7		1.3	15		1.5	2.2
340		_	1.4	1		7.6	
345 350	7		1.4	14		1.6	2.3
355	•		1.3	13		1.4	
360	•		1.4			1.9	2.2
365	n		1.2	12		1.2	1.8
370	•		1.1				
375	•		1.3				
380	· ·		1.4	11		1.5	2.2
385	п		1.4				
390	P		1.5	10		1.6	2.1
395	•		1.5				
400	p		1.5	9	Ì	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	1.1				
440	•		11				
445			1.3				
450		<del>                                     </del>	1.4	5		1.3	2.2
455		+	1.3	<del></del>			
460		<del>                                     </del>	12	4		_1.3	2.1
465	•	<del>-  </del>	1.1	3		1.5	<del></del>
475	•	+	1.4		<del></del>	1.5	2.1
480	H	1	1.4			1.4	2.1
485	N	1					<u> </u>
490	я	1	1.3	1	<del></del>	1.3	1.9
495	*		1.3				
500	Sandstone & Shale		1.3				
505							
640		1	- 1				

510



AS-BUILT





	LEGEND
Δ	Groundbed
$\nabla$	Rectifier
	Negative
	Junction Box
4	Marker/Vent
$\otimes$	Old Groundbed

CLIENT: El Paso Natural Cas Company				
PROJECT: Cathodic Protection System				
Contract #5848				
APPROVED BY: MFL DRAWING NO.: 3				



ATI I.D. 510369

November 1, 1995

95/046 to 95/05/

El Paso Natural Gas P.O. Box 4990 Farmington, NM 87499

Project Name/Number: PIT CLOSURE/CHACO PLANT 24324

Attention: John Lambdin

On 10/18/95, Analytical Technologies, Inc., (ADHS License No. AZ0015), received a request to analyze non-aqueous samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

All analyses were performed by Analytical Technologies, Inc., 225 Commerce Drive, Fort Collins, CO.

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

Kimberly D. McNeill Project Manager

MR:jt

Enclosure

H. Mitchell Rubenstein, Ph.D.

Laboratory Manager



CLIENT

: EL PASO NATURAL GAS

DATE RECEIVED

:10/18/95

PROJECT #

:24324

PROJECT NAME

: PIT CLOSURE/CHACO PLANT

REPORT DATE

:11/01/95

ATI ID: 510369

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	951046	NON-AQ	10/11/95
02	951047	NON-AQ	10/11/95
)3	951048	NON-AQ	10/11/95
04	951049	NON-AQ	10/11/95
05	951050	NON-AQ	10/11/95
06	951051	NON-AQ	10/11/95
7	951030	NOV-1.2	10/13/95
	081050	NON-NO	10/12/95
10	951960	NOW NO	<del>10/12/9</del> 5
0	951061	NON-70	10/12/05
_1	051060	NON-70	10/12/95
	051062		10/12/95
2	051064	NON AC	10/13/05
LA	051005	11011-12	10/12/05
<u> </u>	951066	NON 110	10/13/95
		NON 70	10/12/05



---TOTALS---

MATRIX NON-AQ #SAMPLES 16

### ATI STANDARD DISPOSAL PRACTICE

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



Lab Name: Analytical Technologies, Inc.

Sample ID BH #4

951046 13-15 F3

Client Name: ATI-NM

Client Project ID: Pit Closure/Chaco Plt. -- 510369

Date Collected: 10/11/95

Lab Sample ID: 95-10-162-01

Prep Date: 10/20, 24/95

Sample Matrix: Soil

Date Analyzed: 10/23, 25/95

	Modified	Concentration	Detection Limit
Analyte	Method	mg/kg	mg/kg
Arsenic	6010	3	1
Barium	6010	10	10
Cadmium	6010	ND	0.5
Chromium	6010	1	1
Lead	6010	2.0	0.3
Mercury	7471	ND	0.2
Selenium	6010	ND	0.5
Silver	6010	ND	1



Lab Name: Analytical Technologies, Inc.

951047

BH#4 20-22 Foot

Client Name: ATI-NM

Client Project ID: Pit Closure/Chaco Plt. -- 510369

Date Collected: 10/11/95

Lab Sample ID: 95-10-162-02

Prep Date: 10/20, 24/95

Sample Matrix: Soil

Date Analyzed: 10/23, 25/95

A .1.	Modified	Concentration	Detection Limit
Analyte	Method	mg/kg	mg/kg
Arsenic	6010	3	1
Barium	6010	50	10
Cadmium	6010	ND	0.5
Chromium	6010	3	1
Lead	6010	18	0.3
Mercury	7471	ND	0.2
Selenium	6010	ND	0.5
Silver	6010	ND	1



Lab Name: Analytical Technologies, Inc.

Sample ID 8H #1
951048 5-7/\overline{7}

Client Name: ATI-NM

Client Project ID: Pit Closure/Chaco Plt. -- 510369

Date Collected: 10/11/95

Lab Sample ID: 95-10-162-03

Prep Date: 10/20, 24/95

Sample Matrix: Soil

Date Analyzed: 10/23, 25/95

	Modified	Concentration	Detection Limit
Analyte	Method	mg/kg	mg/kg
Arsenic	6010	3	1
Barium	6010	80	10
Cadmium	6010	ND	0.5
Chromium	6010	4	1
Lead	6010	4.6	0.3
Mercury	7471	ND	0.2
Selenium	6010	ND	0.5
Silver	6010	ND	11



Lab Name: Analytical Technologies, Inc.

Sample ID 951049

BH#1 30-32Fot

Client Name: ATI-NM

Client Project ID: Pit Closure/Chaco Plt. -- 510369

Date Collected: 10/11/95

Lab Sample ID: 95-10-162-04

Prep Date: 10/20, 24/95

Sample Matrix: Soil

Date Analyzed: 10/23, 25/95

A - 2 - 4 -	Modified	Concentration	Detection Limit
Analyte	Method	mg/kg	mg/kg
		_	_
Arsenic	6010	2	1
Barium	6010	50	10
Cadmium	6010	ND	0.5
Chromium	6010	9	1
Lead	6010	12	0.3
Mercury	7471	ND	0.2
Selenium	6010	ND	0.5
Silver	6010	ND	1



Lab Name: Analytical Technologies, Inc.

Sample ID

| BH #2
| 951050 | 10 - 12 FEOT

Client Name: ATI-NM

Client Project ID: Pit Closure/Chaco Plt. -- 510369

Date Collected: 10/11/95

Lab Sample ID: 95-10-162-05

Prep Date: 10/20, 24/95

Sample Matrix: Soil

Date Analyzed: 10/23, 25/95

Analyte	Modified Method	Concentration mg/kg	Detection Limit mg/kg
Arsenic	6010	ND	1
Barium	6010	20	10
Cadmium	6010	ND	0.5
Chromium	6010	1	1
Lead	6010	2.3	0.3
Mercury	7471	ND	0.2
Selenium	6010	ND	0.5
Silver	6010	ND	1



Lab Name: Analytical Technologies, Inc.

Sample ID

BH#2

951051

30-32 Foot

Client Name: ATI-NM

Client Project ID: Pit Closure/Chaco Plt. -- 510369

Date Collected: 10/11/95

Lab Sample ID: 95-10-162-06

Prep Date: 10/20, 24/95

Sample Matrix: Soil

Date Analyzed: 10/23, 25/95

	Modified	Concentration	Detection Limit
<u>Analyte</u>	Method	mg/kg	mg/kg
Arsenic	6010	61	1
Barium	6010	40	10
Cadmium	6010	ND	0.5
Chromium	6010	3	1
Lead	6010	4.5	0.3
Mercury	7471	ND	0.2
Selenium	6010	ND	0.5
Silver	6010	ND	1



Sample ID

Reagent Blank

Lab Name: Analytical Technologies, Inc.

Client Name: ATI-NM

Date Collected: N/A

Client Project ID: Pit Closure/Chaco Plt. -- 510369

Prep Date: 10/20, 24/95

Lab Sample ID: RB 95-10-162

Date Analyzed: 10/23, 25/95

	Modified	Concentration	Detection Limit
Analyte	Method	mg∕kg	mg/kg
Arsenic	6010	ND	1
Barium	6010	ND	10
Cadmium	6010	ND	0.5
Chromium	6010	ND	1
Lead	6010	ND	0.3
Mercury	7471	ND	0.2
Selenium	6010	ND	0.5
Silver	6010	ND	1

ND = Not Detected

Dech in

Anaiytica:Technologies,Inc.

# TOTAL METALS MATRIX SPIKE

Lab Name: Analytical Technologies, Inc.

Sample ID

951046

Client Name: ATI-NM

Lab Sample ID: 95-10-162-01

Prep Date: 10/20, 24/95

Sample Matrix: Soil

Date Analyzed: 10/23, 25/95

Analyte	Spike Added mg/kg	Sample Conc. mg/kg	MS Conc. mg/kg	% Rec (limits 80-120%)	Flags
Arsenic	200	3	200	99	
Barium	200	10	210	100	
Cadmium	5.0	< 0.5	4.9	98	
Chromium	20	1	22	105	
Lead	50	2.0	51	98	
Mercury	2.5	< 0.2	2.2	38	
Selenium	200	< 0.5	190	95	
Silver	20	< 1	21	105	

Faco Man 3

Anaivte	MSD Conc. mg/kg	MSD % Rec (limits 80-120%)	Relative % Difference (limits 0-20%)	Flags
Arsenic	200	99	0	
Barium	220	105	5	
Cadmium	5.0	100	2	
Chromium	22	105	0	
Lead	52	100	2	
Mercury	2.2	88	0	
Selenium	190	95	0	
Silver	21	105	0	

Lort NUMBER OF CONTAINERS OIBAS AIR/Diesel/Gasoline/BIXE/ (MOD 8015/8020) 200 <u>..</u> Date: Date £. 477-63 DATE 10 18 PAGE AIR - 02, CO2, METHANE RECEIVED BY: (LAB) RELINQUISHED BY: 4 50 7 RADIUM 226/228 GROSS ALPHA/BETA Printed Name: Printed Name Signature: Company: Company: Signature: FECAL COLIFORM TOTAL COLIFORM 203 9,0162 ANALYSIS REQUEST SOTSEESA Date: 3 .. E الدداد ١ ECAN Analytical Technologius, Inc. RECEIVED BY: (LAB) MÉLINAUISHED BY: Voistile Organics GC/MS (624/8240) Diesel/Gasoline/STXE/MTBE/ (MOD 8015/8020) 'igsod Name: Printed Name: Albuquerquo Company: Signature: Signatury 8240 CTOLP 13111 ZHE NETRIS 270  $\times$ 0163/018 SAMPLES SUNT 10. GOM 818/818 II COLLINS PORTITION PLNSACOLA BEROUANT SAN DIEGO XIN TOTAL EBSIEBS MOD HE RION SAEM) STNATCAFFUR ECI=7:0S GAEL CINABRO COL TOTAL HUMBI'R OF CONTAINERS XOI SAMPLE RECEIPT RECEIVED GOOD COND COLD U AB ID CHAIN OF CUSTODY SEALS 2 ÷ 0 70 5 ā  $\mathcal{S}'$ <del>ن</del>ئ ئ در 5 2011 MATHIX LABRUMBER 10 Kin Menleil INTAC1? 2709-D Pan American Freeway, NE Albuquerque, NM 87107 27.10 8280 080 0110 -LETITIA KRAKOWSKI-101% TIME 3 Analytical Technologies, Inc. rid ozM12 Z X 10[12- $\frac{\Xi}{\Box}$ MO4-KI TIC REQUIRED MS MSD III ANK PROJECT INFORMATION PROJECT NUMBER: 1510369 PROJECT NAME: PLT C1.050RE 07 CLIENT PROJECT MANAGER, NETWORK PROJECT MANAGER: HISH ≥ 03 70 --05 <u>-</u>04 10 0 150-20-SAMPLE ID OC LEVEL: <\$TD> RUSH SURCHARGÉ: CLIENT DISCOUNT: IAT: BTANDARD) 510316 DUE DATE: \_ COMPANY ADDITESS:

Chain of Custody

Allampoorque, 111A

All Muly he of fechinologies, ha

DISTRIBUTION: White, Canary - ATI • Pink - ORIGINATOR ATI Labs: San Diego (619) 458-9141 • Phoenix (602) 496-4400 • Seattlo (206) 228-8335 • Pensacola (904) 474-1001 • Portland (503) 684-0447 • Albuquerque (505) 344-3777

Alluquerque, 144 And Analyk alledmologies, In

KIM MCNEI

Chain of Custody

95.10.16 DATE-10/18 PAGE 2 OF 2

**ENSUITATION TO RESIDENCE** AIR/Diesel/Gasoline/BTXE/ (MOD 8015/8020) AIR . 02, CO2, METHANE RELINCUISHED BY: BASIJAS MUIDAR GROSS ALPHA/BETA Signature: **LECAL COLIFORM** TOTAL COLIFORM COB ANALYSIS REQUEST SOTSEESA HACE HELINOUISHED BY: Volatile Organics GC/MS (624/8240) Diesel/Gasoline/STXE/MTBE/ (MOD 8015/8020) Signatura: 8540 (LCFs 1311) ZHE UP452511 12401 SIVEFORM MXXX KCZA £8/019 SAMPLES SENT TO COM 519/519 **632/632 MOD** SLEM) STMATOARRUS SULFIDE CAEL CINABRO COL XOT SAMPLE RECEIPT LAB ID نز - $^{\sim}$ <u>></u> 1 7 MATRIX 10% KIM Marlei 2709 D Pan Amorican Lrooway, M 3.6 4 810 TIME Analytical Technologies, Inc. 21101 10 13 5110 71101 Albuquerque, NM 87107 DATE  $\overline{C}$ PROJECT INFORMATION CLIENT PROJECT MANAGER NETWORK PROJECT MANAGER: N 7 SAMPLEID 510369 COMPANY ADDIN 55

DISTRIBUTION: White, Canary - ATI . Pink - ORIGINATOR
ATI Labs: San Diego (619) 458:9141 • Phoenix (602) 496:4400 • Seattle (206) 228-8335 • Pensacola (904) 474-1001 • Portland (503) 684:0447 • Albuquerque (505) 344:3777

MOHKM

O Z

CLIENT DISCOUNT: RUSH SURCHARGE

DUE DATE:

Printed Name:

Dale:

Printed Name:

Company:

Company:

ATT/20

Fedu V

36

RECEIVED BY: (LAB)

RECEIVED BY: (LAB)

Signature:

FIBE NOUANT

Analytical Technologies, V

POHTH AND

RECEIVED GOOD COND ACOLD

BI ANK

RUSHI

TAT: CSTANDARD

AC REQUIRED WS MSD

INTAC17

LAB NUMBER

XIN ICH

PENSACOLA

Albuquerquo

1945-11-5

(Signature)

Company: Feele A

Ime:

Time:

Date

Printed Name:

Date

"Halpd Name:

I COLLINS

RENTON

SAN DIEGO

TOTAL NUMBER OF CONTAINERS

CHAIN OF CUSTODY SEALS

PROJECT NAME: PITCLOSURE CLIDED PLANT

STD.) IV

OC LEVEL:

PROJECT NUMBER: 510312

MPLETELY. SHADED AREAS ARE FOR LAB USE ONLY
---

etats by TCLP (1311) **HOH** Analytical Technologies, I RCRA Metals by Total Digestion Date: RELINOUISHED BY: RECEIVED BY:(LAB) The 13 Priority Pollutant Metals Andrew Start Or Signature: Printed Name: Printed Name: SDWA Secondary Standards - Federal Company: Signature: Shebera - strandards - Federal SDA Secondary Standards - AWGS Date: 10/10/95 SOWA Primary Standards - Anzona EL PASO NATURAL GAS 2 Time: 14:90į ANALYSIS REQUEST Date: Polynuclear Aromatics (610/8310) RELINQUISHED BY: Volatile Organics GC/MS (624/8240) Rhea Bays Sase/Neutral/Acid Compounds GC/MS (625/8270) Signature: RECEIVED BY (0218/218) sebibidieH Printed Name: Printed Narh Company. Company. Signature: Pesticides/PCB (608/8080) SDWA Volatiles (502.17503.1), 502.2 Reg. & Unreg. SAMPLED & RELINQUISHED BY: Aromatic Hydrocarbons (602)8020) Chloninated Hydrocarbons (601/8010) Dale: Time: Date: BELX (8050): BLXE/WLBE (8050) Printed Name: Printed Name Diesel/Gasoline/BTXE/MTSE (MOD 8015/8020) Signature: Сотрапу: Signature: (MOD 8015) Gas/Diese Petroleum Hydrocarpons (418.1) 50% 108-52452-24-(XX)1-(X)12-31-20TO CHARGE CODE: 50% 108-51570-24-001-0012-31-2010 MATRIX LABID O/N/NA (NORMAL) 1 2 WEEK 70-3 -08 8 6 3 49-3 1004 0σ SAMPLE RECEIPT PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS NO. CONTAINERS CUSTODY SEALS RECEIVED INTACT RECEIVED COLD 0770 0180 36/11/01 1307 1353 10945 boba 7) 101 8880 TIME 1113 QA/QC ON PROJECT SAMPLES 87.499 EL PASO NATURAL GAS 11511ET) NICISMA, I NISOL [12/95 DATE (RUSI) 124hr 148hr 172hr 11 WEEK FARMINGTON, NM PROJ NAME PIT CLOSURI / Clant SAME AS ABOVE SHIPPED VIA: PEDERAL EXPRESS (505) 599 2144 P.O. BOX 4990 (505) 599-2261 PROJECT INFORMATION PROJECT MANAGER: SAMPLEID 951058 951050 PROJ NO: 24324 951059 951051 951048 951049 51060 951046 151047 P.O. NO.: 38822 COMPANY: COMPANY: **ADJRESS**: BII L TO: PIL)NE: Comments:

AIILAUIU. 5/0367

3

DATE: 10/16/95 PAGE 1 OF 6

San Deigo • Phoenix • Seattle • Pensacola • Ft. Collins • Portland • Albuquerque

Analytical Technologies, Inc., Alluqueque, NM

DISTRIBUTION: White, Canary - ATI . Pink - ORIGINATOR ATI Lats: San Ixego (619) 458-9141 • Phoenix (602) 496-4400 • Soattle (206) 228-8335 • Pensacola (904) 474-1001 • Portland (503) 684-0447 • Albuquerque (505) 344-3777

		_						
AINC	13N	BAJ	RO7 38A	SABRA	SHADED	COMPLETELY.	MI MROT ZIHT	LEASE FILL

Vetals by TCLP (1311) HOH **HCRA Metals by Total Digestion** لكحا Time: Date: RELINQUISHED BY: RECEIVED BY:(LAB) The 13 Priority Pollutant Metals 510369 Analytical 1 and resident Printed Name: SDWA Secondary Standards - Federa: Signature Signature: Company: - strand Standards -SOOTHA - SURBORIS YIEDOOSS AWOS Date: 10/17/95 SNOSHA - SDISDRES VISMING AWOS EL PASO NATURAL GAS ci  $\sim$  7 time: 14/00REQUEST Time: Polynudest Aromatics (610/8310) Dade RELINQUISHED BY: Printed Name C D Volatile Organics GC/MS (624/8240) ANALYSIS Base/Neutral/Acid Compounds GC/MS (625/8270) RECEIVED BY: (0218/213) seppioneH Printed Name: Signaturg. Company: Signature: Company: OF B Pestidides/PCB (608/8080) CHAIM OF GUSIOUY DATE: 10/H 195 PAGE 2 OF 3 į ł PAGE 2 SDWA Volatiles (502.1/503.1), 502.2 Reg. & Unreg. ı SAMPLED & RELINQUISHED BY: (OSO8\S08) anomissionally stamonal (0108/103) anodiscontivit basannoidO Phone: Date: Time: Dale: BELX (8050) BLXE/WLBE (8070) Printed Name: Printed Name: RECÈIVED Diesel/Gasoline/BTXE/MTBE (MOD 8015/8020) Signature: Company: Signature: Company: MOD 8015) Gas/Diesel Petroleum Hydrocarbons (418.1) 1210 San Dugo - Phoenix - Seattle - Pensacola - Fl. Collins - Portland - Albuquerque MATRIX LABID S) N/NA (NORMAL) 172 WEEK 7 0 1 400 SAMPLE RECEIPT PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS 2011 . <u>. 5</u>6. ★ VO. CONTAINERS CUSTODY SEALS RECEIVED INTACT RECEIVED COLD 1423 8401 1347 349 TIME 1133 1919 1017 87.199 QA/QC ON PROJECT SAMPLES EL PASO NATURAL GAS PROJECT MANAGER: JOHN LAMBININ 12/95 10/12/15 113/95 113/15 DATE HARMINGTON, NM (RUSH) | 24hr | 48hr | 72hr | 1 WEEK SAME AS ABOVE PROJ. NAME. PYT CLOSURE / Chaco ٥ ፩ SHIPPED VIA: FEDERAL EXPRESS (505) 599 2144 P.O. BOX 4990 (505) 599-2261 PROJECT INFORMATION SAMPLEID 951065 951063 451064 951066 8015E 192106 PROJ. NO.: 24324 95.106 P.O. NO.: 38822 COMPANY: COMPANY: ADI)RESS: ADDIBESS: BIL1. TO: PHONE Comments: FAX: d

AIILABID.

Analytical Technologies, Inc., Abaqueque, NM

DISTRIBUTION: White, Canary - ATI . Pink - ORIGINATOR ATI Labs: San Diego (619) 458-9141 • Phoenix (602) 496 4400 • Soattle (206) 228-8335 • Pensacola (904) 474-1001 • Portland (503) 684-0447 • Albuquerque (505) 344-3777



# FIELD SERVICES LABORATORY ANALYTICAL REPORT

### SAMPLE IDENTIFICATION

SAMPLE NUMBER: 951046

MATRIX: Soil

SAMPLE DATE: 11-Oct-95

SAMPLE TIME (Hrs.): 810

SAMPLED BY: Cory Chance, Philips

PROJECT: Chaco Plant Pond Closure

FACILITY ID: 5212

SAMPLE LOCATION: Chaco Plant Bore Hole #4

SAMPLE POINT: 13 - 15 Foot DATE OF ANALYSIS: 12-Oct-95

REMARKS: None.

### EPA Method 8020 (BTEX) and Method 418.1 (TPH) RESULTS

PARAMETER	RESULT MG/KG	QUALIFIER	LIMIT MG/KG
BENZENE	<0.5	None	10
TOLUENE	< 0.5	None	None
ETHYL BENZENE	< 0.5	None	None
TOTAL XYLENES	<1.5	None	None
TOTAL BTEX	<3.0	None	50
TPH by EPA 418.1	<10	None	100
PERCENT SOLIDS		81	
SURROGATE % RECOVERY	Allowed Range 98 80 to 120 %		

NOTES:

Acceptable Quality Control.

The limits shown are based on New Mexico Regulations.

Approved By: Am tarken

18-Oct-95

Date



# FIELD SERVICES LABORATORY ANALYTICAL REPORT

### SAMPLE IDENTIFICATION

SAMPLE NUMBER: 951047

MATRIX: Soil

SAMPLE DATE: 11-Oct-95

SAMPLE TIME (Hrs.): 904

SAMPLED BY: Cory Chance, Philips

PROJECT: Chaco Plant Pond Closure

FACILITY ID: 5212

SAMPLE LOCATION: Chaco Plant Bore Hole #4

SAMPLE POINT: 20 - 22 Foot DATE OF ANALYSIS: 12-Oct-95

REMARKS: None.

### EPA Method 8020 (BTEX) and Method 418.1 (TPH) RESULTS

PARAMETER	RESULT MG/KG	QUALIFIER	LIMIT MG/KG	
BENZENE	< 0.5	None	10	
TOLUENE	< 0.5	None	None	
ETHYL BENZENE	, <0.5	None	None	
TOTAL XYLENES	<1.5	None	None	
TOTAL BTEX	<3.0	None	50	
TPH by EPA 418.1	<10	None	100	
PERCENT SOLIDS		80		
SURROGATE % RECOVERY	98	Allowed Range 98 80 to 120 %		

NOTES:

Acceptable Quality Control.

The limits shown are based on New Mexico Regulations.

Approved By: John Fairdin

18-Oct-95

Date



# FIELD SERVICES LABORATORY ANALYTICAL REPORT

### SAMPLE IDENTIFICATION

SAMPLE NUMBER: 951048

MATRIX: Soil

SAMPLE DATE: 11-Oct-95

SAMPLE TIME (Hrs.): 1016

SAMPLED BY: Cory Chance, Philips

PROJECT: Chaco Plant Pond Closure

FACILITY ID: 5212

SAMPLE LOCATION: Chaco Plant Bore Hole #1

SAMPLE POINT: 5 - 7 Foot DATE OF ANALYSIS: 12-Oct-95

REMARKS: None.

### EPA Method 8020 (BTEX) and Method 418.1 (TPH) RESULTS

PARAMETER	RESULT MG/KG	QUALIFIER	LIMIT MG/KG	
BENZENE	< 0.5	None	10	
TOLUENE	< 0.5	None	None	
ETHYL BENZENE	< 0.5	None	None	
TOTAL XYLENES	1.5	None	None	
TOTAL BTEX	1.50	None	50	
TPH by EPA 418.1	2,068	None	100	
PERCENT SOLIDS		85		
SURROGATE % RECOVERY	98	Allowed Range 80 to 120 %		

NOTES:

Acceptable Quality Control.

The limits shown are based on New Mexico Regulations.

Approved By:

18-Oct-95

Date



## SAMPLE IDENTIFICATION

SAMPLE NUMBER: 951049

MATRIX: Soil

SAMPLE DATE: 11-Oct-95

SAMPLE TIME (Hrs.): 1113

SAMPLED BY: Cory Chance, Philips

PROJECT: Chaco Plant Pond Closure

FACILITY ID: 5212

SAMPLE LOCATION: Chaco Plant Bore Hole #1

SAMPLE POINT: 30 - 32 Foot DATE OF ANALYSIS: 12-Oct-95

REMARKS: None.

#### EPA Method 8020 (BTEX) and Method 418.1 (TPH) RESULTS

PARAMETER	RESULT MG/KG	QUALIFIER	LIMIT MG/KG	
BENZENE	< 0.5	None	10	
TOLUENE	<0.5	None	None	
ETHYL BENZENE	< 0.5	None	None	
TOTAL XYLENES	<1.5	None	None	
TOTAL BTEX	<3.0	None	50	
TPH by EPA 418.1	<10	None	100	
PERCENT SOLIDS		90		
SURROGATE % RECOVERY	97	Allowed Range 97 80 to 120 %		

NOTES:

Acceptable Quality Control.

The limits shown are based on New Mexico Regulations.

Approved By: John Farban

18-Oct-95



## SAMPLE IDENTIFICATION

SAMPLE NUMBER: 951050

MATRIX: Soil

SAMPLE DATE: 11-Oct-95

SAMPLE TIME (Hrs.): 1307

SAMPLED BY: Cory Chance, Philips

PROJECT: Chaco Plant Pond Closure

FACILITY ID: 5212

SAMPLE LOCATION: Chaco Plant Bore Hole #2

SAMPLE POINT: 10 - 12 Foot DATE OF ANALYSIS: 12-Oct-95

REMARKS: None.

#### EPA Method 8020 (BTEX) and Method 418.1 (TPH) RESULTS

PARAMETER	RESULT MG/KG	QUALIFIER	LIMIT MG/KG	
BENZENE	< 0.5	None	10	
TOLUENE	< 0.5	None	None	
ETHYL BENZENE	<0.5	None	None	
TOTAL XYLENES	<1.5	None	None	
TOTAL BTEX	<3.0	None	50	
TPH by EPA 418.1	<10	None	100	
PERCENT SOLIDS		82		
SURROGATE % RECOVERY	98	Allowed Range 80 to 120 %		

NOTES:

Acceptable Quality Control.

The limits shown are based on New Mexico Regulations.

Approved By: dudate.

18-Oct-95



## **SAMPLE IDENTIFICATION**

SAMPLE NUMBER: 951051

MATRIX: Soil

SAMPLE DATE: 11-Oct-95

SAMPLE TIME (Hrs.): 1353

SAMPLED BY: Cory Chance, Philips

PROJECT: Chaco Plant Pond Closure

FACILITY ID: 5212

SAMPLE LOCATION: Chaco Plant Bore Hole #2

SAMPLE POINT: 30 - 32 Foot DATE OF ANALYSIS: 12-Oct-95

REMARKS: None.

### EPA Method 8020 (BTEX) and Method 418.1 (TPH) RESULTS

PARAMETER	RESULT MG/KG	QUALIFIER	LIMIT MG/KG
BENZENE	<0.5	None	10
TOLUENE	< 0.5	None .	None
ETHYL BENZENE	< 0.5	None	None
TOTAL XYLENES	<1.5	None	None
TOTAL BTEX	<3.0	None	50
TPH by EPA 418.1	<10	None	100
PERCENT SOLIDS	84		
SURROGATE % RECOVERY	98	Allowed Range 98 80 to 120 %	

NOTES:

Acceptable Quality Control.

The limits shown are based on New Mexico Regulations.

Approved By: John Faibelin

18-Oct-95



QUALITY CONTROL REPORT EPA METHOD 8020 - BTEX Samples: 951046 thru 951051

QA/QC for 10/12/95 Sample Set

LABORATORY CALIBRATION CHECKS, LABORATORY CONTROL SAMPLES:

SAMPLE		EXPECTED	ANALYTICAL			ACCEPTABLE
NUMBER	TYPE	RESULT	RESULT	XR		
ICV LA-45473		PPB	PPB			YES NO
50 PPB					RANGE	
Benzene	Standard	50.0	44.0	88.0	75 - 125 %	X
Toluene	Standard	50.0	45.8	91.6	75 - 125 %	Х
Ethyl benzene	Standard	50.0	47.0	94.0	75 - 125 %	X
m & p - Xylene	Standard	100	92.4	92.4	75 - 125 %	X
o - Xylene	Standard	50.0	46.9	93.8	75 - 125 %	Χ
SAMPLE		EXPECTED	ANALYTICAL			
NUMBER	TYPE	RESULT	RESULT	%R		ACCEPTABLE
LCS LA-45476		PPB	PPB			YES NO
25 PPB					RANGE	
Benzene	Standard	25.0	29.0	116.0	39 - 150	Х
Toluene	Standard	25.0	28.8	115.2	46 - 148	х
Ethyl benzene	Standard	25.0	27.2	108.8	32 - 160	Х
m & p - Xylene	Standard	50.0	55.3	110.6	Not Given	x
o - Xylene	Standard	25.0	27.6	110.4	Not Given	X
SAMPLE		EXPECTED	ANALYTICAL			ACCEPTABLE
NUMBER	TYPE	RESULT	RESULT	%R		
CCV1 LA-45473		PPB	PPB			YES NO
50 PPB					RANGE	
8enzene	Standard	50.0	41.3	82.6	75 - 125 %	x
Toluene	Standard	50.0	44.5	89.0	75 - 125 %	x
Ethyl benzene	Standard	50.0	45.2	90.4	75 - 125 %	X
m & p - Xylene	Standard	100	88.6	88.6	75 - 125 %	X
o - Xylene	Standard	50.0	45.1	90.2	75 - 125 %	X
SAMPLE		EXPECTED	ANALYTICAL			ACCEPTABLE
NUMBER	TYPE	RESULT	RESULT	XR.		
CCV2 LA-45473		PPB	PPB			YES NO
50 PPB					RANGE	
Benzene	Standard	50.0	41.8	83.6	75 - 125 %	X
Toluene	Standard	50.0	43.7	87.4	75 - 125 %	X
Ethyl benzene m & p - Xylene	Standard Standard	50.0 100	44.3 86.3	88.6 86.3	75 - 125 %	X
o - Xylene	Standard	50.0	44.2	88.4	75 - 125 %	X
	Standard			200.4	75 - 125 %	X
SAMPLE NUMBER	TYPE	EXPECTED	ANALYTICAL	<b>3</b> 0		ACCEPTABLE
CCV3 LA-45473	lire	RESULT PPB	RESULT PPB	XR		Ver us
50 PP8		, , ,	Fr <b>o</b>		RANGE	YES NO
Benzene	Standard	50.0		0.0	75 - 125 %	NA
Toluene	Standard	50.0		0.0	75 - 125 %	NA NA
Ethyl benzene	Standard	50.0		0.0	75 - 125 %	NA NA
m & p - Xylene	Standard	100		0.0	75 - 125 %	- NA
o - Xylene	Standard	50.0		0.0	75 - 125 %	NA NA

Narrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE: NUMBER 951046	TYPE	SAMPLE RESULT PPM Ug/L	DUPLICATE  RESULT  PPM  ug/L	RPD	RANGE	ACCEPTABLE  YES NO
Benzene	Extraction Dup	<2.5	<2.5	0	+/- 35 %	x
Toluene	Extraction Dup	<2.5	<2.5	0	+/- 35 %	^
Ethyl benzene	Extraction Dup	<2.5	<2.5	0	+/- 35 %	x
m & p - Xylene	Extraction Dup	<5.0	<5.0	0	+/- 35 %	X
o - Xylene	Extraction Dup	<2.5	<2.5	0	+/- 35 %	<b>X</b>

Narrative: Acceptable.

#### LABORATORY DUPLICATES:

SAMPLE Number Na	ТҮРЕ	SAMPLE RESULT PPM Ug/L	DUPLICATE  RESULT  PPM  ug/L	RPD	RANGE	ACCEPTABLE YES	E NO:
8enzene	Extraction Dup			0	+/- 35.%	NA NA	
Toluene	Extraction Dup			0	+/- 35 %	NA	
Ethyl benzene	Extraction Dup			0	+/- 35 %	NA	
m & p - Xylene	Extraction Dup			0	+/- 35 %	NA	
o - Xylene	Extraction Dup			0	+/- 35 %	NA	

Narrative:

#### LABORATORY DUPLICATES:

SAMPLE NUMBER 951046	TYPE	SAMPLE RESULT PPM Ug/L	OUPLICATE RESULT PPM ug/L	RPD	RANGE	ACCEPTABLE YES	но
Benzene	Matrix Duplicate	<2.5	<2.5	0	+/- 35 %	Х	
Toluene	Matrix Duplicate	<2.5	<2.5	0	+/- 35 %	x	
Ethyl benzene	Matrix Duplicate	<2.5	<2.5	0	+/- 35 %	X	
m & p - Xylene	Matrix Duplicate	<5.0	<5.0	0	+/- 35 %	x	
o - Xylene	Matrix Duplicate	<2.5	<2.5	0	+/- 35 %	X	

Narrative: Acceptable.

#### LABORATORY DUPLICATES:

SAMPLE NUMBER NA	ТҮРЕ	SAMPLE RESULT PPM ug/L	DUPLICATE  RESULT  PPM:  Ug/L	RPD	RANGE	ACCEPTABLE YES NO	
Benzene	Matrix Duplicate			0	+/- 35 %	NA	
Toluene	Matrix Duplicate			0	+/- 35 %	NA	1
Ethyl benzene	Matrix Duplicate			0	+/- 35 %	NA	11
m & p - Xylene	Matrix Duplicate			0	+/- 35 %	NA	
o - Xylene	Matrix Duplicate			0	+/- 35 %	NA	

Narrative:

#### LABORATORY SPIKES:

SAMPLE NUMBER 951046	SPIKE ADDED PPB 50:00	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	ХR	RANGE	ACCEPTABLE YES NO
Benzene	50.0	<2.5	42.4	84.8	75 - 125 %	X
Toluene	50.0	<2.5	44.7	89.4	75 - 125 %	X
Ethyl benzene	50.0	<2.5	45.5	91.0	75 - 125 %	X
m & p - Xylene	100.0	<5.0	89.1	89.1	75 - 125 %	X
o - Xylene	50.0	<2.5	45.2	90.4	75 - 125 %	X 1012-0QC.XLS

Narrative: Acceptable.

#### LABORATORY SPIKES:

SAIPLE MURER HA	SPIKE ADDED PPB 50.00	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	n	RANGE	ACCEPTABLE YES HO
Benzene	50.0			0	75 - 125 %	NA
Totuene	50.0			3	75 - 125 %	in 11
Ethyl benzene	50.0			0	75 - 125 %	NA
m & p - Xylene	100.0			0	75 - 125 %	NA
m & p - Xylene o - Xylene	50.0			0	75 - 125 %	NA

Narrative:

#### ADDITIONAL ANALYTICAL BLANKS:

SAMPLE ID AUTO BLANK/BOILED WATER	SOURCE	PPB	STATUS
Benzene	Boiled Water	<2.5	ACCEPTABLE
Toluene	Boiled Water	<2.5	ACCEPTABLE
Ethyl benzene	Boiled Water	<2.5	ACCEPTABLE
Total Xylenes	Boiled Water	<7.5	ACCEPTABLE

Narrative: Acceptable.

SAMPLE ID SOIL VIAL BLANK	SOURCE Lot # ME 2551	PPB	STATUS
Benzene	Vial + Boiled Water	<2.5	ACCEPTABLE
Toluene	Vial + Boiled Water	<2.5	ACCEPTABLE
Ethyl benzene	Vial + Boiled Water	<2.5	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<7.5	ACCEPTABLE

Narrative: Acceptable.

SAMPLE ID EXTRACTION BLANK	SOURCE Lat # H18318	PPB	STATUS
8enzene	Methanol	<2.5	ACCEPTABLE
Toluene	Methanol	<2.5	ACCEPTABLE
Ethyl benzene	Methanol	<2.5	ACCEPTABLE
Total Xylenes	Methanol	<7.5	ACCEPTABLE

Narrative: Acceptable.

SAMPLE ID Carryover contamination checks	SOURCE	NARRATIVE (Not performed with this set)	STATÚS
Benzene	Vial + Boiled Water	<2.5	NA
Toluene	Vial + Boiled Water	<2.5	NA I
Ethyl benzene	Vial + Boiled Water	<2.5	NA I
Total Xylenes	Vial + Boiled Water	<7.5	NA NA

Narrative: Acceptable.

SAMPLE ID METHANOL CHECK	SOURCE Lat # H18318	PPB (Not performed with this set)	STATUS
Benzene	MeOH/Boiled Water	<2.5	ACCEPTABLE
Toluene	MeOH/Boiled Water	<2.5	ACCEPTABLE
Ethyl benzene	MeOH/Boiled Water	<2.5	ACCEPTABLE
Total Xylenes	MeOH/Boiled Water	<7.5	ACCEPTABLE

Narrative: Acceptable.

Approved By: Lundablin

Date: 18-Oct-95

1012-0QC.XLS

Date of Analysis: October 12, 1995

6 Chaco Plant Samples

### LABORATORY CONTROL SAMPLES: CALIBRATION CHECKS

SAMPLE ID	SOURCE	TRUE VALUE (PPM)	FOUND (MG/KG)	%П	ACCEPTABLE RANGE 75-125 %R YES NO
INITIAL CALIBRATION VERIF.	HORIBA	100	102	102	X
"B" Heavy Oil (Lot M3G9616)		300	303	101	X

Narrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE NUMBER	TYPE	SAMPLE RESULT (S)MG/KG	DUPLICATE RESULT (D)MG/KG	RPD	ACCEPTABLE RANGE + /-35% YES NO
951048	2nd Extract	2070	2310	10.96	Х

Narrative: Acceptable.

#### LABORATORY SPIKES:

SAMPLE NUMBER	ADDED		SPIKE SAMPLE RESULT (SRIMG/KG	%R	ACCEPTABLE RANGE 75-125 %R YES NO
951048	1420	2070	3610	108	х

Narrative: Acceptable.

#### REFERENCE SOIL (Laboratory Control Sample):

SAMPLE ID	SOURCE	KNOWN VALUE (MG/KG)	SAMPLE RESULT FOUND (MG/KG)	MFG SPECIFIED RANGE	ACCEPTABLE YES NO
ERA TPH STANDARD #1 LOT # 91030	ENVIRONMENTA RESOURCE ASS.	2920	2490	1900 - 3360	Х
ERA TPH STANDARD #2 w/int LOT # 91030	ENVIRONMENTA RESOURCE ASS.	1150	1210	750 - 1320	×

Varrative: Acceptable.

#### LABORATORY REAGENT BLANK:

SAMPLE ID	OO ON OEM	TPH LEVEL (MG/KG)	STATUS
Freon Solvent	EPNG Lab	< 10.0	ACCEPTABLE
Reagent Blank	EPNG Lab	< 10.0	ACCEPTABLE

Narrative: Acceptable.

Approved By: John Fathen.

Date: 16-Oct-95

Extracted: 10/12/94

QUALITY CONTROL REPORT EPA METHOD 8020 - BTEX Samples: 951046 thru 951051

QA/QC for 10/12/95 Sample Set

LABORATORY CALIBRATION CHECKS, LABORATORY CONTROL SAMPLES:

LABORATORY CALIBRATION CHECKS,	LABORATORY CONTROL S	AMPLES:			·	
SAMPLE		EXPECTED	ANALYTICAL			ACCEPTABLE
NUMBER	TYPE	RESULT	RESULT	XR XR		
						MER MA
ICV LA-45473		PPB	PPB			YES NO
50 PPB					RANGE	
Benzene	Standard	50.0	44.0	88.0	75 - 125 %	X
Toluene	Standard	50.0	45.8	91.6	75 - 125 %	X
	1	i			1	
Ethyl benzene	Standard	50.0	47.0	94.0	75 - 125 %	X
m & p - Xylene	Standard	100	92.4	92.4	75 - 125 %	X
o - Xylene	Standard	50.0	46.9	93.8	75 - 125 %	X
SAMPLE		EXPECTED	ANALYTICAL			
NUMBER	TYPE	RESULT	RESULT	%R	1	ACCEPTABLE
LCS LA-45476		PP8	PP8			YES NO
			779		0.000	763 110
25 PPB	1-10,200,000,000,000			promin sections	RANGE	
Benzene	Standard	25.0	29.0	116.0	39 - 150	X
Toluene	Standard	25.0	28.8	115.2	46 - 148	X
Ethyl benzene	Standard	25.0	27.2	108.8	32 - 160	X
m & p - Xylene	Standard	50.0	55.3	110.6	Not Given	X
1	ł			i	1	
o - Xylene	Standard	25.0	27.6	110.4	Not Given	X
SAMPLE		EXPECTED	ANALYTICAL			ACCEPTABLE
NUMBER	TYPE	RESULT	RESULT	%R		
CEV1 LA-45473		PPB	PPB			YES: NO
50 PPB					RANGE	
	84	50.0	/1.7	92.4	l	V
Benzene	Standard	50.0	41.3	82.6	75 - 125 %	X
Toluene	Standard	50.0	44.5	89.0	75 - 125 %	X
Ethyl benzene	Standard	50.0	45.2	90.4	75 - 125 %	X
m & p - Xylene	Standard	100	88.6	88.6	75 - 125 %	X
o - Xylene	Standard	50.0	45.1	90.2	75 - 125 %	X
SAMPLE		EXPECTED	ANALYTICAL			ACCEPTABLE
NUMBER	TYPE	RESULT	RESULT	%R		
CCV2 LA-45473		PPB	PPB			YES NO
			FCS			ica no
50 PPB		0.0000000000000000000000000000000000000	100000	200000	RANGE	
Benzene	Standard	50.0	41.8	83.6	75 - 125 %	X
Toluene	Standard	50.0	43.7	87.4	75 - 125 %	X
Ethyl benzene	Standard	50.0	44.3	88.6	75 - 125 %	X
m & p - Xylene	Standard	100	86.3	86.3	75 - 125 %	X
o - Xylene	Standard	50.0	44.2	88.4	75 - 125 %	X
SAMPLE		EXPECTED	ANALYTICAL	J. J. J. J. J. J. J. J. J. J. J. J. J. J		ACCEPTABLE
		Li - 269 4 6 63.1				ALLEFTABLE
NUMBER	TYPE	RESULT	RESULT	XR.		
CCV3 LA-45473		PPB	PPB			YES NO
50 PP8					RANGE	
				0.0	75 - 125 %	NA
Benzene	Standard	50.0		0.0	12 . 123	na na
Benzene						
Benzene Toluene	Standard	50.0		0.0	75 - 125 %	NA
Benzene Toluene Ethyl benzene	Standard Standard	50.0 50.0		0.0 0.0	75 - 125 % 75 - 125 %	NA NA
Benzene Toluene	Standard	50.0		0.0	75 - 125 %	NA

Narrative: Acceptable.

#### LABORATORY DUPLICATES:

SAMPLE NUMBER	ТУРЕ	SAMPLE RESULT PPM	DUPLICATE  RESULT  PPM	RPD		ACCEPTABLE YES	ж
951046		ug/L	ug/L		RANGE		
Benzene	Extraction Dup	<2.5	<2.5	0	+/- 35 %	Х	
Toluene	Extraction Dup	<2.5	<2.5	0	+/- 35 %	X	
Ethyl benzene	Extraction Dup	<2.5	<2.5	0	+/- 35 %	X	
m & p - Xylene	Extraction Dup	<5.0	<5.0	0	+/- 35 %	X	
o - Xylene	Extraction Dup	<2.5	<2.5	0	+/- 35 %	X	

Narrative: Acceptable.

### LABORATORY DUPLICATES:

SAMPLE NUMBER NA	ТҮРЕ	SAMPLE RESULT PPM ug/L	DUPLICATE  RESULT  PPM  ug/L	RPD	RANGE	ACCEPTAB YES	LE NO
Benzene	Extraction Dup	-5/.5		0	+/- 35 %	NA	
Toluene	Extraction Dup			0	+/- 35 %	NA NA	
Ethyl benzene	Extraction Dup			0	+/- 35 %	NA NA	
m & p - Xylene	Extraction Dup			0	+/- 35 %	NA NA	
a - Xylene	Extraction Dup			0	+/- 35 %	NA	

Narrative:

#### LABORATORY DUPLICATES:

SAMPLE NUMBER 951046	TYPE	SAMPLE RESULT PPM ug/L	DUPLICATE  RESULT  PPM  ug/L	RPD	RANGE	ACCEPTABLE YES	E NG
Benzene	Matrix Duplicate	<2.5	<2.5	0	+/- 35 %	Х	
Toluene	Matrix Duplicate	<2.5	<2.5	0	+/- 35 %	X	
Ethyl benzene	Matrix Duplicate	<2.5	<2.5	0	+/- 35 %	X	
m & p - Xylene	Matrix Duplicate	<5.0	<5.0	0	+/- 35 %	X	
o - Xylene	Matrix Duplicate	<2.5	<2.5	0	+/- 35 %	X	

Narrative: Acceptable.

#### LABORATORY DUPLICATES:

SAMPLE: NUMBER: NA	SAMPLE TYPE RESULT PPM ug/L		RANGE	ACCEPTABLE YES NO
Benzene	Matrix Duplicate	0	+/- 35 %	NA
Toluen <b>e</b>	Matrix Duplicate	0	+/- 35 %	NA
Ethyl benzene	Matrix Duplicate	0	+/- 35 %	NA
m & p - Xylene	Matrix Duplicate	0	+/- 35 %	NA
o - Xylene	Matrix Duplicate	0	+/- 35 %	NA

Narrative:

#### LABORATORY SPIKES:

SAMPLE NUMBER 95:1046	SPIKE ADDED PPB 50:00	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	RANGE	ACCE YES	PTABLE NO
8enzene	50.0	<2.5	42.4	84.8	75 - 125 %	X	
Toluen <b>e</b>	50.0	<2.5	44.7	89.4	75 - 125 %	X	
Ethyl benzene	50.0	<2.5	45.5	91.0	75 - 125 %	X	
m & p - Xylene	100.0	<5.0	89.1	89.1	75 - 125 %	X	İ
o - Xylene	50.0	<2.5	45.2	90.4	75 - 125 %	X 10	012-0QC.XLS

Narrative: Acceptable.

#### LABORATORY SPIKES:

SAMPLE: NUMBER	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT	22		ACCEPTABLE YES HO
NA.	50.00		PPB		RANGE	
Benzene	50.0			0	75 - 125 %	NA
Toluene	50.0			0	75 - 125 %	NA
Ethyl benzene	50.0			0	75 - 125 %	NA
m & p - Xylene	100.0			0	75 - 125 %	NA
m&p-Xylene о-Xylene	50.0			0	75 - 125 %	NA

Narrative:

#### ADDITIONAL ANALYTICAL BLANKS:

SAMPLE ID AUTO BLANK/BOILED WATER	SOURCE	PPB	STATUS
Benzene	Boiled Water	<2.5	ACCEPTABLE
Toluene	Boiled Water	<2.5	ACCEPTABLE
Ethyl benzene	Boiled Water	<2.5	ACCEPTABLE
Total Xylenes	Boiled Water	<7.5	ACCEPTABLE

Narrative: Acceptable.

SAMPLE ID SOIL VIAL BLANK	SOURCE Lot # ME 2551	PP8	STATUS
Benzene	Vial + Boiled Water	<2.5	ACCEPTABLE
Toluene	Vial + Boiled Water	<2.5	ACCEPTABLE
Ethyl benzene	Vial + Boiled Water	<2.5	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<7.5	ACCEPTABLE

Narrative: Acceptable.

SAMPLE 1D EXTRACTION BLANK	SOURCE Lat # H18318	PP8	STATUS
Benzene	Methanol	<2.5	ACCEPTABLE
Toluene	Methanol	<2.5	ACCEPTABLE
Ethyl benzene	Methanol	<2.5	ACCEPTABLE
Total Xylenes	Methanol	<7.5	ACCEPTABLE

Narrative: Acceptable.

SAMPLE ID Carryover contamination checks	SOURCE	NARRATIVE (Not performed with this set)	STATUS
Benzene	Vial + Boiled Water	<2.5	NA
Toluene	Vial + Boiled Water	<2.5	NA NA
Ethyl benzene	Vial + Boiled Water	<2.5	NA NA
Total Xylenes	Vial + Boiled Water	<7.5	NA NA

Narrative: Acceptable.

SAMPLE ID METHANOL CHECK	SOURCE Lat # H18318	PPB (Not performed with this set)	STATUS
Benzene	MeOH/Boiled Water	<2.5	ACCEPTABLE
Toluene	MeOH/Boiled Water	<2.5	ACCEPTABLE
Ethyl benzene	MeOH/Boiled Water	<2.5	ACCEPTABLE
Total Xylenes	MeOH/Boiled Water	<7.5	ACCEPTABLE

Narrative: Acceptable.

Approved By: du falle.

Date: 13-Oct-95

1012-0QC.XLS

## QUALITY CONTROL REPORT

By Modified 418.1 by Infrared

Date of Analysis: October 12, 1995

6 Chaco Plant Samples

LABORATORY CONTROL SAMPLES: CALIBRATION CHECKS

SAMPLE ID	SOURCE	TRUE VALUE (PPM)	FOUND (MG/KG)	%R	ACCEPTABLE RANGE 75-125 %R YES NO
NITIAL CALIBRATION VERIF.	HORIBA	100	102	102	Х
'B" Heavy Oil (Lot M3G9616)		300	303	101	X

Varrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE NUMBER	TYPE	SAMPLE RESULT (S)MG/KG	DUPLICATE RESULT (D)MG/KG	RPD	ACCEPTABLE RANGE + /- 35% YES NO
951048	2nd Extract	2070	2310	10.96	. X

larrative: Acceptable.

LABORATORY SPIKES:

SAMPLE NUMBER	SPIKE ADDED (SAIMG/KG	SAMPLE RESULT (S)MG/KG	SPIKE SAMPLE RESULT (SR)MG/KG	%R	ACCEPTABLE RANGE 75-125 %R YES NO
951048	1420	2070	3610	108	X

Varrative: Acceptable.

REFERENCE SOIL (Laboratory Control Sample):

SAMPLE ID	SOURCE	KNOWN VALUE (MG/KG)	SAMPLE RESULT FOUND (MG/KG)	MFG SPECIFIED RANGE	ACCEPTABLE YES NO
RA TPH STANDARD #1	ENVIRONMENTA	2920	2490	1900 - 3360	Х
OT # 91030	RESOURCE ASS.				
:RA TPH STANDARD #2 w/int .OT # 91030	ENVIRONMENTA RESOURCE ASS.	1150	1210	750 - 1320	X

Jarrative: Acceptable.

LABORATORY REAGENT BLANK:

SAMPLEID	SOURCE	TPH: LEVEL (MG/KG)	STATUS
Freon Solvent	EPNG Lab	< 10.0	ACCEPTABLE
Reagent Blank	EPNG Lab	< 10.0	ACCEPTABLE

larrative: Acceptable.

Date: 16-Oct-95

Extracted: 10/12/94



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

ATI I.D. 510369

November 1, 1995

951058 to 051067

El Paso Natural Gas P.O. Box 4990 Farmington, NM 87499

Project Name/Number: PIT CLOSURE/CHACO PLANT 24324

Attention: John Lambdin

On 10/13/95, Analytical Technologies, Inc., (ADHS License No. AZ0015), received a request to analyze non-aqueous samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

All analyses were performed by Analytical Technologies, Inc., 225 Commerce Drive, Fort Collins, CO.

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

Kimberly D. McNeill
Project Manager

MR:jt

Enclosure

H. Mitchell Rubenstein, Ph.D.

Laboratory Manager



CLIENT

:EL PASO NATURAL GAS

DATE RECEIVED ::

:10/18/95

PROJECT #

:24324

PROJECT NAME

: PIT CLOSURE/CHACO PLANT

REPORT DATE

:11/01/95

ATI ID: 510369

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	951046	NON-YO	10/11/95
ივ	951047	NON-YO	10/11/95
03	951048	NON-AG	10/11/95
0.4	<del>951049</del>	NON-AQ	10/11/95
05	951950	NON-YO	<del>10/11/95</del>
06	951951	NON AQ	10/11/95
07	951058	NON-AQ	10/12/95
08	951059	NON-AQ	10/12/95
09	951060	NON-AQ	10/12/95
10	951061	NON-AQ	10/12/95
11	951062	NON-AQ	10/12/95
12	951063	NON-AQ	10/12/95
L3	951064	NON-AQ	10/12/95
14	951065	NON-AQ	10/12/95
15	951066	NON-AQ	10/13/95
16	951067	NON-AQ	10/13/95



---IOTALS---

MATRIX NON-AQ <u>=SAMPLES</u> 16

## ATI STANDARD DISPOSAL PRACTICE

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

Analytical Technologies, Inc.

Lab Name: Analytical Technologies, Inc.

Sample ID 951058

8H±3 5-7 Feet

Client Name: ATI-NM

Client Project ID: Pit Closure/Chaco Plt. -- 510369

Date Collected: 10/12/95

Lab Sample ID: 95-10-162-07

Prep Date: 10/20, 24/95

Sample Matrix: Soil

Date Analyzed: 10/23, 25/95

Analyte	Modified Method	Concentration mg/kg	Detection Limit mg/kg
1 Mary to	i ividinod	1 113.15	mo kg
Arsenic	6010	1	1
Barium	6010	80	10
Cadmium	6010	ND	0.5
Chromium	6010	3	1
Lead	6010	4.3	0.3
Mercury	7471	ND	0.2
Selenium	6010	ND	0.5
Silver	6010	ND	1



Lab Name: Analytical Technologies, Inc.

Sample ID 951059

BH#3 30-32/20T

Client Name: ATI-NM

Client Project ID: Pit Closure/Chaco Plt. -- 510369

Date Collected: 10/12/95

Lab Sample ID: 95-10-162-08

Prep Date: 10/20, 24/95

Sample Matrix: Soil

Date Analyzed: 10/23, 25/95

Analyte	Modified Method	Concentration mg/kg	Detection Limit mg/kg
Arsenic	6010	6	1
Barium	6010	10	10
Cadmium	6010	ND	0.5
Chromium	6010	4	1
Lead	6010	5.2	0.3
Mercury	7471	ND	0.2
Selenium	6010	ND	0.5
Silver	6010	ND	I



Lab Name: Analytical Technologies, Inc.

Sample ID

951060

BH# 5 10-12 FOOT

Client Name: ATI-NM

Client Project ID: Pit Closure/Chaco Plt. -- 510369

Date Collected: 10/12/95

Lab Sample ID: 95-10-162-09

Prep Date: 10/20, 24/95

Sample Matrix: Soil

Date Analyzed: 10/23, 25/95

	Modified	Concentration	Detection Limit
Analyte	Method	mg/kg	mg/kg
Arsenic	6010	ND	1
Barium	6010	30	10
Cadmium	6010	ND	0.5
Chromium	6010	23	1
Lead	6010	3.3	0.3
Mercury	7471	ND	0.2
Selenium	6010	ND	0.5
Silver	6010	ND	1



Lab Name: Analytical Technologies, Inc.

951061

BH#5 30-32 FOOT

Client Name: ATI-NM

Client Project ID: Pit Closure/Chaco Plt. -- 510369

Date Collected: 10/12/95

Lab Sample ID: 95-10-162-10

Prep Date: 10/20, 24/95

Sample Matrix: Soil

Date Analyzed: 10/23, 25/95

	Modified	Concentration	Detection Limit
Analyte	Method	mg/kg	mg/kg
Arsenic	6010	3	1
Barium	6010	20	10
Cadmium	6010	ND	0.5
Chromium	6010	11	1
Lead	6010	14	0.3
Mercury	7471	ND	0.2
Selenium	6010	ND	0.5
Silver	6010	ND	1



Lab Name: Analytical Technologies, Inc.

Sample ID

BH#7

951062

10-12 FOOT

Client Name: ATI-NM

Client Project ID: Pit Closure/Chaco Plt. -- 510369

Date Collected: 10/12/95

Lab Sample ID: 95-10-162-11

Prep Date: 10/20, 24/95

Sample Matrix: Soil

Date Analyzed: 10/23, 25/95

	Modified	Concentration	Detection Limit
Analyte	Method	mg/kg	mg/kg
Arsenic	6010	ND	1
Barium	6010	40	10
Cadmium	6010	ND	0.5
Chromium	6010	8	1
Lead	6010	3.1	0.3
Mercury	7471	ND	0.2
Selenium	6010	ND	0.5
Silver	6010	ND	1



Lab Name: Analytical Technologies, Inc.

951063

6H#7 30-32Foot

Client Name: ATI-NM

Client Project ID: Pit Closure/Chaco Plt. -- 510369

Date Collected: 10/12/95

Lab Sample ID: 95-10-162-12

Prep Date: 10/20, 24/95

Sample Matrix: Soil

Date Analyzed: 10/23, 25/95

Analyte	Modified Method	Concentration mg/kg	Detection Limit mg/kg
Arsenic	6010	8	1
Barium	6010	40	10
Cadmium	6010	ND	0.5
Chromium	6010	7	1
Lead	6010	9.3	0.3
Mercury	7471	ND	0.2
Selenium	6010	ND	0.5
Silver	6010	ND	1



Lab Name: Analytical Technologies, Inc.

Sample ID

BH#6

, ,

951064

10-12 FOOT

Client Name: ATI-NM

Client Project ID: Pit Closure/Chaco Plt. -- 510369

Date Collected: 10/12/95

Lab Sample ID: 95-10-162-13

Prep Date: 10/20, 24/95

Sample Matrix: Soil

Date Analyzed: 10/23, 25/95

Analyte	Modified Method	Concentration mg/kg	Detection Limit mg/kg
Arsenic	6010	1	1
Barium	6010	50	10
Cadmium	6010	ND	0.5
Chromium	6010	6	1
Lead	6010	3.4	0.3
Mercury	7471	ND	0.2
Selenium	6010	ND	0.5
Silver	6010	ND	1



Lab Name: Analytical Technologies, Inc.

951065

30-32 FOOT

Client Name: ATI-NM

Client Project ID: Pit Closure/Chaco Plt. -- 510369

Date Collected: 10/12/95

Lab Sample ID: 95-10-162-14

Prep Date: 10/20, 24/95

Sample Matrix: Soil

Date Analyzed: 10/23, 25/95

Analyte	Modified Method	Concentration mg/kg	Detection Limit mg/kg
Allaivie	Method	merke	IIIg/kg
Arsenic	6010	6	1
Barium	6010	20	10
Cadmium	6010	ND	0.5
Chromium	6010	8	1
Lead	6010	6.1	0.3
Mercury	7471	ND	0.2
Selenium	6010	ND	0.5
Siiver	6010	ND	1



Lab Name: Analytical Technologies, Inc.

951066

BH#8A

40-42 Fect

Client Name: ATI-NM

Client Project ID: Pit Closure/Chaco Plt. -- 510369

Date Collected: 10/13/95

Lab Sample ID: 95-10-162-15

Prep Date: 10/20, 24/95

Sample Matrix: Soil

Date Analyzed: 10/23, 25/95

Analyte	Modified Method	Concentration mg/kg	Detection Limit mg/kg
Arsenic	6010	4	1
Barium	6010	ND	10
Cadmium	6010	ND	0.5
Chromium	6010	2	1
Lead	6010	3.1	0.3
Mercury	7471	ND	0.2
Selenium	6010	ND	0.5
Silver	6010	ND	1



Lab Name: Analytical Technologies, Inc.

Sample ID

8H≠8B

951067

15-17 F∞ 1

Client Name: ATI-NM

Client Project ID: Pit Closure/Chaco Plt. -- 510369

Date Collected: 10/13/95

Lab Sample ID: 95-10-162-16

Prep Date: 10/20, 24/95

Sample Matrix: Soil

Date Analyzed: 10/23, 25/95

Analyte	Modified Method	Concentration mg/kg	Detection Limit mg/kg
	6210	•	•
Arsenic	6010	3	1
Barium	6010	20	10
Cadmium	6010	ND	0.5
Chromium	6010	1	1
Lead	6010	2.9	0.3
Mercury	7471	ND	0.2
Selenium	6010	ND	0.5
Silver	6010	ND	1



## SAMPLE IDENTIFICATION

SAMPLE NUMBER: 951058

MATRIX: Soil

SAMPLE DATE: 12-Oct-95

SAMPLE TIME (Hrs.): 740

SAMPLED BY: Cory Chance, Philips

PROJECT: Chaco Plant Pond Closure

FACILITY ID: 5212

SAMPLE LOCATION: Chaco Plant Bore Hole #3

SAMPLE POINT: 5 - 7 Foot DATE OF ANALYSIS: 18-Oct-95

REMARKS: None.

### EPA Method 8020 (BTEX) and Method 418.1 (TPH) RESULTS

PARAMETER	RESULT MG/KG	QUALIFIER	LIMIT MG/KG
BENZENE	< 0.5	None	10
TOLUENE	< 0.5	None	None
ETHYL BENZENE	< 0.5	None	None
TOTAL XYLENES	< 1.5	None	None
TOTAL BTEX	<3.0	None	50
TPH by EPA 418.1	4,300	None	100
PERCENT SOLIDS	89		
SURROGATE % RECOVERY	103	Allowed Ra 80 to 120	

NOTES:

Acceptable Quality Control.

The limits shown are based on New Mexico Regulations.

	<b>\</b>	- 1
Approved By:	- Clin	Jarine

20-Oct-95



## SAMPLE IDENTIFICATION

SAMPLE NUMBER: 951059

MATRIX: Soil

SAMPLE DATE: 12-Oct-95

SAMPLE TIME (Hrs.): 828

SAMPLED BY: Cory Chance, Philips

**PROJECT:** Chaco Plant Pond Closure

FACILITY ID: 5212

SAMPLE LOCATION: Chaco Plant Bore Hole #3

SAMPLE POINT: 30 - 32 Foot DATE OF ANALYSIS: 18-Oct-95

REMARKS: None.

## EPA Method 8020 (BTEX) and Method 418.1 (TPH) RESULTS

PARAMETER	RESULT MG/KG	QUALIFIER	LIMIT MG/KG
BENZENE	< 0.5	None	10
TOLUENE	< 0.5	None	None
ETHYL BENZENE	< 0.5	None	None
TOTAL XYLENES	<1.5	None	None
TOTAL BTEX	<3.0	None	50
TPH by EPA 418.1	<10	None	100
PERCENT SOLIDS	86		
SURROGATE % RECOVERY	100	Allowed Ra 80 to 120	li li

NOTES:

Acceptable Quality Control.

The limits shown are based on New Mexico Regulations.

Approved By:	Contraction of the state of the
-	0000

20-Oct-95



## SAMPLE IDENTIFICATION

SAMPLE NUMBER: 951060

MATRIX: Soil

SAMPLE DATE: 12-Oct-95

SAMPLE TIME (Hrs.): 945

SAMPLED BY: Cory Chance, Philips

**PROJECT:** Chaco Plant Pond Closure

FACILITY ID: 5212

SAMPLE LOCATION: Chaco Plant Bore Hole #5

SAMPLE POINT: 10 - 12 Foot DATE OF ANALYSIS: 18-Oct-95

REMARKS: None.

## EPA Method 8020 (BTEX) and Method 418.1 (TPH) RESULTS

PARAMETER	RESULT MG/KG	QUALIFIER	LIMIT MG/KG
BENZENE	2.40	None	10
TOLUENE	1.0	None	None
ETHYL BENZENE	0.70	None	None
TOTAL XYLENES	4.5	None	None
TOT AL BTEX	8.60	None	50
TPH by EPA 418.1	38,400	None	100
PERCENT SOLIDS		88	
SURROGATE % RECOVERY	97	Allowed Ra 80 to 120	

NOTES:

Acceptable Quality Control.

The limits shown are based on New Mexico Regulations.

Approved By:	17 1 160 J 123	_
		_

20-Oct-95



## SAMPLE IDENTIFICATION

SAMPLE NUMBER: 951061

MATRIX: Soil

SAMPLE DATE: 16-Oct-95

SAMPLE TIME (Hrs.): 1017

SAMPLED BY: Cory Chance, Philips

PROJECT: Chaco Plant Pond Closure

FACILITY ID: 5212

SAMPLE LOCATION: Chaco Plant Bore Hole #5

SAMPLE POINT: 30 - 32 Foot DATE OF ANALYSIS: 18-Oct-95

REMARKS: None.

## EPA Method 8020 (BTEX) and Method 418.1 (TPH) RESULTS

PARAMETER	RESULT MG/KG	QUALIFIER	LIMIT MG/KG
BENZENE	< 0.5	None	10
TOLUENE	< 0.5	None	None
ETHYL BENZENE	< 0.5	None	None
TOTAL XYLENES	<1.5	None	None
TOTAL BTEX	<3.0	None	50
TPH by EPA 418.1	<10	None	100
PERCENT SOLIDS	89		
SURROGATE % RECOVERY	Allowed Range 101 80 to 120 %		

NOTES:

Acceptable Quality Control.

The limits shown are based on New Mexico Regulations.

Approved By: 20-Oct-95
Date



## **SAMPLE IDENTIFICATION**

SAMPLE NUMBER: 951062

MATRIX: Soil

SAMPLE DATE: 16-Oct-95

SAMPLE TIME (Hrs.): 1133

SAMPLED BY: Cory Chance, Philips

PROJECT: Chaco Plant Pond Closure

FACILITY ID: 5212

SAMPLE LOCATION: Chaco Plant Bore Hole #7

SAMPLE POINT: 10 - 12 Foot DATE OF ANALYSIS: 18-Oct-95

REMARKS: None.

### EPA Method 8020 (BTEX) and Method 418.1 (TPH) RESULTS

PARAMETER	RESULT MG/KG	QUALIFIER	LIMIT MG/KG
BENZENE	< 0.5	None	10
TOLUENE	< 0.5	None	None
ETHYL BENZENE	<0.5	None	None
TOTAL XYLENES	<1.5	None	None
TOTAL BTEX	<3.0	None	50
TPH by EPA 418.1	17,500	None	100
PERCENT SOLIDS	89		
SURROGATE % RECOVERY	97	Allowed Ra 80 to 120	- 1

NOTES:

Acceptable Quality Control.

The limits shown are based on New Mexico Regulations.

Approved By:	din	Faide	_
	<i>;</i>		

20-Oct-95



## SAMPLE IDENTIFICATION

SAMPLE NUMBER: 951063

MATRIX: Soil

SAMPLE DATE: 16-Oct-95

SAMPLE TIME (Hrs.): 1219

SAMPLED BY: Cory Chance, Philips

PROJECT: Chaco Plant Pond Closure

FACILITY ID: 5212

SAMPLE LOCATION: Chaco Plant Bore Hole #7

SAMPLE POINT: 30 - 32 Foot DATE OF ANALYSIS: 18-Oct-95

REMARKS: None.

#### EPA Method 8020 (BTEX) and Method 418.1 (TPH) RESULTS

PARAMETER	RESULT MG/KG	QUALIFIER	LIMIT MG/KG
BENZENE	< 0.5	None	10
TOLUENE	< 0.5	None	None
ETHYL BENZENE	< 0.5	None	None
TOTAL XYLENES	<1.5	None	None
TOTAL BTEX	<3.0	None	50
TPH by EPA 418.1	<10	None	100
PERCENT SOLIDS	88		
SURROGATE % RECOVERY	99	Allowed Ra 80 to 120	_

NOTES:

Acceptable Quality Control.

The limits shown are based on New Mexico Regulations.

Approved By:

20-Oct-95



### SAMPLE IDENTIFICATION

SAMPLE NUMBER: 951064

MATRIX: Soil

SAMPLE DATE: 16-Oct-95

SAMPLE TIME (Hrs.): 1347

SAMPLED BY: Cory Chance, Philips

PROJECT: Chaco Plant Pond Closure

FACILITY ID: 5212

SAMPLE LOCATION: Chaco Plant Bore Hole #6

SAMPLE POINT: 10 - 12 Foot DATE OF ANALYSIS: 18-Oct-95

REMARKS: None.

## EPA Method 8020 (BTEX) and Method 418.1 (TPH) RESULTS

PARAMETER	RESULT MG/KG	QUALIFIER	LIMIT MG/KG
BENZENE	< 0.5	None	10
TOLUENE	< 0.5	None	None
ETHYL BENZENE	< 0.5	None	None
TOTAL XYLENES	<1.5	None	None
TOTAL BTEX	<3.0	None	50
TPH by EPA 418.1	28,100	None	100
PERCENT SOLIDS		89	
SURROGATE % RECOVERY	96	Allowed Ra 80 to 120	- 1

NOTES:

Acceptable Quality Control.

The limits shown are based on New Mexico Regulations.

Approved By: Turn Harden

20-Oct-95



### SAMPLE IDENTIFICATION

SAMPLE NUMBER: 951065

MATRIX: Soil

SAMPLE DATE: 16-Oct-95

SAMPLE TIME (Hrs.): 1423

SAMPLED BY: Cory Chance, Philips

PROJECT: Chaco Plant Pond Closure

FACILITY ID: 5212

SAMPLE LOCATION: Chaco Plant Bore Hole #6

SAMPLE POINT: 30 - 32 Foot DATE OF ANALYSIS: 18-Oct-95

REMARKS: None.

### EPA Method 8020 (BTEX) and Method 418.1 (TPH) RESULTS

PARAMETER	RESULT MG/KG	QUALIFIER	LIMIT MG/KG
BENZENE	<0.5	None	10
TOLUENE	< 0.5	None	None
ETHYL BENZENE	< 0.5	None	None
TOTAL XYLENES	<1.5	None	None
TOTAL BTEX	<3.0	None	50
TPH by EPA 418.1	16	None	100
PERCENT SOLIDS	90		
SURROGATE % RECOVERY	97	Allowed Rai 80 to 120	- ((

NOTES:

Acceptable Quality Control.

The limits shown are based on New Mexico Regulations.

Approved By:

20-Oct-95



## SAMPLE IDENTIFICATION

SAMPLE NUMBER: 951066

MATRIX: Soil

SAMPLE DATE: 16-Oct-95

SAMPLE TIME (Hrs.): 1048

SAMPLED BY: Cory Chance, Philips

PROJECT: Chaco Plant Pond Closure

FACILITY ID: 5212

SAMPLE LOCATION: Chaco Plant Bore Hole #8A

SAMPLE POINT: 40 - 42 Foot DATE OF ANALYSIS: 18-Oct-95

REMARKS: None.

## EPA Method 8020 (BTEX) and Method 418.1 (TPH) RESULTS

PARAMETER	RESULT MG/KG	QUALIFIER	LIMIT MG/KG	
BENZENE	<0.5	None	10	
TOLUENE	< 0.5	None	None	
ETHYL BENZENE	< 0.5	None	None	
TOTAL XYLENES	<1.5	None	None	
TOTAL BTEX	<3.0	None	50	
<b>TPH</b> by <b>EPA</b> 418.1	<10	None	100	
PERCENT SOLIDS		91		
SURROGATE % RECOVERY	97	Allowed Range 80 to 120 %		

NOTES:

Acceptable Quality Control.

The limits shown are based on New Mexico Regulations.

Approved By: Jan Scalaring

20-Oct-95



## SAMPLE IDENTIFICATION

SAMPLE NUMBER: 951067

MATRIX: Soil

SAMPLE DATE: 16-Oct-95

SAMPLE TIME (Hrs.): 1349

SAMPLED BY: Cory Chance, Philips

PROJECT: Chaco Plant Pond Closure

FACILITY ID: 5212

SAMPLE LOCATION: Chaco Plant Bore Hole #8B

SAMPLE POINT: 15 - 17 Foot DATE OF ANALYSIS: 18-Oct-95

REMARKS: None.

### EPA Method 8020 (BTEX) and Method 418.1 (TPH) RESULTS

PARAMETER	RESULT MG/KG	QUALIFIER	LIMIT MG/KG	
BENZENE	< 0.5	None	10	
TOLUENE	< 0.5	None	None	
ETHYL BENZENE	< 0.5	None	None	
TOTAL XYLENES	<1.5	None	None	
TOTAL BTEX	<3.0	None	50	
TPH by EPA 418.1	<10	None	100	
PERCENT SOLIDS		83		
SURROGATE % RECOVERY	97	Allowed Range 87 80 to 120 %		

NOTES:

Acceptable Quality Control.

The limits shown are based on New Mexico Regulations.

Approved By:	Man Colorina	20-Oct-95
		Date

#### QUALITY CONTROL REPORT

by Modified 418.1 by Infrared

Date of Analysis: October 16, 1995

10 Chaco Plant Samples

### LABORATORY CONTROL SAMPLES: CALIBRATION CHECKS

INITIAL CALIBRATION VERIF. "B" Heavy Oil (Lot M3G9616)	HORIBA	300	297	99	X
SAMPLE ID	SOURCE	TRUE VALUE (PPM)	FOUND (MG/KG)	%R	ACCEPTABLE RANGE 75-125 %R YES NO

Narrative: Acceptable.

## LABORATORY DUPLICATES:

SAM NUM	- + 15 2 11 14 U1689 868 102661 19	TYPE	SAMPLE RESULT (S)MG/KG	DUPLICATE RESULT [D]MG/KG	RPD	ACCEPTABLE RANGE + / - 35% YES NO
9510	67	2nd Extract	< 10	< 10	0.00	X

Varrative: Acceptable.

#### LABORATORY SPIKES:

SAMPLE NUMBER	SPIKE ADDED (SAIMG/KG	SAMPLE RESULT (S)MG/KG	SPIKE SAMPLE RESULT (SR)MG/KG	% <b>R</b>	ACCEPTABLE RANGE 75-125 %R YES NO
951067	2940	< 10	3590	122	X

Narrative: Acceptable.

## REFERENCE SOIL (Laboratory Control Sample):

SAMPLE ID	SOURCE	KNOWN VALUE (MG/KG)	SAMPLE RESULT FOUND (MG/KG)	MFG SPECIFIED RANGE	ACCEPTABLE YES NO
ERA TPH STANDARD #1	ENVIRONMENTA	2920	3090	1900 - 3360	X
LOT # 91030	RESOURCE ASS.				·
ERA TPH STANDARD #2 w/int LOT # 91030	ENVIRONMENTA RESOURCE ASS.	1150	1150	750 - <sup>-</sup> 320	Х

Varrative: Acceptable.

#### LABORATORY REAGENT BLANK:

	SAMPLE ID	SOURCE	TPH LEVEL (MG/KG)	STATUS
ıſ	Freon Solvent	EPNG Lab	<10.0	ACCEPTABLE
-	Reagent Blank	EPNG Lab	< 10.0	ACCEPTABLE

Narrative: Acceptable. Approved By: Clun fairile

Date: 18-Oct-95

Extracted: 10/16/95

QUALITY CONTROL REPORT EPA METHOO 8020 - BTEX Samples: 951058 thru 951067

QA/QC for 10/18/95 Sample Set

LABORATORY CALIBRATION CHECKS, LABORATORY CONTROL SAMPLES:

LABORATORY CALIBRATION CHECKS,	EABORATORT CONTROL S	MITELU.				
SAMPLE		EXPECTED	ANALYTICAL		ł	ACCEPTABLE
NUMBER	TVOF			**		
HUMBER	TYPE	RESULT	RESULT	XR		
ICV LA-45473		PPB	PPB			YES NO
SQ PPB					RANGE	
3enzene	Standard	50.0	49.7	99.4	75 - 125	% X
Toluene	Standard	50.0	48.2	96.4	75 - 125	% X
Ethyl benzene	Standard	50.0	49.0	98.0	75 - 125	% X
m & p - Xylene	Standard	100	98.2	98.2	75 - 125	
· · · · · · · · · · · · · · · · · · ·			l			
o - Xylene	Standard	50.0	49.0	98.0	75 - 125	X X
SAMPLE		EXPECTED	ANALYTICAL			
NUMBER	TYPE	RESULT	RESULT	ZR		ACCEPTABLE
				<i>(</i>		
LCS LA-45476		PP8	PP8			YES NO
25 PP8					RANGE	
Benzene	Standard	25.0	24.9	97.5	39 - 15	0 X
	Standard	25.0	24.7	98.8	46 - 14	
Toluene						
Ethyl benzene	Standard	25.0	24.1	96.4	32 - 16	0 x
m & p - Xylene	Standard	50.0	49.4	98.8	Not Give	en X
o - Xylene	Standard	25.0	24.2	96.8	Not Give	en X
SAMPLE	i distributa di distributa di Alay I	EXPECTED	ANALYTICAL			ACCEPTABLE
						ACCETABLE
NUMBER	TYPE	RESULT	RESULT	ZR ZR		
CCV1 LA-45473		PPB	PPB			YES NO
50 PPB					RANGE	
Benzene	Standard	50.0	48.4	96.8	75 - 125	
Toluene	Standard	50.0	47.7	95.4	75 - 125	X X
Ethyl benzene	Standard	50.0	48.2	96.4	75 - 125	% X
m & p - Xylene	Standard	100	95.0	95.0	75 - 125	% x
o - Xylene	Standard	50.0	48.1	96.2	75 - 125	<b>x</b> x
2 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	. at kuntu a sekalaksa ka	**EVDECTED	SAMASVTTEANS	Allene II. III. Sieles	333.4.33333334.	ACCEDIANI E
SAMPLE		EXPECTED	ANALYTICAL			ACCEPTABLE
NUMBER	TYPE	RESULT	RESULT	<b>%</b> R		
CCV2 LA-45473		PPB	PPB			YES NO
50 PPB					RANGE	
		50.0			<del> </del>	
Benzene	Standard	50.0	46.7	93.4	75 - 125	
Toluene	Standard	50.0	44.6	89.2	75 - 125	% X
Ethyl benzene	Standard	50.0	45.4	90.8	75 - 125	% X
m&p-Xylene	Standard	100	90.3	90.3	75 - 125	% ×
o - Xylene	Standard	50.0	45.5	91.0	75 - 125	
					()0000-0000	
SAMPLE		EXPECTED	ANALYTICAL			ACCEPTABLE
NUMBER	TYPE	RESULT	RESULT	ሄጹ		
CCV3 LA-45473		PPB	PPB			YES NO
			7		RANGE	
SO DDD	(1.1.6), 1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.		<ul> <li>A providence approximately fine;</li> </ul>	<u>100 1 100 100 100 100 100 100 100 100 1</u>	- W WINNIUE	
50 PPB						
50 PPB	Standard	50.0	44.0	88.0	75 - 125	% X
		50.0 50.0	44.0 43.4	88.0 86.8	75 - 125 75 - 125	
Benzene Toluene	Standard Standard	50.0	43.4	86.8	75 - 125	<b>x</b> x
Benzene Toluene Ethyl benzene	Standard Standard Standard	50.0 50.0	43.4 44.0	86.8 88.0	75 - 125 75 - 125	% X X X
Benzene Toluene	Standard Standard	50.0	43.4	86.8	75 - 125	x x x x x

Narrative: Acceptable.

### LABORATORY DUPLICATES:

SAMPLE NUMBER	TYPE	SAMPLE RESULT PPM	DUPLICATE RESULT PPM	RPD		ACCEPTABLE. YES	Ю
951060		ug/L	ug/L		RANGE		
Benzene	Extraction Dup	12.10	13.40	10	+/- 35 %	X	
Toluene	Extraction Dup	5.16	6.01	15	+/- 35 %	X	
Ethyl benzene	Extraction Dup	3.58	4.17	15	+/- 35 %	X	
m & p - Xylene	Extraction Dup	18.20	20.40	11	+/- 35 %	X	
o - Xylene	Extraction Dup	5.0	5.8	14	+/- 35 %	Х	

Narrative: Acceptable.

#### LABORATORY DUPLICATES:

SAMPLE NUMBER	TYPE	SAMPLE RESULT PPM	DUPLICATE  RESULT  PPM	RPD		ACCEPTABLE YES	NO
NA Benzene	Extraction Dup	ug/L	ug/L	0	+/- 35 %	NA NA	
Toluene Ethyl benzene	Extraction Dup Extraction Dup			0	+/- 35 % +/- 35 %	NA NA	
m & p - Xylene o - Xylene	Extraction Dup Extraction Dup			0	+/- 35 % +/- 35 %	NA NA	

Narrative:

#### LABORATORY DUPLICATES:

SAMPLE NUMBER 951060	TYPE	SAMPLE RESULT PPM ug/L	DUPLICATE RESULT PPM ug/L	RPD	RANGE	ACCEPTABLE YES	NC
Benzene	Matrix Duplicate	12.10	11.50	5	+/- 35 %	Х	
Toluene	Matrix Duplicate	5.16	5.24	2	+/- 35 %	X	
Ethyl benzene	Matrix Duplicate	3.58	3.52	2	+/- 35 %	Х	
m & p - Xylene	Matrix Duplicate	18.20	18.20	0	+/- 35 %	X	
o - Xylene	Matrix Duplicate	4.99	5.23	5	+/- 35 %	Х	

Narrative: Acceptable.

### LABORATORY DUPLICATES:

SAMPLE NUMBER NA	ТҮРЕ	SAMPLE RESULT PPM ug/L	DUPLICATE RESULT PPM ug/L	RPD	RANGE	ACCEPTABLE YES	Ю
Benzene	Matrix Duplicate			0	+/- 35 %	NA	
Toluene	Matrix Duplicate			0	+/- 35 %	NA	
Ethyl benzene	Matrix Duplicate			0	+/- 35 %	NA	
m & p - Xylene	Matrix Duplicate		!	0	+/- 35 %	NA	
o - Xylene	Matrix Duplicate			0	+/- 35 %	NA	

Narrative:

#### LABORATORY SPIKES:

ENDORATORY OF TREET							
SAMPLE NUMBER 951060	SPIKE ADDED PPB 50:00	SAMPLE RESULT PPB	SPIKE SAMPLE RESULI PPB	深	RANGE	ACC YES	CEPTABLE NO
Benzene	50.0	12.1	57.0	89.8	75 - 125 %	Х	
Toluene	50.0	5.2	50.5	90.7	75 - 125 %	x	
Ethyl benzene	50.0	3.6	50.1	93.0	75 - 125 %	х	
m & p - Xylene	100.0	18.2	108.8	90.6	75 - 125 %	X	
o - Xylene	50.0	5.0	51.7	93.4	75 - 125 %	X	1018-1QC.XLS

Narrative: Acceptable.

### LABORATORY SPIKES:

SAMPLE	SPIKE	SAMPLE	SPIKE			
NUMBER	ADDED	RESULT	SAMPLE	架		ACCEPTABLE
	PPB	PP8	RESULT			YES NO
AR	50.00		PPB		RANGE	
Benzene	50.0			0	75 - 125 %	NA
Toluene	50.0			0	75 - 125 %	NA
Ethyl benzene	50.0			0	75 - 125 %	NA
	100.0			0	75 - 125 %	NA
m & p - Xylene o - Xylene	50.0			0	75 - 125 %	NA

Narrative:

### ADDITIONAL ANALYTICAL BLANKS:

SAMPLE ID AUTO BLANK/BOILED WATER	SOURCE	PPB	STATUS
Benzene	Boiled Water	<2.5	ACCEPTABLE
Toluene	Boiled Water	<2.5	ACCEPTABLE
Ethyl benzene	Boiled Water	<2.5	ACCEPTABLE
Total Xylenes	Boiled Water	<7.5	ACCEPTABLE

Narrative: Acceptable.

SAMPLE ID SOIL VIAL BLANK	SOURCE Lot # ME 2551	PPB	STATUS
Benzene	Vial + Boiled Water	<2.5	ACCEPTABLE
Toluene	Vial + Boiled Water	<2.5	ACCEPTABLE
Ethyl benzene	Vial + Boiled Water	<2.5	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<7.5	ACCEPTABLE

Narrative: Acceptable.

SAMPLE ID EXTRACTION BLANK	SOURCE Lat # H18318	PPB	STATUS
Benzene	Methanol	<2.5	ACCEPTABLE
Toluene	Methanoi	<2.5	ACCEPTABLE
Ethyl benzene	Methanol	<2.5	ACCEPTABLE
Total Xylenes	Methanol	<7.5	ACCEPTABLE

Narrative: Acceptable.

SAMPLE ID Carryover contamination checks	SOURCE	NARRATIVE (6 blanks were analyzed with this batch)	STATUS
Benzene	Vial + Boiled Water	<2.5	ACCEPTABLE
Toluene	Vial + Boiled Water	<2.5	ACCEPTABLE
Ethyl benzene	Vial + Boiled Water	<2.5	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<7.5	ACCEPTABLE

Narrative: Acceptable.

SAMPLE ID METHANOL CHECK	SOURCE Lat # H18318	PPB (Not performed with this set)	STATUS
Benzene	MeOH/Boiled Water	<2.5	ACCEPTABLE
Toluene	MeOH/Boiled Water	<2.5	ACCEPTABLE
Ethyl benzene	MeOH/Boiled Water	<2.5	ACCEPTABLE
Total Xylenes	MeOH/Boiled Water	<7.5	ACCEPTABLE

Narrative: Acceptable.

Approved By: John Jardy

Date: 19-Oct-95

1018-1QC.XLS

Page\_\_\_

Comparison   Com	_	PROJECT NAME PIT CLOSURE	PROJECT NAME PIt Closure Project	4	8#3 8#3		₩ ₩	REQUESTED ANALYSIS	YSIS	<del></del>	CONTRACT LABORATORY P. O. NUMBER	имвея	
Care   Date   Time   Matrix   Field   Date	gnature)	3		DA	MUM JAT	SAMPLE 39YT HQ			P10 +5	# IENCE			
13   13   13   14   15   15   15   15   15   15   15					10T 3 40	11			APM	SEOr		REMARKS	
1   1   1   1   1   1   1   1   1   1	950156 947749	10 34	710501	-		7 2/1	>			130	, L-5		BH#3
435   10 - 12		680	8	CMC 147		9/1	<u> </u>		1		30-33	9	8##3
1   1   1   1   1   1   1   1   1   1	9510C	8		CMC 148	_	10/07	>		8	(7)	10=12'	7	BH #5
475 (242) 475 (2	951061	1017		ĺ	_	V6.	> /		٥		30.23	9	B##3
435/943   18   18   18   18   18   18   18   1		13	~			v6 v	>		ñ	134	۲۱-01	9	BH# &7
4471964   1347   CMC   53   V6 V V   C   137   30:37-  4471964   CMC   53   V6 V V   C   D   D   D   D   D   D   D   D   D		13,19		_		V6 V	<u>/</u>	7	0	23	30.32	g	BHTAT
1920   1930	43216	45	7			V6 "	<u> </u>		[3]	136	21-01	•	8H#P
D 12 45   E3 C	4356	14×1	>	CM( 153	_		\ \		۵	137	30-32		8H # P
		- /					···						
3y Date Time.    Dougle   Date Time.   Received Biv. (Signalura)   Relinquished Biv. (Signalura)   Pick   Continue   Cont		<u> </u>				J	3	0/11/0					
AL DOTECTIME RECEIVED BY: (Signatura)    Dotective Bis: (Signatura)   Figure Bis: (Signatura)								Iban					
3μωτε/τιλικ.       RECEIVED BY: (Signature)       RELINOUISHED BY: (Signature)       RELINOUISHED BY: (Signature)       RECEIVED BY: (Signature)       RECEIVED BY: (Signature)         Au       1D [12] 45       [1] 1 [1] [1] [1] [1] [1] [1] [1] [1] [1													
Contained   Dolia   Gardinal   Dolia   Gardinal   Dolia   Gardinal   Dolia   Gardinal   Dolia   Gardinal   Dolia   Gardinal   Dolia   Gardinal   Dolia   Gardinal   Dolia   Gardinal   Dolia   Gardinal   Dolia   Gardinal   Dolia   Gardinal   Dolia   Gardinal   Dolia   Gardinal   Dolia   Gardinal   Dolia   Gardinal   Dolia   Gardinal   Dolia   Gardinal   Gardina	RELINQUISHED BY: (Signature)		34DAT		Signature}		RELIN	IOUISHED BY: (Sign.	ature)		DATE/TIME	RECEIVED BY: (Signature)	30pE
TED TURNAROUND TIME:  SAMPLE RECEIVED BY: (Signature)  TED TURNAROUND TIME:  SAMPLE RECEIPT REMARKS  TED TURNAROUND TIME:  SAMPLE RECEIPT REMARKS  TED TURNAROUND TIME:  SAMPLE RECEIPT REMARKS  TED TURNAROUND TIME:  SAMPLE RECEIPT REMARKS  TED TURNAROUND TIME:  SAMPLE RECEIPT REMARKS  TED TURNAROUND TIME:  SAMPLE RECEIPT REMARKS  TED TURNAROUND TIME:  PRESULTS & INVOICES LABORATOI  EL PASO NATURAL GAS COM  P. O. BOX 4990  FARMINGTON, NEW MEXICO 8  5005-599-2144  FARMINGTON, NEW MEXICO 8	Jan Jan Jan Jan Jan Jan Jan Jan Jan Jan	Ş	29/21/al		· 1 · )	(,		_ ن	7/1		(1) (1) (5.20)		
TURNAROUND TIME:  SAMPLE RECEIPT REMARKS  RESULTS & INVOICES  CHAIN:E CODE  5.65-5993-2144	<b>I</b>		DAT	RECEIVED B	Signature)		RELIF	VQUISHED BY: (Sign	ature)		DATETIME		ignature)
Сымийе Соіле	REQUESTED TURNAROUND TI	ME:		SAMPLE RECEIP	T REMARKS				RESL	LTS & INVC	FIELD SERVIC	SES LABORATORY	
CHARGE CODE 505-599-2144	CARRIER CO.										EL PASO NAT P. O. BOX 499	URAL GAS COMPA	<b>≻</b>
	BILL NO.:			CHARGE CODE					505	199-2144	FARMINGTON	J, NEW MEXICO 87	199

White - Testing Laboratory Canary - EPNG Lab Pink - Fir J Sampler

FM-08-0565 A (Rev. 05-94)

SEIPASO () Now 1117.

CHAIN OF CUSTODY RECORD

PROJECT NUMBER PROJECT NAME		S	-	1 3	REQUESTED ANALYSIS	D ANALY	Sis	53	CONTRACT LABORATORY P. O NUMBER	МВЕЯ
# 24324   FIL CIOSUFE Project		H31	-							
SAMPLE PS: (Signatura)	10/13/60	MUN 1 MIATM	3471				PID FID			
DATE TIME MATRIX	FIELD ID	OF CC		4 АЧЭ ЭТВ 8 АЧЭ	1 8 A J			# BEONE		HEMARKS
95/066 10/1/2 1048 Soil C	C MC154		9	7			+	<del> </del>	4h-0h	B##80
7 6151 7	CMC155	_	7	>		:		bc?		RHASL
					!					
; ; ;/					į					
							!			
		-					-	<del> </del>		
		1	$\frac{1}{}$	15/	- 3		i		,	
				4		5				
	4 tipe a manual man a mater - data.			 			<del>/</del>	+/		
								1		
					į			: :		
				1.20						
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	ıture)		RELINC	RELINQUISHED BY: (Signature)	Y: (Signatur	(e)	-	DATE/TIME 4:	RECEIVED BY: (Signature)
(120) (120) may (120)	) Willi	). (1	<i>),</i> /		hili	<i>Y</i> ,			01.9 9.10	The state of the s
RELINQUISHGOBY: (Signature)	HEKEIVED BY: (Signature)	aturo)		негім	HELIMOUISHED BY: (Signature)	Y: (Signatur	(ө)		DATE/TIME	RECEIVED OF ABORATORY BY: (Signature)
REQUESTED TURNAROUND TIME:  C) ROUTINE   C) RUSH	SAMPLE RECEIPT REMARKS	EMARKS					RESULTS & INVOICES TO:	NVOICE	FIELD SERVICE	FIELD SERVICES LABORATORY
CARRIER CO.									EL PASO NATU P. O. BOX 4990	EL PASO NATURAL GAS COMPANY P. O. BOX 4990
BILL NO.:	CHAHGE CODE						505-599-2144	7	FARMINGTON,	, NEW MEXICO 87499
							200 000			LAA: 505-589-2261

White - Testing Laboratory Canary - EPNG Lab Pink · Fit Id Sampler

FM-08-0565 A (Rev 05-94)

# El Paso Natura Gas Company - Field Service Lab Report

LOCATION: Chaco Plant

**DATE OF REPORT:** 10/23/95

SAMPLED BY: Dennis Bird

PROJECT: M.W. SAVE FILE: 951068

\*\*All Results By Standard Methods (AWWA) Or EPA Method 300\*\*

**All Results	By Standard	Methods (AW	WA) OF EPA N	RETUCE 300 x x	
SAMPL	Monitor				
POIN	Well MW-8				
			<u> </u>		1
LAB ID #	951068				
Date Of Sample	16-Oct-95				
pH (Units)	8.02				
ALKALINITY AS CO3	0				
ALKALINITY AS HCO3	780				
CALCIUM AS Ca	13				
MAGNESIUM AND Mg	4				
TOTAL HARDNESS AS CACO3	49	0	0	0	0
CHLORIDE AS Cl	158				
SULFATE AS SO4	289				
SILICA AS SiO2	NOT RUN				
FLUORIDE AS F	2.2				
POTASSIUM AS K	0.65				
SODIUM AS Na	553				
TOTAL DISSOLVED SOLIDS	1424				
CONDUCTIVITY (umhos)	2280				
NITRATE AS NO3-N	<0.1				
PHOSPHATE AS PO4	4.2				
					i
					ı
	<u> </u>				
	ļ				
	<del> </del>				
					,

\*\*All Results Expressed as ppm or umhos\*\*

Page 1 of 2

REMARKS:											
Fluoride	results	were	with	the	НАСН	DR/2000	using	the	spadns	fluoride	reagents.
Approval	s:										
Analyst:	Ten	nio	Bi	ind	Dā	ate:	10-26	(-9	5		
Lab Super	)	Him	Lid	Pa	Da	ate:	10-26-	- 9(-	-		



# FIELD SERVICES LABORATORY ANALYTICAL REPORT

# SAMPLE IDENTIFICATION

SAMPLE NUMBER: 951068

MATRIX: Water

SAMPLE DATE: 16-Oct-95

SAMPLE TIME (Hrs.): 1335

SAMPLED BY: Dennis Bird

PROJECT: Chaco Plant Pond Closure

FACILITY ID: 5212

SAMPLE LOCATION: Chaco Plant

SAMPLE POINT: Monitor Well #8

DATE OF ANALYSIS: 17-Oct-95

REMARKS: None.

# EPA Method 8020 (BTEX) RESULTS

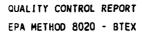
PARAMETER	RESULT PPB	QUALIFIER	WQCC LIMIT PPB
BENZENE	29.5	None	10
TOLUENE	<2.5	None	740
ETHYL BENZENE	<2.5	None	750
TOTAL XYLENES	<7.5	None	620
SURROGATE % RECOVERY	96	Allowed Ra 80 to 120	- 1

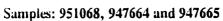
NOTES:

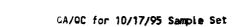
Acceptable Quality Control. The TRIP BLANK was ween.

Approved By: Clim Faith

15-Nov-95 Date







LABORATORY CALIBRATION CHECKS, LABORATORY CONTROL SAMPLES:

SAMPLE NUMBER ICV EA-45473 50 PP8	TYPE	EXPECTED RESULT PPB	ANAEYTICAL RESULT PPB	X	RANCE	ACCEPTABLE.
Benzene	Standard	50.0	52.2	104.4	75 - 125 %	Х
Toluene	Standard	50.0	52.2	104.4	75 - 125 %	x
Ethyl benzene	Standard	50.0	52.4	104.8	75 - 125 %	x
m & p ~ Xylene	Standard	100	106	106.1	75 - 125 %	x
o - Xylene	Standard	50.0	52.4	104.8	75 - 125 %	X
SAMPLE Number	TYPE	EXPECTED RESULT	ANALYTICAL RESULT	Š		ACCEPTABLE
LCS: LA: 45476 25: PPB		PPB	PPB		RANGE	tes ko
Benzene	Standard	25.0	26.1	104.4	39 - 150	Х
Toluene	Standard	25.0	26.4	105.6	46 - 148	x
Ethyl benzene	Standard	25.0	26.4	105.6	32 - 160	x
m & p - Xylene	Standard	50	53.3	106.6	Not Given	X
o - Xylene	Standard	25.0	26.3	105.2	Not Given	х
SAMPLE		EXPECTED	ANALYTICAL	<b>%</b>		ACCEPTABLE
NUMBER	TYPE	RESULT	RESULT	AX.		90.
CCV LA-45473 50 PPB		PPB	PP8		RANGE	YES NO
Benzene	Standard	50.0	54.4	108.8	75 - 125 %	Х
Toluene	Standard	50.0	51.8	103.6	75 - 125 %	x
Ethyl benzene	Standard	50.0	51.5	103.0	75 - 125 %	×
m & p - Xylene	Standard	100	104	104.4	75 - 125 %	x
o - Xylene	Standard	50.0	51.7	103.4	75 - 125 %	x

Narrative: Acceptable.

# LABORATORY DUPLICATES:

LABORATORY DUPLICATES:					·	
SAMPLE NUMBER 951068	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	RANGE	ACCEPTABLE* YES NO
Benzene	Matrix Duplicate	29.5	29.5	0	+/- 20 %	х
Toluene	Matrix Duplicate	<2.5	<2.5	0	+/- 20 %	×
Ethyl benzene	Matrix Duplicate	<2.5	<2.5	0	+/- 20 %	X
m & р - Xylene	Matrix Dupticate	<5.0	<5.0	0	+/- 20 %	X
o - Xylene	Matrix Duplicate	<2.5	<2.5	0	+/- 20 %	X

Narrative: Acceptable.

QUALITY CONTROL REPORT EPA METHOD 8020 - BTEX Samples: 951068, 947664 and 947665

# LABORATORY SPIKES:

SAMPLE MINUER 2nd Analysis 951068	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	Ħ	RANGE	ACCEPTABLE YES NO
Benzene	50	29.5		117.2		Х
Toluene	50	<2.5	53.8	107.6	75 - 125 %	x
Ethyl benzene	50	<2.5	56.9	113.8	75 - 125 %	x
m & p - Xylene	100	<5.0	110.8	110.8	75 - 125 %	x
o - Xylene	50	<2.5	54.8	109.6	75 - 125 %	X

Narrative: Acceptable.

### ADDITIONAL ANALYTICAL BLANKS:

SAMPLE ID AUTO: BEANK	SOURCE	Pp8	STATUS
Benzene	Boiled Water	<2.5	ACCEPTABLE
Toluene	Boiled Water	<2.5	ACCEPTABLE
Ethyl benzene	Boiled Water	<2.5	ACCEPTABLE
Total Xylenes	Boiled Water	<7.5	ACCEPTABLE

Narrative: Acceptable.

SAMPLE 10 SOIL VIAL BLANK	SOURCE	PPB	STATUS
Benzene	Vial + Boiled Water	<2.5	ACCEPTABLE
Toluene	Vial + Boiled Water	<2.5	ACCEPTABLE
Ethyl benzene	Vial + Boiled Water	<2.5	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<7.5	ACCEPTABLE

Narrative: Acceptable.

SAMPLE 10 CARRYOVER CHECK	SOURCE	PPB (None performed with this set)	STATUS
Benzene	Vial + Boiled Water	<2.5	NA
Toluene	Vial + Boiled Water	<2.5	NA
Ethyl benzene	Vial + Boiled Water	<2.5	NA
Total Xylenes	Vial + Boiled Water	<7.5	NA NA

Narrative: Acceptable.

Approved By:

Date: 18-Oct-95

2



2709-D Pan American Freeway, 1.E Albuquerque, NM 87107 Phone (505) 344-3777 FAX (505) 344-4413

ATI I.D. 510366

November 9, 1995

El Paso Natural Gas P.O. Box 4990 Farmington, NM 87499

Project Name/Number: CHACO PLT MW8 X53986

Attention: John Lambdin

On 10/18/95, Analytical Technologies, Inc., (ADHS License No. AZ0015), received a request to analyze **aqueous** sample(s). sample(s) were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

All analyses were performed by Analytical Technologies, Inc., 225 Commerce Drive, Fort Collins, CO.

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

EMGLO 01

Kimberly D. McNeill Project Manager

MR:jt

Enclosure

H. Mitchell Rubenstein, Ph.D.

Laboratory Manager



CLIENT

: EL PASO NATURAL GAS

DATE RECEIVED

:10/18/95

PROJECT #

: X53986

PROJECT NAME

: CHACO PLT MW8

REPORT DATE

:11/09/95

ATI ID: 510366

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	951068 Chaco Plunt vnw #8	AQUEOUS	10/16/95



---TOTALS---

MATRIX AQUEOUS #SAMPLES 1

# ATI STANDARD DISPOSAL PRACTICE

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

# Analytical**Technologies,**Inc.

# TOTAL METALS

Lab Name: Analytical Technologies, Inc.

Sample ID 951068

Client Name: ATI-NM

Client Project ID: Chaco Plt MW-8/EPN -- 510366

Date Collected: 10/16/95

Lab Sample ID: 95-10-154-01

Prep Date: 10/20, 24/95

Sample Matrix: Water

Date Analyzed: 10/23, 24/95

Analyte	Modified Method	Concentration mg/L	Detection Limit mg/L	Wacc Limits
Allaivie	Memod	1115/17	THE T	
Aluminum	6010	2.8	0.2	5.0 mg/L - 0.10 mg/L
Arsenic	6010	0.05	0.01	- 0,10 m/L
Barium	6010	0.1	0.1	1100 ~3/1
Boron	6010	0.4	0.1	0.75 m/L
Cadmium	6010	ND	0.005	
Chromium	6010	ND	0.01	
Cobalt	6010	ND	0.01	
Copper	6010	ND	0.01	
Iron	6010	2.2	0.1	- 1.0 milL
Lead	6010	ND	0.003	1
Manganese	6010	0.25	0.01	- 0.2 mg/L
Mercury	7470	ND	0.0002	
Molyodenum	6010	ND	0.01	
Nickel	6010	ND	0.02	
Selenium	6010	ND	0.005	
Silver	6010	ND	0.01	
Zinc	6010	0.07	0.02	10.0 my/L

ND = Not Detected



# TOTAL METALS

Sample ID

Reagent Blank

Lab Name: Analytical Technologies, Inc.

Client Name: ATI-NM

Date Collected: N/A

Client Project ID: Chaco Plt MW-8/EPN -- 510366

Prep Date: 10/20, 24/95

Lab Sample ID: RB 95-10-164

Date Analyzed: 10/23, 24/95

	Modified	Concentration	Detection Limit
Analyte	Method	mg/L	mg/L
Aluminum	6010	ND	0.2
Arsenic	6010	ND	0.01
Barium	6010	ND	0.1
Borca	6010	ND	0.1
Cadmium	6010	ND	0.005
Chremium	6010	ND	0.01
Cobalt	6010	ΝD	0.01
Copper	6010	ND	0.01
Iron	6010	ND	0.1
Lead	6010	ND	0.003
Manganese	6010	ND	0.01
Mercury	7470	ND	0.0002
Molybdenum	6010	ND.	0.01
Nickei	6010	ND	0.02
Selenium	6010	ND	0.005
Silver	6010	ND	0.01
Zinc	6010	ND	0.02

ND = Not Detected

- Busine



# TOTAL METALS MATRIX SPIKE

Lab Name: Analytical Technologies, Inc.

Sample ID

Client Name: ATI-NM

In House

Lab Sample ID: 95-10-163-01

Prep Date: 10/20, 24/95

Sample Matrix: Water

Date Analyzed: 10/23, 24/95

	T	<del></del>	1	1 0/7	<del></del>
	Spike	Sample	MS	% Rec	
	Added	Conc.	Conc.	(limits	
Analyte	mg/L	m <u>o</u> /L	mg/L	80-120%)	Flags
Aluminum	2.0	< 0.2	2.1	105	
Arsenic	2.0	< 0.01	2.0	100	
Barium	2.0	< 0.1	2.0	100	
Boron	1.0	0.2	1.2	100	
Cadmium	0.050	< 0.005	0.049	98	
Chromium	0.20	0.01	0.21	100	
Cobalt	0.50	< 0.01	0.48	96	
Copper	0.25	< 0.01	0.25	100	
Iron	1.0	0.2	1.2	100	
Lead	0.50	< 0.003	0.49	98	
Manganese	0.50	< 0.01	0.48	96	
Mercury	0.0020	< 0.0002	0.0020	100	
Molybdenum	1.0	< 0.01	0.98	98	
Nickel	0.50	< 0.02	0.49	98	
Selenium	2.0	< 0.005	2.0	100	
Silver	0.20	< 0.01	0.21	105	į
Zinc	0.50	0.11	0.59	96	

EN 1915/45



# TOTAL METALS MATRIX SPIKE DUPLICATE

Sample ID

In House

Lab Name: Analytical Technologies, Inc.

Client Name: ATI-NM

Lab Sample ID: 95-10-163-01

Prep Date: 10/20, 24/95

Sample Matrix: Water

Date Analyzed: 10/23, 24/95

	MSD	MSD	Relative	
	Conc.	% Rec	% Difference	
Analyte_	mg/L	(limits 80-120%)	(limits 0-20%)	Flags
Aluminum	2.1	105	0	
Arsenic	2.0	100	0	
Barium	2.1	105	5	
Boron	1.2	100	0	
Cadmium	0.050	100	2	
Chromium	0.21	100	0	
Cobalt	0.48	96	0	
Copper	0.25	100	0	
Iron	1.2	100	0	
Lead	0.48	96	2	
Manganese	0.49	98	2	
Mercury	0.0021	105	5	
Molybdenum	0.99	99	1	
Nickel	0.50	100	2	
Selenium	2.0	100	0	
Silver	0.21	105	0	
Zinc	0.60	98	2	



# POLYNUCLEAR AROMATIC HYDROCARBONS

Method 8310



# Analytical**Technologies,**Inc.

Lab Name: Analytical Technologies Inc.

Client Name: ATI-NM

Client Project ID: Chaco Plt MW-8/EPN -- 510366

Lab Sample ID: 95-10-164-01

Sample Matrix: Water

Cleanup: N/A

Sample ID

951068

Date Collected: 10/16/95 Date Extracted: 10/23/95 Date Analyzed: 11/2/95

Sample Volume: 1000 mL

Final Volume: 10 mL

Anaiyte	Conc (ug/L)	Detection Limit (ug/L)	LUGCE Limits
Naphthálene	ND	5.0	TITAL
Acenaphthylene	ND	10	30.0 COYL
1-Methylnaphthalene	10.50	10	1011
2-Methylnaphthalene	6 Ј	10	
Acenaphthene	ND	10	
Fluorene	3.6	1.0	
Phenanthrene	ND	0.50	
Animacene	ND	1.0	
Flucranthene	ND	1.0	7
Pyrene	ND	0.50	
Benzo(a)anthracene	ND	0.50	
Chrysene	ND	0.50	
Benzo(b)fluoranthene	ND	1.0	7
Benzo(k)fluoranthene	ND	0.50	
Benzo(a)pyrene	ND	0.50	
Dibenzo(a.h)anthracene	ND	1.0	
Benzo(g,h.i)perylene	ND	1.0	1 0.7 4/2
Indeno(1,2.3-c.d)pyrene	ND	1.0	

# SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2-Chioroanthracene	81	15 - 117

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

J = Estimated value. Below requested detection limits.

# POLYNUCLEAR AROMATIC HYDROCARBONS

Method 8310



Analytical**Technologies,**Inc.

Lab Name: Analytical Technologies Inc.

Client Name: ATI-NM

Client Project ID: Chaco Plt MW-8/EPN -- 510366

Lab Sample ID: WRB1 10/23/95

Sample Matrix: Water

Cleanup: N/A

Sample ID

Reagent Blank

Date Collected: N/A
Date Extracted: 10/23/95
Date Analyzed: 11/2/95

Sample Volume: 1000 mL

Final Volume: 1 mL

Anaiyte	Conc (ug/L)	Detection Limit (ug/L)
Naphthalene	ND	0.50
Acenaphthylene	ND	1.0
1-Methylnaphthalene	ND	1.0
2-Methylnaphthalene	ND	1.0
Acenaphthene	ND	1.0
Fluorene	ND	0.10
Phenanthrene	ND	0.050
Anthracene	ND	0.10
Fluoranthene	ND	0.10
Pyrene	ND	0.050
Benzo(a)anthracene	ND	0.050
Chrysene	ND	0.050
Benzo(b)fluoranthene	ND	0.10
Benzo(k)fluoranthene	ND	0.050
Benzo(a)pyrene	ND	0.050
Dicenzo(a,h)anthracene	ND	0.10
Benzo(g,h.i)perylene	ND	0.10
Indeno(1,2,3-c.d)pyrene	ND	0.10

# SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2-Chloroanthracene	92	15 - 117

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



11/15/65

# POLYNUCLEAR AROMATIC HYDROCARBONS BLANK SPIKE



Method 8310

Lab Name: Analytical Technologies Inc.

Lab Sample ID: WBS1,2 10/23/95

Client Name: ATI-NM

Date Extracted: 10/23/95

Client Project ID: Chaco Plt MW-8/EPN -- 510366

Date Analyzed: 11/2/95

Sample Matrix: Water

Sample Volume: 1000 mL

Final Volume: 1 mL

Analyte	Spike Added (ug/L)	BS Concentration (ug/L)	BS Percent Recovery	QC Limits % Rec
Acenaphthylene	10	7.83	78	23 - 122
Phenanthrene	1.0	0.922	92	34 - 112
Pyrene	1.0	0.949	95	35 - 116
Dibenzo(a.h)anthracene	1.0	0.858	86	33 - 123
Benzo(k)fluoranthene	0.25	0.261	104	39 - 119

Analyte	Spike Added (ug/L)	BSD Concentration (ug/L)	BSD Percent Recovery	RPD	QC Limits RPD
Acenaphthylene	10	7.39	74	6	20
Phenanthrene	1.0	0.891	74 89	0 2	20
		0.981	98	3	20
Pyrene	1.0	1		3	<b>.</b>
Dibenzo(a.h)anthracene	1.0	0.842	84	2	20
Benzo(k)fluoranthene	0.25	0.252	101	3	20

# SURROGATE RECOVERY BS/BSD

Analyte	% Recovery(BS)	% Recovery(BSD)	% Rec Limits
2-Chloroanthracene	96	94	15 -117

\* MISHT

PLEA	SE FIL	L THIS	SFOR	M IN	COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.	= = = = = = = = = = = = = = = = = =
SEM RESULTS TO JOHN CANTEOIN Company.  AT THE ABOVE ADDRESS.  ATTHE ABOVE ADDRESS.  ATTHE ABOVE ADDRESS.	Commen	SHIPPED VIA: FEO. EX PRIOR AUTHORIZATION IS REQUIRED	PROJ. NAME: CHACO PET MUND CUSTODY SEALS (S) N / NA P.O. NO.:  PROJ. NAME: CHACO PET MUND CUSTODY SEALS (S) N / NA RECEIVED INTACT	PROJ. NO.: 45398	COMPANY: EL PRO MA ADDRESS: P.C. BOX 6 PHONE: 535-59 FAX: 535-59 COMPANY: ADDRESS: 535-59 SAMPLE ID DA 95/068 ISA	Analytical Technologies, Inc., Albuquerque, NM San Diego · Phoenix · Seattle · Pensacola · Ft. Collins · Portland (Albuquerque)  [PROJECT MANAGER: 73 HA (AMB)(A)
Company:	Signature: Time:  Printed Name: Date:		Printed Name: Date: 12-1675  DEMIS BARO	SAMPLED & RELINQUISHED BY: 1.	Petroleum Hydrocarbons (418.1)   (MOD 8015) Gas/Diesel   Diesel/Gasoline/BTXE/MTBE (MOD 8015/8020)   BTXE/MTBE (8020)   Chlorinated Hydrocarbons (601/8010)   Aromatic Hydrocarbons (602/8020)   SDWA Volatiles (502.1/503.1), 502.2 Reg. & Unreg.	CHAIN OF CUSTODY  DATE: 10-16-15 PAGE 1 OF 1
	Signature: Time:	Company:	Printed Name: Date:	RELINQUISHED BY: 2. Signature: Time:	Polynuclear Aromatics (610/8310)	OF / ATI LAB I.D.  OF / 5/0366
And Technologies, Inc.	Signature: Time: 1130		Printed Name: Date:	RELINQUISHED BY: 3. Signature: Time:	SDWA Secondary Standards - Arizona    SDWA Primary Standards - Federal   SDWA Secondary Standards - Federal	

Analytical Technologies, Inc. Albuquerque, NM

Chain of Custody of 10 to philipping 10 18 PAGE 1 OF\_

	_			,	<u> </u>												_					
) \\ \)	RUSH SURCHARGE:	DUE DATE:	1.0	TAT: STANDARD	OC REQUIBED! MS MSD	OC LEVEL: STD.	PROJECT NAME: CHACO PLT MW-8	PROJECT NUMBER: 51036	Pļ									51031	S	CLIENT PROJECT MANAGER	COMPANY: ADDRESS:	NETWORK PROJECT MANAGER:
5	HARGE	=			NS.	\$10.	イバンヨ	BER: F	PROJECT INFORMATION									3106-	SAMPLE ID	JECT M	<b>Anai</b> 2709 Albu	DECT M
MO#	7	-		HUSHI	MSD	✓ =	300	510	INFOR									0	0	MAGF	<b>Analytical Technologies, Inc</b> 2709-D Pan American Freewa Albuquerque, NM 87107	ANAGE
	0		ľ		BLANK		PLTI	كالحال	MATIO											7	Tech in Am ue, N	
راح ا	•   1				₹		JW-5	0	Z	$\  \cdot \ $	$\dagger$	1					i	01	DATE	ر ح	nolog ericar M 87	11131
10						-	8/EPN											1911191	TE	λC	yies, I n Free 107	^-KR∧
KM1020	7	Chai	-	LABNI NB NI	RECE	INTACT?		TOTAL									(	335	TIME	McNeil	<b>Analytical Technologies, Inc.</b> 2709-D Pan American Freeway, NE Albuquerque, NM 87107	—LETHTIA-KRAKOWSKI-
10.19	Kim me Neill orguest	roced "		LAB NUMBER	RECEIVED GOVA) COND./COLD	17	CHAIN OF CUSTODY SEALS	TOTAL NUMBER OF CONTAINERS	SAM									AQ	XIHTAM		111	
195	3	119 1			COND.AC		IV IS AC	CONI.	SAMPLE RECEIPT					_			ļ	2	OI BY'			
7	<i>**</i>	0			8		ဘ	ANT-S	CEIPT	╟╴	+	+	+		_		+	-	TO:	X		
3	-03	272						50											TO	C		
	3	6			$\dashv$															GANIC L	EAD	
1	3	3								_	+	$\perp$	4		<u> </u>		_	_		LFIDE	(TO (110.10)	
		131	<del></del>	Ξ .		7 / A	, -		. SA	╟	+	+	+		_		+	-	301	HPAC : AN	ITS (MBAS)	
		FIBERIQUANT		PHOENIX	PORTLAND	DENCACOI A	DENITOR 11 COLLINS	SAN DIEGO	SAMPLES SENT TO	╟╴	+	+	$\dashv$				$\dashv$	一	632	/632 MO	0	
		1			<b>€</b>  \$	-	2	; : O	SENT		1								619	/619 MOI		
			İ	i		į		!	10		I	$\perp$	$\Box$				$oxed{oxed}$			18310		
			ı			1	>	<u> </u>		-	+	+	-					$\cong$	<u>Me</u>	27015	S: Al As Ba, CdCr,	
Company:	Printed Name:	orginature.		1	<u>a</u>		<b>]</b> /	/ Signa	] =	$\Vdash$	+	+	-				-	_		<u>(4 + 6</u>	e, Pb, Ha, Mg, NI, Se	
pany	od Na	SILL FE	CE	Albuquerque	lical	U whi	Pingled Name		Œ		╁	+	$\dashv$		-		+	-	<b>V</b>		rg, zh, D, Mc	3
	1941/		¥€0	ō	Analytical Technologies.	5	<b>a</b> [	]]!	15	什	1	1	1				Ť		Die:	sei/Gasoii	ine/BTXE/MTBE/ (MOD 8015/8020)	2
な			BY:		<u>e</u>	<b>X</b>	R	$\tilde{\gamma}_{\mathcal{N}}$	쏉										Voi	atile Crgan	nics GC/MS (624/8240)	SIS
لجمواء			RECEIVED BY: (LAB)	1	9	<u> </u>	$\downarrow$	1	HETHAMPHED BY:		_	$\perp$	4				_	_				25
<u></u>	Date:	1170			nc.	7	Dale (				lacksquare	$\bot$	$\dashv$		_		_	_	NAC			ANALYSIS REQUEST
			-			B			-	-	+	+	$\dashv$				$\dashv$	$\dashv$	ASI	BESTOS		EST
						75/	1	$\frac{1}{2}$			Ť	$\dagger$	$\dashv$					1	801	D		
Cor	Prin	Sign	?		Con		ř	Sign											TO:	TAL COL	IFORM	
Сотрапу:	Printed Name:	Signature:	E C		Company:	2	mutal bann	Signature:					$\bot$					$\bot$	FEC	DAL SOLI	FORM	
🔀		7	RECEIVED	-	· \ 1	3	100		RELINQUISHED BY:	$\Vdash$	_	$\perp$	_			_	_	_				
	}		BY:	3		-			器	-	+	+	4					$\dashv$			HA/BETA	
AiT	<u>,</u>			>					VB O	-	+	+	$\dashv$			$\dashv$	$\dashv$	$\dashv$	ΠAI	DIUM 225	01445	
170	Date:	Gy:	100			Ç	alc (	Time:		一	$\dagger$	$\top$	$\dashv$				+	1	Alf	7 - 02. C	C2. METHANE	
Ĭ	75 19	~ .	2			ā	9	.⊕	2				_							~~	asoline/BTXE/ (MOD 8015/8020)	
	`									Γ	Τ						1	N	NL	JMBER (	OF CONTAINERS	

ATI Labs: San Diego (619) 458-9141 • Phoenix (602) 496-4400 • Seattle (206) 228-F 135 • Pensacola (904) 474-1001 • Portland (503) 684-0447 • Albuquerque (505) 344-3777

DISTRIBUTION: White, Canary - ATI • Pink - ORIGINATOR

EI Paso Natural 6as Company CHAIN OF CUSTODY RECORD

			COSTODI PECOND			
Project No. Project Name		-		Requested Analysis	7	
	CHACO MANT				EC PASS MATURA	1AC 6505
(e	Date Receiving Temp (°F)	noO	P <sub>6</sub>	15. Jan. 17		20,00
Lennis Rind	10-16-95 350	to .ot			FARMINETON	18745/
Lab ID Date Time Matrix	x Sample Number	/ IstoT Chain o	2000		Remarks	2
10168 (335 WATER	95/068	m	8	イメ	MANITOR WELL M	MW-8
8-2124 - 52-81-01		· · · · · · · · · · · · · · · · · · ·	*		TRIP BLANK	
						•
		1/			The same of the sa	
					And the state of t	
					Transmitted to the control of the co	
:		-				
Relinquished by: (Signature)	Date/Time Received by: (Signature)	Signature)		lure)	Date/Time Neceived by: (Signature)	lure)
Line Six	5451 (31/9//01					
Relinquished by: (Signature)	Date/Time Received by: (Signature)	Signature)	Relinquished by: (Signature)	ture)	Date/Time Ruceived by: (Signature)	lure)
	į.	!	:		THE THE STATE OF T	
Relinquished by: (Signature)	Date/Time Received for La	Received for Laboratory by: (Signature)	3	Remarks.	4	
	107/11/1/	Z/Helder	17/45 68CC	an negative et a annuage oppe opperation of		
Results & Invoices to::		Charge Code		Date Results Repo	Date Results Reported / by: (Signature)	
WHITE-Testing Laboratory YELLOW-FPNG Lab PINK-Held Sampler	PINK-Held Sampler					san juan repro Form 71-65

November 14, 1995

Mr. John Merrick H. C. Price Company 5353 Alpha Rd. Dallas, TX 75240

Re: Use of Noncontact Wastewater for Use in Oil and Gas Exploration

Dear Mr. Merrick:

You asked to use the uncontact wastewater generated and discharged at the El Paso Natural Gas Company ("El Paso") Chaco Plant pursuant to an approved New Mexico Oil Conservation Division Discharge plan. El Paso will allow H. C. Price Company to use the noncontact wastewater provided you agree in advance to the following:

- 1. Prior to obtaining the wastewater from the Chaco Plant ponds, H.C. Price Company will notify the Chaco Plant Superintendent;
- 2. Use of the wastewater is limited to H.C. Price Company for its oil and natural gas exploration and production activities and will never be used in a way that allows the water to be discharged to any water of the U.S. as defined in the U.S. Clean Water Act (33 U.S.C. §§ 1251 to 1387) and the New Mexico Water Quality Act (N.M. Stat. Ann. §§ 74-6-1 to 74-6B-14);
- 3. The wastewater will never be discharged less than one hundred feet (100') from the nearest natural boundary of any wash or arroyo; and,
- 4. H.C. Price Company releases El Paso from liability, claims, or causes of action which may arise from the procurement, use, and discharge of the wastewater by H.C. Price Company, its agents, or its contractors

Mr. John Merrick H. C. Price Company November 14, 1995 Page 2

If H. C. Price Company agrees to abide by the above terms and conditions, please indicate its approved by signing in the space below and return this letter to me.

Very truly yours,

Jonnie L. Smith

AGREED TO AND ACCEPTED this /4 day November 1995.

H. C. Price Company

by John & Main!



# John Merrick ASST. SUPERINTENDENT

H.C. PRICE CONSTRUCTION CO. FAX (214) 991-6059 5353 ALPHA ROAD DALLAS, TEXAS 75240 (214) 458-1865

LOCAL OFFICE

32C 7111 Mobil

April 10, 1995

Mr. Walter Bump FESCO Contracting Co. 5500 U.S. Highway 64 Farmington, NM 87401

Re: Use of Noncontact Wastewater for Use in Oil and Gas Exploration

Dear Mr. Bump:

You asked to use the uncontact wastewater generated and discharged at the El Paso Natural Gas Company ("El Paso") Chaco Plant pursuant to an approved New Mexico Oil Conservation Division Discharge plan. El Paso will allow FESCO Contracting Company to use the noncontact wastewater provided you agree in advance to the following:

- 1. Prior to obtaining the wastewater from the Chaco Plant ponds, FESCO Contracting Co. will notify the Chaco Plant Superintendent;
- 2. Use of the wastewater is limited to FESCO Contracting Co. for its oil and natural gas exploration and production activities and will never be used in a way that allows the water to be discharged to any water of the U.S. as defined in the U.S. Clean Water Act (33 U.S.C. §§ 1251 to 1387) and the New Mexico Water Quality Act (N.M. Stat. Ann. §§ 74-6-1 to 74-6B-14);
- 3. The wastewater will never be discharged less than one hundred feet (100') from the nearest natural boundary of any wash or arroyo; and,
- 4. FESCO Contracting Co. releases El Paso from liability, claims, or causes of action which may arise from the procurement, use, and discharge of the wastewater by FESCO Contracting Co., its agents, or its contractors

Mr. Walter Bump FESCO Contracting Company April 10, 1995 Page 2

If FESCO Contracting Co. agrees to abide by the above terms and conditions, please indicate its approved by signing in the space below and return this letter to me.

Very truly yours,

Jonnie L. Smith

AGREED TO AND ACCEPTED this /c day April 1995.

**FESCO Contracting Company** 

by Walt By

# Chaco Plant Non-Contact Waste Water Acceptance Log

**************************************				Hen 14, 1995	Apr. 13,1995	APROL 12,1978	Apric 11, 1895	Apr. 10, 1985	Date
				Henry Fox Fosco Connectively 958.0	App. 13,1995 Fesco Conserverine Co. 1428-0	APRIL 19198 FESCO COUTEDETELE. 1498.C	ζ.	April 10, 1995 FESEO CONTEXTINE CO.	Company
				958.0	0-8611	1428.0	1372.0	357.0	Amount (Barrels)
				Complet Son For Contere	Complet Sen Fee Chericisme First - Dust Control	COMPACT SOM FOR CAJOREINE FLANT - DUST CONTREE.	Complet Soil FOR Contrac	COMPART SOIL FOR CEMPERENTE PLANT - DUST CONTROL	Intended Use
		·		* SAME	A. SAME	+ SAME	- SAME	+SAME	Final Disposition of Water
				11 11 11 11	A Musobook	DO THINGS	a c Toudles	Do True look	Signature

The Santa Fe New Mexican

Since 1849. We Read You.

H HM 8 52 · 05 MD

Ε.	Μ.	N.	R.	.D.:	OIL	CONSERVATION	DIV.

ATTN: SALLY MARTINEZ

P.O. BOX 6429

SANTA FE, N.M. 87505 AD NUMBER: 435840

ACCOUNT: 56689

LEGAL NO:

58512

96199082997 P.O. #:

164	LINES	once	at \$ 65.60
Affidavits:			5.25
Tax:			4.43
Total:			\$ 75.28

NOTICE OF PUBLICATION other accidental discharges STATE OF NEW MEXICO to the surface will be man-ENERGY, MINERALS aged.

AND NATURAL RESOURCES DEPARTMENT **OIL CONSERVATION** 

DIVISION

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director

Notice is hereby given that of the Oil Conservation Divipursuant to the New Mexico sion at the address given Water Quality Control Com-above. The discharge plan mission Regulations, the fol-applications may be viewed lowing discharge plan appli- at the above address becation has been submitted to tween 8:00 a.m. and 4:00 p.m., the Director of the Oil Con-Monday thru Friday. Prior to servation Division, 2040 S, ruling on any proposed dis-Pacheco, Santa Fe, New charge plans or its modifica-Mexico, 87505, Telephonetion, the Director of the Oil Conservation Division shall

(GW-71) - El Paso Natural allow at least thirty (30) days Gas Company, Patrick J. after the date of publication Marquez, Compliance Engi-of this notice during which neer, PO Box 4990, Farming-comments may be submitted ton, New Mexico, 87499, has to him and public hearing submitted a request to mod-may be requested by any inify their existing discharge terested person. Request for plan for their Chaco Gas Pro-public hearing shall set forth cessing Plant located in Sec-the reasons why a hearing tion 16, Township 26 North, shall be held. A hearing will Range 12 West, NMPM, San be held if the director deter-Juan County, New Mexico. mines that there is signifi-The modification consists of cant public interest.

adding a cryogenic unit to If no hearing is held, the Dicompliment/replace the ex-rector will approve or disapfsting lean oil liquids extrac-prove the plans based on the tion facilities. Approxi-information available. If a mately 2405 gallons per day public hearing is held, the Diof produced water with total rector will approve the plans dissolved solids concentra-based on the information in tion of 1,000 mg/l will be the plans and information stored in an above ground presented at the hearing.

double lined evaporation GIVEN under the Seal of pond equipped with leak de-New Mexico Conservation tection. Groundwater most Commission at Santa Fe, likely to be affected in the New Mexico, on this 31st of event of an accidental dis-October, 1995.

charge is at a depth ranging STATE OF NEW MEXICO from 220 feet to 810 feet with a OIL CONSERVATION DIVItotal dissolved solids concen-SION

tration of approximately 560 WILLIAM J. LEMAY, Direcmg/l. The discharge plan ad-tor

dresses how spills, leaks, and Legal #58512

Pub. November 7, 1995

# AFFIDAVIT OF PUBLICATION

STATE OF NEW MEXICO COUNTY OF SANTA FE

I, BETSY PERNER being first duly sworn declare and
say that I am Legal Advertising Representative of THE SANTA
FE NEW MEXICAN, a daily news paper published in the English
language, and having a general circulation in the Counties of
Santa Fe and Los Alamos, State of New Mexico and being a News-
paper duly qualified to publish legal notices and advertise-
ments under the provisions of Chapter 167 on Session Laws of
1937; that the publication $\#58512$ a copy of which is
hereto attached was published in said newspaper once each
WEEK for ONE consecutive week(s) and that the no-
tice was published in the newspaper proper and not in any
supplement; the first publication being on the7th day of
NOVEMBER 1995 and that the undersigned has personal
knowledge of the matter and things set forth in this affida-
vit.
1st Detay fliner
LEGAL ADVERTISEMENT REPRESENTATIVE

Subscribed and sworn to before me on this

 $7_{th}$  day of NOVEMBER A.D., 1995.

Haura MY BUMMIPBION EXPLICATION

# The Santa Fe New Mexican

# Since 1849. We Read You.

4 111 8 52

E.M.N.R.D.: OIL CONSERVATION DIV.

ATTN: SALLY MARTINEZ

P.O. BOX 6429

SANTA FE, N.M. 87505

AD NUMBER: 435840

LEGAL NO:

58512

ACCOUNT: 56689

P.O. #:

96199082997

164 LINES once at \$ 65.60 Affidavits: Total:

NOTICE OF PUBLICATION other accidental discharges STATE OF NEW MEXICO to the surface will be man-ENERGY, MINERALS aged.

AND NATURAL RESOURCES DEPARTMENT OIL CONSERVATION

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director

DIVISION Notice is hereby given that of the Oil Conservation Divipursuant to the New Mexico sion at the address given Water Quality Control Com-above. The discharge plan mission Regulations, the fol-applications may be viewed lowing discharge plan appli- at the above address becation has been submitted to tween 8:00 a.m. and 4:00 p.m., the Director of the Oil Con-Monday thru Friday. Prior to servation Division, 2040 S. ruling on any proposed dis-Pacheco, Santa Fe, New charge plans or its modifica-Mexico, 87505, Telephone tion, the Director of the Oil Conservation Division shall (505) 827-7131:

(GW-71) - El Paso Natural allow at least thirty (30) days Gas Company, Patrick J after the date of publication Marquez, Compliance Engi-of this notice during which neer, PO Box 4990, Farming-comments may be submitted ton, New Mexico, 87499, has to him and public hearing submitted a request to mod-may be requested by any inify their existing discharge terested person. Request for plan for their Chaco Gas Pro-public hearing shall set forth cessing Plant located in Sec-the reasons why a hearing tion 16, Township 26 North, shall be held. A hearing will Range 12 West, NMPM, San be held if the director deter-Juan County, New Mexico, mines that there is signifi-The modification consists of cant public interest.

adding a cryogenic unit to If no hearing is held, the Dicompliment/replace the ex-rector will approve or disap-Isting lean oil liquids extrac-prove the plans based on the tion facilities. Approxi-information available. If a mately 2405 gallons per day public hearing is held, the Diof produced water with total rector will approve the plans dissolved solids concentra based on the information in tion of 1,000 mg/l will bethe plans and information stored in an above ground presented at the hearing.

double lined evaporation GIVEN under the Seal of pond equipped with leak de-New Mexico Conservation tection. Groundwater most Commission at Santa Fe, likely to be affected in the New Mexico, on this 31st of

event of an accidental dis-October, 1995. charge is at a depth ranging STATE OF NEW MEXICO from 220 feet to 810 feet with a OIL CONSERVATION DIVItotal dissolved solids concen-SION

tration of approximately 560 WILLIAM J. LEMAY, Direcmg/l. The discharge plan ad-for

dresses how spills, leaks, and Legal #58512

Pub. November 7, 1995

# AFFIDAVIT OF PUBLICATION

STATE OF NEW MEXICO COUNTY OF SANTA FE

I. BETSY PERNER being first duly sworn declare and say that I am Legal Advertising Representative of THE SANTA FE NEW MEXICAN, a daily news paper published in the English language, and having a general circulation in the Counties of Santa Fe and Los Alamos, State of New Mexico and being a Newspaper duly qualified to publish legal notices and advertisements under the provisions of Chapter 167 on Session Laws of 1937; that the publication # 58512 a copy of which is hereto attached was published in said newspaper once each WEEK for ONE consecutive week(s) and that the notice was published in the newspaper proper and not in any supplement; the first publication being on the 7th day of 1995 and that the undersigned has personal knowledge of the matter and things set forth in this affidavit. /S/ \_\_\_

Subscribed and sworn to before me on this

7th day of NOVEMBER A.D., 1995.

OFFICIAL SEAL LAURA E. HARDING

Author Bross - being be him her he have 2. Harding 11/23/95

# AFFIDAVIT OF PUBLICATION

No. 35506

# STATE OF NEW MEXICO County of San Juan:

ROBERT LOVETT being duly sworn says: That he is the Classified Manager of THE DAILY TIMES, a daily newspaper of general circulation published in English at Farmington, said county and state, and that the hereto attached Legal Notice was published in a regular and entire issue of the said 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 publication on the following day(s):

Thursday, November 9, 1995

and the cost of publication is: \$64.84

ON/-9-9:5 ROBERT LOVETT

appeared before me, whom I know personally to be the person who signed the above document.

My Commission Expires March 21, 1998

### COPY OF PUBLICATION

# Legals



### NOTICE OF PUBLICATION

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

Notice is hereby given that pursuant to the New Mexico Water Quality Control Commission Regulations, the following discharge plan application has been submitted to the Director of the Oil Conservation Division, 2040 S. Pacheco, Santa Fe, New Mexico 87505, Telephone (505) 827-7131:

(GW-71) - El Paso Natural Gas Company, Patrick J. Marquez, Compilance Engineer, PO Box 4990, Farmington, New Mexico, 87499, has submitted a request to modify their existing discharge plan for their Chaco Gas Processing Plant located in Section 16, Township 26 North, Range 12 West, NMPM, San Juan County, New Mexico. The modification consists of adding a cryogenic unit to compliment/replace the existing lean oil liquids extraction facilities. Approximately 2405 gailons per day of produced water with total dissolved solids concentration of 1,000 mg/l will be stored in an above ground double lined evaporation pond equipped with leak detection. Groundwater most likely to be affected in the event of an accidental discharge is at a depth ranging from 220 feet to 810 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.

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 giver above. The discharge plan applications may be viewed at the above address between 8:00 a.m and 4:00 p.m., Monday thru Friday. Prior to ruling on any proposed discharge plans 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. Request for public hearing shall set forth the reasons why a hearing shall be held. A hearing will be held if the director determines that there is significant public interest.

If no hearing is held, the Director will approve of disapprove the plans based on the informatior available. If a public hearing is held, the Director will approve the plans based on the information ir the plans and information presented at the hearing.

GIVEN under the Seal of New Mexico Conservation Commission at Santa Fe, New Mexico, on this 31st of October, 1995.

STATE OF NEW MEXICC OIL CONSERVATION DIVISION /s/ William J. Lemay WILLIAM J. LEMAY, Directo

SEAL

Legal No. 35506 published in The Daily Times, Farmington, New Mexico on Thursday, November 9, 1995.

# AFFIDAVIT OF PUBLICATION

No. 35506

# STATE OF NEW MEXICO County of San Juan:

ROBERT LOVETT being duly sworn says: That he is the Classified Manager of THE DAILY TIMES, a daily newspaper of general circulation published in English at Farmington, said county and state, and that the hereto attached Legal Notice was published in a regular and entire issue of the said 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 publication on the following day(s):

Thursday, November 9, 1995

and the cost of publication is: \$64.84

On/ - P - P - ROBERT LOVETT

appeared before me, whom I know personally to be the person who signed the above document.

My Commission Expires March 21, 1998

### COPY OF PUBLICATION

# Legals

# NOTICE OF PUBLICATION

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

Notice is hereby given that pursuant to the New Mexico Water Quality Control Commission Regulations, the following discharge plan application has been submitted to the Director of the Oil Conservation Division, 2040 S. Pacheco, Santa Fe, New Mexico 87505, Telephone (505) 827-7131:

(GW-71) - Ei Paso Natural Gas Company, Patrick J. Marquez, Compilance Engineer, PO Box 4990, Farmington, New Mexico, 87499, has submitted a request to modify their existing discharge plan for their Chaco Gas Processing Plant located in Section 16, Township 26 North, Range 12 West, NMPM, San Juan County, New Mexico. The modification consists of adding a cryogenic unit to compilment/replace the existing lean oil liquids extraction facilities. Approximately 2405 gallons per day of produced water with total dissolved solids concentration of 1,000 mg/l will be stored in an above ground double lined evaporation pond equipped with leak detection. Groundwater most likely to be affected in the event of an accidental discharge is at a depth ranging from 220 feet to 810 feet with a total dissolved solids concentration of approximately 560 mg/l. The discharge plan addresses how splils, 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 giver above. The discharge plan applications may be viewed at the above address between 8:00 a.m and 4:00 p.m., Monday thru Friday. Prior to ruling on any proposed discharge plans 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. Request for public hearing shall set forth the reasons why a hearing shall be held. A hearing will be held if the director determines that there is significant public interest.

If no hearing is held, the Director will approve of disapprove the plans based on the informatior available. If a public hearing is held, the Director will approve the plans based on the information ir the plans and information presented at the hearing.

GIVEN under the Seal of New Mexico Conservation Commission at Santa Fe, New Mexico, on this 31st of October, 1995.

STATE OF NEW MEXICC OIL CONSERVATION DIVISION /s/ William J. Lemay WILLIAM J. LEMAY, Director

SEAL

Legal No. 35506 published in The Daily Times, Farmington, New Mexico on Thursday, November 9, 1995.

# NOTICE OF PUBLICATION

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

Notice is hereby given that pursuant to the New Mexico Water Quality Control Commission Regulations, the following discharge plan application has been submitted to the Director of the Oil Conservation Division, 2040 S. Pacheco, Santa Fe, New Mexico, 87505, Telephone (505) 827-7131:

(GW-71) - El Paso Natural Gas Company, Patrick J. Marquez, Compliance Engineer, PO Box 4990, Farmington, New Mexico, 87499, has submitted a request to modify their existing discharge plan for their Chaco Gas Processing Plant located in Section 16, Township 26 North, Range 12 West, NMPM, San Juan County, New Mexico. The modification consists of adding a cryogenic unit to compliment/replace the existing lean oil liquids extraction facilities. Approximately 2405 gallons per day of produced water with total dissolved solids concentration of 1,000 mg/l will be stored in an above ground double lined evaporation pond equipped with leak detection. Groundwater most likely to be affected in the event of an accidental discharge is at a depth ranging from 220 feet to 810 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.

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 applications may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday thru Friday. Prior to ruling on any proposed discharge plans 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. Request for public hearing shall set forth the reasons why a hearing shall be held. A hearing will be held if the director determines that there is significant public interest.

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

GIVEN under the Seal of New Mexico Conservation Commission at Santa Fe, New Mexico, on this 31st of October, 1995.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

WILLIAM J. LEMAY, Director

**SEAL** 





P. O. BOX 4990 FARMINGTON, NEW MEXICO 87499

October 19, 1995

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

Subject:

Request Major Modification to Discharge Plan GW-071 - Chaco Processing Plant

Dear Mr. Eustice:

El Paso Natural Gas Company requests approval for Major Modification to the current discharges from Chaco Plant. The discharges as outlined below are scheduled to begin in mid-January of 1996.

# Major Modification to Discharge Plan GW-071

### Cryo Plant

EPNG is currently building a Cryogenic Plant to compliment/replace the existing lean oil liquids extraction facilities at Chaco Plant. The first phase of the Cryo Plant is expected to be on-line in January of 1996 and will replace the existing "A" Gasoline Plant. The operation of a 400 MMSCFD plant will be the result of the first phase of construction with an additional 200 MMSCFD in operation shortly thereafter (Phase II - May 1996). A plot plan is provided under Tab A showing the location of the Cryo in relation to Chaco Plant.

The operation of the new facility is expected to increase the contact water<sup>1</sup> discharge due to gas dehydration from 0.96 gpm to 2.50 gpm as described in Table 1.

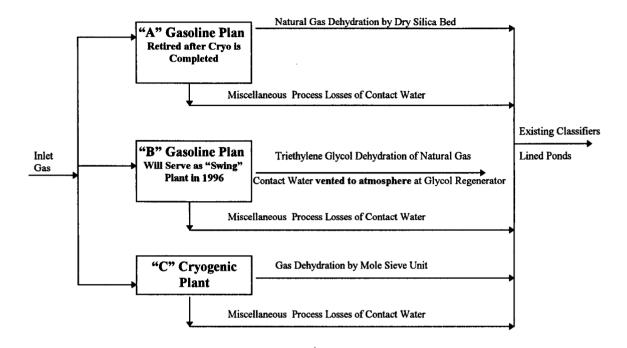
Table 1 Contact Water by Gas Dehydration

A Plant	Current Operation 11500	Future Operation Phase I Retired	Future Operation Phase II Retired	<u>Units</u> lbs H2O/Day	<b>Destination</b> Lined Ponds
B Plant	10500	8400	4200	lbs H2O/Day	Vented to Atm.
C Plant	0	20000	30000	lbs H2O/Day	Lined Ponds
H2O in GPM	0.96	1.67	2.50	gpm	

All contact water<sup>1</sup> from the Cryo Plant will be discharged to the existing drain line, separated from the oil phase at the classifiers and then pumped to the lined ponds. The existing drain and classifier system operates well below its design limit, consequently, its capacity will not be jeopardized by the operation of the Cryo Plant. Figure 1 depicts contact water origins and destinations.

<sup>1.</sup> For the sake of this document, Contact Water is: a) produced water entrained in the natural gas which is removed by dehydration and b) water co-mingled with any petroleum product such as lubricating oil - this volume (b) is difficult to estimate for the new facility, therefore it is not reflected in the Table 1 volumes.

### Figure 1



### **Drain Lines**

Several drain systems will be employed to service the Cryo Plant; 1) Open Drain, 2) Closed Drain, 3) the Low Temperature Drain and 4) the Methyl Diethanolamine (MDEA) System. All drain systems are steel and will be integrity tested upon completion.

The *Open Drain System* will collect those drains which are open to the atmosphere and may receive lubricating oil, wash water, detergents and/or rain water. A below grade, 20 bbl, double walled tank will receive and then pump these liquids to the Closed Drain System. Double walls will provide a means for detecting leaks from this tank. A schematic of the tank and the equipment it services is provided under Tab B (DWG. 2CH-8-P423).

The Closed Drain System will service those process vessels which vent at pressures above atmosphere. This system will de-pressure at an above ground expansion vessel and then enter Chaco's existing drain system. A schematic of this expansion vessel and the equipment it services is provided under Tab B (DWG. 2CH-8-P434).

The Low Temperature Drain System will service those process vessels which vent volatile, low temperature liquids. This system will be stainless steel and will collect in an above ground vessel where the liquids will be heated, vaporized and flared. A schematic of this vessel and the equipment it services is provided under Tab B (DWG. 2CH-8-P433).

The MDEA Drain System will serve in the MDEA product treating system of the Plant. MDEA will be collected in a below grade, 20 bbl, double walled tank and then returned to the process. A schematic of this system is provided under Tab B (DWG.2CH-8-P427).

### **Non-Contact Discharge**

The Cryo Plant will utilize some cooling capacity from the existing cooling towers at Chaco. The required capacity will be less than that necessary for the operation of "A" Gasoline Plant (retired in 1996). All non-contact water will be discharged to the existing unlined, non-contact evaporation ponds.

**Storage Vessels** 

One 500 bbl Amine storage tank and one 100 bbl Lubricating Oil storage tank will service the Cryo Plant equipment. Both tanks will be above ground, bermed and labeled appropriately. Tank locations within the Cryo Plant boundaries is provided under Tab C (DWG.2CH-8-P444).

**Design Specifications** 

This information is provided according to the design specifications available at this time. Should the "as build" specifications regarding vessel sizes, discharge volumes or discharge destinations change, EPNG shall inform the NMOCD and request approval.

EPNG respectfully requests approval to discharge as described above. A check in the amount of \$1717.50 for modification processing will be prepared upon approval. If you require further information, please do not hesitate to call at 505-599-2175.

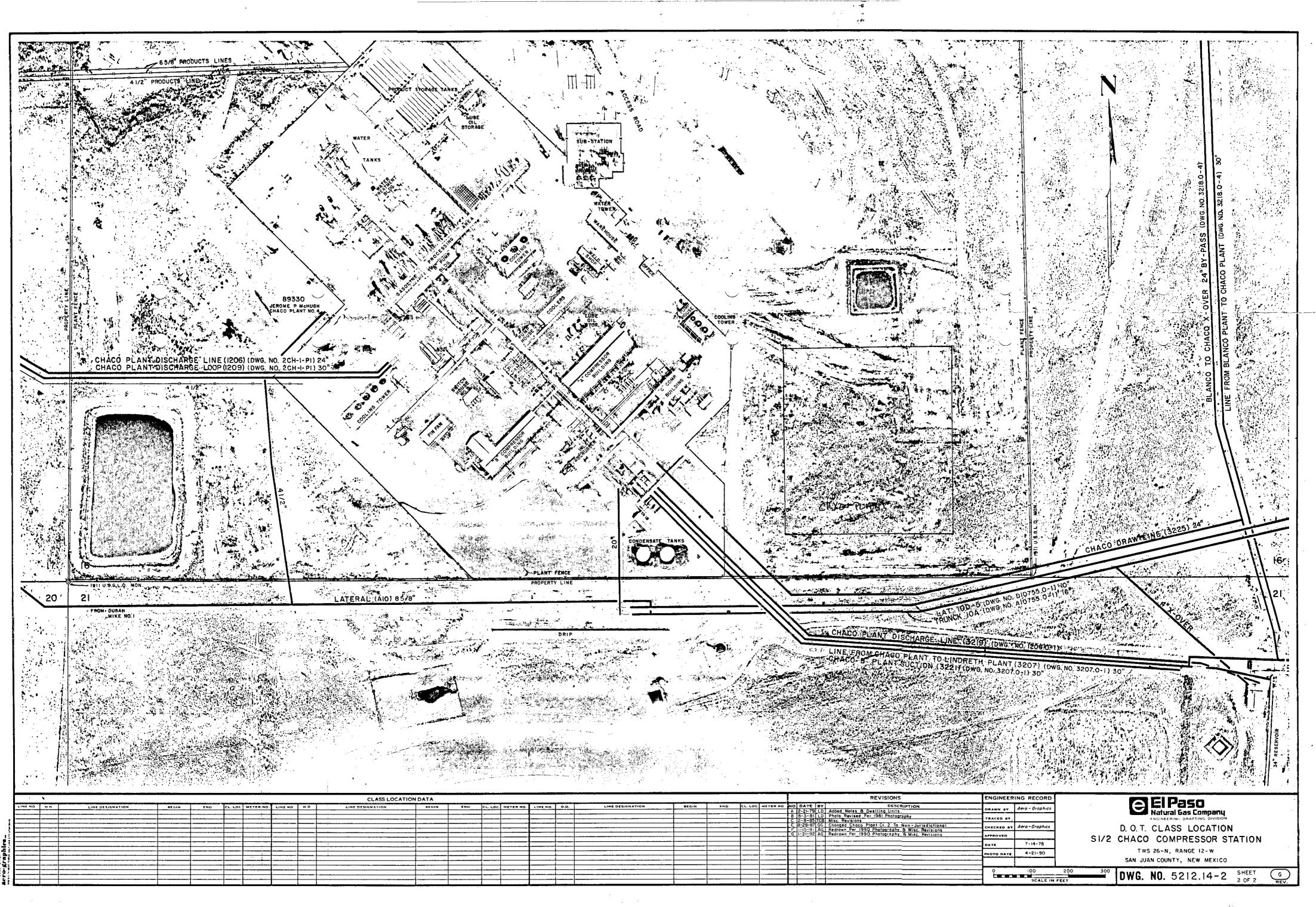
Thank you,

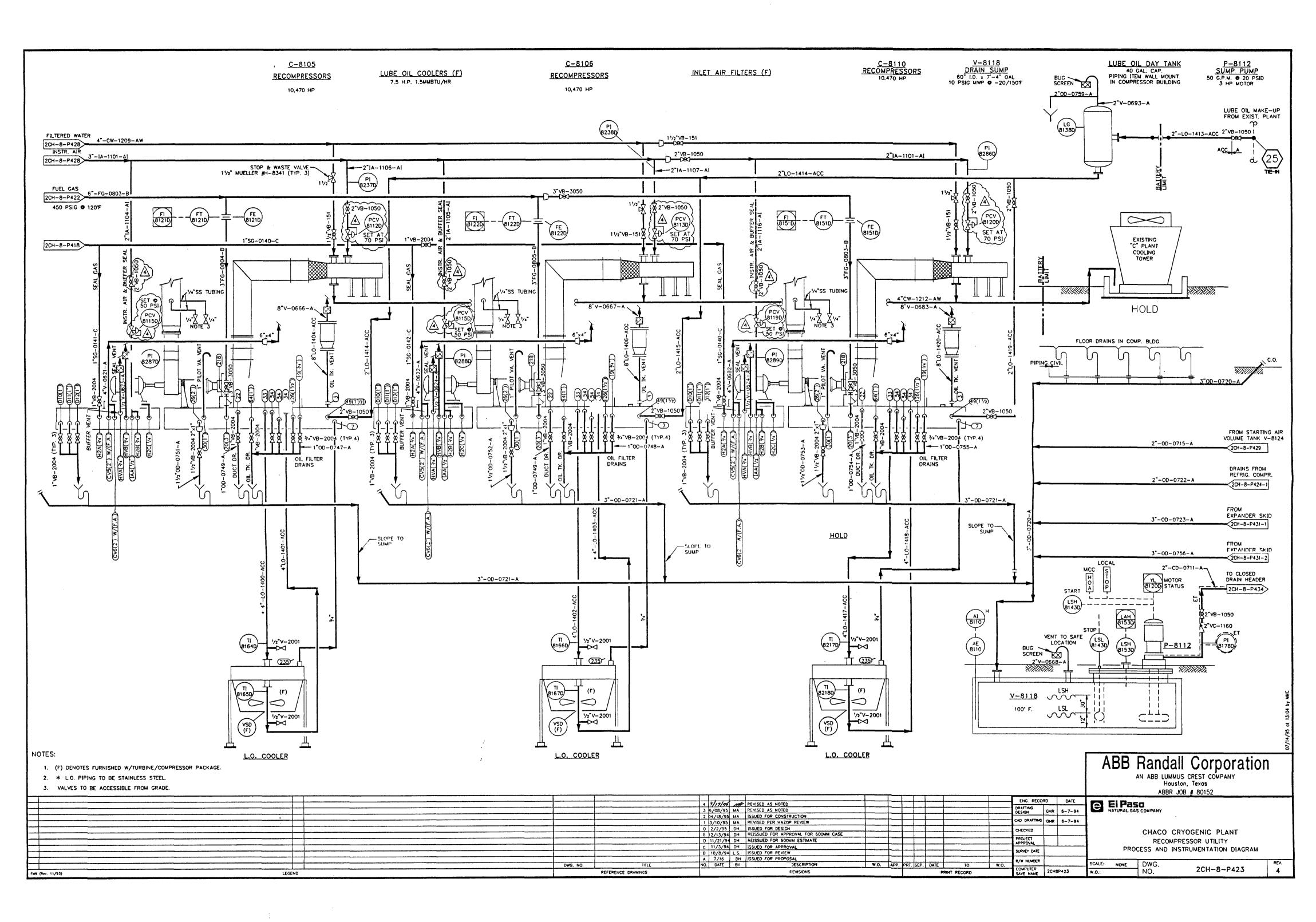
Patrick J. Marquez Compliance Engineer

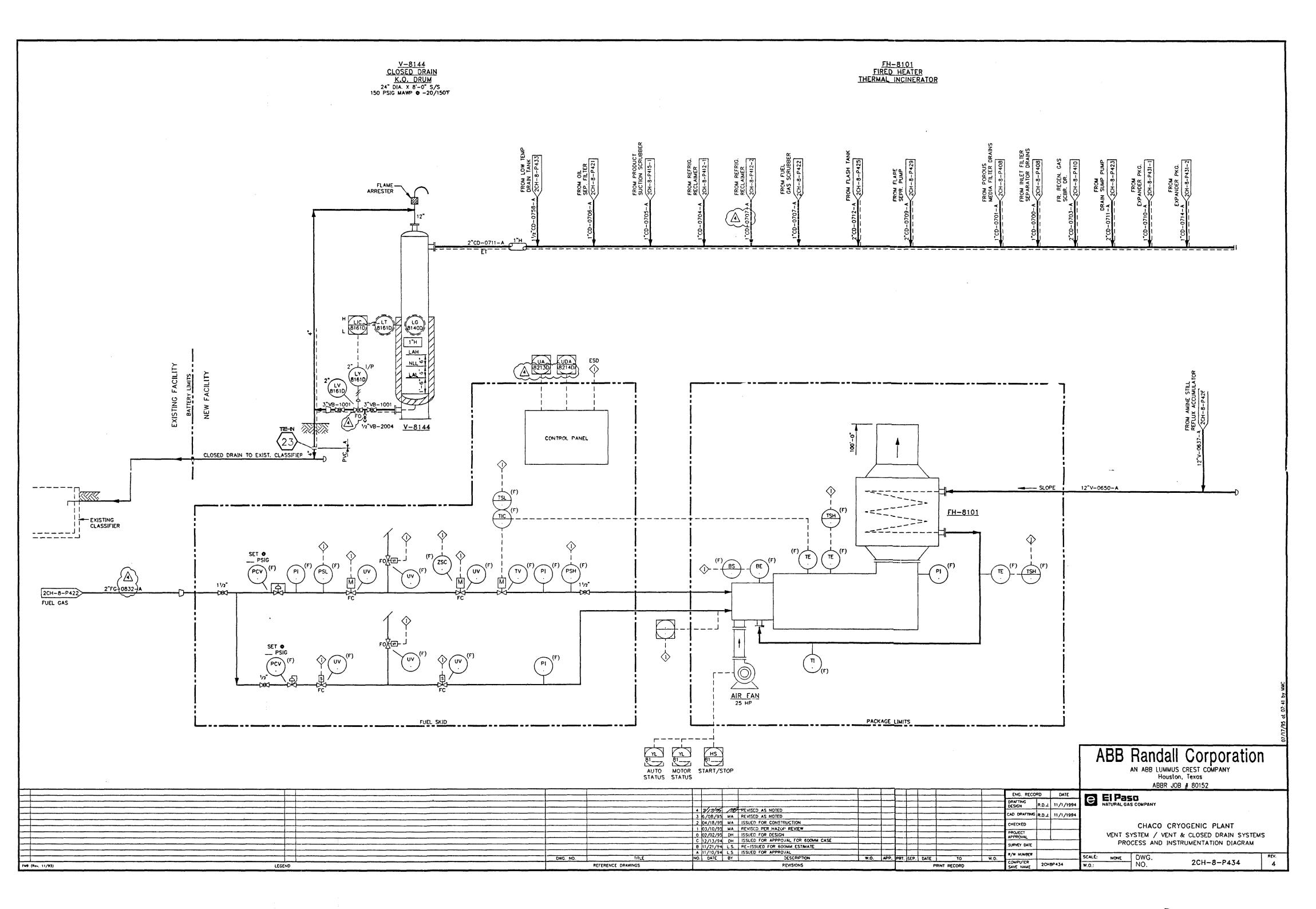
xc: w/o attachments

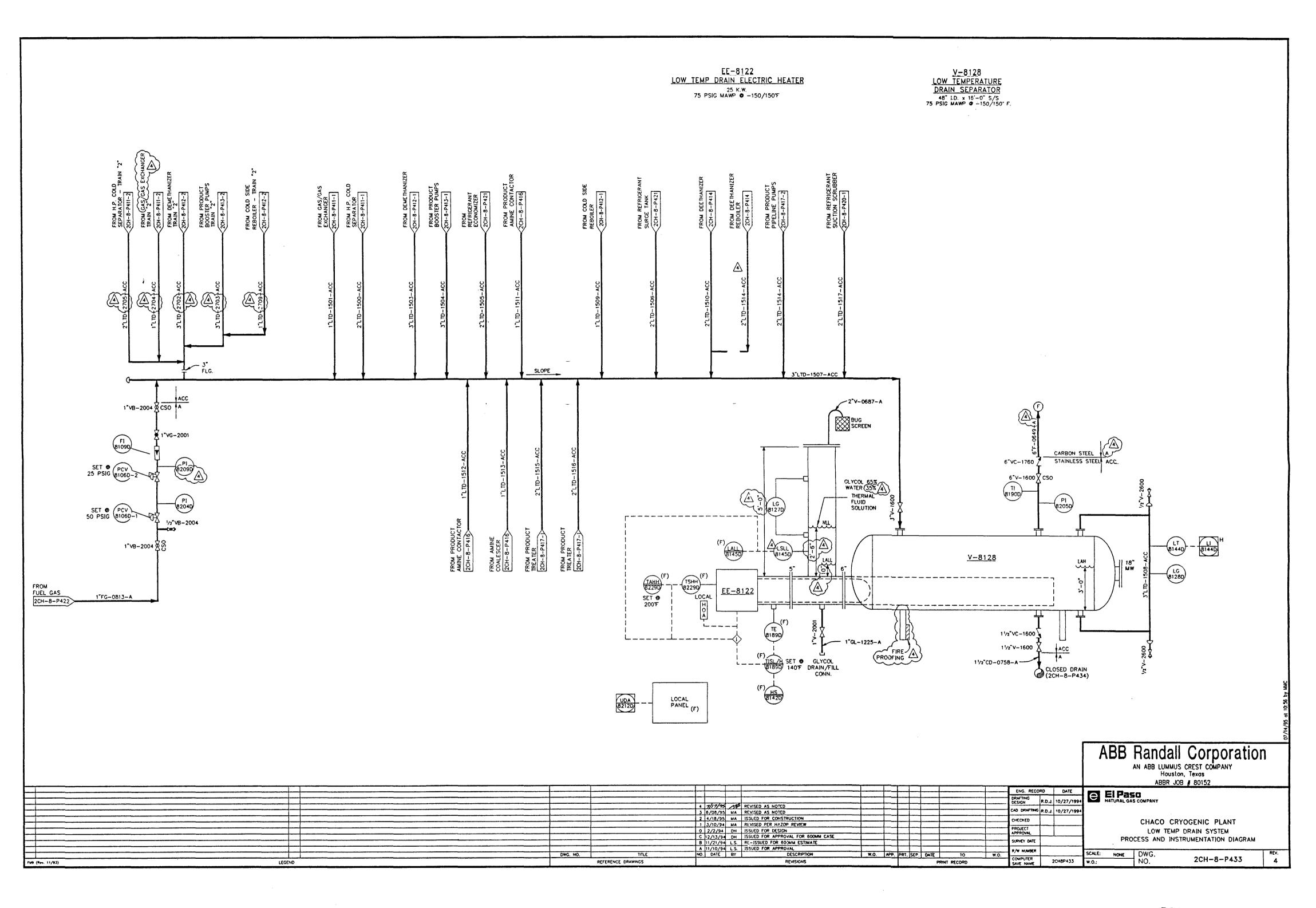
Denny Foust - NMOCD Aztec

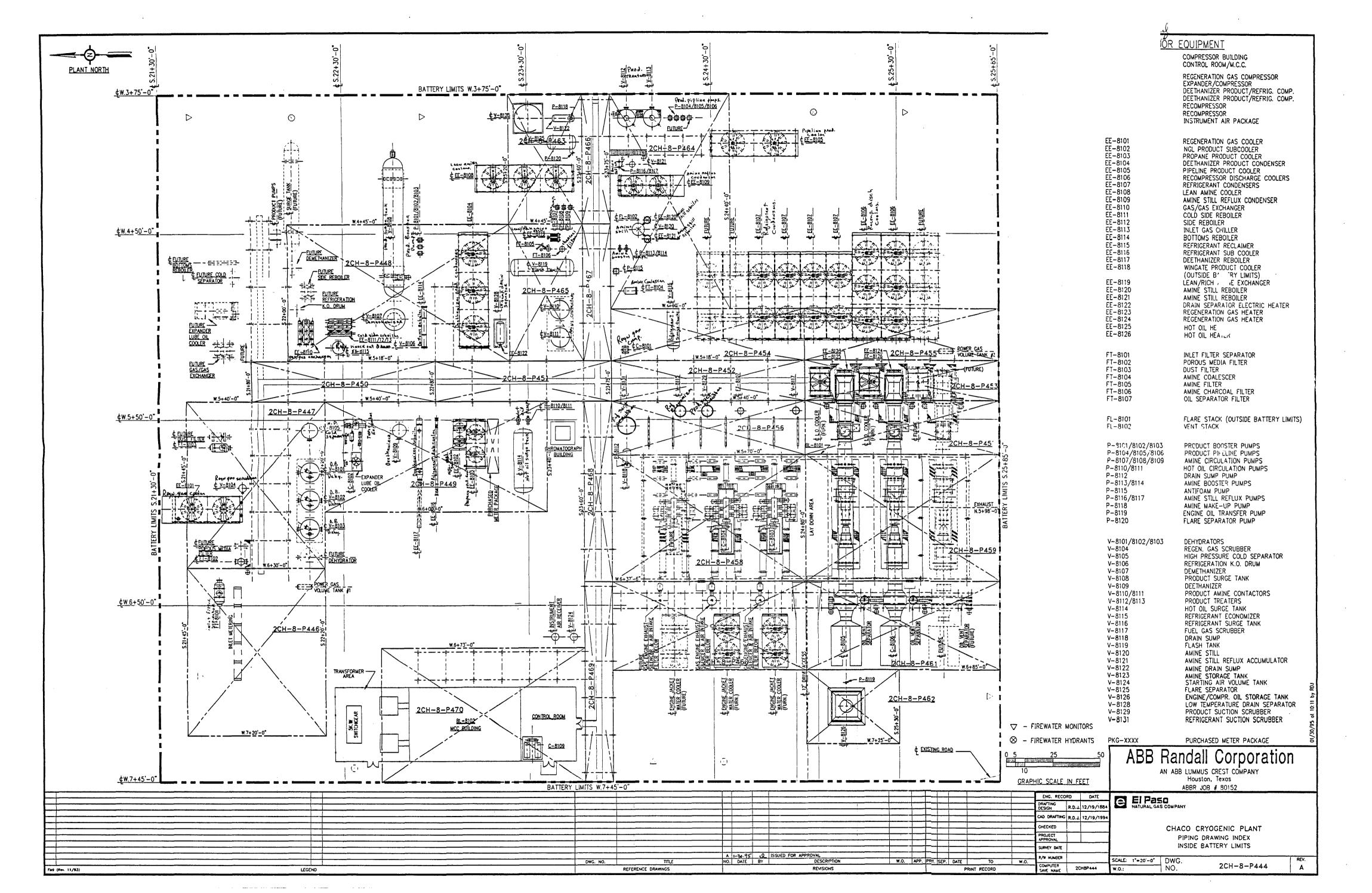
Sandra Miller/David Bays/File: 5212 Regulatory











### OIL CONSERVATION DIVISION 2040 S. Pacheco Santa Fe, New Mexico 87505

October 13, 1995

CERTIFIED MAIL
RETURN RECEIPT NO. Z-765-962-424

Mr. Patrick Marquez
Compliance Engineer
El Paso Natural Gas Company
P.O. Box 4990
Farmington, New Mexico 87499

RE: WATER QUALITY MONITORING AND PIT CLOSURE PLAN CHACO GAS PLANT, GW-71 SAN JUAN COUNTY, NEW MEXICO

Dear Mr. Marquez:

The New Mexico Oil Conservation Division (OCD) has reviewed El Paso Natural Gas Company's (EPNG) October 10, 1995 "ANNUAL REPORT OF MONITOR WELL ANALYSES, REQUEST APPROVAL OF WORK PLAN FOR CHACO INDUSTRIAL PONDS AND FLARE PIT". This document contains EPNG's request to decrease the frequency of monitoring the discharge and ground water quality at the Chaco Gas Plant. The document also contains EPNG's plan for investigation of the extent of contamination related to the former use of the unlined flare pit and industrial ponds #1 and #2.

Below is the OCD's review of this document:

A. The OCD approves of the above referenced request to decrease the frequency of monitoring the discharge quality and ground water quality at the Chaco Gas Plant.

Please be advised that OCD approval does not relieve EPNG of liability should their operation result in actual pollution of surface water, ground water or the environment. In addition, OCD approval does not relieve EPNG of responsibility for compliance with any other federal, state and local laws and/or regulations.

Mr. Patrick Marquez October 13, 1995 Page 2

- B. The OCD approves of the above referenced investigation work plan for determining the extent of contamination related to the former use of the unlined flare pit and industrial ponds #1 and #2 with the following conditions.
  - In addition to the sampling proposed, the soils in each pit/pond will be sampled for heavy metals.
  - 2. All wastes generated during the investigation will be disposed of at an OCD approved facility.
  - 3. EPNG will submit the remediation/closure report to the OCD by December 15, 1995. The report will contain:
    - a. A description of all activities which occurred during the investigation, conclusions and recommendations.
    - b. A summary of laboratory analytic results of all soil and water quality sampling of the borings and monitor wells.
    - c. A water table elevation map using the water table elevation of the ground water in all monitor wells at the facility.
    - d. A geologic log for each boring and monitor well and an as built well completion diagram for each monitor well.
  - 4. EPNG will notify the OCD at least one week in advance of all scheduled activities such that the OCD has the opportunity to witness the events and/or split samples.
  - 5. All documents submitted for approval will be submitted to the OCD Santa Fe Office with copies provided to the OCD Aztec District Office.

Please be advised that OCD approval does not relieve EPNG of liability if the investigation fails to define the extent of contamination related to EPNG's activities. In addition, OCD approval does not relieve EPNG of responsibility for compliance with any other federal, state and local laws and/or regulations.

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

Sincerely

William C. Olson Hydrogeologist

Environmental Bureau

xc: OCD Aztec District Office

### Z 765 962 424



### Receipt for Certified Mail

No Insurance Coverage Provided
UNITED STATES
POSTAL SERVICE
(See Reverse)

(000 11010107								
Sent to								
Street and No.								
P.O., State and ZIP Code								
Postage	\$							
Certified Fee								
Special Delivery Fee								
Restricted Delivery Fee								
Return Receipt Showing to Whom & Date Delivered								
Return Receipt Showing to Whom, Date, and Addressee's Address								
TOTAL Postage & Fees	\$							
Postmark or Date								
}								
ĺ								

Fold at line over top of envelope to the right of the return address





### EL PASO NATURAL GAS COMPANY

is a major open-access transporter of natural gas serving West Texas, New Mexico, Arizona, southern Nevada and California. California receives more than half of its gas from El Paso's 17,500-mile pipeline system, which is connected to every major producing basin in the Southwest. El Paso's customer-friendly electronic bulletin hazer. Resspirat, offers state-of-the-art programs beneficial to producers, buyers marketers, end-users and other pipelines.

<u>.</u>			
NAME OF RECIPIENT CILL OLSO	PAGEIS) TRANSMITTED		DATE
NAME OF COMPANY			CITY/STATE
ADDRESS	WAR 18 1		TELEPHONE NUMBER
FAX NUMBER (REQUIRED)			
HALLE DE TENDER	NAME OF DOMPANY	eren ( 14914) eren vannen	Потнев
ADDRESS	I	!	CITY/STATE
T DETRIBATION TO DETRIB	<u> </u>	ראנוזחואסבע	ı
Cole CLOOK in	<del>'\</del>  ,	( )	
Confidence		VERIFY NUMB	SER:
report socions	"	( )	
W Wason			GIA 50 0160 ID. 40 00
12:11	P		FM-SS-0162 (Rev. 10-92)
On 11 = 1 hope black	lue cate	TA F # 14	Jane
propares to from on	- meels	m) (c	ert werek.
If there is someth	ing else	you	woold like
			ties e call
to see in the W	not in flam	· (	(
a your earliest	Crn-care		water 1.
1.11		1 4	the and any
will poollahly begin	or a	you!	(24 1-1,50)
Oct 12th. the	antes Pa	frick	hargnez
		505	5992175
- Hard Copy to follow-	on a source and the second sec	Million de Mariana, , 41 comunidados	title kan najha dilimunga mining ina manga mbambahapa sa sangati na paga na sakat banga kan sa saka sanga.
	NAME OF COMPANY  ADDRESS  FAX NUMBER (REDUINED)  SOS 827 8177  HAME DIPOLIDADI  COMPLETE CEPON IN  PROTECTIONS  Complete Cepon In  PROTECTIONS  Lill - I have bead  to see in the te  a your earliest  will pooliably begin  Oct 12 th.	NAME OF GOMPANY  NEW OF SOS 327 8177  NAME OF GOMPANY  SOS 327 8177  NAME OF GOMPANY  GANGER (REQUIRED)  SOS 327 8177  NAME OF GOMPANY  GANGER (REQUIRED)  SOS 327 8177  NAME OF GOMPANY  GANGER (REQUIRED)  SOS 327 8177  NAME OF GOMPANY  OF PASO NATURAL GAS  APPRESS  COMPANY  NAME OF GOMPANY  NAM	NAME OF COMPANY & MOCED  ADDRESS  FAX HUMBER (REQUIRED)  SOS 827 8177  HAME OF COMPANY  (ATTERNATION  THE PASSINATION GAS  COMPARE (CFO) IN  PEPO T SOCIONS  Compare (CFO) IN  PEPO T SOCIONS  Compare (CFO) IN  PEROFERINA  VERIFY NUMBER  (IN a an office of the order of the order  To see in the world fram — T  Compare to see in the world



P. U. AUU -UUU FARMINGTON, NEW MEXICO 87499

Mr. Bill Olson New Maxim Oil Conservation Division P.O. Dex 2008 Santa Fe, NM 87504

October 10, 1995

Subjects:

Annual Report of Monitor Well Analyses

Request Approval of Work Plan for Chaco Industrial Ponds and Flare Pit

Dear Mr. Olson:

El Paso Natural Gas Company submits The Annual Monitor Well Analyses Report and request approval for: 1) Reduced analyte and sampling frequency and 2) Approval of EPNG's Work Plan for closing Industrial Ponds 1 & 2 and The Earthen Flare Pit.

### **Analyses Report**

### 1.0 Monitor Wells and Discharges

Analyses for the monitor wells, the non-contact discharge line and the contact water at Chaco Plant are presented under Tab A. This report is required as a condition of the Discharge Plan approval dated September 13, 1994. The discharges were sampled and analyzed as follows:

Discharge	Frequency	Constituents
Monitor Wells	Quarterly	WQCC metals, major anions/cations and TDS
Non-Contact	Initially	BTEX, WQCC metals, organics, major anions/cations and TDS
	Quarterly	WQCC metals, major anions/cations and TDS
Contact	Annually	WOCC 3-103A constituents save the radioactive species

Based on the information provided, EPNG request that the sampling frequency and analyses be reduced as follows:

Discharge	<u>Frequency</u>	Constituents
Monitor Wells	Annually	WQCC metals, major anions/cations and TDS
Non-Contact	Annually	WQCC metals, major anions/cations and TDS
Contact	None	N/A

### Work Plan

### 2.0 Chaco Flare Pit and Industrial Ponds 1& 2

As a condition for approval of Chaco's Discharge Plan (William Lemay to Kris Sinclair - September 13, 1994) EPNG is required to submit a closure plan for industrial ponds 1 & 2 and the earthen flare pit. The Closure Plan will be submitted with the results of this Work Plan. A map of the pits is provided under Tab B.

### 2.1 Current Monitoring

EPNG has installed and continues to sample seven monitor wells at key locations within the Plant boundaries. EPNG has also installed two lined ponds which receive all contact water generated at the Plant and maintains unlined ponds 3, 4, 5, 6 and 8 for non-contact water consistent with NMOCD's directive.

### 2.2 Area Assessment/Sampling

Seven locations are proposed to determine the vertical extent of contamination in the area of the pits. Three locations will be within the pit boundaries while the remaining locations will be down gradient of the pits (Refer to Figure 1). Sampling will take place as follows:

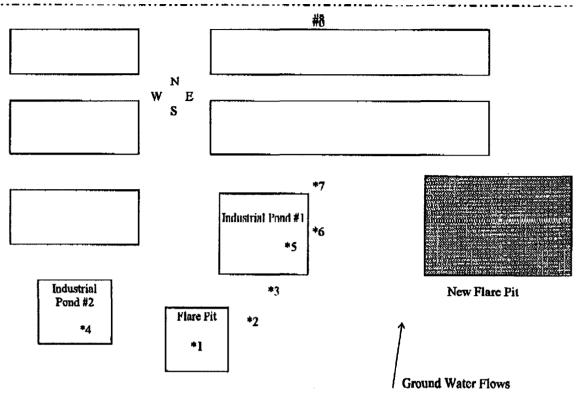
- One soil sample within the pit boundaries at approximately 3-5 feet beneath the surface. This sample will serve as "source" sample and will be analyzed for BTEX and TPH (EPA methods 8020 and modified 8015 and/or 418.1). One flare pit and two waste water pits give six analyses.
- Locations 1-7 will be drilled to the depth of contamination (PID< 100ppm) with PID readings taken at 5 foot increments. A TPH analysis will be run on the sample that shows the highest PID reading per location. Seven locations give seven TPH analyses at highest PID reading.
- One soil sample will be taken at the depth of contamination and analyzed for BTEX and TPH. Seven locations give fourteen analyses.
- Once the samples are retrieved, each location will be filled with cement-bentonite grout to prevent cross contamination.

In addition, EPNG proposed to drill one monitor well north (down gradient) of the ponds to further establish that no hydrocarbon constituents are moving off-site. Details for the installation and sampling are as follows:

- The well will be completed to first ground water, anticipated depth less than 30°.
- An installation diagram and specifications are provided under Tab B.
- The monitor well will sampled initially for BETX by EPA Method 8020, WQCC Metals by EPA Method 6010, Cations/Anions and Polynuclear Aromatics.

### Figure 1

### North Plant Fence



Sample (Bore) Locations (\*#)

Indicates those locations which will be sampled to the depth of contamination (PID @ 5 foot increments). Monitor well installation to perched aquifer

Monitor Well Location - #8

### 2.3 Pit/Pond Closure

Upon receipt of the analyses outlined above, EPNG will submit a plan for remediation/closure to your office.

EPNG respectfully request approval of the Work Plan and the reduced sampling frequency and analytes for the existing monitor wells. Please do not hesitate to call if you need more information at 505-599-2175.

Thank you,

Patrick J. Marquez Compliance Engineer

xc: w/o attachments

Denny Foust - NMOCD Aztec Sandra Miller/ David Bays/File 5212 Regulatory





### **EL PASO NATURAL GAS COMPANY**

is a major open-access transporter of natural gas serving West Texas, New Mexico, Arizona, southern Nevada and California. California receives more than halt of its gas from El Paso's 17,500-mile pipeline system, which is connected to every major producing basin in the Southwest. El Paso's customer-friendly electronic bulletin board, Passport, offers state-of-the-art programs beneficial to producers, buyers marketers, end-users and other pipelines.

70	NAME OF RECIPIENT Bill Olson.  NAME OF COMPANY  ADDRESS  FAX NUMBER (REQUIRED) 505 827 81	PAGEINS FIANSMI	mer		CHY/STATE  TELEPHONE NUMBER
FROM	ADDRESS	NAME OF COMPAR DEL PASO NAT		8	CITY/STATE
REMARKS	☐ RETURN ☐ DO NOT RETURN	N	REPLY	FAX NUMBER ( ) VERIFY NUMI ( )	

FM-SS-0162 (Rev. 10-92)

Bill -

1. Coms and voite quoit

2. by Fax is 599 == 2119

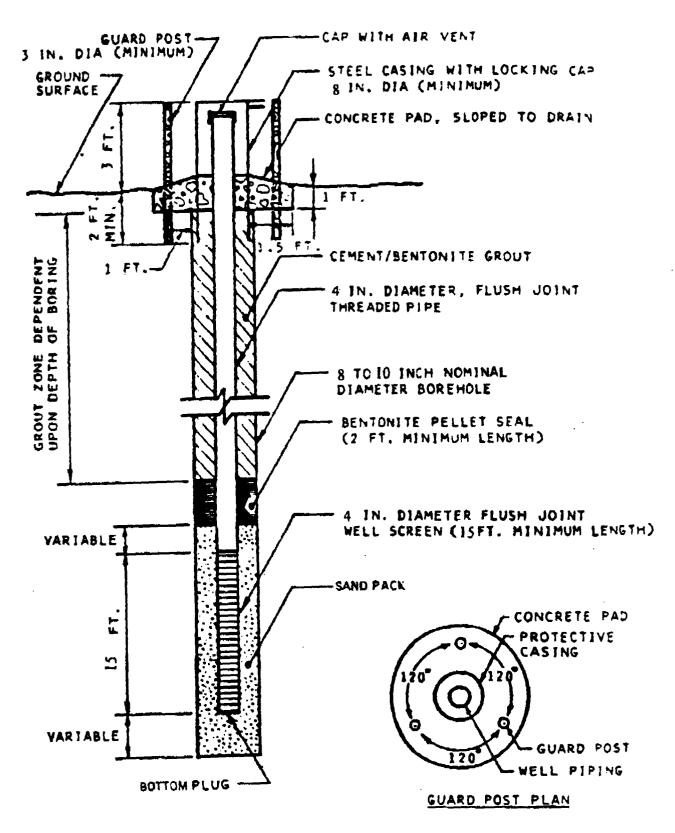
3. Sprofrations for humanfor moll

### MONITORING WELL INSTALLATION SPECIFICATIONS

- 1. The well is to be completed to first ground water, anticipated depth less than 30'.
- 2. Well casing will be constructed of 4" schedule 40 PVC piping.
- 3. The well will be screened using .010" slotted PVC piping. The screen will be placed with at least 5' of screen above and 10' below the water level using a minimum of 15' of screen.
- 4. A gravel pack consisting of silica sand consistent with screen and site lithologies, a 2' bentonite seal, and coment-bentonite grout to surface.
- 5. Monitor well top will extend above ground surface, but not less than 2'. The well is to have a concrete pad, equipped with a locking cover and bumper posts.

37

### TYPICAL MONITORING WELL INSTALLATION



### NEW MÉXICO ENERGY, MÍNERALS AND NATURAL RESOURCES DEPARTMENT

### OIL CONSERVATION DIVISION

2040 S. Pacheco Santa Fe, New Mexico 87505

September 22, 1995

### <u>CERTIFIED MAIL</u> RETURN RECEIPT NO. P-176-012-192

Mr. Patrick Marquez
El Paso Natural Gas Company
P.O. Box 4990
Farmington, New Mexico 87499

Re: Spent Sand Blast Material Disposal Chaco Gas Plant San Juan County, New Mexico

Dear Mr. Marquez:

The New Mexico Oil Conservation Division (OCD) has received El Paso Natural Gas Company's (EPNG) request dated September 21, 1995 to dispose of 24,000 pounds of sand blast media along with the analytical results characterizing the waste.

Based upon the information provided the request is hereby approved subject to the following conditions:

- 1. The sand blast waste will be spread onto the gravel roads within the facility proper only.
- 2. The sand blast waste will not be allowed to enter any water course.

Please be advised this approval does not relieve EPNG of liability should their operation result in pollution of surface water, ground water or the environment. In addition, OCD approval does not relieve EPNG of responsibility for compliance with other federal, state and/or local regulations.

If you have any questions call me at (505) 827-7153.

Sincerely,

Chris Eustice Geologist PECH VED



3 37 1/ 141 8 52

P. O. BOX 4990 FARMINGTON, NEW MEXICO 87499

**September 21, 1995** 

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

Subject:

Paint Chip Disposal - Chaco Plant

Mr. Eustice,

EPNG's Chaco Plant has generated approximately  $60 \text{ bbls} (24000 \pm \text{lbs})$  of sand blast media while recoating plant piping during the month of July. The waste was sampled and analyzed for lead and chrome - analysis is attached for your review. EPNG request permission to use the blast media as road base within the Plant boundaries. No blast media will leave the Chaco Plant boundaries.

Should you require further information, please call at 505 599 2175.

Thank you,

Patrick Marquez
Compliance Engineer

cc: w/o attachments

Denny Foust (NMOCD) Lendel Smith (EPNG) Bob Yungert (EPNG) Greg Hale (EPNG)

Sandra Miller/David Bays/File: 5212 Regulatory

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

ATI I.D. 507419

August 15, 1995

El Paso Natural Gas Co. P.O. Box 4990 Farmington, NM 87499

Project Name/Number: (NONE)

Attention: John Lambdin

On 07/31/95, Analytical Technologies, Inc., (ADHS License No. AZ0015), received a request to analyze non-aqueous sample(s). The sample(s) were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

All analyses were performed by Analytical Technologies, Inc., 11 East Olive Road, Pensacola, FL.

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

Suglall

Kimberly D. McNeill Project Manager

MR:jt

Enclosure

H. Mitchell Rubenstein, Ph.D.

Laboratory Manager



CLIENT

: EL PASO NATURAL GAS CO.

DATE RECEIVED

:07/31/95

PROJECT #

PROJECT NAME

: (NONE)

: (NONE)

REPORT DATE

:08/15/95

ATI ID: 507419

	ATI PENSACOLA	CLIENT		DATE								
	ID #	DESCRIPTION	MATRIX	COLLECTED								
01	507419-01	950805	NON-AQ	07/26/95								



---TOTALS---

MATRIX NON-AQ #SAMPLES

### ATI STANDARD DISPOSAL PRACTICE

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

Analytical **Technologies**, Inc.

"Method Report Summary"

Accession Number: 508059

Client:

ANALYTICAL TECHNOLOGIES, INC. 507419

Project Number:

Project Name: EL PASC NATURAL GAS Project Location: N/S Test:

Group of Single Metals

Client Sample Id:

Parameter:

Unit: Result:

507419-01

CHROMIUM, TCLP (6010) LEAD, TCLP (5010)

MG/L MG/L

0.17 0.53

950805

Chroc Plent 'C' Trebine Spert Abrasive Hast Media



### "FINAL REPORT FORMAT - SINGLE"

Accession: Client:

508059 ANALYTICAL TECHNOLOGIES, INC.

Project Number:

507419

Project Name: EL PASO NATURAL GAS Project Location: N/S

Tesť: Matrix: Group of Single Metals NON-AQUEOUS LEACHATE

QC Level:

ΙΙ

Lab Id: 001 Client Sample Id: 507419-01

Sample Date/Time: 26-JUL-95 1330 Received Date: 01-AUG-95

Parameters:

Units:

Results:

Rpt Lmts:

Q: Batch:

Analyst:

CHRCMIUM, TCLP (6010) LEAD, TCLP (6010)

MG/LMG/L

0.17 0.53

0.01

H6T070 P6T070

JR

Comments:



### Analytical **Technologies,** Inc.

"Metals Quality Control Report"

Parameter:	CHROMIUM	LEAD
Batch Id:	H6T070	P6T070
Blank Result:	<0.01	<0.05
Anal. Method:	6010	5010
Prep. Method:	3010	3010
Analysis Date:	09-AUG-95	09-AUG-95
Prep. Date:	09-AUG-95	09-AUG-95

Sample Dup	clication	
Sample Dup:	508059-1	508059-1
Rept Limit:	<0.01	<0.05
Sample Result:	2.2	2.5
Dup Result:	2.2	2.5
Sample RPD:	2	0
Max RPD:	20	20
Dry Weight%	N/A	N/A

Matrix Spi	ke	
Sample Spiked: Rept Limit: Sample Result: Spiked Result: Spike Added: % Recovery: % Rec Limits: Dry Weight%	508059-1 <0.01 0.17 2.2 2.0 102 75-125 M/A	508059-1  <0.05  0.53  2.5  2.0  99  75-125  M/A

ICV		
ICV Result:	5.0	5.0
True Result:	5.0	5.9
% Recovery:	100	100
% Rec Limits:	90-110	90-110

LCS			
LCS Result:	2.2	2.1	
True Pesult:	2.0	2.0	
% Recovery:	110	105	
% Rec Limits:	30-120	30-120	



### "Quality Control Comments"

Batch Id:

Comments:

H6T070 H6T070 P6T070 P6T070

ANALYST: JR
The results reported under "Sample Duplication" are the MS/MSD.
ANALYST: JR
The results reported under "Sample Duplication" are the MS/MSD.

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

N/A = NOT APPLICABLE.N/A = NOT APPLICABLE.

N/S = NOT SUBMITTED.

N/C = SAMPLE AND DUPLICATE RESULTS ARE AT OR BELOW ATT REPORTING LIMIT;

THEREFORE, THE RPD IS "NOT CALCULABLE" AND NO CONTROL LIMITS APPLY. N/D = NOT DETECTED DISS. OR D = DISSOLVED
T & D = TOTAL AND DISSOLVED R = REACTIVE T = TOTAL T = TOTAL

G = SAMPLE AND/CR DUPLICATE RESULT IS BELOW 5 X ATI REPORTING LIMIT AND
THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE RESULT IS AT
OR BELOW ATI REPORTING LIMIT; THEREFORE, THE RESULTS ARE "IN CONTROL".

Q = THE ANALYTICAL (POST-DIGESTION) SPIKE IS REPORTED DUE TO PERCENT RECOVERY
BEING OUTSIDE ACCEPTANCE LIMITS ON THE MATRIX (PRE-DIGESTION) SPIKE.

# = ELEVATED REPORTING LIMIT DUE TO INSUFFICIENT SAMPLE.

+ = ELEVATED REPORTING LIMIT DUE TO DILUTION INTO CALIBRATION RANGE.

\* = ELEVATED REPORTING LIMIT DUE TO MATRIX INTERFERENCE. (DILUTION PRIOR TO ANALYSIS @ = ADJUSTED REFORTING LIMIT DUE TO SAMPLE MATRIX. (DILUTION PRIOR TO DIGESTION) P = ANALYTICAL POST DIGESTION) SPIKE.
I = DUPLICATE INJECTION. \$ = AUTOMATED
F = SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
N/C+ = NOT CALCULABLE
N/C\* = NOT CALCULABLE; SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
H = SAMPLE AND/CR DUPLICATE RESULT IS BELOW 5 X ATI REPORTING LIMIT AND THE
ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE ATI REPORTING
LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL".
A = SAMPLE AND DUPLICATE RESULTS ARE "OUT OF CONTROL".
Z = THE SAMPLE RESULT FOR THE SPIKE IS BELOW THE REPORTING LIMIT. HOWEVER,
THIS RESULT IS REPORTED FOR ACCUPATE QC CALCULATIONS.
NH= SAMPLE AND OR DUPLICATE RESULT IS BELOW 5 X ATI REPORTING LIMIT
AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE ATI
REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL".
SAMPLE IS NOW-HOMOGENEOUS.
U = (FLORIDA DEP 'J' FLAG) - MATRIX SPIKE AND POST SPIKE RECOVERY IS OUT OF
THE ACCEPTABLE RANGE. SEE OUT OF CONTROL EVENTS FORM.
S = METHOD OF STANDARD ADDITIONS (MSA, WAS PERFORMED ON THIS SAMPLE. &= AUTOMATED

FROM ANALYSIS REPORT:
RL= REPORTING LIMIT BASED ON METHOD DETECTION LIMIT STUDIES.
Q= QUALIFIER (FOOTNOTE)

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

THE UNITS REPORTED ON THE QUALITY CONTROL REPORT ARE REPORTED ON AN ASRUN BASIS. NOTE:

SW-846, 3rd Edition, September 1986 and Revision 1, July 1992. EPA 600/4-79-021, Revised March 1983. NICSH Manual of Analytical Methods, 3rd Edition.

GJ = GARY JACCES JLH = JAMES L. HERED JR = JOHN REED
DMP = JACQUELINE M. PRICE

ATI Labs: San Diego (619) 458 9141 • Phoenix (602) 496 4400 • Soattle (206) 226 8335 • Pericar els (904) 474 1001 • Portland (503) 684 0417 • Alburguerine (505) 344 3777 San Diego • Phoenix • Seattle • Pensacola • Ft. Collins • Portland • Albuquerque Analytical Technologies, Inc., Albuquerque, NM PROJECT MANAGER: (RUSH) □24hr SHIPPED VIA: PROJ. NO. Comments: P.O. NO. PROJ. NAME: FAX: ADDRESS: PHONE: ADDRESS: COMPANY: BILL TO: DMPANY: PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS PROJECT INFORMATION 508 **SAMPLE ID** ☐ 48hr 505-505-John Lynkdin Estatustar, un 87499 racular 10. Box 4990 ☐ 72hr KUSH WALKAL CAS CANTANIA owest ☐1 WEEK - 665 255 antual 1/26/53 /3:30 DATE MINIO RECEIVED INTACT NO. CONTAINERS CUSTODY SEALS RECEIVED COLD TIME 1 SAMPLE RECEIPT gul carper (NORMAL) 132 WEEK MATRIX disin ≥ (y) / N / NA 25.600 LAB ID 0 Signature: Petroleum Hydrocarbons (418.1) Company: Signature: Printed Name: Company: Printed Name: NOTANN K. NOKWIK SAMPLED & RELINQUISHED BY: RECEIVED BY: spuc a Kamer DATE: 1/26/75 PAGE į 1 (MOD 8015) Gas/Diesel Diesel/Gasoline/BTXE/MTBE (MOD 8015/8020) Date: 12th, S BTXE/MTBE (8020) 윾 579-2152 Date: Phone: SCS Time:/ Time: Chlorinated Hydrocarbons (601/8010) CUSTODY Aromatic Hydrocarbons (602/8020) 1 1 SDWA Volatiles (502.1/503.1), 502.2 Reg. & Unreg l 유 Printed Name: Company: Signature: Printed Name: Company Signature: HECEIVED BY: RELINQUISHED BY: Pesticides/PCB (608/8080) ANALYSIS 1 Herbicides (615/8150) Base/Neutral/Acid Compounds GC/MS (625/8270) ATI LAB I.D. 1 Volatile Organics GC/MS (624/8240) HEQUEST Date: Date: Hine: Time: Polynuclear Aromatics (610/8310) DISTRIBUTION VALUE CANSIV - ATT + Pink - ORIGINATOR i į 507419 SDWA Primary Standards - Arizona Signature: Onder Corbor Printed Name: Signature: SDWA Secondary Standards - Arizona Andrew lanter Company: Printed Name: RECEIVED BY:(LAB) RELINQUISHED BY: SDWA Primary Standards - Federal Analytical Technologies, Inc. 1 SDWA Secondary Standards - Federal ROMIUM The 13 Priority Pollutant Metals ime: Date: Time: RCRA Metals by Total Digestion 230 RCRA Metals by TCLP (1311)

MUMBER OF CONTAINERS

S ¥	DUE DATE: 8/14	TAT: (STANDARD) RUSHI	COC BEQUIRED: MS MSD BLANK		PROJECT NAME: O Row My). Ggs	PROJECT NUMBER: 507 419	PROJECT INFORMATION				507419-01 7/26	SAMPLE ID DATE	CLIENT PROJECT MANAGER:	COMPANY: Analytical Technologies, Inc. ADDRESS: 2709-D Pan American Freeway, NE Albuquerque, NM 87107	NETWOHK PROJECT MANAGER: LETITIA-KRAKOWSKI	ogies,In∈ kin /1,
IWO #= KM 658		LAB NUMBER C	RECEIVED GOOD COND.COLD	INTACT?	CHAIN OF CUSTODY SEALS	TOTAL HUMBLR OF CONTAINERS	SAMP				DAN ORI	TIME MATRIX		nc. way, NE	KOWSKI	Albuquerque, NM
K-1 658		508059	ND.COLD Y		Y SEALS	CONTAINERS	SAMPLE RECEIPT							EAD		Chain o
	I BLICKANI IBI I	PHO! NIX	PORILAND	PENSACOLA		OD HORYS	SYMPLES SENT TO				×	632 619 610		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		Chain of Custoc
Company:    Printed Narro: Dato: Dato: Dat	Spiralus: 100 Colors	RECEIVED BY: (LAB) 1.	Analytical Technologies, Inc.	Andrew Parker	Printed Name: Date	=	COUISHED BY:				>	Oies Voia NAC ASE	Comive O (TCLP sel/Gasoli atile Organ CE BESTOS	n by TCLP 1311) ZHE  ne/BTXE/MTBE/ (MOD 8015/8020) ics GC/MS (624/8240)	ANALYSIS REQUEST	ody
Printed Name: Date: Company:	Signature: Time:	RECEIVED BY: (LAB)	Company:		Printed Name:	Signature: Time:	COUSHED BY:					GRO RAE AIF	TAL COLI CAL COLI DSS ALPI DIUM 226 R - 02, CO /Diesel/G	FORM HA/BETA		DATE 1/31 PAGE 1 OF

Analytical Technologies, Inc.

### PUBLIC WORKS DEPARTMENT

### **MEMORANDUM**

TO:

All Supervisors

DATE: August 15, 1995

FROM:

Dave Keck

Assistant Public Work Director

SUBJECT:

Water From Chaco Plant

Arrangements have been made to obtain water from the El Paso National Gas's Chaco Plant under the following conditions:

- 1. San Juan County will notify the Chaco Plant Superintendent 24 hours in advance. Contact Lyndell Smith, Max Blackwood or Paul Cantana at 325-8720.
- 2. Water will not be discharged in any water way, i.e. river or lake.
- 3. Water will be used for road maintenance only.

If you have any questions, please advise.

ks

Chaco Plant Non-Contact Waste Water Acceptance Log

Signature	Lellie, Hodden	Solly Harban	solly Haddon	Solly Habbon	Soffer Hadden	Sthey Wodlen	Letter Haddon		7		
oosition ater			11	11	11	11	7	1	,		
Final Disposition of Water	Dut ON ROAS	"	7.7	"	11	"	,,	1 (	,,		
	204d # 160	11	. 11	1.1	11	0	//	17	//		
Intended Use	WATER	11	<i>''</i>	"	11	11	//	(,,	)/		
Amount (Barrels)	4500 64	11	11	11	"	17	"	"	11		
ıny	' courts	, , ,	11	11	"	h	//	11	//		
Company	SAN JUNN COUNTY	1/	11	"	"	"	`\	1.	11		
Date	8-23-95	11 31	11 11	11 11	11 11	11 11	11 11	11. 11	11 //		

8/23/95 WT-82 Listeder Folkeres

		Amount		Final Disposition	
Date	Company	(Barrels)	Intended Use	of Water	"Signature,
3/24/95	SAN JUAN COWNY ROAD DEPT.	3500	LJATER C.R. 7100	CR. 7100	
	SAN JUAN COUNTY	<u> </u>			11/1/
8/24/95	Rond DAY		WATER CR. 7100	C. 7100	Holy Holy
	ENAL JUAN COUNTY	3500			
8/24/95	KOMD DEPT"	G.ALO.S.	WATER CR. 7100	CR. 7100	Tweed 11. foll
	SAN JUAN CREWITY	3800			THE CHI
6/24/95	Rus R.Pr	Greens	WATER CR. 7100	CR. 7/00	They I fall
	SAN JUNN COUNTY	35,00			
8/24/95	ROMB DEST.	GALENS	WATER CR. NOU	CR. 7100	Zancol. M. foly
·`	SANTUAN COUNTY	3300			
135	KOAD X EST	GLLONS	WATER CR. 7100	CR. 1100	Joseph Holy
	SAN JUND COUNTY	3520			
1.85	Kons Jept	GA11115	WATER CR 7100	CR. 7100	Swork Il talm
,	SAM JUNA GOWIN	3500			
124/45	X GAD KYDADTONESST	Grass	WATER CR. NOU	C.R. 7100	Tribal M. Hol
1	SAN FLAM CONSTY	3500			
36/12/	LOAD LOST.	GALENS	WATER CR. 7100	CR.7100	May West
	SAN Juny Courty	3500			
1/4/12	Kongtest	G14460003	WATER CR. 7100	CR. 7100	Lines W. John
70	36	3500		7 40	
	KOMO JEPT	(7H, 103-5	WATER OR 1100	Ch. 1100	Muse hall

	Company	Amount	ntonotal Incharactural	Final Disposition	
	Company	4500		OI WAGE	Signature
54 N	54 N JUAN COUNTS	Th 1541.	FOR WATERING ROADS	Dut on Road.	Solly Hidden
	11 11		11	11 11	Lotter Hadolon
	11 11	1	11 11	11 (1)	Rolly Hadden
	11 11	, ,,	))	11 21	Latter Hadden
	11 11	11	//	11 11	Lotte Toolon
	11	11	)/ //	)/ )/	Lother Hoolden
	// //	//	)/ )/	// //	Lobber Haddon
,	) 1 /1	//	// //	)/ )/	
/	11 11	17	11 11	11 11	Lather Hooden

Date	Company	Amount (Barrels)	Intended Use	Final Disposition of Water	Signature
Sept. 13 1995	San Juan County Road Dest	3500 Gallons	Intended to use if on County Road,	water Road OR 7100	GENT (2) SOUTE
11 )	11	111	" "	11	Over Belit
# .	. 11	//	11	),	Been Welle
	. 11	11	77	n	Euron Wellites
Sept, 13 1945	Son Juan Gounty Road Deat.	3500 Gallons	To Put on Road, County Road.	Water County Hoad 7100	Dues Willits
1/	jl ,	11	n	И	Exer Welth
И	И	И	н	) //	Deer allto
11	H	14	Н	h	Great is fell to
544.13 1995	Sen-Juun Ovunty Rozd Dept.	350C Gallon	To fut on Rozel, county	water board	Dres, aleuto
11	, #	ħ	И	1/1	Even Weits
ħ	A.	4	dy 24	11	Daco, Willetto
Ģ					

Chaco Plant Non-Contact Waste Water Acceptance Log

n Signature		Kaller H	& offer Hodolon	Solley Haddon	,	solly b	Solly 1	Solly Hadden	Botter Hodden	Solly Hoddon		
Final Disposition of Water	201 by 12		וו וו	11 11	), ),	1) 1)	() ),	11	11 11	<i>// //</i>	,	
90	27/5	, ,	11	)/	//	//	. )/	//	//	"(		
Intended Use	0,0000	1	1 (	11	)/	. //	. , , , , ,	"	11	,,		
Amount (Barrels)		11	11	11	11	11	11	11	11	, , ,		
Company	C0.		, , ,	11	) (	11	.11	//	11	11		
ပို	SAN JUAN	= = = = = = = = = = = = = = = = = = = =	//	. 11	11	"	) (	ינ	11	11		
Date	9-13-06	2	7.7	7.7	11	) /	11	) /	) /	91		

Chaco Plant Non-Contact Waste Water Acceptance Log

Signature	Lotter Hadden	Sothe Haddon	Solly Hadolon	Solly Hadelon	Lolly Hoolebon	Lobby Hodden	Solber Hooldon	telled 19 aloka		·	
Final Disposition of Water	100 Ja 10 Ja	11	)' '/	), 11	), 11	11 )1	)/ //	1/ )/			
Intended Use	-V.		. , , , , , , , , , , , , , , , , , , ,	11	"	" //	11	//			
Amount (Barrels)	4500		//	N N	11	//	)/	)			
Company	Surt		//	η.	"	//	//	11			
Con	SAN JUN	11	11	/1	"	)/	)/	//			
Date	9-14-93	11	//	//	11	11	11	//			

-		Amount			Final Disposition	tion	
Ŝ	Company	(Barrels)	Intended Use	ed Use	of Water		Signature
SAN J	SAN JUAN COUNT,						,
Road	Dept.	1741	FOR WATERING ROAG	Roads	Dut ON Rd	1700 501	My Hadolon
//	//	//	))	, ,	// //	Sal	14 H addon
) 1	11	11	, ,	//	// //	Son	thy Hadalon
~	<i>}  </i>	77	21	"	, ,,	11	that toddon
11	)/	1/	) (	//	, ,,	,	thy Hooloon
11	11	//	,,	//	<i>))</i>		Hy Hoolden
//	"	11	. )/	) )	, , , , ,	, i	by Joddon
)/	11	11	//	//	//	200	Hy Haddon
),	, , ,	//	11	//	)1	- 2	thy taddon
11	//	<i>}/</i>	)/	1/	//	/ Son	the Haddon
		·				,	
,							

Signature	Beer WINK	Down Willia	Duen Weekto	Dreon Belling	Deer Wellet	Quen while &			·.	
Final Disposition of Water	Water Corunty Road 7100	7)	,	) h	)	water County Road 7100				
Intended Use	To Put iton County Road,	II	h	11	<i>)</i> 1	To Pulit on County Road				
Amount (Barrels)	3500 Gallois	//	Л	"	n	3500 Gallons		ı.		
Company	San Juan County Road Yeaf,	V	Ą	n	h	San Jalan Ocum <sup>h</sup> y Rozd Dept,		·		
Date	Sept. 18 1995		11	11	11	Sapt. 18 1995				

		)						
Signature	Osen/Vellet	Den Wellt					·	
Final Disposition of Water	Wafer County Road 7100	11						
Intended Use	To put it on County Road,	11						
Amount (Barrels)	3500 Gallons	//				·		
Company	San Juan County Public Works Deat	//						·
Date	Sept. 19 1995							

Signature	,	Solly Hadden	Solly Hadden	Rolley Hashlon	Sothy Hoolden	Solby Hoolden	Sothy Hadelon	Solly Hopes	Sother Handlon		
Final Disposition of Water		Dut ON Rd 7100	11 11	11 11	17 )1	// 11	// )/	11 11	11 11		
Intended Use		FOR WATERING ROADS	,, ,,	11	( )	11	11	11	11		
Amount (Barrels)	4500	(5A)	/ (	1.1	) (	( )	11	1 (	//		
ompany	•	1 Road Dept	//	1, 11	//	) (	/)	//	//		
O	SAN	COUNTS	11	11	)/	11	11	) /	11		
Date	(	4-19-95 COUNTY	7/	) 1	1 1	).(	"	11	11		

Chaco Plant Non-Contact Waste Water Acceptance Log

Signature					A A			·		
Final Disposition of Water	06 7 7.00						ì			
Intended Use										
Amount (Barrels)	<u> </u>	:	* , *)			<i>3</i> 2	· y	,		
Company			11		;;	j.	×.			
Date	9-20-6		) ]	1	1/3	No.	1			-

Signature	Mortine								·	
	Hove Mon				llow					
Final Disposition of Water	e.r. 71.00	<i>(</i> )	()	()	C.R. 7140 10006	0016				
Intended Use	cs, 760 Mater road	2	<b>c</b> 2	( )	water road	water road				
Amount (Barreis)	છે	5,000	5.000	2,000	000'5	6,000				
Company	SAN JUUN COUNTY				SAW JUAN COUNTY	SAN JUNACOUNT,				
Date	56/9/11	, /								\$

Date	Сощрапу	Amount	es I I reputed I I se		Final Disposition of Water	Sian	Signature
	Cal Tim. (A. 12	1	[9 1/2/2000 1. D.)	7/00	184 ON	6.11.11.0	7/
(1/ 4-6)	( ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) (		The ferry of		.]	1,	CC# //
1	// //	17		))	//	) j	• //
	), , , , , ,	) /	))	11	//	115	//
) )	/1 //		7.1	//	11	11	//
	// //	11	) (	17	//	11.	//
11	/1 //	//	) (	11	//	11	, //
//	// //	1/	) /	1.1	//	) ( ·	11
1).	11 11	11.	17	//	, (	11	1,
),	))			)/	-		

-									 		T
ıre	2	17	-	<i>)</i> )	. , 1	) <sup>1</sup>	. //	• •	,	: -	
Signature	Loffer Haddon	))	) /	1.1	)/	) )	))	) )			
osition	on Rd 760	//	77	//	1,	``	11	11			·
Final Disposition of Water	, no two		);	11	11.	)/	)/	, )/			·
Use	ROAdS		//	,,	//	//	//	) /			
Intended Use	FOR WATER, 19	, ,	`, / (	11	. 11.	<i>)</i>	/)	)/			
Amount (Barrels)	4500	)1	,,	1)	1)	,)	11	,,			
·		, //	//	11	//	11	) i	, /	-		
Company	SAN SYAN COUNTY	)/	)/	) )	1 (	11	11	) \		·	
Date	-56-5-E/	11	$\mathcal{H}$	//	11	. , ,	11	!!			

				<b>!</b>	<del></del>		1	1	1	<u> </u>	
Signature	Loffy Hadlen	//		11 11	11 . 11	// //			,		
Final Disposition of Water	Put cal Rathe	. //	11	//	//	11					
Use	ROALS	1,	11	//	1/	//					
Intended Use	FOR WATERING	11	1.1	11	11						
Amount (Barrels)	4500 BA1	)/	1 (	)/	. / /	11					
Company	17/	///	//	//	) (	//					
Com	SAN Jupul (	11	),	),	)/	)/					
Date	12-6-95	11	11	, //	, //	//					

Signature	From Hill			) (	) /				·	
Final Disposition of Water		\\	//	( 4	( /	, ,				
Intended Use	For watering Roads 7100			//	71	.//				
Amount (Barrels)	3000 gal	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	//	//	//	17				
Company	1. Kan	/ /	//	, , , , , , , , , , , , , , , , , , , ,	),	);				
Date	1-25:76	, ,	//	//	11	//				

Date	Company	Amount (Barrels)	Intended Use	Use	Final Disposition of Water	ר Signature	ture
1-25-6	SAN	1/4° 184)	Fap W. 44-01:3/c	1/4/4/2/0 ROAD 7/100	out by Lo tug	the willest	Jallon
	, 11 11	1,		11	_	) =	
٦/	()	-		) (	D //	_	- `
1,	)(	11	1/	1 1	1 6 1 (	8	/ _
11,	11	)/	) /	) /	11 31	) (	17
11	11	)/	) /	) (	11 - 27/	17	11
			,				
							•
		·					
							·

Date	Company	(Barrels)	Intended Use	Final Disposition of Water	Signature
-56-7-11	Son Juan lank	Sae	Wate	CR, 7100	Jack More
	١	:		,,,	ï
<i>)</i> /	"	"	"	,,	"
"	"	"	"	М	N
11	"	"	$H_{i}$	n	11
11	"	17	3,	Z	11.
n	17	"	<i>(( '</i>	1,	11
	·		·		
					;

Jan Bank.

		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	- June			Einst Die	acition:	)
Date	Company	(Ba	(Barrels)	Intended Use	Use	of W	of Water	Signature
20"6 11	1 7		4500	100000	// 2.0	- (		11. 11. 11.
11-4-43	SHN SHAN COUNTY	]	+ ///	TOK WHYERING KOHO	KOHO	2010	147 04 KG 100	Solly Hoolelon
) )	-11	,		11	11	)/	11	Salber Hodden
)	1 1	1 1	J	11.	11	//	11	dolly Hadden
J <sup>1</sup>	11	1 (		j į	11	11	11	Solly Hodden
11	11 )1	7		j)	11	)/	11	Solby Haddon
).	11	/	),	, <i>i</i> (	11	11	) (	Silvy Hadden
))	11 11		11	),(	11	11	11	Solly Haddon
11	)1 )1	,	1	11	11	71	11	Solley Hadden
·								

Son Son

Signature	Grown Willitte	Barn Wellto	Ester Write	Esco Mouto	acco Wellita	Quer Merito	Deer Wellite	Bass Wellite		·	
Final Disposition of Water	Water County Road 7100	11	12	//	Water County Road 7140	"	И	n			
Intended Use	To fut it on county Rosal	" "	/1	11	To use iton County Road 7140	. 11	N - W	II A			
Amount (Barrels)	3500 Gallons	11	),	"	35 00 Gallons	11	ħ	11			
Company	unty		11	U	Sar-Juan County Rosd Dept.	11	h	11			
Date	Sept 20 1995	11	//	11	3ept. 20 1995	"	//	11			-

Frank Cheming. 3/12/96/4 354 Ce170

Chaco Plant Non-Contact Waste Water Acceptance Log

Signature Final Disposition of Water FOR WA texing NOACS **Intended Use** Verlai Aprova Chaco Fiam.

Usilai Aprova Can San Cambris use for use of \$112/96.

Amount Amount Intervents. 4550 3-13-16

Chaco Plant Non-Contact Waste Water Acceptance Log

Date	S	Company	_	Amount (Barrels)		Intended Use	ø	Final D	Final Disposition of Water	0)	Signature	
96-E-h	SAM JURN COUNTY	1921 C	CUNKI	4500	For	WATERING ROADS	20105	Puto	on 24.7100	Solly	Hadalon	
	/	. )1	) )	)/	11	C )/	) (	//	17		11	
11	i,		11	//	//	)1	ίζ	"	11	)/	1/	
)/	11	, ,,	//	//	//	71	) (	11	16	) (	1)	
//	, //	//	//	11	//	11	11	<i>))</i>	11	)/	//	
)/	// .	, ,	" (	) (		)/	)/	)/	11	11	) (	
						·.						
						·	·					
			,								·	
		-										

Chaco Plant Non-Contact Waste Water Acceptance Log

	. Date	Company	Amount (Barreis)	Intended Use	Final Disposition of Water	Signature
,	4-3-96	SAN JUANS		WATER OR 7900	WATER OR 11 BD	Rimey A Guduan
Stayo	=	. n.		=	t,	), ,,
Š	11	,	ij	th	z.	•
8.7	h	. 4	Ţ.	4	. 11	11
£.5	ł		Ŋ	11	v	2
23.5	II.	11	1,		ş	, ,
· · · · · · · · · · · · · · · · · · ·						
			·			
<del></del>	·					

Chaco Plant Non-Contact Waste Water Acceptance Log

Date	Company	Amount (Barrels)		Intended Use	Use	Final Disposition of Water	position ater		Signature
76-8-1	SAN JURN CONN	4500	13.	WH 16.R. NG	RCAD	that they	0 N	14 1/m	Kackden
/ //	// //		)/	) \ \	11	``	1	Pi	N
11 11	// // //	//	)/	)/	11	//	)/	)/	,,,
)/ )/	11 . 11	. ,,	//	)1	17	"	11	)/	
11 11	11	1/	)/	)/	7/	71	11	)/	))
// /1	// //	11	) (	. )/	77	//	)/	//	11
)/ //	1.1	)/	)/	) /	1.1	27	) /	(1	7)
				٠					
			,						
-									

Chaco Plant Non-Contact Waste Water Acceptance Log

Date	Company	Amount (Barrels)		Intended Use	Use	Final Dis	Final Disposition of Water	0,	Signature	
95-6-11	SAY CUNT	4500	F1.1.	WATERIAGE PORNS	Shar	PUT EN Re	4 Rd, 7/cc	LAbr	Hadulen	
11 11	) /		, ,			11	)/			
11 11	11 . 11	11	11	) 1	) /	71	11	11	()	
<i>J1 11</i>	11	. 17	//	) /	11	) 1	11	1 /	Jì	
11 )1	11 11	. 1	)/	) /	77	11	17	()	{ }	
11 11	) / 17	( )		, ) )	)) ,	1)	//	) /	11	
11 1	77 77		) ;	1)	) )	1,	1)	) (	l)	
11 11	11	11	) /	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	77	))	27	11	1	1
	·									

## NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

### OIL CONSERVATION DIVISION

2040 S. Pacheco Santa Fe, New Mexico 87505

August 10, 1995

CERTIFIED MAIL
RETURN RECEIPT NO. Z-765-962-389

Mr. Patrick Marquez
Compliance Engineer
El Paso Natural Gas Company
P.O. Box 4990
Farmington, New Mexico 87499

RE: SOLID WASTE PIT CLOSURES
ANGEL PEAK COMPRESSOR STATION AND CHACO GAS PLANT
SAN JUAN COUNTY, NEW MEXICO

Dear Mr. Marquez:

The New Mexico Oil Conservation Division (OCD) has reviewed El Paso Natural Gas Company's (EPNG) June 5, 1995 "ANGEL PEAK AND CHACO PLANT SOLID WASTE PIT CLOSURE SAMPLING" and April 10, 1995 "SOLID WASTE PIT CLOSURES AT EPNG'S ANGEL PEAK AND CHACO FACILITIES". These documents contain the results of EPNG's waste characterization of soils in the former solid waste pits at EPNG's Angel Peak Compressor Station and Chaco Gas Plant. The documents also request permission to close the pits pursuant to EPNG's September 12, 1995 closure plan.

The OCD approves of EPNG's request to close the pits pursuant to EPNG's September 12, 1995 closure plan.

Please be advised that OCD approval does not relieve EPNG of liability if, the pits pose a future threat to ground water, surface water, public health or the environment. In addition, OCD approval does not relieve EPNG of responsibility for compliance with any other federal, state and local laws and/or regulations.

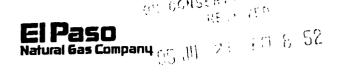
If you have any questions, please contact me at (505) 827-7154.

Sincerely,

William C. Olson Hydrogeologist

Environmental Bureau

xc: OCD Aztec District Office



April 10, 1995

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

Re: Solid Waste Pit Closures at EPNG's Angel Peak and Chaco facilities

Dear Mr. Olson:

Enclosed are the analyses for the subject solid waste pits. As per the November 22, 1995 NMOCD approval letter for closure, EPNG is required to submit the analytical results prior to the actual closure of the pits and will notify OCD of all activities 72 hours in advance such that OCD has the opportunity to witness the events.

Please review the enclosed analyses and respond to me at 505-599-2175 at your earliest convenience.

Thank you,

Patrick Marquez
Compliance Engineer

Compliance Engineer

cc:

Denny Foust (NMOCD)

w/o enclosures

Ron Jones (EPNG)
David Hall (EPNG)
Sandra Miller (EPNG)
Lyndell Smith (EPNG)
File: 5212 Regulatory

Bill,
Unathord ROID as to Jung tech.
Thus is in addition to the analysis sent to you on.
April 10th.

Please call when you

veceine.

Huand gra.
Patovile Ma z5992175.



To: John Lambdin

Date: June 05, 1995

From: Norman R. Norvelle

Place: Field Services Engineering Lab

Subject: Angel Peak and Chaco Plant Solid Waste Pit Closure Sampling

On June 01, 1995 I re-sampled Angel Peak and Chaco Plant solid waste pits for final closure. I sampled two points at the bottom of each pit at a depth of one foot and then composite the two samples from each pit at the time of sampling. These were put into a 8 0z. jar. The following analysis was requested: EPA method 8010 for TCLP organics. This was additional sampling requested by NMOCD.

The sample was iced in a cooler until received in the lab and then stored in the sample refrigerator. Today, the sample was packed in bubble wrap, iced and ship in a cooler to the BEI labs in Seattle. A temperature blank was included. The ancillary paper work is attached.

SAMPLE NUMBER	DATE	TIME	<b>LOCATION</b>
950654	6-1-95	1:15 PM	Chaco Plant Dump
950655	6-1-95	2:20 PM	Angel Peak Dump

Should you have any questions or comments, please give me a call.

attachments

cc: David Hall

Patrick Marquez

Results Attached 7/13/95 J. Larten

## SOUND ANALYTICAL SERVICES, INC.

Client Name

Client ID:

i.ab ID: Date Received: Date Prepared:

Date Analyzed:

% Solids

Philip Environmental Coral ry 950654 95-A9715

> 49276-01 6/7/95 6/20/95

6/21/95

Chaco Plant Dump Pit

## TCLP Halogenated Hydrocarbons by USEPA Method 8010

			Recove	ry Limits
Surrogate	% Recovery	Flags	Low	High
Bromochloromethane	107		<b>3</b> 50	150
2-Bromo-1-chloropropane	64		50	150
1,4-Dichlorobutanc	81		50	150

	Result	
Analyte	(mg/L)	PQL
Viny! Chloride	ND	0.001
1,1-Dichloroethene	ND	0.001
Methylene Chloride	0.081	0.001
trans-1,2-Dichloroethene	ND	0.001
1,1-Dichloroethane	ND	0.001
Chloroform	ND	0.001
1,1,1-Trichloroethane	ND	0.001
Carbon Tetrachloride	ND	0.001
1.2-Dichloroethane	ND	0.001
Trichloroethene	ND	0.001
1.2-Dichloropropane	ND	0.001
Bromodichloromethane	ND	0.001
cis-1,3-Diohloropropene	ND	0.001
trans-1,3-dichloropropene	ND	0.001
1,1,2-Trichloroethane	ND	0.001
Tetrachloroethene	ND	0.001
Chlorodibromomethane	ND	0.001
Chlorobenzene	ND	0.001
Bromoform	ND	0. <b>001</b>
1,1.2,2-Tetrachioroethane	ND	0.001
1,3-Dichlorobenzene	ND	0.001
1,4-Dichlorobenzena	ND	0.001
1.2-Dichlorobenzene	ND	0. <b>001</b>

Flags

## SOUND ANALYTICAL SERVICES, INC.

Client Name Client ID: Lab ID:

Date Received: Date Prepared:

Date Analyzed: % Solids

Philip Environmental Laboratory

950855 95-A9718 49276-02

> 6/7/95 6/20/95 6/21/95

Angel Peak Plant Dump Pit

## TCLP Halogenated Hydrocarbons by USEPA Method 8010

			Recove	ery Limits
Surrogate	% Recovery	Flags	Low	High
Bromochloromethane	103		50	150
2-Bromo-1-chloropropane	70		50	150
1,4-Dichlorobutane	73		50	150

	Result		
Analyte	(mg/L)	PQL	Flags
Vinyi Chloride	ND	0.001	
1,1-Dichloroethene	ND	0.001	
Methylene Chloride	0.088	0.001	•
trans-1,2-Dichloroethene	ND	0.001	
1,1-Dichloroethane	· ND	0.001	
Chloroform	ND	0.001	
1,1,1-Trichloroethane	ND	0.001	
Carbon Tetrachloride	ND	0.001	
1,2-Dichloroethane	ND	0.001	
Trichloroethene	ND	0.001	
1,2-Dichloropropane	ND	0.001	
Bromodichloromethane	ND	0.001	
cis-1,3-Dichloropropene	ND	0.001	
trans-1,3-dichloropropene	ND	0.001	
1,1,2-Trichioroethanc	ND	0.001	
Tetrachloroethene	ND	0.001	
Chlorodibromomethane	ND	0.001	
Chlorobenzene	ND	0.001	
Bromoform	ND	0.001	
1,1,2,2-Tetrachloroethane	ND	0.001	
1,3-Dichlorobenzene	ND	0.001	
1,4-Dichlorobenzene	ND	0.001	
1,2-Dichlorobenzene	ND	0.001	

## SOUND ANALYTICAL SERVICES INC.

Lab ID:

Method Blank - B162095

Date Received:

Date Prepared:

Date Analyzed:

6/20/95 6/21/95

% Solids

B162095 Acceptable SA/OC 5 5 7/13/95

Halogenated Hydrocarbons by USEPA Method 8010

		Aracove	ry Linuts
% Recovery	Flags	Low	High
78		50	150
59		50	150
50		50	150
	78 59	78 59	% Recovery Flags Low 78 50 59

	Result	:
Analyte	(mg/L)	POL
Vinyl Chloride	ND	0.001
1,1-Dichloroethene	ND	0.001
Methylene Chloride	ND	0.001
trans-1,2-Dichloroethene	ND	0.001
1,1-Dichloroethane	ND	0.001
Chloroform	ND	<b>0.001</b>
1,1,1-Trichloroethane	ND	0.001
Carbon Tetrachioride	ND	0.001
1,2-Dichloroethane	ND	0.001
Trichloroethene	ND	0.001
1,2-Dichloropropane	ND	0.001
Bromodichloromethane	ND	0.001
cis-1,3-Dichloropropene	ND	0.001
rans-1,3-dichloropropene	ND	0.001
1,1,2-Trichloroethane	ND	0.001
Tetrachioroethene	ND	0.001
Chlorodibromomethane	ND	9.001
Chlorobenzene	ND	0.001
Bromoform	ND	0.001
1,1,2,2-Tetrachloroethane	ND	0.001
1,3-Dichlorobenzene	ND	0.001
1,4-Dichlorobenzene	ND	0.001
1,2-Dichlorobenzene	ND	0.001

Flags



## RECEIVED

JUL 1 3 1995

To: John Lambdin

Date: June 05, 1995

From: Norman R. Norvelle

Environmental Bureau Place: Field Services Engineering Lawil Conservation Division

Subject: Angel Peak and Chaco Plant Solid Waste Pit Closure Sampling

On June 01, 1995 I re-sampled Angel Peak and Chaco Plant solid waste pits for final closure. I sampled two points at the bottom of each pit at a depth of one foot and then composite the two samples from each pit at the time of sampling. These were put into a 8 0z. jar The following analysis was requested: EPA method 8010 for TCLP organics. This was additional sampling requested by NMOCD.

The sample was iced in a cooler until received in the lab and then stored in the sample refrigerator. Today, the sample was packed in bubble wrap, iced and ship in a cooler to the BEI labs in Seattle. A temperature blank was included. The ancillary paper work is attached.

SAMPLE NUMBER	DATE	TIME	LOCATION
950654	6-1-95	1:15 PM	Chaco Plant Dump
950655	6-1-95	2:20 PM	Angel Peak Dump

Should you have any questions or comments, please give me a call.

attachments

cc: David Hall

Patrick Marquez

Results Attached 7/13/95 J. Laten

SENT BY: EPNG

; 7-13-95 ; 1:46PM ;EL PASO NATURAL GAS -

Client Name Client ID: i.ab ID:

Date Received:

Date Prepared:

Date Analyzed: % Solids

Philip Environmental Laboratery

950654 95-A9715 49276-01

> 8/7/95 6/20/95 6/21/95

Chaco Plant Dump Pit

5058278177;# 3/ 7

TCLP Halogenated Hydrocarbons by USEPA Method 8010

			Recove	ry Limits
Surrogate	% Recovery	Flags	Low	High
Bromochloromethane	107		50	150
2-Bromo-1-chloropropane	64		50	150
1,4-Dichlorobutane	81		50	150

	Result	
Analyte	(mg/L)	PQL
Viny! Chloride	ND	0.001
1,1-Dichloroethene	ND	0.001
Methylene Chloride	0.081	0.001
trans-1,2-Dichloroethene	ND	0.001
1,1-Dichloroethane	ND	0.001
Chieroform	ND	0.001
1,1,1-Trichloroethane	ND	0.001
Carbon Tetrachloride	ND	0.001
1,2-Dichloroethane	ND	0,001
Trichloroethene	ND	0.001
1,2-Dichloropropane	ND	0.001
Bromodiphloromethane	ND	0.001
cis-1,3-Diohlaropropene	ND	0.001
trans-1,3-dichloropropene	ND	0.001
1,1,2-Trichloroethane	ND	0,001
Tetrachioroathene	ND	0.001
Chlorodibromomethane	ND	0.001
Chlorobenzene	ND	0,001
Bromoform	ND	0.001
1,1,2,2-Tetrachioroethane	ND	0.001
1,3-Dichlorobenzene	ND	0.001
1,4-Dichlorobenzene	ND	0.001
1,2-Dichlorobenzene	ND	0.001

Flags

; 7-13-95 ; 1:46PM ;EL PASO NATURAL GAS → ANALYTICAL SERVICES

**Client Name** Client ID: Lab ID:

Date Received: Date Prepared: Date Analyzed: % Solids

Philip Environmental Laborat 950655 95-A9716 49276-02 6/7/95 6/20/95

6/21/95

Angel Peak Plant Dump Pit

Finge

5058278177;# 4/ 7

### TCLP Halogenated Hydrocarbons by USEPA Method 8010

,			Recovery Limits		
Surrogate	% Recovery	Flags	Low	High	
Bromochloromethane	103		50	150	
2-Bromo-1-chloropropane	70		50	150	
1,4-Dichlorobutane	73		50	150	

	Result	
Analyte	(mg/L)	PQL
Vinyl Chloride	ND	0.001
1,1-Dichloroethene	ND	0.001
Methylene Chloride	0.088	0.001
trans-1,2-Dichloroethone	ND	0.001
1,1-Dichloroethane	ND	0.001
Chloroform	ND	0.001
1,1,1-Trichloroethane	ND	0.001
Carbon Tetrachloride	NO	0.001
1,2-Dichloroethane	ND	0.001
Trichiomethene	ND	ก กถา
1,2-Dichloropropane	ND	0.001
Bromodichioromethane	Й	0.001
cis-1,9-Dichloropropens	מא	0.001
trans-1,3-dichloropropene	מא	0.001
1,1,2-Trichloroathanc	ND	0.001
Tetrachloroethene	ND	0.001
Chlorodibromomethane	ND	0.001
Chlorobenzene	ND	0.001
Bronoform	ND	0.881
1,1,2,2-Tetrechloroethane	ND	0.001
1,3-Dichlorobenzene	ND	0.001
1,4-Dichlorobenzene	ND	0.001
1,2-Dichlorobenzene	ND	0.001

ANALYTICAL SERVICES

Lab ID:

**Date Received:** 

Date Prepared: Date Analyzed: % Soilds

Method Blank - 8182095

6/20/95 6/21/95 Acceptable BAJOC.
7/13/95

### Halogenated Hydrocarbons by USEPA Method 8010

			Recove	ery Limits
Surrogate	% Recovery	Fiage	Low	High
Bromochloromethane	7 <b>8</b>	_	50	150
2-Bromo-1-chloropropane	59		50	150
1,4-Dichlorobutane	50		50	150

	Result	
Analyte	(mg/L)	POL
Vinyi Chioride	ND	0.001
1,1-Dichloroethene	ND	0.001
Methylene Chloride	ND	0. <b>001</b>
trans-1,2-Dichloroetnene	ND	0.001
1,1-Dichloroethane	ND	0.001
Chloroform	ND	<b>U.001</b>
1,1,1-Trichloroethane	ND	0.001
Carbon Tetrachloride	ND	0.001
1,2-Dichloroethane	ND	0.001
Trichloroethene	ND	0.001
1,2-Dichloropropane	ND	0.001
Bromodichloromethane	ND	0.001
cis-1,3-Dichloropropene	ND	0,001
trans-1,3-dichloropropene	ND	0.001
1,1,2-Trichloroethane	ND	0.001
Tetrachioroethene	ND	0.001
Chlorodibromomethane	ND	0.001
Chlorobenzene	ND	0.001
Bromotorm	ND	0.001
1,1,2,2-Tetrachioroethane	ND	0.001
1,3-Dichlorobenzene	ND	0.001
1,4-Diahlorobenzene	ND	0.001
1,2-Dichlorobenzene	ND	0.001

Flags

7-13-95 : 1:48PM ;EL PASO NATURAL GAS - SALPRE ID. SENT BY:EPNG 5058278177;# 6/ 7 MAN ANGUEL EMPRO DISIONISENEMIDA VANE FAKALLUSTON ONES MINOT EL PAS NATURA HERS MALENOK MAN NOKAL LONGING SEX pass rulling coco 3 26/30 March 24CA いかし 9468-56 MET 16-1-9 1.75 V.75 CATE FEE Printed Name Received by Signature 3 Printed Name Signature Ē Steffere 51600-55 G. BY 50/6 100 ¥¥. Fun BASENEWAC Date/Time Ē Signature Printed Name 8.mending Printed Name Received by Flatinguished By DALKS SIND SECONDARY GCM8-625/82 VOLATILE OFFANICS GC/MS/824/8240 PCE's TPH (circle me 418.1 or 8015 2100 3ETX (circle m 824) or 8020 F-LISTED SOURENTS 8240 10LP HEISTE SOLVENTS 95065 - ANBel Peak DUMP compa SPECIAL INSTRUCTIONS COMMENTS 950 654 - CHACO PLANT DUMP COM TOLT METALS METALS (TOTAL) As. Bo. Cd. Cr. Cu. Pt. VI. Hg. Ag. Sej (1, Sb. Zr. CLP ORGANICS - VOA'S 6245 - BNA'H 8275 - Pennggun 6066 - Herbiodes 615 ONTE 6-5-95 PAGE DISCHARGE TESTING TCLP A COURT BAS. H ♀

BURLINGTON ENVERONMENTAL 2003 Afrort Way South, Suite 400 Beettie, VAN 90134

306-2280600 - FAX: 223-7791

Laboratory Analysis Request

RECEIVED IN

CONDITION?

Chain of Custody/

OUSTRABUTIONS WINITE - HERUM TO OHIGINATION; YELLOW - SIZE PHAK - remained by migration

<b>.</b>				3-95 R	, 1 ; ;	9.	50	56	1 55	-			
3622534565		24.	( 2C C + 27 P = 0 311		THE DOWN IN	TO AN AN AN AN		Deduired 4€	Totha (Express Use	The second of th	Or part Printed Classics Printed Classics Printed Prin		Acom Line Line Line Line Line Line Line Line
1				\$ \$ ) in \$ 423 (47 to \$ 145 \$ 4). no 10 20, Genes of 80 20 Codes)		5. *Y	IF HOLD AT FEDEX LOCATION, Print REDEX Address Here Street Address	State	SERVICE CONDITIONS, DECLARED VALUE AND UNIT OF LIMBRITY	Used vis a Mal oxelibras youngsgerend to be servize condition or oxest Sarve Guite. Stabilitie topor request. See back of service to sylvable topor request. See back of service is sylvable to oxer request. See back of service is sylvable to oxer services oxed filters are services. See U.S. Government Seevas Guitelist Mals.	We be into the responsibility of an up-than in absorts of 1500 per package, refuller the result of least during a deby, conceived an indeficient or refullmentally under you desting a larger what, pay as had into a transpired versus on desting a larger was polyth. Your art in conceive the refull Express Serves GASE of the conceived of the part of the following and per reducing the decryater of the page and the page reducing the decryater of the page and the minit, all unless of the page and the line in a valid or requirement in a special selective seems is and line in a valid or requirement in a special selective seems.	NOW is the minimum, a state described in this Ill Throwsy caused study in the state of the state	Sweet anabasis in being special and state steems and months and peak notices of the special and state steems that schemic and state schemic and state schemic finites and state state of the special and state special peaks in the special sp
AIRBILL PACKAGE TRACKING NUMBIR	Ft	Nomes Div	Company	T i ' :		ă.	F HOLD AT FEDEX LOCATI	Oil.	SERVICE CONDIT	Use of this mittle considerery of our cursers Service Guille servor's copy of this situal curse for Committee of Committee	We set not be responsible to the property of t	Ville in the minimal man again the finite series of minimal test for manning for the control of	Switter intention to brief to be determined to the same services to be serviced t
the tendent			- 22		₩ 	7.7 7.7 1.0		ed I Card Exp.	THE DECLARE	3	Total	24 7	Š
C. BASKI AND GABLEY OFFICE AND GABLEY		And the state of t	Documents of the part of the p				in nivoles.)	4 Isaca	28	<u> </u>	Total Total		<del></del>
TO THE SUPPLY PERMITTED FOR CLAMMER LESS AND AREA ARE THE WAY IN THE WAY IN THE WAY IN THE WAY IN THE WAY IN THE WAY IN THE WAY WAS AND WAY IN THE WAY IN THE WAY WAY IN THE WAY WAY IN THE WAY WAY IN THE WAY IN	37 F11	77.5.9		; #	olely.		A (cobinal) (first Statistical will appear on motes)	SALE No. 3 3 91-30 Carylan Sale And Wa	JELVERY AND SPECIAL HIMDLING SHOWING	1 THE AT PORT LOCATION MERCALL THE SECRET	1) TOLO AT FEDER COCATION, STROOMY  S DELLIFER STROOMY  C DELIFER STROOMY  C DELIFERANT  C DELIFICAT  C DELIFERANT  C DELIFORM  C DELIFERANT  C DELIFERANT  C DELIFERANT  C DELIFERANT  C DELIFERANT  C DELIFERANT  C DELIFERANT  C DELIFERANT  C DELIFERANT  C DELIFERANT  C DELIFERANT  C DELIFERANT  C DELIFERANT  C DELIFICAT  C DELIFICAT  C DELIFICAT  C DELIFICAT  C DELIFICAT  C DEL	DAMPGRANS GOODS HAVE a complete     DAMPGRANS GOODS HAVE a complete     DAMPGRANS GOODS HAVE a complete	Described X (gratt)
SANOTRAM BES	THE STATE OF THE S	1 to 7 town 1 to 1 to 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Fair 19 15		100 mm	15 60 55 72 (XP)	Service 2 39-Property-edit-Act No.	20.	SALES A CARROL I	56   PEDENLITER  52   PEDENLITER  53   PEDENLITER  54   TITAN TAK	66 [] 63/7.	
Zen Brank	M.SPAN'S LOVAL	Trom Oran Rama Places Part	Oceanity	Stree Address	A NO		<u> </u>		Oet(C)	II OTHER	4 5 5 5 6	Communication Co	TRANSPORT OF SAME IN THE PROPERTY OF SAME IN THE PROPE





### EL PASO NATURAL GAS COMPANY

is a major open-access transporter of natural gas serving West Texas, New Mexico, Arizona, southern Nevada and California. California receives more than half of its gas from El Paso's 17,500-mile pipeline system, which is connected to every major producing basin in the Southwest. El Paso's customer-friendly electronic bulletin board, Passport, offers state-of-the-art programs beneficial to producers, buyers marketers, end-users and other pipelines.

	NAME OF RECIPIENT	PAGE(S) TRANSMI	TTED POWEF	DATE 2/3/G
0	NAME OF COMPANY  NAME OF COMPANY  NUMBER  NAME	7/13/95 CITY/STATE		
10	ADDRESS			TELEPHONE NUMBER
	FAX NUMBER (REQUIRED) 1 505 8278177		,	- Marie - Mari
FROM	NAME OF SENDER Partick Was zue 3.	NAME OF COMPAN		AS OTHER
Œ	ADDRESS 505 579 2175	7.		CITY/STATE
	As required - TCL'R 8010 Org	anics_		FAX NUMBER:
REMARKS	analysis for Chaso Plant of Unge		REPLY	
REN	Solid waste Dumps. Please cal	(1 when	. H	VERIFY NUMBER:
	you receive this fax - Hard	COPY		
	to follow via mail. Thank	gor Patri	ckl	Marzone. ] . FM-SS-0162 (Rev. 10.42



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

STATE OF NEW MEXICO OIL CONSERVATION DIVISION

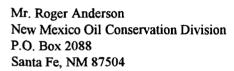
### MEMORANDUM OF MEETING OR CONVERSATION

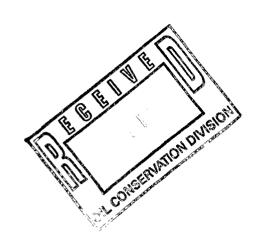
Telephone Personal	Time 0830		Date 5/31/95	
Originating Party			Other Parties	
Bill Olson - Envir. Bu	ncean	Patrick Marguet - EPNG		
Subject 4/10/95 Angel Peak/C	haco Soli	d Last	e Pit Closures	
Discussion				
Told him not all	hat chare	crestori.	ties analytal	
	es, nestic	ides, h	esicile.	
It didn't me pestic	.// 4 / .	dos Ca	in provide statement	
of process knowledge		· · · · · · · · · · · · · · · · · · ·	v	
		V		
Conclusions or Agreements				
He will get analyse	5			
			·	
Distribution	Sig	ned //	1:11 1	
f.le		V <sub>e</sub>	TW Whn	
Denny Foust - OCA	Azter			





May 3, 1995





Re:

Contact Water Ponds at El Paso Natural Gas Company's Chaco Plant

Dear Mr. Anderson:

Enclosed are the "As Builts" for the contact water ponds at Chaco Plant. As per the August 16, 1994 letter to NMOCD requesting approval for construction, EPNG agreed to submit the drawings to NMOCD upon completion.

Should you have questions or need further information, please do not hesitate to call at (505) 599-2175.

Thank you,

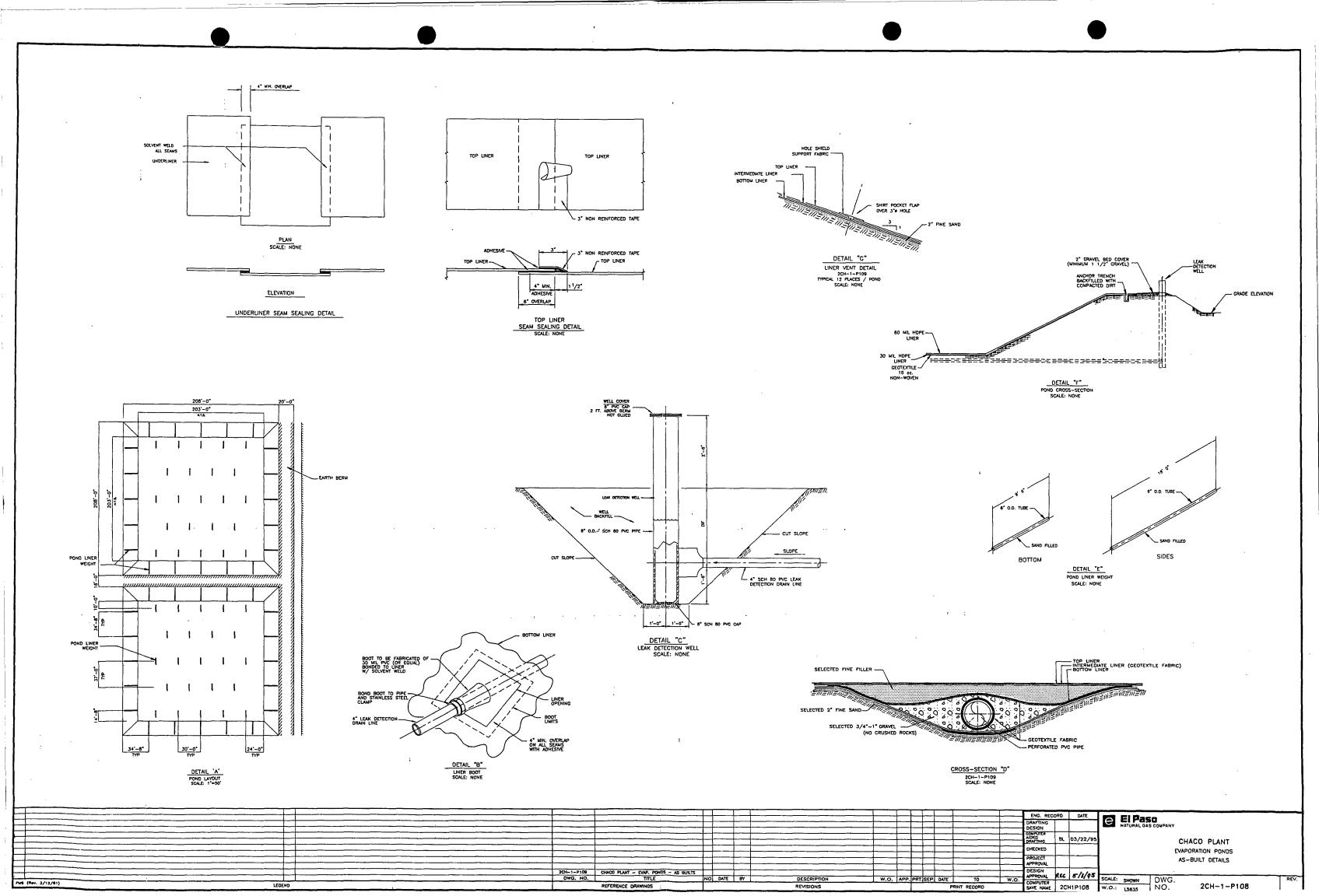
Patrick Marquez

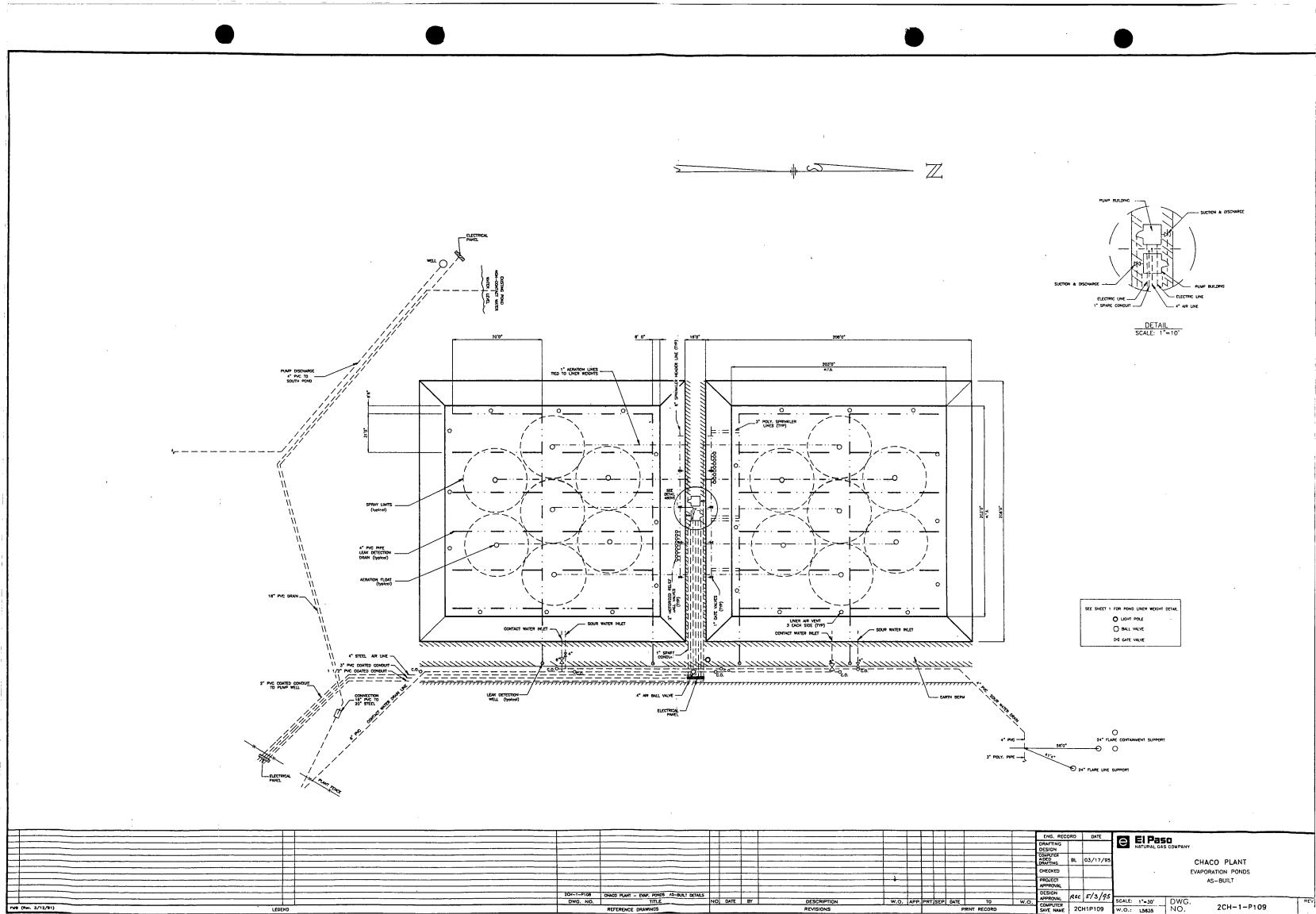
Compliance Engineer

cc:

w/attachment Denny Foust (NMOCD) John Lambdin (EPNG) Lyndell Smith (EPNG) Vince Medrano (EPNG)

w/o attachments (EPNG)
Richard Carr
David Hall
Bob Yungert
Sandra Miller/David Bays/ File:5212 Regulatory





COURSER. ON DIVISION RECEIVED



195 AP 1 - 7 PM 8 52

P. O. BOX 4990 FARMINGTON, NEW MEXICO 87499

April 10, 1995

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

Re: Solid Waste Pit Closures at EPNG's Angel Peak and Chaco facilities

Dear Mr. Olson:

Enclosed are the analyses for the subject solid waste pits. As per the November 22, 1995 NMOCD approval letter for closure, EPNG is required to submit the analytical results prior to the actual closure of the pits and will notify OCD of all activities 72 hours in advance such that OCD has the opportunity to witness the events.

Please review the enclosed analyses and respond to me at 505-599-2175 at your earliest convenience.

Thank you,

Patrick Marquez Compliance Engineer

cc:

Denny Foust (NMOCD)

w/o enclosures

Ron Jones (EPNG) David Hall (EPNG) Sandra Miller (EPNG) Lyndell Smith (EPNG) File: 5212 Regulatory

fm

FILE: ZAANO

### STATE OF NEW MEXICO



### ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

DRUG FREE

BRUCE KING GOVERNOR

ANITA LOCKWOOD CABINET SECRETARY

2040 S. PACHECO SANTA FE, NEW MEXICO 87505 (505) 827-7131

November 22, 1994

## CERTIFIED MAIL RETURN RECEIPT NO. P-667-242-177

Mr. Patrick Marquez
Compliance Engineer
El Paso Natural Gas Company
P.O. Box 4990
Farmington, New Mexico 87499

RE: SOLID WASTE PIT CLOSURES

ANGEL PEAK COMPRESSOR STATION AND CHACO GAS PLANT

SAN JUAN COUNTY, NEW MEXICO

Dear Ms. Miller:

The New Mexico Oil Conservation Division (OCD) has reviewed El Paso Natural Gas Company's (EPNG) September 12, 1994 "SOLID WASTE PIT CLOSURES AT EPNG'S ANGEL PEAK AND CHACO FACILITIES". This document contains EPNG's proposed closure plan for closure of former solid waste pits at EPNG's Angel Peak Compressor Station and Chaco Gas1 Plant.

The proposed closure plan as contained in the above referenced document is approved with the following conditions:

- 1. In addition to the soil sampling proposed, EPNG will analyze samples from the pits for hazardous waste characteristics.
- 2. All sample analyses will be conducted using EPA approved laboratory methods.
- 3. The results of the analytical sampling will be submitted to the OCD for approval prior to actual closure of the pits.
- 4. EPNG will notify the OCD at least 72 hours in advance of all scheduled activities such that the OCD has the opportunity to witness the events and/or split samples.
- 5. All original documents will be submitted to the OCD Santa Fe Office with copies provided to the OCD Aztec Office.

Mr. Patrick Marquez November 22, 1994 Page 2

Please be advised that OCD approval does not limit EPNG to the work proposed should contaminants be found to be migrating from the site or if contamination exists which is beyond the scope of the work plan. In addition, OCD approval does not relieve EPNG of responsibility for compliance with any other federal, state and local laws and/or regulations.

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

Sincerely,

William C. Olson

Hydrogeologist

Environmental Bureau

xc: OCD Aztec District Office







(Distribution) To:

Date: March 1, 1995

From: John Lambdin

Place: Field Services Laboratory

## Subject: Angel Peak Solid Waste Pit Closure Results

On January 11, 1995 the Field Services Laboratory collected one (1) soil sample from the solid waste pond at Angel Peak Plant. The sample was assigned Field Services laboratory number 950053.

The sample was collected and analyzed in accordance with New Mexico OCD guidelines for pit closure. The sample passed all the required tests. Enclosed you will find copies of all field and analytical laboratory results/data.

Please let me know, if you have any questions.

### Distribution:

David Hall - w/o attachments Sandra Miller Results Log Book File

Attachments



# FIELD SERVICES LABORATORY ANALYTICAL REPORT

#### SAMPLE IDENTIFICATION

SAMPLE NUMBER: 950053

MATRIX: Soil

SAMPLE DATE: 11-Jan-95

SAMPLE TIME (Hrs.): 1030

SAMPLED BY: Norman Norvelle

**PROJECT**: Pit Closure

FACILITY ID: 5203

SAMPLE LOCATION: Angel Peak

**SAMPLE POINT:** Solid Waste Pit

DATE OF ANALYSIS: Extracted for BTEX on 1/23/1995 and analyzed for BTEX on 1/23/1995.

Extracted for TPH on 1/17/1995 and analyzed for TPH on 1/17/1995.

**REMARKS:** None

#### EPA Method 8020 (BTEX) and Method 418.1 (TPH) RESULTS

PARAMETER	RESULT MG/KG	QUALIFIER	LIMIT MG/KG
BENZENE	< 0.005	None	10
TOLUENE	< 0.005	None	None
ETHYL BENZENE	< 0.005	None	None
TOTAL XYLENES	<0.005	None	None
TOTAL BTEX	<0.020	None	50
TPH by EPA 418.1	36	None	100
PERCENT SOLIDS	90	None	
SURROGATE % RECOVERY	94	Allowed Range 80 to 120 %	

VOTES:

The limits shown are based on New Mexico Regulations.

Approved By:

1-Mar-95 Date

11 Pit Samples:

LADGRATORY CONTROL SAMPLES: CALIBRATION CHECKS

1 Chaco Boller#2

SAMPER D*	SAURCE	77777777777788 <del>8</del> 44777			ACCEPTABLES RANGE 751325 % R YES NO
NITIAL CALIBRATION VERIF.	HORIBA	200	193	97	Х
B" Heavy Oil (Lot M3G9616)					

larrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE NUMBER	90 <b>. 9</b> 0.9 <b>0</b> 00. 0000 - 500 - 500 - 500 - 500 - 500 - 500 - 500 - 500 - 500 - 500 - 500 - 500 - 500 - 500 - 500 -	SAMPLE RESULT (S)MG/KG	DUPLICATE RESULT (D)MG/KG	RPD	ACCEPTABLE  RANGE + /- 35%  YES NO
946569	2nd Extract	491	411	17.7	X
946572	2nd Extract	430	481	11.2	X

arrative: Acceptable.

**ABORATORY SPIKES:** 

SAMPLE NUMBER	SPIKE ADDED (SAIMG/KG	SAMPLE RESULT (S)MG/KG	SPIKE SAMPLE RESULT (SRIMG/KG	% <b>R</b>	ACCEPTABLE RANGE 75-125 %R YES NO
946569	3050	491	3950	113	X
946572	2780	430	3670	117	X

arrative: Acceptable.

REFERENCE SOIL (Laboratory Control Sample):

SAMPLE ID	SOURCE	KNOWN VALUE (MG/KG)	SAMPLE RESULT FOUND (MG/KG)	MFG SPECIFIED RANGE	ACCEPTABLE YES NO
RA TPH STANDARD #1	ENVIRONMENTA RESOURCE ASS.	1340	1540	804 - 1680	Х
RA TPH STANDARD #2 w/int DT # 91026	ENVIRONMENTA RESOURCE ASS.	2590	3100	1550 - 3240	×

arrative: Acceptable.

ABORATORY REAGENT BLANK:

SAMPLE ID	SOURCE	TPH LEVEL (MG/KG)	STATUS
Freon Solvent Reagent Blank	EPNG Lab EPNG Lab	< 10.0 < 10.0	ACCEPTABLE ACCEPTABLE
proved By:	Lolden	Extracted Date: 3-Feb-95	: 01/17/95

Sampi 16557C, 946559C, 9465608, 946572A, & 9500638

0638 **Q**A

QA/QC for 1/23/95 Sample Set

AMORATORY CALLESTION CHECKS, LABORATORY CONTROL SAMPLES:

	CARGOTORY CONTROL					
		EXPECTED	ANALYTICAL			ACCEPTABLE .
	TYPE*	RESALT	RESULT.	<b>13</b>		A Section 1
TOP MANAGEMENT		PP8	PP8			YES NO
<b>3</b> M					RANGE	153 MJ
Benzera	Standard	25.0	25.7	102.8	75 - 125 %	
Toward	Standard	25.0	28.3	1	i	
Ethyl wrene	Standard	25.0	25.9	113.2	75 - 125 %	X 
Total // mes		1	Į.	103.6	75 - 125 %	X
Swe	Standard	75.0	81.3	108.4	75 - 125 %	X
		EXPECTED	ANALYTICAL			ACCEPTABLE
W. British	TYPE	RESULT	RESULT	22		
ICV UNAGE		PPB	PPB			YES NO
206 +44					RANGE	
Servag	Standard	200	221	110.5	75 - 125 %	X
To. Law	Standard	200	209	104.5	75 - 125 %	X
Ethyl ware	Standard	200	213	106.5	75 - 125 %	х
п&р // э <b>ne</b>	Standard	400	401	100.3	75 - 125 %	X
0 - // 1/4	Standard	200	212	105.0	75 - 125 %	X
SAMME		EXPECTED	ANALYTICAL	::::::	and the state of t	
HUMEN	TYPE	RESULT	RESULT	222		ACCEPTABLE
LCS DEMAPEO		PP8	PPB			YES NO
25 Fla					RANGE	123
Benze +	Standard	25.0	25.6	102.4	39 - 150	X
پدید ۲۵۱	Standard	25.0	27.0	108.0	46 - 148	x
Ethyl جمورتما	Standard	25.0	26.2	104.8	32 - 160	x
Total //s	Standard	75.0	79.7	106.3	Not Given	x
SAMLE.		EXPECTED	ANALYTICAL			
Hunero	TYPE	RESULT	RESULT	<b></b>		ACCEPTABLE
CCV LA-1/1476		of Armerican Style	Verticare in the wilder	<b>**</b>		
25 F44		PP8	PPB	gelskur Ethy		YES NO
8enzu.	in a series at	V 4 44114 1	3 - 10 - 14114A, H		RANGE	
Totius	Standard	25.0	23.4	93.6	75 - 125 %	X
	Standard	25.0	24.6	98.4	75 - 125 %	X
Ethyl Gerrana	Standard	25.0	23.0	92.0	75 - 125 %	x
Total // hing	Standard	75.0	69.3	92.4	75 - 125 %	X

and the second s		HEMME!	RESULT	920		
SORE ALVES		(mg/Kg)	PPN** (mp/Eg):	•	EANCE	AGENT NO
Senzene .	2nd Portion	<0.005		0	+/- 35 %	X
Toluene	2nd Portion	<0.005	}	1	+/- 35 %	χ ',
Ethyl benzene	2nd Partion	<0.005	1	1	+/- 35 %	x
Total Xylenes	2nd Portion	<0.015	!	1	+/- 35 %	X
arrative: Acceptable.						
SAREE		SAMPLE	DUPLICATE	400	graviti i	ACCEPTABLE
MANGER	TYPE	RESULT	RESULT	RPD		
946557	(Analysis, Portion,	PPM	PPM			YES NO
EXTRACT	or Sample)	(mg/Kg)	(mg/Kg)		RANGE	
Benzene	2nd Partian	<2.90	<2.87	0	+/- 35 %	X
ialuene	2nd Portion	132	124	6	-/- 35 %	X
Ethyl benzene	2nd Portion	21.9	19.2	13	-/- 35 %	X
7stal Xylenes	2nd Portion	186	202	8	+/- 35 %	X
errative: Acceptable.						
ANORATORY CPIKES:	· · · · · · · · · · · · · · · · · · ·					
2AMPLE:	SPIKE	SAMPLE	SPIKE			
MUMBER	ADDED	RESULT	Sample	XR .		ACCEPTABLE
750053 2 40 PPB	PP8	PPB	RESULT			YES NO
SOIL VIAL - 2nd Portion	Permitten in the Total Sa		PPB	è repla	RANGE	
Sanzene	40.0	<5.00	30.5	76	75 - 125 4	Х
'atuene	40.0	<5.00	33.4	84	75 - 125 %	X
Ethyl benzene	40.0	<5.00	25.4	64	75 - 125 %	Х
foral Kylenes	120.0	<15.0	106	38	75 - 125 %	X
"Cartie: Acceptable. Reduced	72 possibly due to o	ld spike solu	ition.			
SAMPLE	SPIKE	SAMPLE	SPIKE		. : "	
MUMBER	ADDED	RESULT	SAMPLE	<b>≭</b> R		ACCEPTABLE
946559 2 40 PPB	PP8	PPB	RESULT			YES NO
EXTRACT - 2nd Portion			PPB		RANGE	
Benzene	40.0	0.0	31.6	79	75 - 125 %	Х
Totuene	40.0	81	67	-36	75 - 125 %	X
Ethyl benzene	40.0	12.2	47	87	75 - 125 %	X
Total Xylenes	120.0	94.4	192.0	81	75 - 125 %	X
	%R possibly due to o	ld spike solu	tion.			
ITTIGNAL ANALYTICAL BLANKS:	<del></del>					
SAMPLE ID	SOURCE		PI	<b>28</b> % ***		STATUS
Benzene	Boiled Water			5		ACCEPTABLE
Toluene	3oiled Water			.5		ACCEPTABLE
Ethyl benzene	Soiled Water			.5		ACCEPTABLE
Total Xylenes	] Boiled Water		</td <td>'.5 </td> <td></td> <td>ACCEPTABLE</td>	'.5 		ACCEPTABLE
Acceptable			<del></del>			
SAMPLE ID	SOURCE		Pf	PB:		STATUS
SOIL VIAL BLANK	1			· <del></del>		· · · · · · · · · · · · · · · · · · ·
Benzene	Viat + Boiled water			.5		ACCEPTABLE
Toluene	Viat + Boiled Water			.5		ACCEPTABLE
Ethyl benzene	Vial + Boiled Water			.5		ACCEPTABLE
Total Xvienes	Viat + Boiled Water		</td <td>.5</td> <td></td> <td>ACCEPTABLE</td>	.5		ACCEPTABLE

"Intive: Acceptable.

EXTRACTION SEASON	SILES	998 E (10:200:LL_ahor):	aratusz.
Benzene	Methanol	N/A	ACCEPTABLE
Toluene	Methanol	N/A	ACCEPTABLE
Ethyl benzene	Methanol	N/A	ACCEPTABLE .
Total Xylenes	Methanol	N/A	ACCEPTABLE

arrative: Acceptable.

Carı	SAMPLE 10 Fyover contamination checks		NARRATIVE	STATUS
	1/11	Vial + Boiled Water	All analytical compounds <2.5 ppb	ACCEPTABLE
	5/11	Vial + Boiled Water	All analytical compounds <2.5 ppb	ACCEPTABLE
I	9/11	Vial + Boiled Water	All analytical compounds <2.5 ppb	ACCEPTABLE
	11/11	Vial + Boiled Water	All analytical compounds <2.5 ppp	ACCEPTABLE

arrative: Acceptable.

EAGENT BLANKS:

SAMPLE ID. BOILED WATER CHECK	SOURCE 12/13/94	PPB	STATUS
Benzene	Boiled Water	<2.5	ACCEPTABLE
Toluene	Boiled Water	<2.5	ACCEPTABLE
Ethyl benzene	Boiled Water	<2.5	ACCEPTABLE
Total Xylenes	Boiled Water	<7.5	ACCEPTABLE

arrative: Acceptable

SAMPLE ID  METHANOL CHECK	SOURCE	PPB	STATUS
Benzene	MeOH/Boiled Water	<2.5	ACCEPTABLE
Toluene	MeOH/Boiled Water	<2.5	ACCEPTABLE
Ethyl benzene	MeOH/Boiled Water	<2.5	ACCEPTABLE
Total Xylenes	MeOH/Boiled Water	<7.5	ACCEPTABLE
pproved By:	Faid-	Date: 27-Jan-95	



A Philip Environmental Company

January 23, 1995 Field Services Lab

Mr. John Lambdin El Paso Natural Gas Company Field Services Laboratory P.O. Box 4990 Farmington, NM 87499

Copy

Dear Mr. Lambdin:

Subject:

Project: EPNG

EPNG Laboratory Numbers: 950053

Burlington Environmental Laboratory Numbers: 95A583

LIMS Job Number: 1937

Charge Code: Not Supplied

EPNG Agreement for Professional Environmental Services. Contract 5769

Analytical Services Blanket Contract Supplement Number 5769-92-3

Burlington Environmental Inc., (BEI) hereby submits the enclosed invoice for the work performed on the above-referenced project.

The analyses performed on this project include:

- Polychlorinated Biphenyls (PCBs)
- Ignitability
- Toxicity Characteristic Leaching Procedure (TCLP 1311): Metals (D004-D011)

With Killiam

The project costs are summarized on the attached invoice. If you have any questions or need additional information concerning this invoice, please do not hesitate to contact me at 206-227-6102.

Sincerely yours,

BURLINGTON ENVIRONMENTAL INC.

Della K. Wilson Project Manager

Enclosure: Invoice



January 23, 1995

John Lambdin
El Paso Natural Gas Co.
Field Services Lab
P.O. Box 4990
Farmington, NM 87499

Project: EL PASO NATURAL GAS CO. Laboratory Job Number: 1937

On January 13 we received 1 sample(s). We performed the following analyses:

TCLP Metals PCB's Flash Closed Cup

Instrument: Hewlett Packard 5890 GC

All samples were analyzed according to Methods specified in the work plan or Chain of Custody. Any deviations or exceptions to the standard methods are covered in Data Validation Notes.

All samples were extracted and analyzed within required holding times unless so noted.

Analysis and review was complete on January 23.

Sincerely,

Della K. Wilson Project Manager

(206) 227-6102

Burlington Environmental Corporate Lab

Washington Accreditation #C021

A- wellow

#### BURLING ENVIRONMENTAL INC. CORPORATE LABORATORY ANALYTICAL REPORT

Client:

El Paso Natural Gas Co.

Field Services Lab

P.O. Box 4990 Farmington, NM

87499

Laboratory No.: 95-A583

Sample ID.: 950053

Job Number: 1937

Project Name: EL PASO NATURAL GAS CO.

No cimit

Report to: Barrell Campbell

Date Received: 1/13/95 Date Sampled: 1/13/95

Date Reported: 1/23/95

	<del></del>	<del></del>				
Analyte	Results	Units	Method	Analyst	Date	ECRA
CLP METALS						LIMIT
TCLP Arsenic	< 0.10	mg/L	6010/200	.7 JLB	1/17/95	5.0
CCLP Barium	1.2	mg/L	6010/200	.7 JLB	1/17/95	100
CLP Cadmium	< 0.005	mg/L	6010/200	.7 JLB	1/17/95	1.0
CLP Chromium	< 0.010	mg/L	6010/200	.7 JLB	1/17/95	5.0
CLP Lead	< 0.10	ma/L	6010/200		1/17/95	5.0
CCLP Mercury	< 0.0008	mg/L	7470/311		1/17/95	0.20
TCLP Selenium	< 0.30	mg/L	6010/200	.7 JLB	1/17/95	1.0
TCLP Silver	< 0.010	mg/L	6010/200		1/17/95	5.0
Method 1311 Date E	xtracted:	1/16/95	Sample	Wt.: 100.	arans	
ection 1311 Date 1	noiacea.	_/ _0/ _0		,,00.	3.4	(imit
Bs		,				2.0 89
roclor-1016	< 0.68	MG/KG	8081	⊃KW	1/13/95	2.0 17
roclor-1221	< 0.68	MG/KG	8081	DKW	1/13/95	
roclor-1232	< 0.68	MG/KG	8081	$\supset$ KW	1/13/95	\
roclor-1242	< 0.68	MG/KG	8081	$\supset$ KW	1/13/95	1
roclor-1248	< 0.68	MG/KG	8081	$\supset$ KW	1/13/95	1
roclor-1254	< 0.68	MG/KG	8081	$\supset$ KW	1/13/95	
roclor-1260	< 0.68	MG/KG	8081	⊃KW	1/13/95	
CB Extraction					1/13/95	
Surrogates		१ Recove	ery		ts	
Tetrachloro-m-x	ylene	100.0		50.0-1		
Decachlorobiphe		89.0		50.0-1	50.3	
SCELLANEOUS						Limit
lash Closed Cup	Comment No flash	F	1020	lCL	1/13/95	Z140°F

1/23/95 Reviewed By :

2203 Airport Way South, Suite 400 Seattle, WA 98134

206:223 0500 • FAX: 223:7791

THE 2/-11-95 PAGE Laboratory Analysis Request CHAIL OF CHAICAV

e di

1/12/95 following xleph acrimensation with John ensinof autedy corrected NUMBER OF CONTAINERS OTHER (Specify) 10777 7707 SPLCIAL RISTRUCTIONS COMMENTS DISCHARGE MET4.2 TOTAL AS. E4 C4 C1. C4 V1 P2 P2. S6 V2 P3 P3. S6 V3 P3 P3. S6 700a 131. 85t0 10fe efficience 9571 c. 8051 BE11 c.ce metuod tis, s. gore 15th chole metroc AHALYSIS HEQDESTED 1908-809 Relinquished By bce : Finited Name the reveal By GC/MS 624/8240 AOFATITE OBGANICE Oate/fund Signature Ξ. | CCW2 625.8270 PASE NEUROID ORGAN ſγPE HI-75/10:30 (5-AS83 501-CONTACT OUT LANDSIN - FRANKSTON 2144 LABID 505-598-218A Reinquished By 1 0 50 7411/14 080 73 10 HOHH Printed Name the covertby Date/Time Signature SAMPLERS NAME NORMAN NORKIK THAE Ē norman DATE CHEMPRO DIVISION GENI HATOH NAME E) 180 HITURA COS CO. NORMAN R. NORVELLE 2950253 SAMPLERS SEDIATION SAMPLEID 90053 Lann Date/Time /-/2 TELEPHONE # Relinquished By Printed Name Signature Signature

(55)\*

Printed Name

Printed Name

PHINDER NATION

DISTRIBUTION WHITE return to surginates, VELLEW, Lib. 1960s, retains 311, colonian

Date/Inno

Date/Inne

Ę



To: John Lambdin

Date: January 12, 1995

From: Norman R. Norvelle

Place: Field Services Engineering Lab

Subject: Angel Peak Solid Waste Pit Closure Sampling

On January 11, 1995 at 10:00 AM, I met with Denny Foutz of NMOCD to witness my sampling of the Angel Peak Plant solid waste pit for closure. Mr. Foutz had me sample two points at the bottom of the pit at a depth of one foot and then composite the two samples. These were put into a 16 oz. jar, 8 oz. jar and a 4 oz. jar. An extra 16 oz. jar was collected to store in our refrigerator. The actual sample was taken at 13:30 AM. The assigned sample number was 950053. The following analysis was requested: BTEX, PCB, IGN, TCLP metals, and TPH.

The sample was iced in a cooler until received in the lab and then stored in the sample refrigerator. Today, the sample was packed in bubble wrap, iced and ship in a cooler to the BEI labs in Seattle. A temperature blank was included. Below is a picture of the pit. The ancillary paper work is attached.

Norman R. Norvelle, Senior Division Chemis

attachments cc: David Hall





The control and ALSEL LEAVER SCALE  The Mark Spanish of Date Time Mark Spanish of Date Time Mark Spanish of Date Time Mark Spanish of Date Time Mark Spanish of Date Time Mark Spanish of Date Time Mark Spanish of Date Time Mark Spanish of Date Time Mark Spanish of Date Time Mark Spanish of Date Time Mark Spanish of Date Time Mark Mark Spanish of Date Time Mark Mark Spanish of Date Time Mark Mark Spanish of Date Time Mark Mark Mark Mark Mark Mark Mark Mark	Project No			-	ט אוארוט	22 72	CUSIODY RECORD	!		
Time   Marice   Surprise   Materials   M		Tuject Name AL	SEL KENK	Solub				Requested Analysis	2	ontract Laboratory
Term Natura Sample Number O G Say (200 C Say	Samplers: (Signature)	16	7 C Lasure						E	WG
Time   Marks   Sample Number   Did	harkh	No.	13-25	eceiving Lemp. (*F)			sisoo des Mached	IEY OH /		
DAY   STL   OSCO S				lumber		Stoatni	5. 1000 / Son 1000 / S			Remarks
nature)  Date/Time  Received by, (Signature)  Date/Time  Received by, (Signature)  Received by, (Signature)  Received by, (Signature)  Received by, (Signature)  Received by, (Signature)  Received by, (Signature)  Received by, (Signature)  Received by, (Signature)  Received by, (Signature)  Received by, (Signature)  Received by, (Signature)  Received by, (Signature)  Received by, (Signature)  Date/Time  Received by, (Signature)  Date/Time  Received by, (Signature)  Proceived by, (Signature)  Date/Time  Received by, (Signature)  Date/Time  Received by, (Signature)  Date/Time  Received by, (Signature)  Date/Time  Received by, (Signature)  Date/Time  Received by, (Signature)  Date/Time  Received by, (Signature)  Date/Time  Received by, (Signature)  Date/Time  Received by, (Signature)  Date/Time  Received by, (Signature)  Date/Time  Received by, (Signature)  Date/Time  Received by, (Signature)  Date/Time  Received by, (Signature)  Date/Time  Received by, (Signature)  Date/Time  Received by, (Signature)  Date/Time  Received by, (Signature)  Date/Time  Received by, (Signature)  Date/Time  Received by, (Signature)  Date/Time  Received by, (Signature)		0501	9500	53	1		X	X		
Induce)  Date/Time  Heceived by: (Signature)  Date/Time  Heceived by: (Signature)  Relinquished by: (Signature)  Relinquished by: (Signature)  Relinquished by: (Signature)  Relinquished by: (Signature)  Relinquished by: (Signature)  Relinquished by: (Signature)  Relinquished by: (Signature)  Relinquished by: (Signature)  Relinquished by: (Signature)  Relinquished by: (Signature)  Date/Time  Received by: (Signature)  Relinquished by: (Signature)  Relinquished by: (Signature)  Relinquished by: (Signature)  Relinquished by: (Signature)  Relinquished by: (Signature)  Date/Time  Received by: (Signature)  Relinquished by: (Signature)  Relinquished by: (Signature)  Date/Time  Received by: (Signature)  Date/Time  Received by: (Signature)  Date/Time  Received by: (Signature)  Date/Time  Received by: (Signature)  Date/Time  Received by: (Signature)  Date/Time  Received by: (Signature)  Date/Time  Received by: (Signature)  Date/Time  Received by: (Signature)  Date/Time  Received by: (Signature)  Date/Time  Received by: (Signature)  Date/Time  Received by: (Signature)  Date/Time  Received by: (Signature)  Date/Time  Received by: (Signature)  Date/Time  Received by: (Signature)  Date/Time  Received by: (Signature)  Date/Time  Received by: (Signature)										
THEORETICE THE PRECINCE DY, (Signature)  Date/Time Received by, (Signature)  Pleinquished by, (S										
nature)  Date/Time Received by: (Signature)  Relinquished by: (Signature)  Additive)  Date/Time Received by: (Signature)  Relinquished by: (Signature)  Reli										
Tablure)  Date/Time Received by: (Signature)										
nature)  Date/Time Received by: (Signature)  Relinquished by: (Signature)  Date/Time Received by: (Signature)  Relinquished by										
Tellow EPG 140 PMK Faul Sampler  Date/Time Received by: (Signature) Relinquished by: (Signature) Date/Time Received by: (										
nature)  Date/Time Received by: (Signature)  Pater Time Received by: (Signature)  Pat										
Analure)  Date/Time  Received by: (Signature)  Date/Time  Received by: (Signature)  Relinquished by: (Signature)  Relinquished by: (Signature)  Relinquished by: (Signature)  Relinquished by: (Signature)  Relinquished by: (Signature)  Relinquished by: (Signature)  Relinquished by: (Signature)  Relinquished by: (Signature)  Relinquished by: (Signature)  Relinquished by: (Signature)  Date/Time  Received by: (Signature)  Charge Code  Charge Code  Relinquished by: (Signature)  Pate/Time  Received by: (Signature)  Pate/Time  Rece										
nature)  Date/Time Received by: (Signature)  Pelinquished by: (Signature)  Pate/Time Received by: (Signature)  Pate/Time Received by: (Signature)  Pate/Time Received by: (Signature)  Date/Time Received by: (Signature)  Pate/Time Received by: (Signature)  Date/Time Received by: (Signature)  Pate/Time Received by: (Sig								7.5		
Analure)  Date/Time Received by: (Signature)  Relinquished by: (Signature)  Relinquished by: (Signature)  Relinquished by: (Signature)  Relinquished by: (Signature)  Relinquished by: (Signature)  Date/Time Received by: (Signature)  Date/Time Received by: (Signature)  Date/Time Received by: (Signature)  Date/Time Received by: (Signature)  Charge Code  Charge Code  Date Results Reported / by: (Signature)  Date Results Reported / by: (Signature)  Date Results Reported / by: (Signature)			1							
Inature)  Date/Time Received by: (Signature)  Refinquished by: (Signature)  Date/Time Received for Laboratory by: (Signature)  Charge Code  Other Computer C	Relinquished by: (Signa	ature)	Date/Time	<u> </u>	lature)		Relinquished by: (Signal	ture)	Date/Time	Received by: (Signature)
Date/Time Received for Laboratory by: (Signature)    Page Time Remarks:	Relinquished by (Signe	ature)	Date/Time	<del></del>	lature)		Relinquished by: (Signal	(ure)	Date/Time	Received by: (Signature)
Charge Code  Date Results Reported / by: (Signature)  YELLOW-EPT-G Lab PINK-Field Sampler	Relinquished by: (Signa	ature)	Date/Time	Received for Labo	ratory by: (Sign	nature)	1.13-45 p8:20	Remarks:		
YELLOW-EPh.G Lab PINK-Field Sampler	Results & Invoices to::				Charge Code			Date Results Reported	/ by: (Signature)	
		YELLOW-EPPG Lab	PINK-Field Sampler							san juan repro Form 71

REVISION DATE 4/04
PARE PLASA12 FXF-M 11/84
FORMAT #160 Recipient's Phone Number (Nery Important) (206-)227-0811 Department/Floor No. Declared Value Charge Federal Express Use 5 362533633 87 Total Charges Base Charges 160  $\Box$ Offiser 2 ZIP Required apply Your right to recover from Federal Express for any beas including relative the control of the package base teader, income breaset, profit, attorney is fees, costs, and other forms of durings whether direct incordents, crossoquentals or special territories they agasted \$150 or the declared value specified to the infl. Recovery cannot accept declared outside to the maximum Declared Value for maximum Declared Value for In the event of unitinely delivery, Foderal Expess with all your request and with some limitations returned all transportation charges part. See Service Guide for further information. Use of this action contains a contained on the contained of the contained on the contained TELEBRONELAND RULENT TORR I ! ! ? ... | IF HOLD AT FEDEX LOCATION, Print FEDEX Address Hen Street Address Addres SERVICE CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY State SENDER'S COPY Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes ) State ME TAY TIBMON SSS PACKAGE TRACKING NUMBER STAFFE CONTROL AIRBILI Your Phone Number (Very Important) To (Recipient's Name) Please Print (# 1) 5 7 5 7 7 1 4 1 4 1 5 1 1 1 1 1 1 1 RI HIEN Š ž. Cully and Total USE THIS AMBILL FOR SUIPMENTS WITHIN THE COULINENTLY U.S.A. ALASKA AND HAWAU USE THE INTERNATIONAL AR WAYBUL FOR SHIPMENTS TO PUERTO RICO AND ALL NOW U.S. LOCATIONS QUESTIONS? CALL 800-238-5355 TOLL FREE. 4 Bili Credit Card Department/Floor No. #EIGH Park lotal 0 7 % T [otal YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on involca.) DELIVERY AND SPECIAL HANDLING GOOD CONTROL OF THE STATE O ZIP Required (Fain Section 1)

3 \int DELIVER SATIRBOAY
(Fain chup) | (Anternation | (Fain chup) | (Anternation | (Fain chup) | (Anternation | (Fain chup) | (Anternation | (Fain chup) | (Anternation | (Fain chup) | (Anternation | (Fain chup) | (Anternation | (Fain chup) | (Anternation | (Fain chup) | (Anternation | (Fain chup) | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (Anternation | (An Songer 2 Bill Recipion's Feder Acar No. 3 Bill 3rd Party Feder Acat No. 31 HOLD AT FEDEX LOCATION SATURDAY (FILLIN Section H) 4 DANGEROUS GOODS (Extra clurige) 12 HOLIDAY DELIVERY (II offered) (Extra charge) Settled Same Spored Handling 3622533633 State :: :: 541 1V. DIVE 54 FEDEX TUBE
Government Chanight
(Mirrar and and and un) 46 GOVT "Declared Value Limit \$500 "Call for delivery schedule Standard Overnight
(Deboy by authorism thronos)
(Sayay energy)
(Sayay energy)
(Sayay energy) 56 🗀 герех цепен• SENDER S IEDERAL ENPRESS ACCOUNT PRINTERS 52 🔲 FEDEX PAK 80 | WO DAY S3 TFDEX BOX 41 BOVT Mlusay) nimr CEANUS ST JEE 1670-1-08-0-9 From (Your Name) Please Print (Check only one box) FF90100100 Acct /Credit Card No SERVICES رب ر 30 ECONOMY\*

Covery Little Rais not existible
University charges
One pound Economy rate Economy Two Dry Dawes of the TEOEX LETTER 70 PRESGHT 11 OTHER 12 | REDEX PAK Priority Overnight \* \* \* \* \* 14 TROEX TUBE 13 🗍 FEDEX 80X Street Address COPY CEND

E5005b



### ENERGY, MINERAL AND NATURAL RESOURCES DEMARTMENT

#### OIL CONSERVATION DIVISION



BRUCE KING

ANITA LOCKWOOD

CABINET SECRETARY

2040 S. PACHECO SANTA FE. NEW MEXICO 87505 505) 827-7131

November 22, 1994

CERTIFIED MAIL
RETURN RECEIPT NO. P-667-242-177

Mr. Patrick Marquez
Compliance Engineer
El Paso Natural Gas Company
P.O. Box 4990
Farmington, New Mexico 87499

Sohn, Can are make arrangemin for samiling

RE: SOLID WASTE PIT CLOSURES

ANGEL PEAK COMPRESSOR STATION AND CHACO GAS PLANT

SAN JUAN COUNTY, NEW MEXICO

Dear Ms. Miller:

The New Mexico Oil Conservation Division (OCD) has reviewed El Paso Natural Gas Company's (EPNG) September 12, 1994 "SOLID WASTE PIT CLOSURES AT EPNG'S ANGEL PEAK AND CHACO FACILITIES". This document contains EPNG's proposed closure plan for closure of former solid waste pits at EPNG's Angel Peak Compressor Station and Chaco Gasl Plant.

The proposed closure plan as contained in the above referenced document is approved with the following conditions:

- 1. In addition to the soil sampling proposed, EPNG will analyze samples from the pits for hazardous waste characteristics.
- 2. All sample analyses will be conducted using EPA approved laboratory methods.
- 3. The results of the analytical sampling will be submitted to the OCD for approval prior to actual closure of the pits.
- 2. EPNG will notify the OCD at least 72 hours in advance of all scheduled activities such that the OCD has the opportunity to witness the events and/or split samples.
- 5. All original documents will be submitted to the OCD Santa Fe Office with copies provided to the OCD Aztec Office.

September 12, 1995

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

#### Subject: Solid Waste Pit Closures at EPNG's Angel Peak and Chaco facilities

Dear Mr. Olson:

Below are the plans for closure of the subject pits for your review and approval. The Angel Peak and Chaco pits historically received waste generated from the field operations until mid 1992 and March of 1994, respectively. Waste Management of Four Corners currently services both facilities.

#### Pit Locations and Dimensions

Chaco SW/4, Section 16, T-26-N, R-12-W 50 x 7 x 2.5 yards

Angel Pk NE/4, Section 8, T-27-N, R-10-W 35 x 5 x 3 yards

#### **Facility Operations**

- Typical contents would include: office paper products, wood, tin and aluminum cans, glycol and engine oil filters (drained before deposited), oily rags and small pieces of concrete.
- The pits never received liquids or household trash as both the Chaco and Angel Peak camps were retired in 1986.
- The Angel Peak pit has not received field waste for nearly two years and no plant trash since 1990.

  The pit was burned approximately once a week while in operation.
- The Chaco pit has not received trash since March of 1994 and was burned approximately once a month.

#### Closure

- A composite soil sample will be taken from the surface of the pit walls and the bottom of the pit approximately one foot deep.
- The representative sample will be analyzed for BTEX. PCBs. Ignitability, RCRA TCLP for metals and Total Petroleum Hydrocarbons.
- Upon submission of the test results, the pits will be filled with the original soil (current berm material), machine compacted and covered with an 18" cap designed to drain storm water.
- The pit locations relative to the plant surroundings are attached.
- Each pit lies on EPNG property.

El Paso Natural Gas respectfully request approval of the pit closure plans. Should you have questions, please call at 505 599 2175.

Thank you.

Patrick Marquez Compliance Engineer





To: (Distribution)

Date: March 21, 1995

From: John Lambdin

Place: Field Services Laboratory

#### **Subject: Chaco Plant Solid Waste Pit Closure Results**

On February 3, 1995 the Field Services Laboratory collected one (1) soil sample from the solid waste pit at Chaco Plant. The sample was assigned Field Services laboratory number 950081.

The sample was collected and analyzed in accordance with New Mexico OCD guidelines for pit closure. The sample passed all the required tests. Enclosed you will find copies of all field and analytical laboratory results and field data.

Please let me know, if you have any questions.

#### Distribution:

David Hall - w/o attachments Sandra Miller far Q 3 Results Log Book File 3212 Cimetal

Attachments



February 21, 1995 Field Services Lab

Mr. John Lambdin El Paso Natural Gas Company Field Services Laboratory P.O. Box 4990 Farmington, NM 87499

Dear Mr. Lambdin:

Subject: Project: Chaco Plant Trash Pit Soil

EPNG Laboratory Number: 950081

Burlington Environmental Laboratory Number: 95A2061

Burlington Environmental LIMS Job Number: 2331

Charge Code: Not Supplied

EPNG Agreement for Professional Environmental Services. Contract 5769

Analytical Services Blanket Contract Supplement Number 5769-92-3

Burlington Environmental Inc., (BEI) hereby submits the enclosed invoice for the work performed on the above-referenced project.

The analyses performed on this project include:

- Polychlorinated Biphenyls (PCBs)
- Ignitability (Flash Point, Method 1020)
- Toxicity Characteristic Leaching Procedure (TCLP 1311): Metals (D004-D011)

Dutting E. Lieps

The project costs are summarized on the attached invoice. If you have any questions or need additional information concerning this invoice, please do not hesitate to contact me at 206-227-6100.

Sincerely yours,

BURLINGTON ENVIRONMENTAL INC.

Kathy E. Kreps

Laboratory Manager

Enclosure: Invoice





BUILLING LON LNVIKONNIEN LAI 2203 Arport Way South, Suite 400 Seattle, WA 98134

206:223 0500 • FAX: 223-7791

Laboratory Analysis Request Chain of Custody/

DATE 2-8-95 PAGE

RECEIVED IN GOOD CONDITION? W NUMBER OF CONTRINERS CONRC E/10/95 OTHER (Specify) X Son SPECIAL INSTRUCTIONS/COMMENTS. DISCHARGE TESTING SB. SA Ni. Hg Sb. Z .5e. D004-:. 1311/85¢0 TOLP FLISTED SOLVENTS 8540 F.LISTED SOLVENTS 8240 o. 8030 BETX to role method 610870:814 ANALYSIS REQUESTED (bontem e prot H9T 0308/809 Relinquished By PCB s Printed Name Printed Name Received By GC/MS 624 8240 Signature Date/Time Date/Time Signature Firm ΞΞ GC/MS 625 8270 BASE NEU ACID OHGAN 95-A 2010/50/C TYPE CONTACT E/R RASO NATURAL GAS CO. CHEMPRO DIVISION GENERATOR NAME FARM NASTOW, NIT. TELEPHONE #  $L_AB - (505)$  599-2140 SAMPLERS NAME NORMAN NORKELLEPHONE #599-21 hrmy R. has 1 AB 1 D PROJECT CHACO PLANT TRASK Relinquished By Printed Name Printed Name Received By Signature Date/Time 2-3-95 14:15 Date/Time Signature TIME Firm Firm DATE MOKANA K. NOKVELLE Printed Name 52 PASOMPUL) GEGO 17:00 SAMPLERS SIGNATURE -95008 SAMPLEID CLIENT INFO Belinquished By 2-8-9 Received By Signature Signature 2

DISTRIBUTION WHILE return to originator, YELLOW Lib, PIFIK retained by originator

(LAB-200 Rev. 10/9)



A Philip Environmental Company

February 20, 1995

John Lambdin El Paso Natural Gas Co. Field Services Lab P.O. Box 4990 Farmington, NM 87499

Project: CHACO PLANT TRASH PIT SOIL

Laboratory Job Number: 2331

On February 10 we received 1 sample(s). We performed the following analyses:

TCLP Metals PCB's Flash Closed Cup

Instrument: Hewlett Packard 5890 GC

All samples were analyzed according to Methods specified in the work plan or Chain of Custody. Any deviations or exceptions to the standard methods are covered in Data Validation Notes.

All samples were extracted and analyzed within required holding times unless so noted.

Analysis and review was complete on February 20.

Sincerely,

Kathy Kreps
Lab Manager

(206) 227-6100

Burlington Environmental Corporate Lab

Washington Accreditation #C021





#### BURLINGTON ENVIRONMENTAL INC. CORPORATE LABORATORY ANALYTICAL REPORT

Client:

El Paso Natural Gas Co.

Field Services Lab

P.O. Box 4990

Farmington, NM

87499

Laboratory No.: 95-A2061

Sample ID.: 950081

Job Number: 2331

Project Name: CHACO PLANT TRASH PIT SOI

Report to: John Lambdin

Date Received: 2/10/95 Date Sampled: 2/3/95

Date Reported: 2/20/95

Analyte	Results	Units	Method	Analyst	Date	
TCLP METALS TCLP Arsenic TCLP Barium TCLP Cadmium TCLP Chromium TCLP Lead TCLP Mercury TCLP Selenium TCLP Silver  Method 1311 Date	< 0.10 0.75 < 0.005 < 0.010 < 0.10 < 0.0008 < 0.30 < 0.010 Extracted:	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	6010/200.7 6010/200.7 6010/200.7 6010/200.7 6010/200.7 7470/3112 6010/200.7 6010/200.7	EML EML EML EML EML EML EML	2/14/95 2/14/95 2/14/95 2/14/95 2/14/95 2/15/95 2/14/95 2/14/95	LIMIT 5.0 100 1.0 5.0 5.0 0.20 1.0 5.0
PCBs Aroclor-1016 Aroclor-1221 Aroclor-1232 Aroclor-1242 Aroclor-1248 Aroclor-1254 Aroclor-1260 PCB Extraction	< 0.91 < 0.91 < 0.91 < 0.91 < 0.91 < 0.91 < 0.91	MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG	8081 8081 8081 8081 8081 8081	ME ME ME ME ME ME ME	2/14/95 2/14/95 2/14/95 2/14/95 2/14/95 2/14/95 2/14/95 2/10/95	
Surrogates		%_Recove:	rv	Limi	ts	
Tetrachloro-m- Decachlorobiph		96.0 83.0		50.0-1 50.0-1	50.0	
MISCELLANEOUS Flash Closed Cup	Comment NO FLASH	F	1020	RP Cerico	2/13/95 2/13/95  A A A A A A A A A A A A A A A A A A A	od by
	A	the Ka	anA			

Reviewed By :

Kathy Keps

2/20/95



CHAIN OF CUSTODY RECORD

, 0

Contract Laboratory P.O. Number	EPN)		Remarks											Date/Time Received by: (Signature)	Date/Time Received for Laboratory by: (Stonatura)	30 -		North Region Laboratory V	El Paso Natural Gas Company P. O. Box 4990	Farmington, New Mexico 87499	44 FAX: 505-599-2261	
sis										/				ture)	(ште)	_	Results & Invoices to:	***			505-599-2144	
Requested Analysis		1		X					 /					Reinquished by: (Signature)	Relinquished by: (Signature)							
	_	1	2	X									_								•	
	9 10 s	-		0				/						re)	re)		arks					
Zanie	TOO	10 0						/			-			y: (Signatu	y: (Signatu		ceipt Rema				9	
dis			iber											Received by: (Signature)	Received by: (Signature)		Sample Receipt Remarks			i d	Charge Code	
1/2/2//	Sec. of	3	Sample Number	2008										13 3C	ime							
11/	1200	free		98										Service 350	Date/Time							
vame	1	1	Matrix	5016									7									
Project Name		1	Tıme			/								Signature)	nature)		d Time:	☐ Rush			:	
	(Signature)	Tono	Date	3/2/68/14:15	/									Relinquished by: (Signature)	Relinquished by: (Signature)		Requested Turnaround Time:		نہ			
rioject Number	Samplers: (Signature)	12	Lab ID	7.7										Relinquish	Relinquish		Requested	Routine Routine	Carrier Co.		Bill No.:	

· FM-08-0565 (9-£

Pink-Field Sampler

Yellow-EPNG Lab

White-Testing Laboratory



# FIELD SERVICES LABORATORY ANALYTICAL REPORT

THE CLOCKED DO OFFICE CONTROL OF

### SAMPLE IDENTIFICATION

		eld ID		Lab iD		
SAMPLE NUMBER:	250	109 xor 2/9/95		9500	ક )	
MTR CODE   SITE NAME:	chaci P	Plant Trash P.+		N/A		]
SAMPLE DATE   TIME (Hrs):		95		1415		_
SAMPLED BY:		.44-	1	i Norv	ule	4
DATE OF TPH EXT.   ANAL.:			ر. د	8/95	<del></del>	_
DATE OF BTEX EXT.   ANAL.:		``	5//	19-		-
TYPE   DESCRIPTION:	<u> </u>				<del></del>	
REMARKS:		OF OUR TO				
		RESULTS				
PARAMETER	RESULT	UNITS	DF	QUALI		
BENZENE	< 1, c i	MG/KG	0. 30 284	<u> </u>	(4 9 3	V(ml) との
TOLUENE	41.01	MG/KG				
ETHYL BENZENE	2,1,51	MG/KG	/			
TOTAL XYLENES	< 3.03	MG/KG			<u>i</u>	1
TOTAL BTEX	2600	MG/KG				
TPH (418.1)	73.7	MG/KG			1.98	28
HEADSPACE PID	Not RUN	PPM				e de la companya
PERCENT SOLIDS	95.2	%				4.1000 克克斯特 4.1000 克克斯特
	_	418.1 and BTEX is by EPA				
Surrogate Recovery was at ative:  Accordand - Marketine Marketine Records and a Marketine Records and	37.2	% for this sample	All QA/QC v	vas accep	table.	•

= Dilution Factor Used

Test Method for Oil and Grease and Petroleum Hydrocarbons in Water and Soil Perkin-Elmer Model 1500 FT-IR Analysis Report 75/02/08 11:07 Pamble Libhtificalich 150001 . Paluus of symmis Anton sylmemmis el Patroniko om dispublikanski, gan 1995 Jagin Kuloniko oprobli i sestarki: in Templeto jum temporalopadom 11 37 ABORATORY CONTROL SAMPLES: CALIBRATION CHECKS

SAMPLE ID	SOURCE	TRUE VALUE (PPM)	FOUND (MG/KG)	***	HA	CEPTABLE NGE 75-125 %R YES NO	
ITIAL CALIBRATION VERIF.  3" Heavy Oil (Lot M3G9616)	HORIBA	100	103	103	ta test	X.	

arrative: Acceptable.

ABORATORY DUPLICATES:

SAMPLE NUMBER	TYPE	RESULT	DUPLICATE RESULT (D)MG/KG	RPD	ACCEPTABLE RANGE + / - 35% YES NO
946637	2nd Extract	481	388	21.4	X
946640	2nd Extract	411	469	13.2	X

irrative : Acceptable.

ABORATORY SPIKES:

SAMPLE NUMBER	10000000000000000000000000000000000000	RESULT (S)MG/KG	SPIKE SAMPLE RESULT (SR)MG/KG	%я	ACCEPTABLE RANGE 75-125 %R YES NO
946637	2830	481	3890	120	X
946640	3030	411	4040	120	X

rrative: Acceptable.

FERENCE SOIL (Laboratory Control Sample):

SAMPLE ID	SOURCE	KNOWN VALUE (MG/KG)	SAMPLE RESULT FOUND (MG/KG)	MFG SPECIFIED RANGE	ACCEPTABLE YES NO
A TPH STANDARD #1	ENVIRONMENTA	1340	1650	804 - 1680	Х
T # 91026	RESOURCE ASS.				
A TPH STANDARD #2 w/int	ENVIRONMENTA	2590	3060	1550 - 3240	X
T # 91026	RESOURCE ASS.				

rative: Acceptable.

BORATORY REAGENT BLANK:

Freon Solvent	EPNG Lab	<10.0	ACCEPTABLE
Reagent Blank	EPNG Lab	<10.0	ACCEPTABLE
SAMPLE ID	SOURCE	TPH LEVEL (MG/KG)	STATUS

rative: Acceptable.

proved By:

Date:

20-Feb-95

Extracted: 02/08/95



ABORATORY CALIBRATION CHECKS, LABORATORY CONTROL SAMPLES:

"VROIGHTOKA CHETE?"	Control of the control of					
SAPLE		EXPECTED	ANALYTICAL			ACCEPTABLE
MEMBER	TYPE	RESULT	RESULT	双		
TCV: LA-41626		PP8	PP8			TES NO
25 PP6					RANGE	
Benzen <del>e</del>	Standard	25.0	24.5	98.0	75 - 125 %	X
Toluene	Standard	25.0	29.2	116.8	75 - 125 %	X
Ethyl benzene	Standard	25.0	27.0	108.0	75 - 125 %	X
Total Xylenes	Standard	75.0	83.8	111.7	75 - 125 %	X
SAMPLE		EXPECTED	ANALYTICAL			ACCEPTABLE
NUMBER	TYPE	RESULT	RESULT	奴		
ICV LA-41626		PPB	PPB			YES HO
200 PPB					RANGE	
Benzene	Standard	200	215	107.5	75 - 125 %	X
Toluene	Standard	200	225	112.5	75 - 125 %	X
Ethyl benzene	Standard	200	217	108.5	75 - 125 %	X
m & p - Xylene	Standard	400	399	99.8	75 - 125 %	X
o - Xylene	Standard	200	215	107.5	75 - 125 %	X
SAMPLE		EXPECTED	ANALYTICAL			
NUMBER	TYPE	RESULT	RESULT	228		ACCEPTABLE
LCS: DB+00050		PPB	PPB			YES NO
25 PP8					RANGE	
Benzene	Standard	25.0	24.4	97.6	39 - 150	Х
Toluene	Standard	25.0	29.8	119.2	46 - 148	X
Ethyl benzene	Standard	25.0	27.5	110.0	32 - 160	X
Total Xylenes	Standard	75.0	85.6	114.1	Not Given	X
SAMPLE		EXPECTED	ANALYTICAL			ACCEPTABLE
NUMBER	TYPE	RESULT	RESULT	<b>2</b> R		
CCV LA-41626		PPB	PPB			YES NO
25 PP8					RANGE	
Benzene	Standard	25.0	22.2	88.8	75 - 125 %	x
Toluene	Standard	25.0	26.5	106.0	75 - 125 %	х
Ethyl benzene	Standard	25.0	25.2	100.8	75 - 125 %	Х
Total Xylenes	Standard	<i>7</i> 5.0	77.8	103.7	75 - 125 %	X

rrative: Acceptable.

SAME S		LUPLE	OLDE!CATE			ACSEPTABLE
EUREE	177.	RESULT	RESULT	577		
94633	(Latysis, Portion,	979	PFR			123 D
EXTRACT	(or tumple)	(40/14)	(mg/Kg)		<b>RACE</b>	
Benzene	2nd Portion	<1.01	<1.01	0	+/- 35 %	X ·
Toluene	2nd Portion	<1.01	<1.01	0	+/- 35 %	X
Ethyl benzene	2nd Portion	<1.01	<1.01	0	+/- 35 %	X
Total Xylenes	2nd Portion	<3.03	<3.03	0 1	+/- 35 %	X
rative: Acceptable.					•••	
SAPLE		SAMPLE	OUPLICATE			ACCEPTABLE
MINBER	TYPE	RESULT	RESULT	RPO		
946634	(Analysis, Portion,	PPM	PPM			YES NO
EXTRACT	or Sample)	(mg/Kg)	(mg/Kg)		RANGE	
8enzen <del>e</del>	2nd Analysis	<1.00	<1.00	0	+/- 35 %	X
Toluene	2nd Analysis	<1.00	<1.00	0	+/- 35 %	X X
	1					
Ethyl benzene	2nd Analysis	<1.00	<1.00	0	+/- 35 %	
	2nd Analysis 2nd Analysis	<1.00 <3.00	<1.00 <3.00	0	+/- 35 %	<u>x</u>
Ethyl benzene Total Xylenes			1	•		
Ethyl benzene Total Xylenes rative: Acceptable. BORATORY SPIKES:	2nd Analysis	<3.00	<3.00	•		
Ethyl benzene Total Xylenes rative: Acceptable.  BORATORY SPIKES: SAMPLE	2nd Analysis	<3.00	<3.00	0		X
Ethyl benzene Total Xylenes rative: Acceptable. BORATORY SPIKES: SAMPLE MIMBER	2nd Analysis  SPIKE ADDED	<3.00  SAMPLE RESULT	<3.00	0	+/- 35 % RANGE	ACCEPTABLE TES NO
Ethyl benzene Total Xylenes rative: Acceptable.  BORATORY SPIKES:  SAMPLE HUMBER 946631	2nd Analysis  SPIKE ADDED	SAMPLE RESULT PPB <5.00	SPIKE SAMPLE RESULT PPB 38.3	XR: 96	+/- 35 %  RANGE 75 - 125 %	ACCEPTABLE YES HO
Ethyl benzene Total Xylenes Trative: Acceptable.  BORATORY SPIKES: SAMPLE MAMBER 946631 EXTRACT - 2nd Analysis	2nd Analysis  SPIKE ADDED PPB	SAMPLE RESULT PPB  <5.00 <5.00	SPIKE SAMPLE RESULT PPB 38.3 42.8	7 <b>X</b> R 96 107	**************************************	ACCEPTABLE TES NO
Ethyl benzene Total Xylenes rative: Acceptable.  BORATORY SPIKES: SAMPLE MUMBER 946631 EXTRACT: - 2nd Analysis Benzene	SPIKE ADDED PPB  40.0 40.0 40.0 40.0	<3.00  SAMPLE RESULT PPB  <5.00 <5.00 <5.00	SPIKE SAMPLE RESULT PPB  38.3 42.8 40.0	96 107 100	+/- 35 %  RANGE  75 - 125 % 75 - 125 % 75 - 125 %	ACCEPTABLE TES NO.  X X X
Ethyl benzene Total Xylenes  rative: Acceptable.  BORATORY SPIKES:  SAMPLE  NUMBER  946631  EXTRACT - 2nd Analysis  Benzene Toluene	SPIKE ADDED PPB 40.0 40.0	SAMPLE RESULT PPB  <5.00 <5.00	SPIKE SAMPLE RESULT PPB 38.3 42.8	7 <b>X</b> R 96 107	**************************************	ACCEPTABLE TES NO
Ethyl benzene Total Xylenes rative: Acceptable.  BORATORY SPIKES:  SAMPLE  MUMBER  946631  EXTRACT: - 2nd Analysis  Benzene Toluene Ethyl benzene Total Xylenes	SPIKE ADDED PPB  40.0 40.0 40.0 40.0	<3.00  SAMPLE RESULT PPB  <5.00 <5.00 <5.00 <15.0	<3.00  SPIKE SAMPLE RESULT PPB  38.3 42.8 40.0 124	96 107 100	+/- 35 %  RANGE  75 - 125 % 75 - 125 % 75 - 125 %	ACCEPTABLE TES NO.  X X X
Ethyl benzene Total Xylenes rative: Acceptable.  BORATORY SPIKES:  SAMPLE  MUMBER  946631  EXTRACT: - 2nd Analysis  Benzene Toluene Ethyl benzene Total Xylenes	SPIKE ADDED PPB  40.0 40.0 40.0 120.0	<3.00  SAMPLE RESULT PPB  <5.00 <5.00 <5.00 <15.0	<3.00  SPIKE SAMPLE RESULT PPB  38.3 42.8 40.0 124  SPIKE	96 107 100 103	+/- 35 %  RANGE  75 - 125 % 75 - 125 % 75 - 125 %	ACCEPTABLE TES NO X X X X
Ethyl benzene Total Xylenes Trative: Acceptable.  BORATORY SPIKES:  SAMPLE  NUMBER  946631  EXTRACT - 2nd Analysis  Benzene Toluene Ethyl benzene Total Xylenes  rative: Acceptable.	2nd Analysis  SPIKE ADDED PPB  40.0 40.0 40.0 120.0	<3.00  SAMPLE RESULT PPB  <5.00 <5.00 <5.00 <15.0	<3.00  SPIKE SAMPLE RESULT PPB  38.3 42.8 40.0 124	96 107 100	+/- 35 %  RANGE  75 - 125 % 75 - 125 % 75 - 125 %	ACCEPTABLE YES HO X X X X ACCEPTABLE
Ethyl benzene Total Xylenes  rative: Acceptable.  BORATORY SPIKES:  SAMPLE  WIMBER 946631  EXTRACT 2nd Analysis  Benzene Toluene Ethyl benzene Total Xylenes  rative: Acceptable.  SAMPLE  WIMBER 946629	SPIKE ADDED PPB  40.0 40.0 40.0 120.0	<3.00  SAMPLE RESULT PPB  <5.00 <5.00 <5.00 <15.0	SPIKE SAMPLE RESULT PPB  38.3 42.8 40.0 124  SPIKE SAMPLE RESULT	96 107 100 103	**************************************	ACCEPTABLE TES NO X X X X
Ethyl benzene Total Xylenes Trative: Acceptable.  BORATORY SPIKES:  SAMPLE  MUMBER  946431  EXTRACT: - 2nd Analysis  Benzene Toluene Ethyl benzene Total Xylenes  rative: Acceptable.  SAMPLE  RUMBER	SPIKE ADDED PPB  40.0 40.0 40.0 120.0  SPIKE ADDED PPB	<3.00  SAMPLE RESULT PPB  <5.00 <5.00 <5.00 <15.0  SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB  38.3 42.8 40.0 124  SPIKE SAMPLE RESULT PPB	76 107 100 103	**************************************	ACCEPTABLE TES NO  X X X X X ACCEPTABLE TES NO
Ethyl benzene Total Xylenes  rative: Acceptable.  BORATORY SPIKES:  SAMPLE  WIMBER 946631  EXTRACT 2nd Analysis  Benzene Toluene Ethyl benzene Total Xylenes  rative: Acceptable.  SAMPLE  WIMBER 946629	SPIKE ADDED PPB  40.0 40.0 40.0 120.0  SPIKE ADDED PPB	<3.00  SAMPLE RESULT PPB  <5.00 <5.00 <5.00 <15.0  SAMPLE RESULT PPB  <5.00	SPIKE SAMPLE RESULT PPB  38.3 42.8 40.0 124  SPIKE SAMPLE RESULT PPB  38.4	96 107 100 103	**FANGE**  **FANGE**	ACCEPTABLE TES HO:  X X X X X ACCEPTABLE YES NO:
Ethyl benzene Total Xylenes Trative: Acceptable.  BORATORY SPIKES:  SAMPLE  MUMBER  946631  EXTRACT: - 2nd Analysis  Benzene Toluene Ethyl benzene Total Xylenes  Total Xylenes  Tative: Acceptable.  SAMPLE  MUMBER  946629  EXTRACT: - 2nd Portion	SPIKE ADDED PPB  40.0 40.0 40.0 120.0  SPIKE ADDED PPB  40.0 40.0 40.0 40.0 40.0 40.0	<3.00  SAMPLE RESULT PPB  <5.00 <5.00 <15.0  SAMPLE RESULT PPB  <5.00 <5.00 <15.00	SPIKE SAMPLE RESULT PPB  38.3 42.8 40.0 124  SPIKE SAMPLE RESULT PPB  38.4 42.7	96 107 100 103	**RANGE**  75 - 125 %  75 - 125 %  75 - 125 %  75 - 125 %  75 - 125 %  **RANGE**  75 - 125 %  75 - 125 %	ACCEPTABLE TES NO:  X X X X X X X X X X X X X X X X X X
Ethyl benzene Total Xylenes Trative: Acceptable.  BORATORY SPIKES:  SAMPLE  MIMBER  946631  EXTRACT: - 2nd Analysis  Benzene Toluene Ethyl benzene Total Xylenes  Total Xylenes  Tative: Acceptable.  SAMPLE  RUMBER  946629  EXTRACT: - 2nd Portion Benzene	SPIKE ADDED PPB  40.0 40.0 40.0 120.0  SPIKE ADDED PPB	<3.00  SAMPLE RESULT PPB  <5.00 <5.00 <5.00 <15.0  SAMPLE RESULT PPB  <5.00	SPIKE SAMPLE RESULT PPB  38.3 42.8 40.0 124  SPIKE SAMPLE RESULT PPB  38.4	96 107 100 103	**FANGE**  **FANGE**	ACCEPTABLE TES HO:  X X X X X ACCEPTABLE YES NO:

rative: Acceptable.

)ITIONAL ANALYTICAL BLANKS:			
SAMPLE ID AUTO BLANK	SOURCE	РРВ	STATUS
Benzene	Boiled Water	<2.5	ACCEPTABLE
Toluene	Boiled Water	<2.5	ACCEPTABLE
Ethyl benzene	Boiled Water	<2.5	ACCEPTABLE
Total Xylenes	Boiled Water	<7.5	ACCEPTABLE

rative: Acceptable			
SAMPLE ID SOIL VIAL BLANK	SOURCE	PPE	STATUS
Benzene	Vial + Boiled Water	<2.5	ACCEPTABLE
Toluene	Vial + Boiled Water	1	ACCEPTABLE
	Vial + Boiled Water	<2.5	ACCEPTABLE
Total Xylenes	Vial + Boiled Water		ACCEPTABLE

rative: Acceptable.

EXTRACTION BLANE	SIRCE	fin 200 st. short		\$16102
Senzene	Methanol	<2.5		ACCEPTABLE
Toluene	Methanol	<2.5		ACCEPTABLE
Ethyl benzene	Methanol	<2.5	a talah ke	ACCEPTABLE .,
Total Xylenes	Methanol	<7.5		ACCEPTABLE

arrative: Acceptable.

SAMPLE ID Carryover contamination checks		KARRAT I VE	STATUS
1/4	Vial + Boiled Water	All analytical compounds <5.0 ppb	ACCEPTABLE
2/4	Vial + Boiled Water	All analytical compounds <5.0 ppb	ACCEPTABLE
3/4	Vial + Boiled Water	All analytical compounds <5.0 ppb	ACCEPTABLE
4/4	Vial + Boiled Water	All analytical compounds <5.0 ppb	ACCEPTABLE

arrative: Acceptable.

EAGENT BLANKS:

	SAMPLE ID BOILED WATER CHECK	SOURCE 1/31/95	PPE	STATUS
1	Benzene	Boiled Water	<2.5	ACCEPTABLE
ı	Toluene	Boiled Water	<2.5	ACCEPTABLE
1	Ethyl benzene	Boiled Water	<2.5	ACCEPTABLE
	Total Xylenes	Boiled Water	<7.5	ACCEPTABLE

arrative: Acceptable

SAMPLE ID METHANOL CHECK	SOURCE 1/31/95	PPE	STATUS
Benzene	MeOH/Boiled Water	<2.5	ACCEPTABLE
Toluene	MeOH/Boiled Water	<2.5	ACCEPTABLE
Ethyl benzene	MeOH/Boiled Water	<2.5	ACCEPTABLE
Total Xylenes	MeOH/Boiled Water	<7.5	ACCEPTABLE
oproved By:	Fard	Date: 8-Feb-95	

our marketing



To: John Lambdin

Date: February 10, 1995

From: Norman R. Norvelle

Place: Field Services Engineering Lab

Subject: Chaco Plant Solid Waste Pit Closure Sampling

On February 3, 1995 at 10:00 AM, I met with Denny Foutz of NMOCD to witness my sampling of the Chaco Plant solid waste trash pit for closure. We were accompanied by Patrick Marquez and Lyndell Smith. Mr. Foutz had me sample two points at the bottom of the pit at a depth of one foot and then composite the two samples. These were put into a 16 oz. jar, 8 0z. jar and a 4 Oz. jar. An extra 8 Oz. jar was collected as a spare. The actual sample was taken at 2:15 PM. The assigned sample number was 950081. The following analysis was requested from BEI: ignitability, TCLP metals, and PCB. Our lab performed the TPH and BETX analysis.

The sample was iced in a cooler until received in the lab and then stored in the sample refrigerator. On 2-9-95, the sample was packed in bubble wrap, iced and ship in a cooler to the BEI labs in Seattle. A temperature blank was included. The appropriate paper work is attached.

Mr. Foutz then performed an audit and plant tour of Chaco Plant. He was accomplished by Patrick Marquez, Lyndell Smith, and one of the plant leads.

Norman R. Norvelle, Senior Division Chemist

attachments

cc: David Hall

Patrick Marquez

ADDIONO IO INDIO

Seattle MA North Sultu 400

206-223 0500 • FAX: 223-7791

Laboratory Analysis Request

P

DATE 2-8-95 PAGE

*HECEIAED IN GOOD CONDILIONS* NUMBER OF CONTAINERS OTHER (Specify) SPECIAL INSTRUCTIONS COMMENTS. DISCHARGE DISCHARGE 0808 see ...700G SLATEN 910T STED SOLVENTS 1 85:1 SINBATOS CEISITE 1 8540 P. 8050 confam etc. c PROJECT CHACO PLANT TRASH PIT SOLL AMALYSIS HFOLLESTLD 6108 10 1 81A TPH (C.C.e methoc. 0308/809 Relinquished By bCB ≥ Printed Maine Punted Nume He mond By Date/Time **CC/W2 254:8540** Date/Inno Signature agn. dure VOLATILE ORGANICE Ē **CC-W2 ES2.85**\0 NABRO DIDA/UEM BRAB I 201 TYPE CHEMPRO DIVISION/GENERATORINAME FARMILYSTOW, N.M. TELEPHONE # 148-(505) 599-2140 romer R. hovek SAMPLERS NAME NORMAN NORVELLEPHONE 11599-31 I AB I D CONTACT EL PASO NATURAL GAS Relinquished By Punted Name Printed Dame the raverd By Date/Time Signature Date/Time 12-3-95/14:15 TIME Signature Firm DATE 54 PASOMOWA) GE CO Relinquished By X. M. Cla MOSALLA K. MACKELLE 12:00 SAMPLERIS SIGNATORI 95008 SAMPLEID 2-8-95 Printed Name Printed Name Hecuived By Signature Date/Time Date/Time Signature Ē က် 4 Ġ 9

DISTRIBUTION WHITE return to originator, YELLOW Tab. PILIK retained by origination

(LAB-200 Rev. 10/5

110-1221-031 **E19hE5229E** Federal Express REVISION DATE 4/94 fotal Charges 160 ٠, Ollier 2 sty delivery, Federal Express will at your timitations refund all transportation charges BURLINGTON ENVIRANCENTAL CONTROL Will appear on Invoice)

LECTION AT FEDEX LOCATION, Print FEDEX Address Here
Street
Address SERVICE CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY SUMMER'S COPY Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.) State 935 POWELL AVE SM AIRBILL PACKAGE TRACKING NUMBER SAMPLE CONTROL o (Recipient's Name) Please Print RFRIDE USE THIS AMBILL FOR SHIPMENTS MITHIN THE CONTINENTAL U.S.A. ALASKA AND MAMAIL. USE THE INTERNATIONAL AM WAYBILL FOR SHIPMENTS IO PUERTO RICO AND ALL HON U.S. LOCATIONS QUESTIONS? CALL BOOD-238-5355 TOLL FREE. 4 Bill Credit Card DIM CHIEST MICHARD (5.09 y 5.3 9 - 2.1 4 s. Department/Floor No. MEIGH! Your Phone Number (Very Important 0 1 1 8 TOUR INTERNAL BILLING REFERENCE INFORMATION (aptional) (Figst 24 characters yill appear on involce.) DELIVERY AND SPECIAL HANDLING BY (Check services required) 6 Desperova Goods Shipper's Declaration not required By Sender 2 Bill Recipient's FedEx Acct No 3 Bill 3rd Party FedEx Acct No 31 HOLD AT FEDEX LOCATION SATURDAY (Fill in Bection H) 1 HOLD AT FEDST LOCATION WEEKDAY
(2) BELINER WEEKDAY 3 DELIVER SATURDAY 4 🔲 DANGEROUS GOODS (Extra charge) 12 HOLIDAY DELIVERY (# offered) [Extra charge] S. Hinday Sarva o 9 SATURDAY PICK-UP K. 12.6:11 3622534613 1.43 Street Address Se FEDEX LETTER S2 THEDEX PAK. SA THE FEBER TUBE ss 🔲 repex Box JOHN LAMEGIN THE MANAGE 1674-6980-7 FARTING TOTAL From (Your Name) Please Print 16 Tresex LETTER SOUTH NO DAY II OTHER 12 HEBERAL 14 Trader ruse 13 TREE BOX Company  $COb\lambda$ **SENDEB, 2** 

ES 0056 780056 180056.





#### ENERGY. MINERALS AND NATURAL RESOURCES DEPARTMENT

#### OIL CONSERVATION DIVISION



BRUCE KING

ANITA LOCKWOOD CABINET SECRETARY

2040 S. PACHECO SANTA FE, NEW MEXICO 87505 (505) 827-7131

Sohn, can we make

arrangements for sampling

November 22, 1994

## CERTIFIED MAIL RETURN RECEIPT NO. P-667-242-177

Mr. Patrick Marquez Compliance Engineer El Paso Natural Gas Company P.O. Box 4990 Farmington, New Mexico 87499

RE: SOLID WASTE PIT CLOSURES

ANGEL PEAK COMPRESSOR STATION AND CHACO GAS PLANT

SAN JUAN COUNTY, NEW MEXICO

Dear Ms. Miller:

The New Mexico Oil Conservation Division (OCD) has reviewed El Paso Natural Gas Company's (EPNG) September 12, 1994 "SOLID WASTE PIT CLOSURES AT EPNG'S ANGEL PEAK AND CHACO FACILITIES". This document contains EPNG's proposed closure plan for closure of former solid waste pits at EPNG's Angel Peak Compressor Station and Chaco Gasl Plant.

The proposed closure plan as contained in the above referenced document is approved with the following conditions:

- 1. In addition to the soil sampling proposed, EPNG will analyze samples from the pits for hazardous waste characteristics.
- 2. All sample analyses will be conducted using EPA approved laboratory methods.
- 3. The results of the analytical sampling will be submitted to the OCD for approval prior to actual closure of the pits.
- 4. EPNG will notify the OCD at least 72 hours in advance of all scheduled activities such that the OCD has the opportunity to witness the events and/or split samples.
- 5. All original documents will be submitted to the OCD Santa Fe Office with copies provided to the OCD Aztec Office.





### MEMORANDUM OF MEETING OR CONVERSATION

X Telephone	Personal	Time	:	Date 3-13-95	_
		1:34 p	~		, 
	Originating Party	1		Other Partie	\$_
Pat San	chez - called				
Patrick	chez - called Margnez				
LTT'	R rec. from	EPNG.	dated	Feb. 22, 199	5
Approvi	al for cons	struction ?	OP	of Add. Septic	System.
Discussion					,
Septi	c system or No a	- will	only	cantain	
Soway	rc, No	ather u	-aste	strans,	
Told	him that	+ it v	rould	fall under	·/·
NM	ED Juns	tiction.			
	A				
conclusions or /	Adreements				
		<del></del>		· .	
<u>saution</u>		Sig	ined Jak	Sight Say	



95 MM / MM 8 52

Natural Gas Company

P O BOX 4990 FARMINGTON, NEW MEXICO 87499

Mr. David Tomko New Mexico Environment Department 724 W. Animas Farmington, NM 87401

February 22, 1995

Subject: Approval for Construction and Operation of Additional Septic System at EPNG's Chaco

Dear Mr. Tomko:

El Paso Natural Gas Company (EPNG) request approval for the septic system described below. The septic system will be installed to accommodate construction crews during and perhaps beyond the construction of new facilities at Chaco Plant.

- Chaco Plant: SW/4, Section 26, T-26-N & R-12-W
- Potable water will be piped from the existing water system within the plant to two construction trailers. Each trailer will have one toilet and one sink. This waste stream will be isolated from all others.
- One septic tank with 420± gallon/day capacity to service both trailers. The septic tank will discharge to a leach field (See enclosed map for piping layout).
- Taft Construction, licensed in the State of New Mexico, will install the system.
- The system will be in operation until new construction is complete, approximately one year. Upon completion, Chaco Plant personnel will evaluate the future need for the septic system. The decision to remove or keep the system will be forwarded to NMED and NMOCD along with the "as built" drawings.

El Paso Natural Gas Company respectfully request approval to construct and operate the temporary septic system at Chaco Plant. Construction of the system will begin immediately after NMED approval, therefor, your earliest response is appreciated. Should you require further information, please do not hesitate to call at 505 599 2175.

Thank you,

Patrick Marquez Compliance Engineer

P.S. Warz

cc:

David Hall (EPNG) Kent Leidy (EPNG) William Olson (NMOCD) Lyndell Smith (EPNG) Bob Yungert (EPNG)

Sandra Miller/David Bays/File: 5212 Chaco (Regulatory)



## State of New Mexico ENERGY, MERCHART Sand NATURAL RESOURCES DE REMENT Santa Fe, New Mexico 87505





February 15, 1995

## CERTIFIED MAIL RETURN RECEIPT NO. P-176-012-110

Ms. Sandra Miller El Paso Natural Gas Company P.O. Box 4990 Farmington, New Mexico 87499

Re: Discharge Plan (GW-71)

**Chaco Gas Plant** 

San Juan County, New Mexico

Dear Ms. Miller:

The Oil Conservation Division (OCD) has received El Paso Natural Gas Company's (EPNG) request, dated February 8, 1995, for approval to provide wastewater to local entities wanting to use the water for: 1) drilling oil and/or natural gas wells, and 2) the San Juan County road departments use in dust suppression on dirt roads. Based upon the information provided, your disposal request is approved under the following conditions:

- 1. Only noncontact wastewater from the Chaco Plant will be provided to the above requested entities.
- 2. If water is to be used for road spreading to suppress dust, EPNG must receive approval from the OCD-Aztec Office on a case by case basis.
- 3. Use of the wastewater in the oil and natural gas industry is limited to exploration and production activities.
- 4. EPNG will maintain records of those entities that receive the water, the volume of water provided, date provided, intended use of the water and final disposition of the water. EPNG will provide the OCD a copy of the records February 1st of each year with the first report due no later than February 1, 1996.
- 5. The wastewater may not be discharged into any waters of the United States or within one hundred feet (100') from the nearest natural boundary of any wash or arroyo.

VILLAGRA BUILDING - 408 Galisteo

Forestry and Resources Conservation Division P.O. Box 1948 87504-1948 827-5830

Park and Recreation Division P.O. Box 1147 87504-1147 827-7465 2040 South Pacheco

Office of the Secretary 827-5950

Administrative Services 827-5925

Energy Conservation & Management 827-5900

Mining and Minerals 827-5970

Oil Conservation 827-7131 Ms. Sandra Miller February 14, 1995

Please be advised that this approval does not relieve you of liability should your operation result in actual pollution of surface or groundwater or the environment actionable under other laws and/or regulations. In addition, OCD approval does not relieve you of responsibility for compliance with any other federal, state or local laws and/or regulations.

If you have any questions, please do not hesitate to call me at (505) 827-7153.

Sincerely,

Chris E. Eustice

Environmental Geologist

xc: OCD - Aztec Office





February 8, 1995

Mr. Chris Eustice New Mexico Oil Conservation Division 2040 S. Pacheco Santa Fe, NM 87504

## RECEIVED

FEB 1 3 1995

Environmental Bureau
Oil Conservation Division

Dear Mr. Eustice:

El Paso Natural Gas Co. (EPNG) is periodically requested to provide water to local entities from our noncontact wastewater pond at Chaco Plant. The requests typically come from two types of companies: 1) drilling companies for use in oil and gas well production, and 2) the county road department for use in dust suppression on dirt roads.

EPNG requests approval of a minor revision to Chaco Plant's discharge plan GW-71 in order to accommodate these type requests. For your information, I have listed below several items which are relevant to this request:

- Chaco Plant noncontact wastewater was sampled in 1991 and 1993 for BETX, heavy metals, and total dissolved solids (TDS). In each case, the BETX levels were nondetectable, the heavy metals were below WQCC standards, and the TDS was 1550 mg/l and 1356 mg/l, respectively.
- The discharge quality to the noncontact wastewater ponds has not changed significantly since the last sampling events took place.
- EPNG will maintain a log of those entities which take water from the pond and will provide NMOCD a copy of the log on an annual basis.
- EPNG will require that any entity using water from the Chaco Plant pond agree, in writing, to the following stipulations as applicable:
  - 1. Chaco Plant personnel are notified prior to a company obtaining wastewater from the pond.
  - 2. Use of the wastewater is limited to use in oil and natural gas exploration and production activities. (i.e. not water wells)
  - 3. The wastewater is not discharged into waters of the U.S.
  - 4. The wastewater is not discharged within 100' from the nearest natural boundary of any wash or arroyo.
  - 5. The wastewater is never applied so as to allow ponding or pooling of water along roads.

6. The wastewater is limited to the road surface and never applied, allowing runoff of water beyond the road boundaries.

If you have any questions regarding this modification, you may reach me at 599-2141.

Sincerely,

Sandra D. Miller

Sandy Wills-

Superintendent, Environmental Compliance

xc:

Mr. Denny Foust, NMOCD - Aztec

Mr. W.D. Hall, EPNG



1. LAVISION 1. DAVISION 1. DD

Mr. Bill Olson New Mexico Oil Conservation Division 2040 South Pacheco Street Santa Fe, NM 87504 February 1, 1995

Subject:

**Closure Report - Chaco Plant Industrial Ponds and Flare Pit** 

Dear Mr. Olson:

El Paso Field Services (EPFS) has completed the closure of the subject ponds. This summary of the closure activities is presented to you as a condition of the Closure Plan approval dated November 17th, 1995.

Closure activities began on or about December 2nd and continued for approximately one month. Each pond berm was broken allowing heavy equipment to mix fill earth and manure with the pond contents until the pond area was stabilized. The pond berms were cut and used as fill, leaving the area sloping gently northward to capture any stormwater against the existing plant berm. Clay from a nearby EPFS facility was imported to fashion a six to eight inch clay cap for the entire area. In short, the work followed the closure plan and was successful. NMOCD representative, Mr. Denny Foust, visited the site on two separate occasions to witness these activities.

EPFS has recently sampled monitor wells 1 and 8 (8b in all previous documents) to confirm the data presented to your office in November and to provide some basis for further delineation of the perched aquifer quality. Table 1 shows MW8's initial quality (submitted with the Closure Plan) while Table 2 shows two additional analyses for MW8 and a recent analysis of MW1.

As shown, the water quality from MW1 is consistent with previous analyses while the MW8 quality has improved. EPFS proposes increasing the sampling frequency for monitor wells 1 and 8 to bimonthly (every two months) for BTEX and continuing semi annual analyses for BTEX, PNA's, Cd, Cr and Hg as instructed (NMOCD to EPNG - Nov. 17th, 1995). This should allow EPFS to further establish ground water quality at the site. EPFS shall report these analyses to your office with the Annual Ground Water Quality Report in October, 1996 with a work plan for further delineation of ground water quality if necessary.

Please consider this course of action. You may contact me at 505-599-2175 if you require further information. Your assistance and timely response to EPFS's requests last year are appreciated.

Thank you,

Patrick Marquez

Compliance Engineer

cc:

Denny Foust (NMOCD)

Sandra Miller/David Bays/File: 5212 Regulatory

# Monitor Well 8b Chaco Plant 11/16/95

			Monitor Well 8b					
			Sample #951068					
			Report to NMOCD 11/16/95					
Total Metals	Result	Units	Polynuclear Aromatics	Result	Units	Cations/Anions	Result	Units
Aluminum	2.8	mg/l	Naphthalene	ND	ug/L	pH	8.02	umhos
Arsenic	0.05	mg/l	Acenaphthylene	ND	ug/L	Alkalinity as CO3	0	ppm
Barium	0.1	mg/l	1-Methylnaphthalene	10.5	ug/L	Alkalinity as HCO3	780	ppm
Boron	0.4	mg/l	2-Methylnaphthalene	6J	ug/L	Calcium as Ca	13	ppm
Cadmium	ND	mg/l	Acenaphthene	ND	ug/L	Magnesium and Mg	4	ppm
Chromium	ND	mg/l	Fluorene	3.6	ug/L	Total Hardness as CACO3	49	ppm
Cobalt	ND	mg/l	Phenanthrene	ND	ug/L	Chloride as Cl	158	ppm
Copper	ND	mg/l	Anthracene	ND	ug/L	Sulfate as SO4	289	ppm
Iron	2.2	mg/l	Fluoranthene	ND	ug/L	Flouride as F	2.2	ppm
Lead	ND	mg/l	Pyrene	ND	ug/L	Potassium as K	0.65	ppm
Manganese	0.25	mg/l	Benzo(a)anthrecene	ND	ug/L	Sodium	553	ppm
Mercury	ND	mg/l	Chrysene	ND	ug/L	Total dissolved Solids	1424	ppm
Molybdenum	ND	mg/l	Benzo(b)flouranthene	ND	ug/L	Conductivity	2280	umhos
Nickel	ND	mg/l	Benzo(a)flouranthene	ND	ug/L	Nitrate as NO3-N	<0.1	ppm
Selenium	ND	mg/l	Benzo(a)pyrene	ND	ug/L	Phosphate as PO4	4.2	ppm
Silver	ND	mg/l	Dibenzo(a,h)anthracene	ND	ug/L			
Zinc	0.07	mg/l	Benzo(g,h,i)perylene	ND	ug/L			
BTEX (8020)			Indeno(1,2,3-c,d)pyrene	ND	ug/L			
Benzene	29.5	ppb						
Toluene	<2.5	ppb						
Ethyl Benzene	<2.5	ppb						
Total Xylenes	<7.5	ppb						
ND = Not Detected								-

# Monitor Wells 1 and 8 Chaco Plant Pond Closures Closure Report 02/02/96 BTEX (8020)

	MW 8	MW 8	MW 8	Units	MW 1
Analyte/Date	Nov. 16,1995	Nov. 30, 1995	Jan. 30, 1996		Jan. 30, 1996
Benzene	29.5	9.1	5.3	ppb	< 2.5
Toluene	< 2.5	< 2.5	< 2.5	ppb	< 2.5
Ethyl Benzene	< 2.5	< 2.5	< 2.5	ppb	< 2.5
Total Xylenes	< 7.5	< 7.5	< 7.5	ppb	< 7.5



# FIELD SERVICES LABORATORY ANALYTICAL REPORT

# **SAMPLE IDENTIFICATION**

SAMPLE NUMBER: 951295

MATRIX: Water

SAMPLE DATE: 29-Nov-95

SAMPLE TIME (Hrs.): 1452

SAMPLED BY: Dennis Bird

**PROJECT:** Monitor Well Sampling

FACILITY ID: 5212

**SAMPLE LOCATION:** Chaco Plant

**SAMPLE POINT:** Monitor Well #8

DATE OF ANALYSIS: 30-Nov-95

REMARKS: None.

### EPA Method 8020 (BTEX) RESULTS

PARAMETER	RESULT PPB	QUALIFIER	WQCC LIMIT PPB
BENZENE	9.1	None	10
TOLUENE	<2.5	None	740
ETHYL BENZENE	< 2.5	None	750
TOTAL XYLENES	<7.5	None	620
SURROGATE % RECOVERY	93	Allowed Rar 80 to 120	- H

NOTES:

Acceptable Quality Control.

Approved By: John Zardh

4-Dec-95

Date

CHAIN OF CUSTODY RECORD

			CHAIN	5	CUSIOUT RECORD	בעכטאַנוּ				_
rroject Name	Mark a	•				Ä	Requested Analysis	7 /2	2050 1.077 1.05 COS	
Samplers: (Signature)	Date Receivi	Receiving Temp. (°F)			_	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	, v)	· 1	7 1.8/450	
Franis Lias	11-29-95	R			erisodi	ayseyy	\ <del>\</del>	FRAMIAK TO	11. H. STM1	
Lab ID Date Time Matrix	Sample Number		N latoT	Stostnl	2000	Sec.		Re	ks	
112995 1452 WATER	R 951395	35	2		9	×		MONITOR WELL	LMW-P	
11.2895 - WATER	A)		1		S	×		TRID BLANK		
								,		
										,
				/						
										,
										,
Relinquished by: (Signature)	Date/Time R	Received by: (Signature)	ature)		Relinquishe	Relinquished by: (Signature)	(e)	Date/Time Rec	Received by: (Signature)	
γ <u>ε</u>	Lime	Received by: (Signature)	ature)		Relinquishe	Relinquished by: (Signature)	(a)	Date/Time Rec	Received by: (Signature)	
		<	6.1							,
Relinquished by: (Signature)	Date/Time R	Roceived for Laboratory	1/1	(Signature)	Date	1/Time	Remarks:			
		1.4:17	The state of the s	なな		11626				
Results & Invoices to::			Charge Co	- ep	··	<u> </u>	ate Results Re	Date Results Reported / by: (Signature)		
WHITE-Testing Laboratory YELLOW-EPNG Lab	PINK-Freid Sampler								san juan repro Form 71-65	-

### EL PASO NATURAL GAS - FIELD SERVICES LAB

QUALITY CONTROL REPORT EPA METHOD 8020 - BTEX

**Samples: 951295** 

QA/QC for 11/30/95 Sample Set

#### LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

LABORATORY CALIBRATION CHECK	S / LABORATORY CONTROL S/	AMPLES:					
SAMPLE		EXPECTED	ANALYTICAL		AEI	CEPTABLE	
NLAGER	TYPE	RESULT	RESULT	222			
TCV: UA+52589		PPB	PPB			YES	ND ON
50 PPB					RANGE		
Benzene	Standard	50.0	54.6	109.2	75 - 125 %	Х	-
Toluene	Standard	50.0	55.3	110.6	75 - 125 %	x	
Ethyl benzene	Standard	50.0	56.2	112.4	75 - 125 %	x	
m & p - Xylene	Standard	100	108.9	108.9	75 - 125 %	x	
o - Xylene	Standard	50.0	56.8	113.6	75 - 125 %	<u> </u>	
SAMPLE		EXPECTED	ANALYTICAL		AC	CEPTABLE	
NUMBER	TYPE	RESULT	RESULT	222			
LCS LA-45476		PPB	PPB			YES	NO
25 PP8					RANGE		
Benzene	Standard	25.0	30.0	120.0	39 - 150	x	
Toluene	Standard	25.0	30.2	120.8	46 - 148	x	
Ethyl benzene	Standard	25.0	29.4	117.6	32 - 160	x	
m&p-Xylene	Standard	50	57.1	114.2	Not Given	x	
o - Xylene	Standard	25.0	29.8	119.2	Not Given	х	
SAMPLE		EXPECTED	ANALYTICAL		ACI	CEPTABLE	
NUMBER	TYPE	RESULT	RESULT	XX			
CCV LA-52589		PPB	РРВ			YES	NO
50 PP8					RANGE		
Benzene	Standard	50.0	51.4	102.8	75 - 125 %	х	
Toluene	Standard	50.0	51.9	103.8	75 - 125 %	x	
Ethyl benzene	Standard	50.0	52.7	105.4	75 - 125 %	X	
m & p - Xylene	Standard	100	101.7	101.7	75 - 125 %	X	
o - Xylene	Standard	50.0	53.0	106.0	75 - 125 %	X	
SAMPLE		EXPECTED	ANALYTICAL		ACI	EPTABLE.	
NUMBER			DECU. T				
NOTES.	TYPE	RESULT	RESULT	XR.			
CCV LA-52589	TIPE	RESULT PP8	PPB	AL.		YES	NO
	TYPE			A.	RANGE	YES	NO
CCV LA-52589	Standard			98.4	RANGE 75 - 125 %	YES	NO.
CCV LA-52589 50 PPB		PPB	PPB		I	YES	
CCV LA-52589 50 PPB Benzene	Standard	PPB 50.0	PPB 49.2	98.4	75 - 125 %	YES	NA
CCV LA-52589 50 PPB Benzene Toluene	Standard Standard	<b>PPS</b> 50.0 50.0	PPB 49.2 49.3	98.4 98.6	75 - 125 % 75 - 125 %	YES	NA NA

Narrative: Acceptable.

#### EL PASO NATURAL GAS - FIELD SERVICES LAB

QUALITY CONTROL REPORT

EPA METHOD 8020 - BTEX
Samples: 951295

#### LABORATORY DUPLICATES:

SAMPLE 18 947799	TYPE	SAPLE RESULT PPB	DUPLICATE RESULT PPB	APD	RANGE	ACCEPTABLE YES	жо
Benzene	Matrix Duplicate	9.1	9.0	1	+/- 20 %	X	
Toluene	Matrix Duplicate	<2.5	<2.5	0	+/- 20 %	X	
Ethyl benzene	Matrix Duplicate	<2.5	<2.5	0	+/- 20 %	X	
m & p - Xylene	Matrix Duplicate	<5.0	<2.5	0	+/- 20 %	X	
o - Xylene	Matrix Duplicate	<2.5	<2.5	0	+/- 20 %	X	

Narrative: Acceptable.

#### LABORATORY SPIKES:

SAMPLE ID	SPIKE ADDED	SAMPLE RESULT	SPIKE SAMPLE	**		ACCEPTAB	LE
2nd Analysis 947799	PPB	PPE PPE	RESULT PPB	*	RANGE	YES	Ю
Benzene	50	9.1	57.5	96.8	75 - 125	% X	
Toluene	50	<2.5	50.3	100.6	75 - 125	% X	
Ethyl benzene	50	<2.5	51.9	103.8	75 - 125	% X	
m & p - Xylene o - Xylene	100	<5.0	98.8	98.8	75 - 125	% x	
o - Xylene	50	<2.5	51.6	103.2	75 - 125	% X	

Narrative: Acceptable.

#### ADDITIONAL ANALYTICAL BLANKS:

AUTO BLANK	SOURCE	PPE	STATUS
Benzene	Boiled Water	<2.5	ACCEPTABLE
Toluene	Boiled Water	<2.5	ACCEPTABLE
Ethyl benzene	Boiled Water	<2.5	ACCEPTABLE
Ethyl benzene Total Xylenes	Boiled Water	<7.5	ACCEPTABLE

Narrative: Acceptable.

SOLE VIAL BEANK	SOURCE Lot H12151 A5	PPE	STATUS
Benzene	Vial + Boiled Water	<2.5	ACCEPTABLE
Toluene	Vial + Boiled Water	<2.5	ACCEPTABLE
Ethyl benzene	Vial + Boiled Water	<2.5	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<7.5	ACCEPTABLE

Narrative: Acceptable.

CONTANINATION CARRYOVER CHECK	SOURCE	PPE (None analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<2.5	NA
Toluene	Vial + Boiled Water	<2.5	NA
Ethyl benzene	Vial + Boiled Water	<2.5	NA
Total Xylenes	Vial + Boiled Water	<7.5	NA

Narrative:

Approved By: Stanfaltan

1-Dec-95

2

Date: \_\_\_



# **EL PASO FIELD SERVICES**

# FIELD SERVICES LABORATORY

# ANALYTICAL REPORT

### SAMPLE IDENTIFICATION

SAMPLE NUMBER: 960063

MATRIX: Water

SAMPLE DATE: 30-Jan-96

SAMPLE TIME (Hrs.): 1122

SAMPLED BY: Dennis Bird

**PROJECT:** Monitor Well Sampling

FACILITY ID: 5212

**SAMPLE LOCATION:** Chaco Plant

**SAMPLE POINT:** Monitor Well #8

DATE OF ANALYSIS: 30-Jan-96

REMARKS: None.

### EPA Method 8020 (BTEX) RESULTS

PARAMETER	RESULT PPB	QUALIFIER	WQCC LIMIT PPB
BENZENE	5.3	None	10
TOLUENE	<2.5	None	740
ETHYL BENZENE	<2.5	None	750
TOTAL XYLENES	<7.5	None	620
		Allowed Ra	inge
SURROGATE % RECOVERY	91	80 to 120	%

NOTES:

Acceptable Quality Control.

Approved By: Land

31-Jan-96

Date



# **EL PASO FIELD SERVICES**

# FIELD SERVICES LABORATORY

# ANALYTICAL REPORT

## **SAMPLE IDENTIFICATION**

SAMPLE NUMBER: 960064

MATRIX: Water

SAMPLE DATE: 30-Jan-96

SAMPLE TIME (Hrs.): 1133

SAMPLED BY: Dennis Bird

**PROJECT:** Monitor Well Sampling

FACILITY ID: 5212

**SAMPLE LOCATION: Chaco Plant** 

**SAMPLE POINT:** Monitor Well #1

DATE OF ANALYSIS: 30-Jan-96

REMARKS: None.

### **EPA Method 8020 (BTEX) RESULTS**

PARAMETER	RESULT PPB	QUALIFIER	WQCC LIMIT PPB
BENZENE	<2.5	None	10
 TOLUENE	<2.5	None	740
ETHYL BENZENE	<2.5	None	750
 TOTAL XYLENES	<7.5	None	620
		Allowed Ra	inge
SURROGATE % RECOVERY	104	80 to 120	%

NOTES:

Acceptable Quality Control.

Approved By:

31-Jan-96

Date

# EL PARO NATURAL GAS - FIELD SERVICES LA

QUALITY CONTROL REPORT

EPA METHOD 8020 - BTEX

Samples: 960063 and 960064

QA/QC for 01/30/96 Sample Set

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:						
SAPLE		EXPECTED	ANALYTICAL		ACCEPTABLE	
MANBER	TYPE	RESULT	RESULT	<b>7</b> 2		
ICV LA-52589		PPB	PPB.		YES NO	
50 PP8					RANGE	
Benzene	Standard	50.0	49.9	99.8	75 - 125 % X	
Toluene	Standard	50.0	50.4	100.8	75 - 125 % X	
Ethyl benzene	Standard	50.0	50.6	101.2	75 - 125 % X	
m&p-Xylene	Standard	100	98.1	98.1	75 - 125 % X	
o - Xylene	Standard	50.0	50.8	101.6	75 - 125 % X	
SAMPLE		EXPECTED	ANALYTICAL		ACCEPTABLE	
NUMBER	TYPE	RESULT	RESULT	XR		
LCS LA-45476		PPB	PPB		YES NO	
25 PPB					RANGE	
Benzene	Standard	25.0	26.5	106.0	39 - 150 X	
Toluene	Standard	25.0	26.5	106.0	46 - 148 X	
Ethyl benzene	Standard	25.0	26.8	107.2	32 - 160 X	ŀ
m & p - Xylene	Standard	50	51.0	102.0	Not Given X	
o - Xylene	Standard	25.0	27.0	108.0	Not Given X	
SAMPLE		EXPECTED	ANALYTICAL		ACCEPTABLE	
NUMBER	TYPE	RESULT	RESULT	XR		
CCV LA-52589		PPB	PPB		YES NO	
50 PPB					RANGE	
Benzene	Standard	50.0	50.4	100.8	75 - 125 % X	
Toluene	Standard	50.0	50.7	101.4	75 - 125 % (	į
Ethyl benzene	Standard	50.0	51.2	102.4	75 - 125 %	
m&p-Xylene	Standard	100	98.6	98.6	75 - 125 % X	j
o - Xylene	Standard	50.0	51.7	103.4	75 - 125 % X	
SAMPLE		EXPECTED	ANALYTICAL		ACCEPTABLE	
NUMBER	TYPE	RESULT	RESULT	YR.		
CCV LA-52589		PPB	PPB		YES NO	
50 PPB					RANGE	
Benzene	Standard	50.0		0.0	75 - 125 %	
Toluene	Standard	50.0		0.0	75 - 125 %	
Ethyl benzene	Standard	50.0		0.0	75 - 125 %	
m&p-Xylene	Standard	100		0.0	75 - 125 %	
o - Xylene	Standard	50.0		0.0	75 - 125 %	_

Narrative: Acceptable.

# EL PASO NATURAL GAS - FIELD SERVICES LA

QUALITY CONTROL REPORT

EPA METHOD 8020 - BTEX

Samples: 960063 and 960064

#### LABORATORY DUPLICATES:

\$A#PLE 1D 960063	TYPE	SAMPLE RESULT PPB	OUPLICATE RESULT PPE	APD	RANGE	ACCEPTABLE YES H	G.
Benzene	Matrix Duplicate	5.39	5.35	1	+/- 20 %	Х	
Toluene	Matrix Duplicate	<2.5	<2.5	0	+/- 20 %	x	
Ethyl benzene	Matrix Duplicate	<2.5	<2.5	0	+/- 20 %	x	
m & p - Xylene	Matrix Duplicate	<5.0	<5.0	0	+/- 20 %	x	
o - Xylene	Matrix Duplicate	<2.5	<2.5	0	+/- 20 %	X	

Narrative: Acceptable.

#### LABORATORY SPIKES:

ENDORATORY OF IRES.		ATTACAGE CONTRACTOR CO		000000000000000000000000000000000000000	000000000000000000000000000000000000000	000000000000000000000000000000000000000	000000000000000000000000000000000000000
SAMPLE	SPIKE	Sample	SPIKE			acceptable	
10	ADDED	RESULT	SAMPLE	223			
2nd Analysis	PPB	PPB	RESULT			YES	NO
960063			PPB		RANGE		
Benzene	50	5.39	52.3	93.8	75 - 125 %	Х	
Toluene	50	<2.5	48.5	97.0	75 - 125 %	X	
Ethyl benzene	50	<2.5	49.5	99.0	75 - 125 %	X	1
m & p - Xylene	100	<5.0	95	94.5	75 - 125 %	X	
m & p - Xylene o - Xylene	50	<2.5	48.8	97.6	75 - 125 %	Х	

Narrative: Acceptable.

#### ADDITIONAL ANALYTICAL BLANKS:

AUTO BLANK	SOURCE	PPB	STATUS
Benzene	Boiled Water	<2.5	ACCEPTABLE
Toluene	Boiled Water	<2.5	ACCEPTABLE
Ethyl benzene	Boiled Water	<2.5	ACCEPTABLE
Total Xylenes	Boiled Water	<7.5	ACCEPTABLE

Narrative: Acceptable.

SOIL VIAL BLANK	SCURCE Lot M12151 A9	PPB (Amalyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<2.5	ACCEPTABLE
ii Toluene	Vial + Boiled Water	<2.5	ACCEPTABLE
Ethyl benzene	Vial + Boiled Water	<2.5	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<7.5	ACCEPTABLE

Narrative: Acceptable.

CONTAMINATION CARRYOVER CHECK	SOURCE	PPB (None analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<2.5	NA
Toluene	Vial + Boiled Water	<2.5	NA J
Ethyl benzene	Vial + Boiled Water	<2.5	NA NA
Total Xylenes	Vial + Boiled Water	<7.5	NA

Narrative:

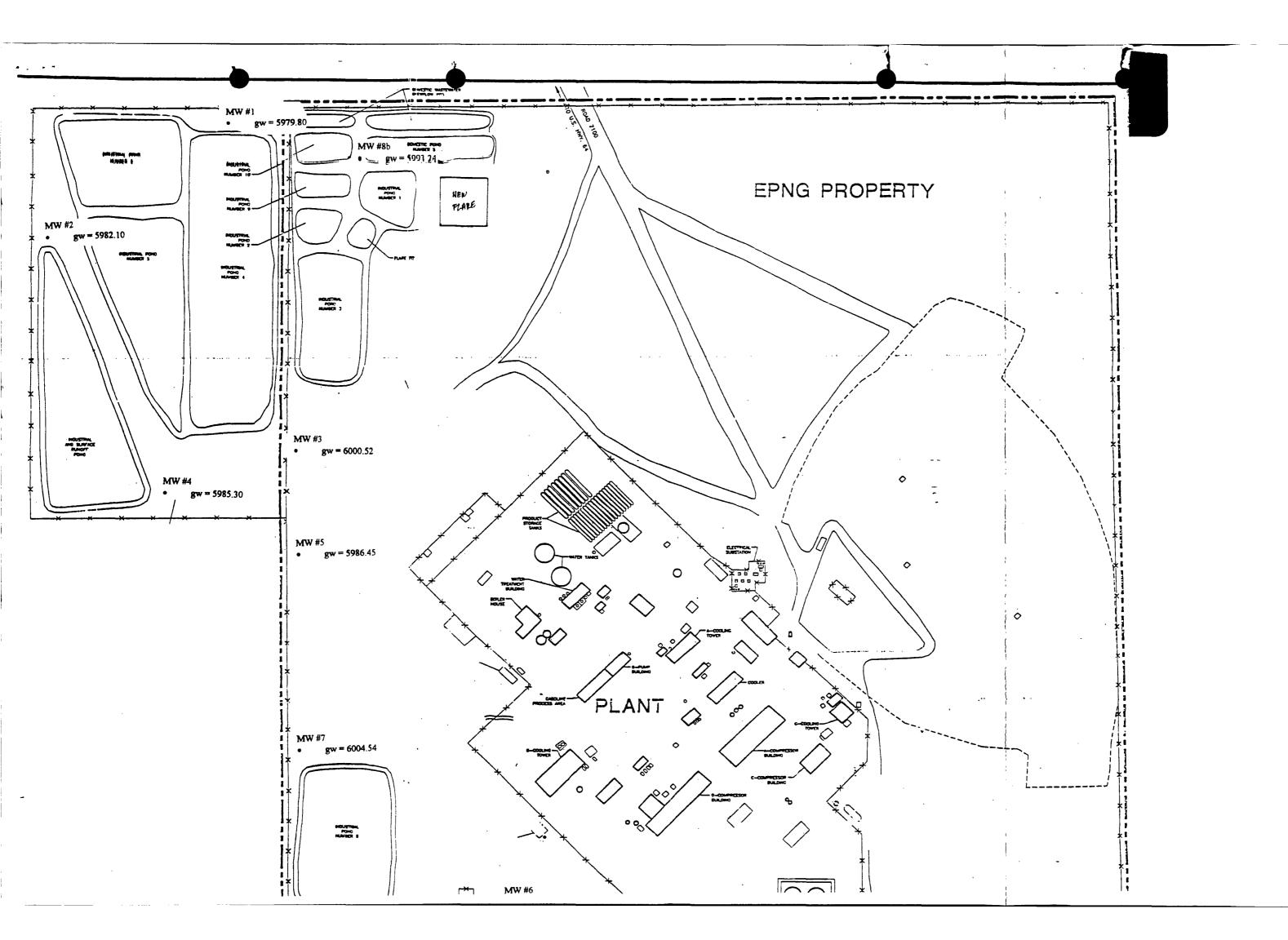
Approved By: John Farish

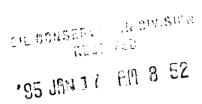
Date: 31-Jan-96

CHAIN OF CUSTODY RECORD EIPaso Natural Gas Company

FRANINSTON N.M. mourtap well mw-8 Received by: (Signature) Received by: (Signature) Contract Laboratory Remarks nouted well 770 WEST Date Results Reported / by: (Signature) Date/Time Date/Time Requested Analysis Remarks: Relinquished by. (Signature) Relinquished by: (Signature) O|O|Ointact? Received far Laboratory by: (Signature) Chain of Custody Seals Received by: (Signature) Received by. (Signature) Total No. of Containers Receiving Temp. (°F) 760054 760063 Sample Number Date/Time Date/Time WHITE-Testing Laboratory YELLOW-EPNG Lab PINK-Field Sample MATCAR WATER 1-3096 1122 WATER Matrix Project Name Time 133 1133 Samplers: (Signature) Relinquished by: (Signature) Relinquished by: (Signature) Relinquished by: (Signature) 1-29-16 Results & Invoices to:: Date Project No. Lab ID

san juan repro Form 71-65





January 11, 1995

ENVIRONMENTAL NOTES: Denny Foust

RE: Sampling for Closure of Solid Waste Pit EPNG Chaco Plant

Norman Norvelle, EPNG and Denny Foust, OCD were to sample solid waste pit at Chaco Plant as proposed by Patrick Marquez EPNG September 12, 1995 and approved by OCD. The pit at Chaco Plant was active with new trash, from construction, operations and personnel in the pit. We could not reach the bottom of the pit to obtain samples plus the pit continues to be active.