

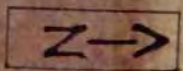
GW - 71-0

**GENERAL
CORRESPONDENCE**

YEAR(S):

1994

10/18/82





[illegible]

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

DATE RECEIVED : 07/08/94

REPORT DATE : 07/15/94

ATI I.D. : 407329

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	941048 Monitor Well MW-1	AQUEOUS	07/06/94
02	941049 Monitor Well MW-2	AQUEOUS	07/06/94
03	941050 Monitor Well MW-3	AQUEOUS	07/06/94
04	941051 Monitor Well MW-4	AQUEOUS	07/06/94
05	941052 Monitor Well MW-5	AQUEOUS	07/06/94
06	941053 Monitor Well MW-6	AQUEOUS	07/06/94
07	941054 Monitor Well MW-7	AQUEOUS	07/06/94
08	941055 Monitor Well MW-7 Dup	AQUEOUS	07/06/94
09	941056 20 Inch Discharge	AQUEOUS	07/06/94

----- TOTALS -----

MATRIX	# SAMPLES
AQUEOUS	9

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.

METALS RESULTS

ATI I.D. : 407329

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

DATE RECEIVED : 07/08/94

REPORT DATE : 07/15/94

QCC Limit	PARAMETER	UNITS	01	02	03	04	05
0.05	SILVER (EPA 200.7/6010)	MG/L	<0.010	<0.010	<0.010	<0.010	<0.010
0.10	ARSENIC (EPA 206.2/7060)	MG/L	<0.005	<0.005	0.005	<0.005	<0.005
1.00	BARIUM (EPA 200.7/6010)	MG/L	0.060	0.022	0.065	0.014	0.022
0.01	CADMIUM (EPA 213.2/7131)	MG/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
0.05	CHROMIUM (EPA 200.7/6010)	MG/L	<0.010	<0.010	<0.010	<0.010	<0.010
0.002	MERCURY (EPA 245.1/7470)	MG/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
0.05	LEAD (EPA 239.2/7421)	MG/L	<0.002	<0.002	<0.002	<0.002	<0.002
0.05	SELENIUM (EPA 270.2/7740)	MG/L	0.005	<0.005	<0.005	0.014	0.019
			MW-1	MW-2	MW-3	MW-4	MW-5

PRELIMINARY

METALS RESULTS

ATI I.D. : 407329

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

DATE RECEIVED : 07/08/94

REPORT DATE : 07/15/94

PARAMETER	UNITS	06	07	08	09
0.05 SILVER (EPA 200.7/6010)	MG/L	<0.010	<0.010	<0.010	<0.010
0.10 ARSENIC (EPA 206.2/7060)	MG/L	<0.005	<0.005	<0.005	0.005
1.00 BARIUM (EPA 200.7/6010)	MG/L	0.028	0.026	0.026	0.205
0.01 CADMIUM (EPA 213.2/7131)	MG/L	<0.0005	<0.0005	<0.0005	<0.0005
0.05 CHROMIUM (EPA 200.7/6010)	MG/L	<0.010	<0.010	<0.010	0.049
0.002 MERCURY (EPA 245.1/7470)	MG/L	<0.0002	<0.0002	<0.0002	<0.0002
0.05 LEAD (EPA 239.2/7421)	MG/L	<0.002	<0.002	<0.002	<0.002
0.05 SELENIUM (EPA 270.2/7740)	MG/L	0.058	<0.005	<0.005	<0.005

MW-6

MW-7

MW-7
 Field
 Duplicate

20"
 Discharge

PRELIMINARY

GAS CHROMATOGRAPHY RESULTS

Page 3

Test : EPA 8010/8020 (HALOGENATED/AROMATIC VOLATILES)

Client : ANALYTICAL TECHNOLOGIES, INC.

ATT I.D. : 407096

Project # : 407329

Project Name: EL PASO NATURAL GAS

Sample Client ID #	Matrix	Date Sampled	Date Extracted	Date Analyzed	Dil. Factor
1 407329-01	WATER	06-JUL-94	N/A	12-JUL-94	1.00
2 407329-02	WATER	06-JUL-94	N/A	12-JUL-94	1.00
3 407329-03	WATER	06-JUL-94	N/A	12-JUL-94	1.00

Parameter	Units	1 MW-1	2 MW-2	3 MW-3
ARSENIC	UG/L	<0.50	<0.50	<0.50
BROMODICHLOROMETHANE	UG/L	<0.20	<0.20	<0.20
BROMOFORM	UG/L	<1.0	<1.0	<1.0
BROMOMETHANE	UG/L	<1.0	<1.0	<1.0
CARBON TETRACHLORIDE	UG/L	<0.20	<0.20	<0.20
CHLOROBENZENE	UG/L	<0.50	<0.50	<0.50
CHLOROETHANE	UG/L	<1.0	<1.0	<1.0
CHLOROFORM	UG/L	<0.20	<0.20	<0.20
CHLOROMETHANE	UG/L	<1.0	<1.0	<1.0
DIBROMOCHLOROMETHANE	UG/L	<0.20	<0.20	<0.20
1,2-DIBROMOMETHANE	UG/L	<0.50	<0.50	<0.50
1,2-DICHLOROBENZENE	UG/L	<0.50	<0.50	<0.50
1,3-DICHLOROBENZENE	UG/L	<0.50	<0.50	<0.50
1,4-DICHLOROBENZENE	UG/L	<0.50	<0.50	<0.50
DICHLORODIFLUOROMETHANE	UG/L	<1.0	<1.0	<1.0
1,1-DICHLOROETHANE	UG/L	<0.20	<0.20	<0.20
1,2-DICHLOROETHANE	UG/L	<0.20	<0.20	<0.20
1,1-DICHLOROTHENE	UG/L	<0.20	<0.20	<0.20
CIS-1,2-DICHLOROTHENE	UG/L	<0.20	<0.20	<0.20
TRANS-1,2-DICHLOROTHENE	UG/L	<0.20	<0.20	<0.20
1,2-DICHLOROPROPANE	UG/L	<0.20	<0.20	<0.20
CIS-1,3-DICHLOROPROPENE	UG/L	<0.20	<0.20	<0.20
TRANS-1,3-DICHLOROPROPENE	UG/L	<0.20	<0.20	<0.20
ETHYLBENZENE	UG/L	<0.50	<0.50	<0.50
METHYLENE CHLORIDE	UG/L	<2.0	<2.0	<2.0
1,1,2,2-TETRACHLOROETHANE	UG/L	<0.50	<0.50	<0.50
TETRACHLOROETHENE	UG/L	<0.20	<0.20	<0.20
TOLUENE	UG/L	<0.50	<0.50	<0.50
1,1,1-TRICHLOROETHANE	UG/L	<0.20	<0.20	<0.20
1,1,2-TRICHLOROETHANE	UG/L	<0.20	<0.20	<0.20
TRICHLOROETHENE	UG/L	<0.20	<0.20	<0.20
TRICHLOROFLUOROMETHANE	UG/L	<2.0	<2.0	<2.0
VINYL CHLORIDE	UG/L	<0.20	<0.20	<0.20
XYLENES (TOTAL)	UG/L	<1.0	<1.0	<1.0

SURROGATES

BROMOFLUOROBENZENE (ELCD)

t

95

91

83

BROMOFLUOROBENZENE (PID)

t

107

104

92

Post-It® Fax Note	7671	Date	7/14/94	# of Pages	8
To	Tish K.	From	Charles M. (GAL)		
Co./Dept.	ATI LAB	Co.	ATI ID		
Phone #		Phone #			
Fax #		Fax #			

GAS CHROMATOGRAPHY RESULTS

Page 4

Test : EPA 8010/8020 (HALOGENATED/AROMATIC VOLATILES)
 Client : ANALYTICAL TECHNOLOGIES, INC.
 Project # : 407329
 Project Name: EL PASO NATURAL GAS

ATI I.D. : 407096

Sample #	Client ID	Matrix	Date Sampled	Date Extracted	Date Analyzed	Dil. Factor
4	407329-04	WATER	06-JUL-94	N/A	12-JUL-94	1.00
5	407329-05	WATER	06-JUL-94	N/A	12-JUL-94	1.00
6	407329-06	WATER	06-JUL-94	N/A	12-JUL-94	1.00

Parameter	Units	4 MW-4	5 MW-5	6 MW-6
BENZENE	UG/L	<0.50	<0.50	<0.50
BROMODICHLOROMETHANE	UG/L	<0.20	<0.20	<0.20
BROMOFORM	UG/L	<1.0	<1.0	<1.0
BROMOMETHANE	UG/L	<1.0	<1.0	<1.0
CARBON TETRACHLORIDE	UG/L	<0.20	<0.20	<0.20
CHLOROBENZENE	UG/L	<0.50	<0.50	<0.50
CHLOROETHANE	UG/L	<1.0	<1.0	<1.0
CHLOROFORM	UG/L	<0.20	<0.20	0.33
CHLOROMETHANE	UG/L	<1.0	<1.0	<1.0
1,1-DICHLOROMETHANE	UG/L	<0.20	<0.20	<0.20
1,1-DICHLOROETHANE	UG/L	<0.50	<0.50	<0.50
1,2-DICHLOROBENZENE	UG/L	<0.50	<0.50	<0.50
1,3-DICHLOROBENZENE	UG/L	<0.50	<0.50	<0.50
1,4-DICHLOROBENZENE	UG/L	<0.50	<0.50	<0.50
DICHLORODIFLUOROMETHANE	UG/L	<1.0	<1.0	<1.0
1,1-DICHLOROETHANE	UG/L	<0.20	<0.20	<0.20
1,2-DICHLOROETHANE	UG/L	<0.20	<0.20	<0.20
1,2-DICHLOROTHENE	UG/L	<0.20	<0.20	<0.20
CIS-1,2-DICHLOROTHENE	UG/L	<0.20	<0.20	<0.20
TRANS-1,2-DICHLOROTHENE	UG/L	<0.20	<0.20	<0.20
1,2-DICHLOROPROPANE	UG/L	<0.20	<0.20	<0.20
CIS-1,3-DICHLOROPROPENE	UG/L	<0.20	<0.20	<0.20
TRANS-1,3-DICHLOROPROPENE	UG/L	<0.20	<0.20	<0.20
ETHYLENE	UG/L	<0.50	<0.50	<0.50
ETHYLENE CHLORIDE	UG/L	<2.0	<2.0	<2.0
1,1,2,2-TETRACHLOROETHANE	UG/L	<0.50	<0.50	<0.50
TETRACHLOROETHENE	UG/L	<0.20	<0.20	<0.20
TOLUENE	UG/L	<0.50	<0.50	<0.50
1,1,1-TRICHLOROETHANE	UG/L	<0.20	<0.20	<0.20
1,1,2-TRICHLOROETHANE	UG/L	<0.20	<0.20	<0.20
TRICHLOROETHENE	UG/L	<0.20	<0.20	<0.20
TRICHLOROFLUOROETHANE	UG/L	<2.0	<2.0	<2.0
VINYL CHLORIDE	UG/L	<0.20	<0.20	<0.20
XYLENES (TOTAL)	UG/L	<1.0	<1.0	<1.0

SURROGATES

BROMOFLUOROBENZENE (ELCD)
 BROMOFLUOROBENZENE (PID)

4	86	99	95
5	99	109	106

GAS CHROMATOGRAPHY RESULTS

Page 3

Test : EPA 8010/8020 (HALOGENATED/AROMATIC VOLATILES)
 Client : ANALYTICAL TECHNOLOGIES, INC.
 Project # : 407329
 Project Name: EL PASO NATURAL GAS

ATI I.D. : 407096

Sample Client ID #	Matrix	Date Sampled	Date Extracted	Date Analyzed	Dil. Factor
7 407329-07	WATER	06-JUL-94	N/A	12-JUL-94	1.00
8 407329-08	WATER	06-JUL-94	N/A	12-JUL-94	1.00
9 407329-09	WATER	06-JUL-94	N/A	12-JUL-94	1.00
Parameter	Units	7 MW-7	8 MW-7 Field Dup	9 20" Discharge	
ACETYLENE	UG/L	<0.50	<0.50	<0.50	
BROMODICHLOROMETHANE	UG/L	<0.20	<0.20	<0.20	
BROMOFORM	UG/L	<1.0	<1.0	<1.0	
BROMOMETHANE	UG/L	<1.0	<1.0	<1.0	
CARBON TETRACHLORIDE	UG/L	<0.20	<0.20	<0.20	
CHLOROBENZENE	UG/L	<0.50	<0.50	<0.50	
CHLOROETHANE	UG/L	<1.0	<1.0	<1.0	
CHLOROFORM	UG/L	<0.20	<0.20	<0.20	
CHLOROMETHANE	UG/L	<1.0	<1.0	<1.0	
DIBROMOCHLOROMETHANE	UG/L	<0.20	<0.20	<0.20	
1,2-DIBROMOMETHANE	UG/L	<0.50	<0.50	<0.50	
1,3-DICHLOROBENZENE	UG/L	<0.50	<0.50	<0.50	
1,3-DICHLOROBENZENE	UG/L	<0.50	<0.50	<0.50	
1,4-DICHLOROBENZENE	UG/L	<0.50	<0.50	<0.50	
DICHLORODIFLUOROMETHANE	UG/L	<1.0	<1.0	<1.0	
1,1-DICHLOROETHANE	UG/L	<0.20	<0.20	<0.20	
1,2-DICHLOROETHANE	UG/L	<0.20	<0.20	<0.20	
1,1-DICHLOROETHENE	UG/L	<0.20	<0.20	<0.20	
CIS-1,2-DICHLOROETHENE	UG/L	<0.20	<0.20	<0.20	
TRANS-1,2-DICHLOROETHENE	UG/L	<0.20	<0.20	<0.20	
1,2-DICHLOROPROPANE	UG/L	<0.20	<0.20	<0.20	
CIS-1,3-DICHLOROPROPENE	UG/L	<0.20	<0.20	<0.20	
TRANS-1,3-DICHLOROPROPENE	UG/L	<0.20	<0.20	<0.20	
ETHYLENE	UG/L	<0.50	<0.50	<0.50	
METHYLENE CHLORIDE	UG/L	<2.0	<2.0	<2.0	
1,1,2,2-TETRACHLOROETHANE	UG/L	<0.50	<0.50	<0.50	
TETRACHLOROETHENE	UG/L	<0.20	<0.20	<0.20	
TOLUENE	UG/L	1.7	1.8	<0.50	
1,1,1-TRICHLOROETHANE	UG/L	<0.20	<0.20	<0.20	
1,1,2-TRICHLOROETHANE	UG/L	<0.20	<0.20	<0.20	
TRICHLOROETHENE	UG/L	<0.20	<0.20	<0.20	
TRICHLOROFLUOROMETHANE	UG/L	<2.0	<2.0	<2.0	
VINYL CHLORIDE	UG/L	<0.20	<0.20	<0.20	
XYLENES (TOTAL)	UG/L	<1.0	<1.0	<1.0	
SURROGATES					
BROMOFLUOROBENZENE (ELCD)	%	99	96	93	
BROMOFLUOROBENZENE (PID)	%	102	105	95	

GAS CHROMATOGRAPHY - QUALITY CONTROL

REAGENT BLANK

Page 6

Test : EPA 8010/8020 (HALOGENATED/AROMATIC VOLATILES)
 Blank I.D. : 31186
 Client : ANALYTICAL TECHNOLOGIES, INC.
 Project # : 407129
 Project Name: EL PASO NATURAL GAS

ATX I.D. : 407096
 Date Extracted: N/A
 Date Analyzed : 11-JUL-94
 Dil. Factor : 1.00

Parameters	Units	Results
BENZENE	UG/L	<0.50
BROMODICHLOROMETHANE	UG/L	<0.20
BROMOFORM	UG/L	<1.0
BROMOMETHANE	UG/L	<1.0
CARBON TETRACHLORIDE	UG/L	<0.20
CHLOROBENZENE	UG/L	<0.50
CHLOROETHANE	UG/L	<1.0
CHLOROFORM	UG/L	<0.20
CHLOROMETHANE	UG/L	<1.0
DIBROMOCHLOROMETHANE	UG/L	<0.20
1,2-DIBROMOETHANE	UG/L	<0.50
1,2-DICHLOROBENZENE	UG/L	<0.50
1,3-DICHLOROBENZENE	UG/L	<0.50
1,4-DICHLOROBENZENE	UG/L	<0.50
DICHLORODIFLUOROMETHANE	UG/L	<1.0
1,1-DICHLOROETHANE	UG/L	<0.20
1,2-DICHLOROETHANE	UG/L	<0.20
1,1-DICHLOROETHENE	UG/L	<0.20
CIS-1,2-DICHLOROETHENE	UG/L	<0.20
TRANS-1,2-DICHLOROETHENE	UG/L	<0.20
1,2-DICHLOROPROPANE	UG/L	<0.20
CIS-1,3-DICHLOROPROPENE	UG/L	<0.20
TRANS-1,3-DICHLOROPROPENE	UG/L	<0.20
ETHYLENE	UG/L	<0.50
METHYLENE CHLORIDE	UG/L	<2.0
1,1,2,2-TETRACHLOROETHANE	UG/L	<0.50
TETRACHLOROETHENE	UG/L	<0.20
TOLUENE	UG/L	<0.50
1,1,1-TRICHLOROETHANE	UG/L	<0.20
1,1,2-TRICHLOROETHANE	UG/L	<0.20
TRICHLOROETHENE	UG/L	<0.20
TRICHLOROFLUOROMETHANE	UG/L	<2.0
VINYL CHLORIDE	UG/L	<0.20
XYLENES (TOTAL)	UG/L	<1.0

SURROGATES

BROMOFLUOROBENZENE (ELCD)
 BROMOFLUOROBENZENE (PID)

108

121

Acceptable.
 8

7/15/94

GAS CHROMATOGRAPHY - QUALITY CONTROL

REAGENT BLANK

Page 7

Test : EPA 8010/8020 (HALOGENATED/AROMATIC VOLATILES)
 Blank L.D. : 31203
 Client : ANALYTICAL TECHNOLOGIES, INC.
 Project # : 407329
 Project Name: EL PASO NATURAL GAS

ATI I.D. : 407096
 Data Extracted: N/A
 Date Analysed : 12-JUL-94
 Dil. Factor : 1.00

Parameters	Units	Results
BENZENE	UG/L	<0.50
BROMODICHLOROMETHANE	UG/L	<0.20
BROMOFORM	UG/L	<1.0
BROMOMETHANE	UG/L	<1.0
CARBON TETRACHLORIDE	UG/L	<0.20
CHLOROBENZENE	UG/L	<0.50
CHLOROMETHANE	UG/L	<1.0
CHLOROFORM	UG/L	<0.20
CHLOROMETHANE	UG/L	<1.0
DIBROMOCHLOROMETHANE	UG/L	<0.20
1,2-DIBROMOMETHANE	UG/L	<0.50
1,2-DICHLOROBENZENE	UG/L	<0.50
1,3-DICHLOROBENZENE	UG/L	<0.50
1,4-DICHLOROBENZENE	UG/L	<0.50
DICHLORODIFLUOROMETHANE	UG/L	<1.0
1,1-DICHLOROMETHANE	UG/L	<0.20
1,2-DICHLOROMETHANE	UG/L	<0.20
1,1-DICHLOROETHENE	UG/L	<0.20
CIS-1,2-DICHLOROETHENE	UG/L	<0.20
TRANS-1,2-DICHLOROETHENE	UG/L	<0.20
1,2-DICHLOROPROPANE	UG/L	<0.20
CIS-1,3-DICHLOROPROPENE	UG/L	<0.20
TRANS-1,3-DICHLOROPROPENE	UG/L	<0.20
ETHYLENE	UG/L	<0.50
METHYLENE CHLORIDE	UG/L	<2.0
1,1,2,2-TETRACHLOROMETHANE	UG/L	<0.50
TETRACHLOROETHENE	UG/L	<0.20
TOLUENE	UG/L	<0.50
1,1,1-TRICHLOROMETHANE	UG/L	<0.20
1,1,2-TRICHLOROMETHANE	UG/L	<0.20
TRICHLOROETHENE	UG/L	<0.20
TRICHLOROFLUOROMETHANE	UG/L	<2.0
VINYL CHLORIDE	UG/L	<0.20
XYLENES (TOTAL)	UG/L	<1.0

SURROGATES

BROMOFLUOROBENZENE (FLCD)
 BROMOFLUOROBENZENE (PID)

1 92
 1 99

Acceptable.
 JF
 7/15/94

GAS CHROMATOGRAPHY - QUALITY CONTROL

MEMED

Page 3

Test : EPA 8010/8020 (HALOGENATED/AROMATIC VOLATILES)
 MEMED # : 64672
 Client : ANALYTICAL TECHNOLOGIES, INC.

ATI I.D. : 407096
 Date Extracted: N/A
 Date Analyzed : 11-JUN-94
 Sample Matrix : WATER
 REF I.D. : 407071-03

Project # : 407329
 Project Name: EL PASO NATURAL GAS

Parameters	Units	Sample Result	Conc Spike	Spiked Sample	t Rec	Dup Spike	Dup t Rec	RPD
BENZENE	UG/L	<0.50	2.0	2.1	105	2.1	105	0
CHLOROBENZENE	UG/L	<0.50	2.0	2.3	110	2.4	120	9
CHLOROFORM	UG/L	<0.20	2.0	2.3	115	2.4	120	4
1,1-DICHLOROETHENE	UG/L	<0.20	2.0	1.8	90	2.2	110	20
TETRACHLOROETHENE	UG/L	<0.20	2.0	2.3	115	2.4	120	4
TOLUENE	UG/L	<0.50	2.0	2.4	120	2.4	120	0
TRICHLOROETHENE	UG/L	<0.20	2.0	2.3	115	2.3	115	0

t Recovery = (Spike sample Result - Sample Result)*100/Spike Concentration

RPD (Relative t Difference) = (Spiked Sample Result - Duplicate Spike Result)*100/Average Result

Acceptable
 J
 7/15/94

GAS CHROMATOGRAPHY - QUALITY CONTROL

BLANK SPIKE

Page 9

Test : EPA 8010/8020 (HALOGENATED/AROMATIC VOLATILES)
Blank Spike #: 48302
Client : ANALYTICAL TECHNOLOGIES, INC.
Project #: 407329
Project Name : EL PASO NATURAL GAS

API I.D. : 407096
Data Extracted: N/A
Date Analyzed : 11-JUL-94
Sample Matrix : WATER

Parameters	Units	Blank Result	Spiked Sample	Spike Conc.	% Rec
BENZENE	UG/L	<0.50	4.1	4.0	103
CHLOROBENZENE	UG/L	<0.50	4.1	4.0	103
CHLOROFORM	UG/L	<0.20	2.0	2.0	100
1,1-DICHLOROETHENE	UG/L	<0.20	1.8	2.0	90
TETRACHLOROETHENE	UG/L	<0.20	2.1	2.0	105
TOLUENE	UG/L	<0.50	4.2	4.0	105
TRICHLOROETHENE	UG/L	<0.20	2.0	2.0	100

% Recovery = (Spike Sample Result - Sample Result)*100/Spike Concentration

RPD (Relative % Difference) = (Spiked Sample - Blank Result)*100/Average Result

Acceptable.
JL
7/15/94

GAS CHROMATOGRAPHY - QUALITY CONTROL

BLANK SPIKE

Page 10

Test : EPA 8010/8020 (HALOGENATED/AROMATIC VOLATILES)
 Blank Spike #: 48345
 Client : ANALYTICAL TECHNOLOGIES, INC.
 Project #: 407329
 Project Name : EL PASO NATURAL GAS

ATI I.D. : 407096
 Date Extracted: N/A
 Date Analyzed : 12-JUL-94
 Sample Matrix : WATER

Parameters	Units	Blank Result	Spiked Sample	Spike Conc.	% Rec
AMINE	UG/L	<0.50	3.7	4.0	93
CHLOROBENZENE	UG/L	<0.50	4.1	4.0	103
CHLOROFORM	UG/L	<0.20	2.0	2.0	100
1,1-DICHLOROETHENE	UG/L	<0.20	2.0	2.0	100
TETRACHLOROETHENE	UG/L	<0.20	2.1	2.0	105
TOLUENE	UG/L	<0.50	3.7	4.0	93
TRICHLOROETHENE	UG/L	<0.20	2.1	2.0	105

% Recovery = (Spike Sample Result - Sample Result)*100/spike Concentration

RPD (Relative % Difference) = (Spiked Sample - Blank Result)*100/Average Result

Accepted
 E
 7/15/94

FAX . . . FAX . . . FAX . . . FAX . . . FAX . . . FAX . . . FAX . . . FAX . . .

FROM:



Analytical **Technologies**, Inc.

2709-D Pan American Freeway, NE
Albuquerque, NM

(505) 344-3777
(505) 344-4413 FAX

____ Mitch Rubenstein
____ Letitia Krakowski
____ Terri Dettre
____ Beth Proffitt

Number of pages being sent: _____ (including this page)

TO:

Name :

John

Company :

Phone # :

FAX # :

COMMENTS:

*see all the rush results -
other study - (retals) later
this afternoon*

NOTE:

If any of these FAX copies are illegible or you do not receive the same number of pages as stated above, please contact us immediately.

El Paso Natural Gas Company - Field Services Lab Report

Anion/Cation Balance Information and Calculations

Sample Number:	941048	941049	941050	941051	941052
SAMPLE POINT	Monitor Well	Monitor Well	Monitor Well	Monitor Well	Monitor Well
	MW-1	MW-2	MW-3	MW-4	MW-5
Concentration:	meq/l	meq/l	meq/l	meq/l	meq/l
CATIONS:					
CALCIUM AS Ca	9.28	1.90	8.83	24.40	22.60
MAGNESIUM AS Mg	2.39	0.74	3.54	7.16	8.23
POTASSIUM AS K	0.08	0.00	0.00	0.20	0.18
SODIUM (+/- Difference)	7.84	20.24	21.99	57.62	57.36
SODIUM (Actual)	7.04	20.39	21.70	60.65	63.22
CATIONS TOT(w/o Na)	11.74	2.64	12.37	31.76	31.01
CATIONS TOT(w/act. Na)	18.79	23.03	34.07	92.42	94.23
CATIONS TOT(w/cal. Na)	19.58	22.88	34.36	89.38	88.37
ANIONS:					
ALKALINITY AS CO ₃	0.00	0.00	0.00	0.00	0.00
ALKALINITY AS HCO ₃	7.01	10.21	11.96	9.13	7.41
FLORIDE AS Cl	4.43	4.34	5.13	14.05	9.59
SULFATE AS SO ₄	8.14	8.33	17.26	66.21	71.37
FLUORIDE AS F	0.00	0.00	0.00	0.00	0.00
ANIONS (TOTAL)	19.58	22.88	34.36	89.38	88.37
TDS (ACTUAL)	1194	1428	2132	6040	6170
TDS (CALC. w/cal. Na)	1157	1373	2096	5861	5869
PERCENT DIFF. w/cal. Na	3	4	2	3	5
TDS (CALC. w/act. Na)	1139	1377	2089	5931	6004
PERCENT DIFF. w/act. Na	5	4	2	2	3
SODIUM (CALCULATED)	180	465	505	1325	1319
SODIUM AS Na (ACTUAL)	162	469	499	1395	1454
Relative % Difference RPD	3%	0%	0%	1%	2%
ANION/CATION % Difference	104.23	99.36	100.85	96.72	93.78

El Paso Natural Gas Company - Field Services Lab Report

Anion/Cation Balance Information and Calculations

Sample Number:	941053	941054	941055	941056	0
SAMPLE	Monitor	Monitor	Monitor	20 Inch	0
POINT	Well	Well	Well	Discharge	0
	MW-6	MW-7	MW-7 Dup	0	0
Concentration:	meq/l	meq/l	meq/l	meq/l	meq/l
CATIONS:					
CALCIUM AS Ca	1.35	5.14	5.19	10.03	0.00
MAGNESIUM AS Mg	0.41	1.40	1.40	3.79	0.00
POTASSIUM AS K	0.00	0.05	0.05	0.79	0.00
SODIUM (+/- Difference)	35.50	20.91	20.02	6.33	0.00
SODIUM (Actual)	35.22	20.43	20.48	7.78	0.00
CATIONS TOT(w/o Na)	1.76	6.59	6.64	4.61	0.00
CATIONS TOT(w/act. Na)	36.98	27.02	27.12	22.39	0.00
CATIONS TOT(w/cal. Na)	37.26	27.50	26.66	20.93	0.00
ANIONS:					
ALKALINITY AS CO ₃	0.00	0.00	0.00	0.17	0.00
ALKALINITY AS HCO ₃	6.82	8.46	8.44	2.62	0.00
CHLORIDE AS Cl	3.50	4.74	4.54	1.55	0.00
SULFATE AS SO ₄	26.94	14.30	13.68	16.59	0.00
FLUORIDE AS F	0.00	0.00	0.00	0.00	0.00
ANIONS (TOTAL)	37.26	27.50	26.66	20.93	0.00
TDS (ACTUAL)	2400	1696	1680	1530	0
TDS (CALC. w/cal. Na)	2471	1712	1655	1354	0
PERCENT DIFF. w/cal. Na	-3	-1	2	11	#DIV/0!
TDS (CALC. w/act. Na)	2465	1701	1665	1388	0
PERCENT DIFF. w/act. Na	-3	0	1	9	#DIV/0!
SODIUM (CALCULATED)	816	481	460	145	0
SODIUM AS Na (ACTUAL)	810	470	471	179	0
Relative % Difference RPD	0%	1%	1%	5%	#DIV/0!
ANION/CATION % Difference	100.76	101.75	98.31	93.49	#DIV/0!

To: John Lambdin
From: Dennis Bird
Date: July 11, 1994
Place: Field Services
Engineering-Lab
Subject: Chaco Plant Monitor Wells

On Wednesday, July 6, 1994, Norman Norvelle, Lupe Rangel and myself traveled to Chaco Plant to perform monitoring well sampling. The following analytical parameters are to be performed on these groundwater samples: General Chemistry, Nitrates as $\text{NO}_3\text{-N}$, RCRA Metals by Total Digestion, Aromatic Hydrocarbons 602 and Chlorinated Hydrocarbons 601. The requested analysis for RCRA Metals by Total Digestion, Aromatic Hydrocarbons 602 and Chlorinated Hydrocarbons 601 was sent to Analytical Technologies in Phoenix Arizona for analysis. The Field Services Laboratory will be performing the General Chemistry and Nitrates as $\text{NO}_3\text{-N}$ in our lab.

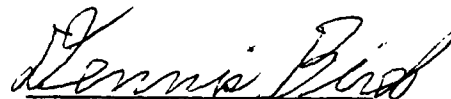
We also collected a sample from the 20 inch total discharge line going to the ponds. The same parameters will be analyzed as the monitor wells. A Field duplicate was collected on monitor well MW-7.

The following information was collected on each well.

Monitor Well #	Pipe ID	Static Level	Total Depth	Gallons Bailed
MW-1	4"	14.85'	25.5'	21.0
MW-2	4"	15.20'	27.6'	26.0
MW-3	4"	9.45'	22.4'	26.0
MW-4	4"	19.15'	30.9'	27.0
MW-5	4"	25.05'	30.6'	10.0
MW-6	4"	11.45'	24.6'	26.0
MW-7	4"	7.70'	19.5'	30.0

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

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


Dennis P. Bird

cc: Nancy Prince
Kris Sinclair



Analytical Technologies, Inc., Albuquerque, NM
San Diego • Phoenix • Seattle • Pensacola • Ft. Collins • Portland • Albuquerque

CHAIN OF CUSTODY

DATE: 7-1-94 PAGE 1 OF 1

ATI LAB I.D.

PROJECT MANAGER: John J. Ford

COMPANY: EL 401, T.H. 1, G. T. 50.

ADDRESS: P.O. Box 4770
FAIRHURST, N.J. 07410

PHONE: 505-599-2144

FAX: 505-599-2251

BILL TO: Same as above

COMPANY: _____

ADDRESS: _____

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	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.	Pesticides/PCB (808/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	Polynuclear Aromatics (610/8310)	SDWA Primary Standards - Arizona	SDWA Secondary Standards - Arizona	SDWA Primary Standards - Federal	SDWA Secondary Standards - Federal	The 13 Priority Pollutant Metals	RCRA Metals by Total Digestion	RCRA Metals by TCLP (1311)	NUMBER OF CONTAINERS
941048	7-6-94	1610	WATER						X	X											X			5
941049	7-6-94	1523	WATER						X	X											X			5
941050	7-6-94	1542	WATER						X	X											X			5
941051	7-6-94	1701	WATER						X	X											X			5
941052	7-6-94	1719	WATER						X	X											X			5
941053	7-6-94	1736	WATER						X	X											X			5
941054	7-6-94	1755	WATER						X	X											X			5
941055	7-6-94	1755	WATER						X	X											X			5
941056	7-6-94	1830	WATER						X	X											X			5

PROJECT INFORMATION		SAMPLE RECEIPT	
PROJ. NO.:		NO. CONTAINERS	
PROJ. NAME: <u>CHARGE TO</u>		CUSTODY SEALS	<u>Y/N/NA</u>
P.O. NO.:		RECEIVED INTACT	
SHIPPED VIA:		RECEIVED COLD	
PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS			
(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☒ 1 WEEK		(NORMAL) ☐ 2 WEEK	
Comments: <u>CHARGE TO</u> <u>101-6309-01 0251 1017-21-11/10</u>			

SAMPLED & RELINQUISHED BY: 1.		RELINQUISHED BY: 2.		RELINQUISHED BY: 3.	
Signature:	Time: <u>1930</u>	Signature:	Time:	Signature:	Time:
Printed Name:	Date: <u>7-6-94</u>	Printed Name:	Date:	Printed Name:	Date:
Company:	Phone: <u>505-599-2144</u>	Company:		Company:	
RECEIVED BY: 1.		RECEIVED BY: 2.		RECEIVED BY: (LAB) 3.	
Signature:	Time:	Signature:	Time:	Signature:	Time:
Printed Name:	Date:	Printed Name:	Date:	Printed Name:	Date:
Company:		Company:		Analytical Technologies, Inc.	

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

[illegible]



MEMORANDUM OF MEETING OR CONVERSATION

☒ Telephone☐ Personal

Time

8⁰⁰ AM

Date

11-28-94

Originating Party

Chris Sinclair-EPNG

Other Parties

Chris Eustice (OCD)

Place

Chaco Plant (EPNG)

Sampling requirements for the non-contact waste water

Discussion

in Ref to the Sept 94 approval for the Chaco Plant dischg plan modification Mr. Sinclair wanted to clarify the '1/4'ly sampling requirements specified in the conditions of approval. The conditions as stated that quarterly sampling entail hydrocarbon sampling (poly nuclears & BTEX) for the non-contact waste water

Chris Eustice & Roger Anderson discussed this & noted an inaccuracy in the conditions.

Conclusions or Agreements

Roger says to have EPNG test the non-contact water for metals, +/-, and no hydrocarbons

Signature

Signed

Chris Eustice

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



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:

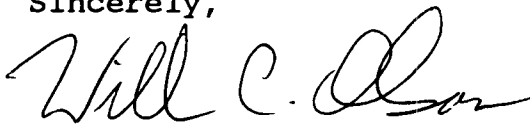
1. In addition to the soil sampling proposed, EPNG will analyze samples from the pits for hazardous waste characteristics.
2. All sample analyses will be conducted using EPA approved laboratory methods.
3. The results of the analytical sampling will be submitted to the OCD for approval prior to actual 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.

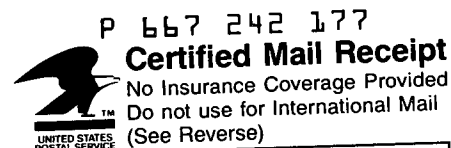
If you have any questions, please contact me at (505) 827-5885.

Sincerely,



William C. Olson
Hydrogeologist
Environmental Bureau

xc: OCD Aztec District Office



Sent to	
Street & No.	
P.O., State & ZIP Code	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Address of Delivery	
TOTAL Postage & Fees	\$
Postmark or Date	

PS Form 3800, June 1990

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

ACKNOWLEDGEMENT OF RECEIPT
OF CHECK/CASH

I hereby acknowledge receipt of check No. [REDACTED] dated 10-27-94
or cash received on 11-16-94 in the amount of \$ 1667.50
from El Paso Natural Gas Co
for (GW-71) Chaco Canyon Gas Plant

Submitted by: _____ Date: _____
(Quality Name) (DP No.)

Submitted to ASD by: CHRIS EUSTICE Date: 11-17-94

Received in ASD by: Helen B. Mondragon Date: 11/17/94

Filing Fee ☒ New Facility _____ Renewal ☒

Modification _____ Other _____
(Specify)

Organization Code 521.07 Applicable FY 95

To be deposited in the Water Quality Management Fund.

Full Payment ☒ or Annual Increment _____



P.O. BOX 1492
EL PASO, TX 79978

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

CONTROL NO.

232 CBD

62-20
311

10/27/94
Date

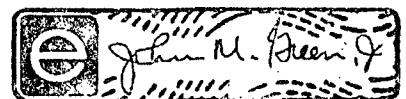
PAY TO THE ORDER OF

NMED WATER QUALITY MANAGEMENT
P O BOX 2088
SANTA FE NM 87504

PAY AMOUNT

\$1,667.50

Void After 1 Year



Authorized Signatory



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



BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

October 12, 1994

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

CERTIFIED MAIL
RETURN RECEIPT NO. P-176-012-270

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

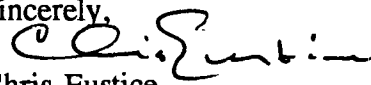
**Re: Enhanced Evaporation and Aeration at Centralized Impoundment
San Juan County, New Mexico**

Dear Mr. Marquez:

The Oil Conservation Division (OCD) has received your request dated August 30, 1994 for a authorization to install an enhanced evaporation and aeration system at the double lined pond north of El Paso Natural Gas Company's (EPNG) Blanco Plant. Based upon the information given the request is hereby approved with the following conditions:

1. The spray evaporation system will be operated in a manner that all spray will remain in the confines of the pond.
2. The spray evaporation system will be shut off when winds could cause the spray to drift outside the confines of the pond.
3. Any piping associated with the spray evaporation system must be inspected regularly to insure integrity of the piping and for detection of leaks.

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

Sincerely,

Chris Eustice
Environmental Geologist

cc: OCD Aztec Office

El Paso
Natural Gas Company

CONSERVATION DIVISION
RECEIVED
'94 AUG 8 AM 8 50

P. O. BOX 4990
FARMINGTON, NEW MEXICO 87499

August 3, 1994

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

Subject: Enhanced Evaporation and Aeration system at EPNG's Centralized Impoundment.

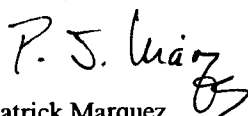
Dear Mr. Olson:

EPNG has scheduled the installation of an enhanced evaporation and aeration system at the double lined pond located north of EPNG's Blanco Plant. The heating process at the subject facility separates water from field drip and pigging liquids, primarily, and is directed to a lined impoundment where the water is allowed to evaporate. The hydrocarbon portion of these liquids is piped to a four hundred barrel tank nearby and is recycled. EPNG would like to increase the evaporation rate of the pond and feels that a unit with the following features will satisfy this need:

- The unit is equipped with a floating pump (110 gpm capacity) which draws water from just below the surface of the impoundment. The pump will be situated in the middle of the pond.
- The spray umbrella, which has a 60' maximum diameter and an 8' maximum height, is adjustable and will allow the operator to maintain the umbrella according to wind speed, minimizing any spray beyond the impoundment. The impoundment is 104' square, w/adequate freeboard.
- An automatic shut off device is activated when the evaporation unit is operating in less than 18" of water.
- Any piping associated with the project will lie on top of the liner - in no way will the liner integrity be jeopardized.

El Paso Natural Gas Company respectfully requests approval of the installation. If you need further information, please contact me at 505 599 2175.

Thank you,


Patrick Marquez
Compliance Engineer

cc:

David Hall (EPNG)
Matthew Griswold (EPNG)
Sandra Miller (EPNG)
Anu Pundari (EPNG)



NEW MEXICO OIL CONSERVATION DIVISION
RECEIVED

1994 SEP 12 AM 8 50

P. O. BOX 4990
FARMINGTON, NEW MEXICO 87499

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

September 12, 1994⁴

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

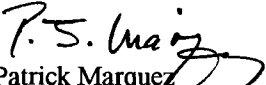
- Typical contents would include; office paper products, wood, tin and aluminum cans, glycol and engine oil filters (drained before deposited), oily rags and small pieces of concrete.
- The pits never received liquids or household trash as both the Chaco and Angel Peak camps were retired in 1986.
- The 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.

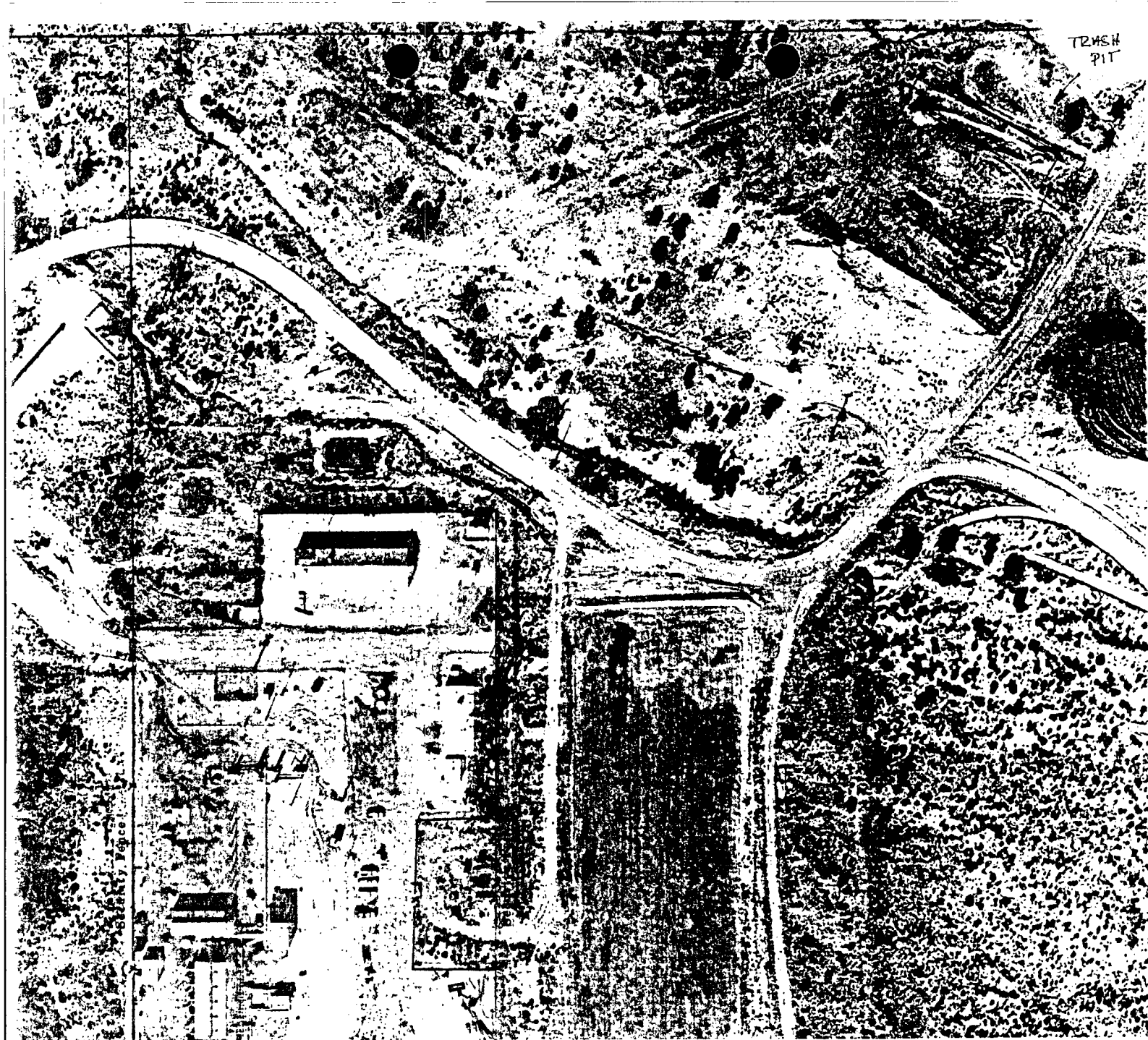
Thank you,


Patrick Marquez
Compliance Engineer

cc:

Jim Bishop (EPNG)
Denny Foust (NMOCD)
David Hall (EPNG)
Sandra Miller (EPNG)
Lyndell Smith (EPNG)

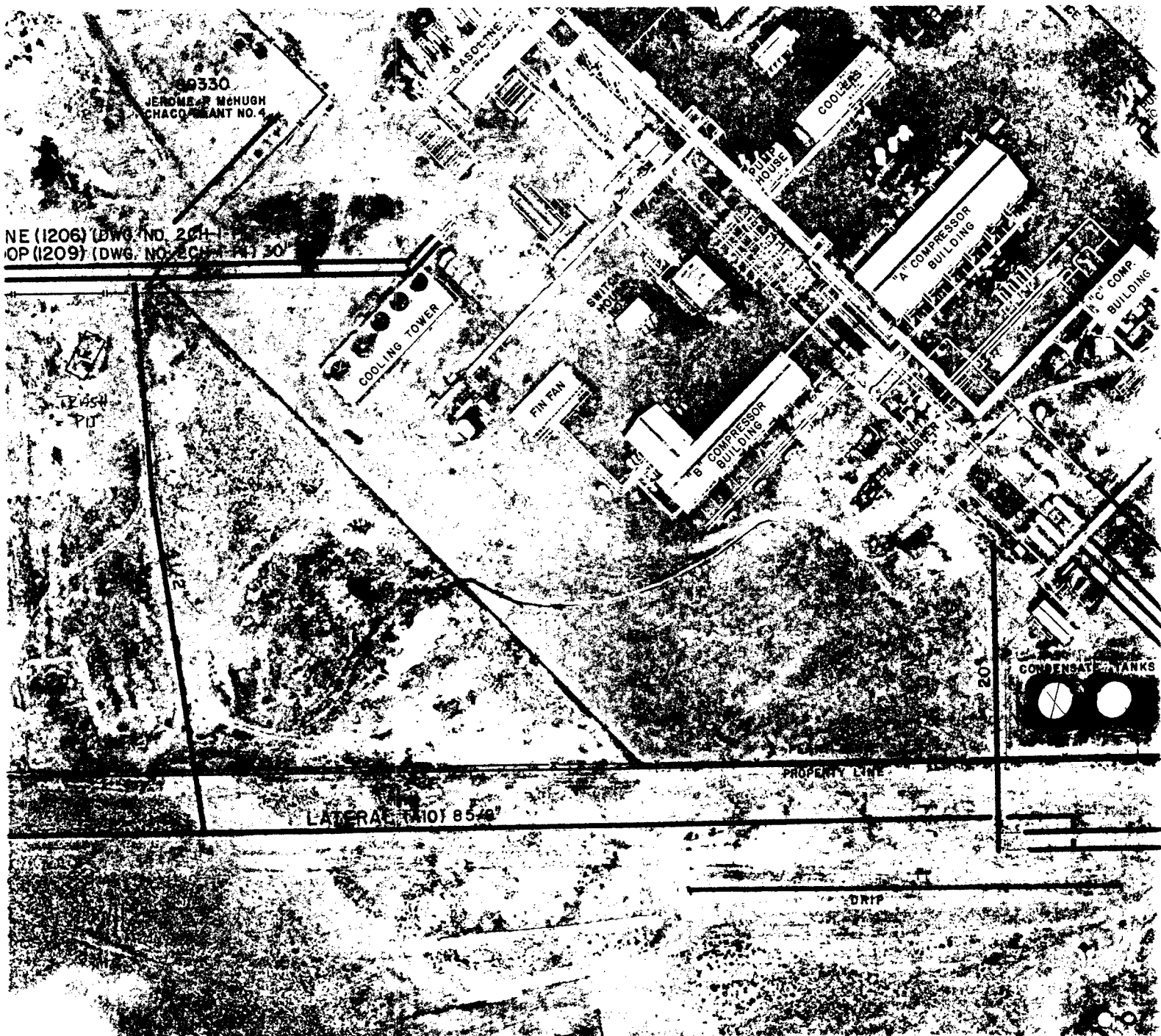
TRASH
PIT



Angel Peak



Chaco Plant.



August 16, 1994

RECEIVED

JUL 19 1994

OIL CONSERVATION DIV.
SANTA FE

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

Subject : El Paso Natural Gas Company's Chaco Plant - Two Contact Wastewater Lined Ponds

El Paso Natural Gas Company (EPNG) is planning to construct two double lined pond at Chaco Plant. The ponds will be used to contain contact wastewater generated at Chaco Plant. Last December, two new underground skimmer basins and one new aboveground oil/water separator was installed at Chaco Plant.

The water fraction from the two underground skimmer basins discharges to an aboveground oil/water separator. The water fraction from the oil/water separator currently discharges to existing unlined ponds. EPNG would like to replace the existing unlined ponds with two double lined ponds.

The pond design will be in accordance with all applicable sections of NMOCD's "Guidelines for Permit Application, Design, and Construction of Waste Storage/Disposal Facilities ". The disposal pond will not be a commercial facility and will only be used to contain contact wastewater from EPNG's Chaco Plant.

A summary of the design elements and drawings are attached. Final construction drawings have not been prepared at this time. After construction, "as-built " drawings will be sent to NMOCD.

EPNG will begin site preparatory work starting the first week of September. Installation of the pond liner and other design elements described in the attached plan is tentatively scheduled for the second week of September.

As per our telephone conversation on August 16th, the pond **will not** be placed into operation until we receive approval from NMOCD. Please give us approval for the pond and an exception to Division Order R-8952. We apologize for not submitting this plan to you earlier. If you have any questions, please call me at 599-2176.

Sincerely,

Anu Pundari

Anu Pundari
Sr. Compliance Engineer

cc: Mr. David Hall (EPNG)
Mr. Denny Foust (NMOCD - Aztec)

CHACO PLANT DOUBLE LINED CONTACT WASTEWATER DISPOSAL POND

I. Type of Operation

The purpose of the lined ponds is to contain contact wastewater from the two new skimmers and new oil/water separator installed at Chaco Plant in Fall 1993.

II. Local Representative

Mr. David Hall
Field Services Compliance Manager
El Paso Natural Gas Company
P.O. Box 1492
El Paso, TX 79978
(915) 541-3531

III. Location of Double Lined Ponds

Chaco Plant
895 County Road 7100
Section 16, Township 26N, Range 12W
San Juan County, New Mexico
Approximately 20 miles south of Farmington

IV. Engineering Design

A. Surface Impoundment

Type of Effluent Stored :	Contact Wastewater
Volume of Effluent Stored :	Each pond contains approximately 48,605 barrels
Area:	Inside Top of Berm is 208 feet by 208 feet Bottom of Berm is 168 feet by 168 feet
Volume:	The pond was sized for an inlet flow of 12 gallons per minute.
Depth:	Eight feet at full water mark. Ten feet overall.
Slope of Pond Sides:	3:1 on outside and 2:1 on inside
Sub-Grade Description:	Native sandy loam. The soil will be wetted, if necessary, and compacted by rolling or tamping as required to provide a stable foundation for the structure.
Top Liner Type:	The top liner will be a minimum 30 mil thickness and one of the following : -Hypalon 30 HP6 or equivalent -Shelter-Rite 8130 X R5 or equivalent -Flopseal Reinforce Liner - 30 CP 6 or equivalent -Gundle High Density Polyethylene- 60 mil or equivalent

Page 2
Chaco Lined Ponds

Bottom Liner Type:	The bottom liner will be one of the following: -Oil resistant PVC-20 mil or equivalent -High Density Polyethylene- 20 mil or equivalent -Chlorinated Polyethylene- 20 mil or equivalent -Chlorosulfonated Polyethylene- 20 mil or equivalent
Intermediate Liner:	Fibertex Grade " 600 " Geotextile or equivalent
Coarse Filter Cover:	Mirafi "140 " drainage fabric or equivalent.
Top Liner Thickness:	Minimum 30 mil
Bottom Liner Thickness:	Minimum 20 mil
Compatibility of Liner & Effluent:	A liner will be chosen that is compatible with the effluent .
Freeboard:	Two feet.
Runoff/Runon Protection:	The pond will located approximately 1 1/2 feet above surrounding terrain. The final area around the pond will be graded to prevent stormwater runoff into the pond.

B. Design and Construction

1. Location

This pond will not be located in any water course, lakebed, sink-hole, or other depression.

2. Design and Construction

- a. The evaporation pond was designed and will be constructed to provide the minimum evaporative surface area needed for the maximum yearly volume of liquid to be discharged to the pond. The design was based on local climatological data. Special care was taken when calculating the pond volume to account for the decrease in the evaporation rate during the winter months.
- b. The design freeboard allowance will be two feet over the estimated high water level in order to prevent overtopping due to wave action.
- c. The pond will be constructed so that the inside grade of the levee is no steeper than 2:1. Levees will have an outside grade no steeper that 3:1.
- d. The top of the levees shall be level and shall be at least eighteen inches wide.
- e. An enhanced evaporation system will be operated and designed so that water does not leave the bermed area. A pump located on the bank of the pond with about 10 horsepower motor will circulate water through a PVC piping system with umbrella head sprayers for each pond.
- f. Upon completion of construction "as-built" completion diagrams certified by a registered professional engineer will be submitted including the locations and top-of-pipe elevations of leak detection wells.

3. Synthetically Lined Evaporation Ponds

a. Materials

The synthetic materials used shall be impermeable and flexible.

The top liner will be a minimum 30 mil thickness and will have good resistance to tears or punctures.

The liner will be resistant to hydrocarbons, salts, and acidic and alkaline solutions. The liner will be resistant to ultraviolet light.

The disposal pond shall incorporate a double liner system with a leak detection system installed between the primary and secondary liner.

b. Leak Detection System

(1) The Aztec OCD office will be notified at least 24 hours in advance of the scheduled installation of the primary liner to afford the opportunity for a Division representative to inspect the leak detection system.

(2) A drainage and sump system will be used with a network of slotted or perforated drainage pipes between the primary and secondary liners. The network shall be of sufficient density so that no point in the pond bed is more than twenty feet (20') from such drainage pipe or lateral thereof. The material, 3/4" to 1" gravel, will be placed between the pipes and laterals and is sufficiently permeable to allow transport of the fluids to the drainage pipe. The slope for all drainage lines and laterals will be at least six inches (6") per fifty feet (50'). The slope of the pond bed will also conform to these values to assure fluid flow towards the leak detection system. The drainage pipe shall convey any fluids to a corrosion-proof sump located outside the perimeter of the pond.

c. Preparation of Pond Bed for Installation of Liners

(1) The bed of the pond and inside grade of the levee will be smooth and compacted, free of holes, rocks, stumps, clods, or any other debris which may rupture the liner. The proposed area of the pond is not rocky.

(2) A trench will be excavated on the top of the levee the entire perimeter of the pond for the purpose of anchoring flexible liners. This trench shall be located at least 9 inches from the slope break and will be at least 12 inches deep.

(3) The liner will rest smoothly on the pond bed and the inner face of the levees, and will be sufficient size to extend down to the bottom of the anchor trench and come back out greater than two inches from the trench on the side furthest from the pond.

(4) Native soil will be used as an anchor and will be placed over the liner in the anchor trench and the trench back-filled. The anchor trench will extend the entire perimeter of the pond. All swelling soils (soils with plasticity index of 20 or more) will be sprinkled as required to provide not less than 98% nor more than 102% of the maximum density as determined in accordance with ASTM D698. Field density determinations will be made in accordance with ASTM 2922, ASTM 2167, or ASTM 1556.

4. Fences, Signs, and Netting

- a. A ponds will be located within the Chaco Plant fenced area. The Chaco Plant fence was constructed so as to prevent livestock from entering the facility area.
- b. El Paso Natural Gas Company respectfully requests an exception to Division Order R-8952. Under normal operating conditions this pond would not contain oil and thus would not constitute a water fowl hazard. If any oil or hydrocarbons reach this facility the following measures will be followed : In 72 hours from discovery, measures to remove the oil will be initiated.

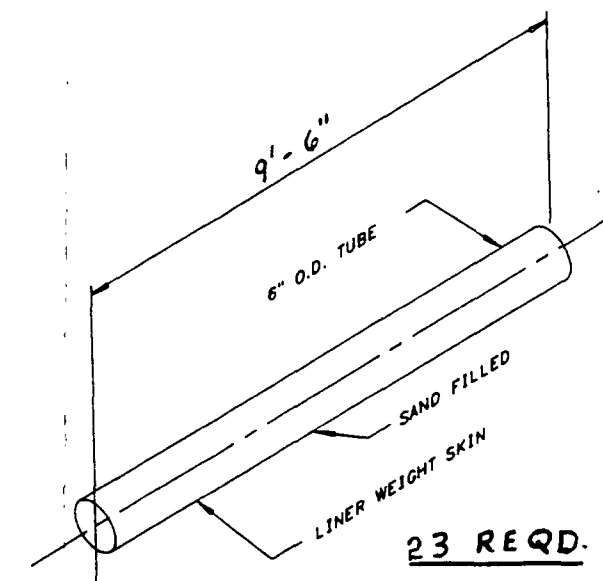
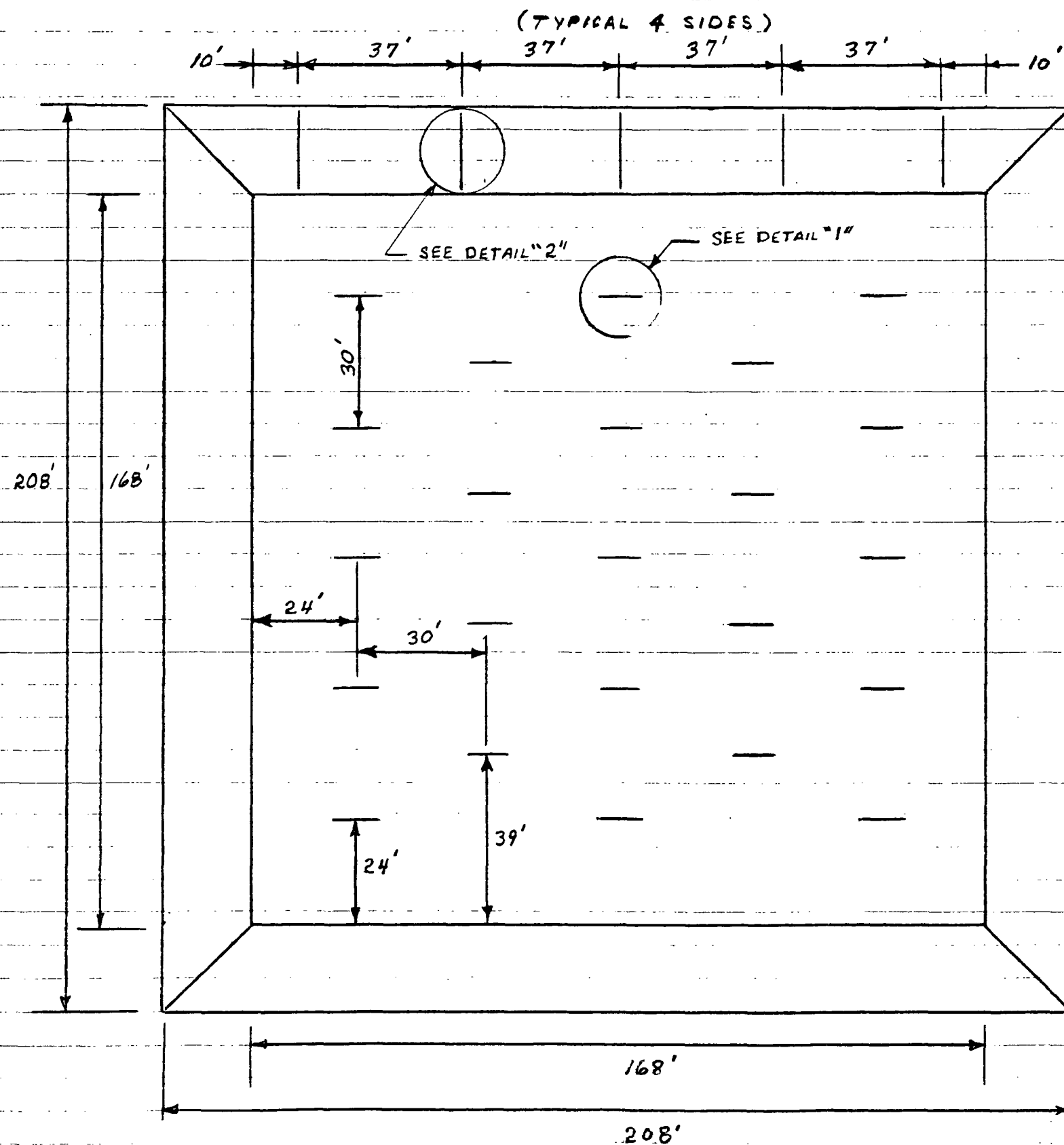
5. Affirmation

I hereby certify that I am familiar with the information contained in and submitted with this surface impoundment plan for Chaco Plant and that such information is true, accurate, and complete to the best of my knowledge and belief.

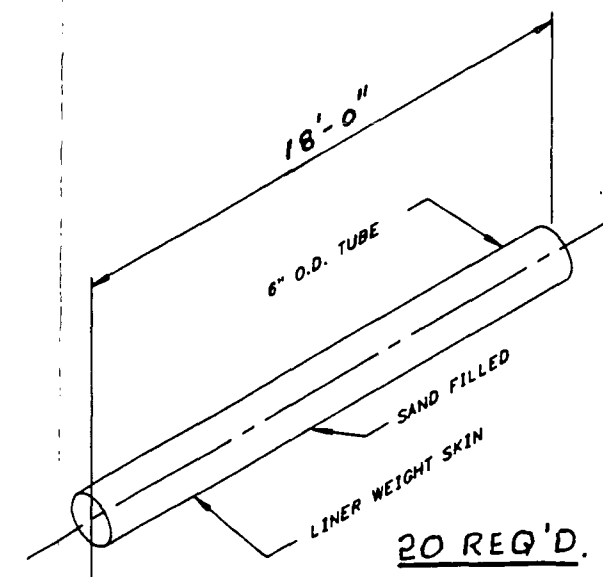
Anu Pundari
Anu Pundari
Sr. Compliance Engineer

8/16/94
Date

PROJECT CHACO LINED PONDS SKETCH # 4
SUBJECT POND LINER WEIGHTS
POND BOTTOM & SIDES (2 REQ'D)



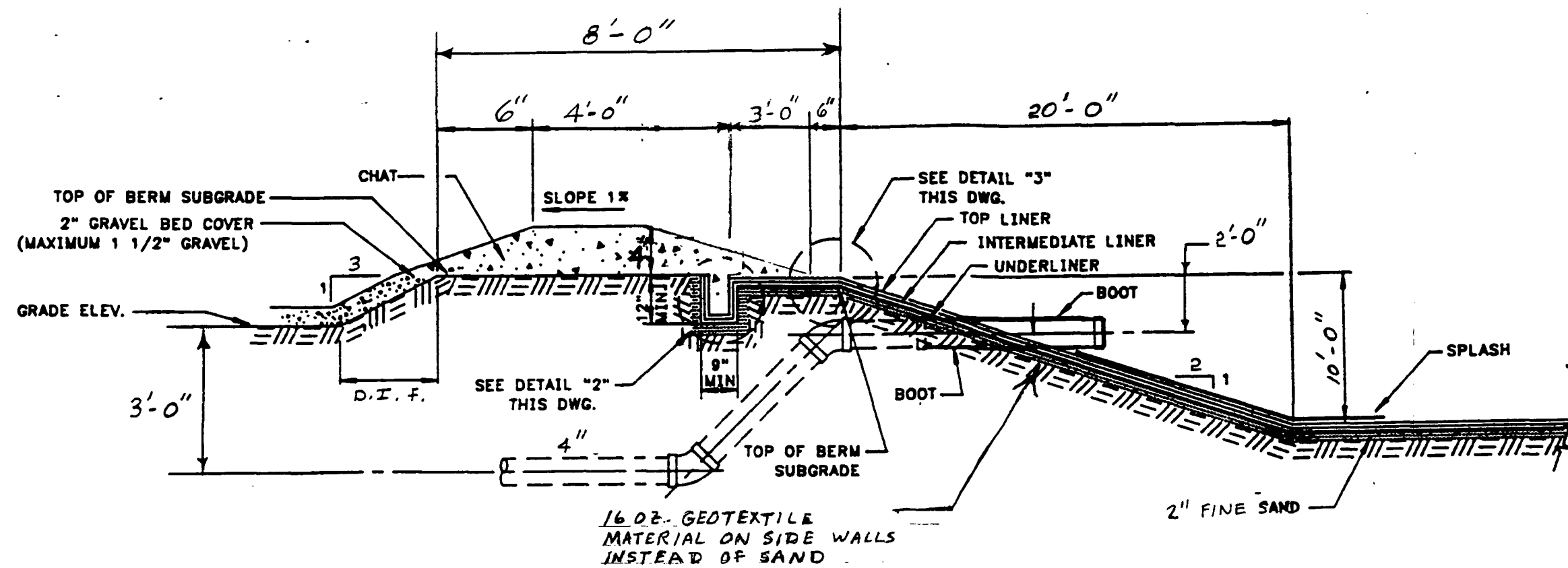
DETAIL "1"
POND LINER WEIGHT
SCALE: NONE



DETAIL "2"
POND LINER WEIGHT
SCALE: NONE

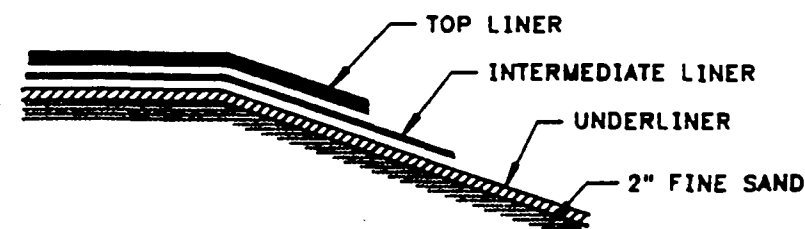
CHACO LINED POND SKETCH #5

8/11/94



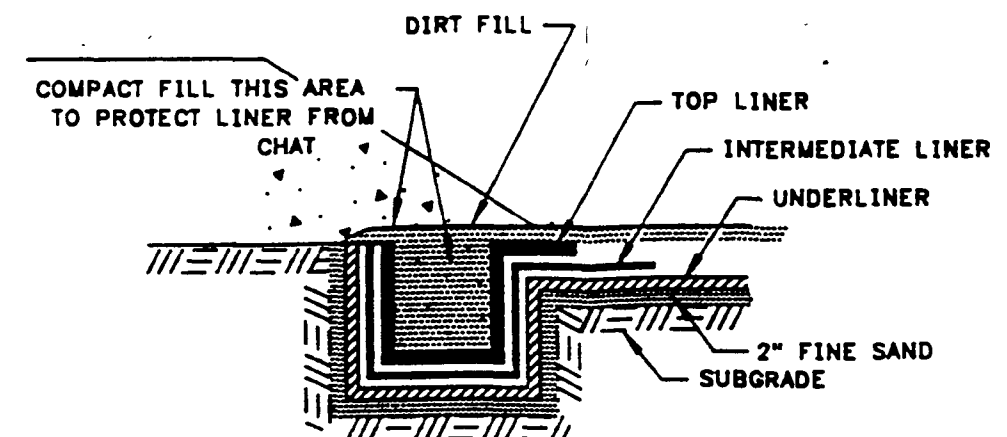
POND INLET

SCALE: NONE



DETAIL "3"

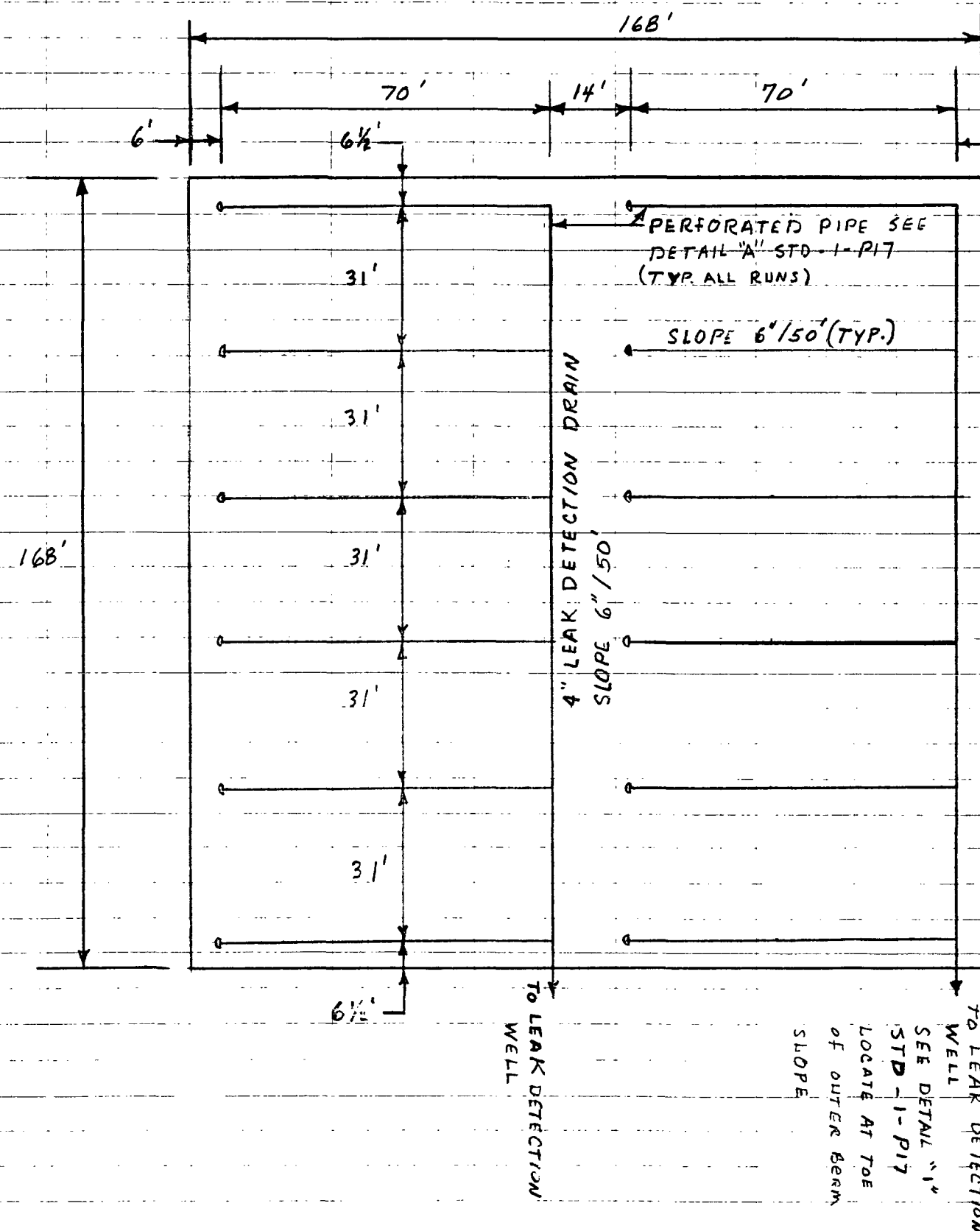
THIS DWG.
SCALE: NONE



DETAIL "2"

THIS DWG.
SCALE: NONE

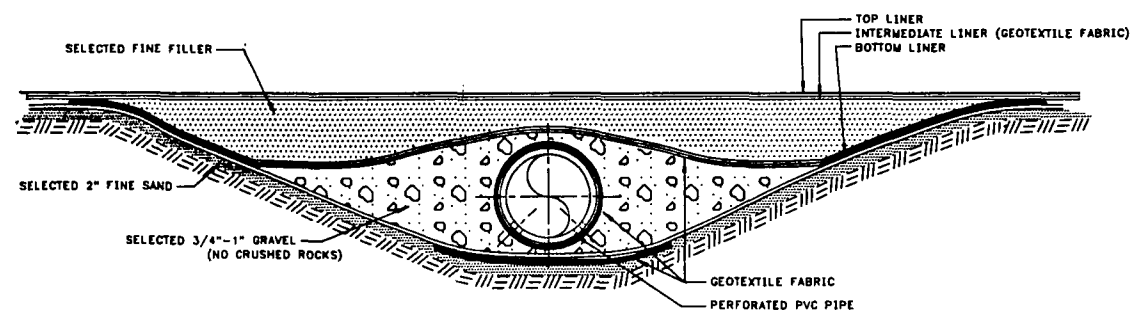
PROJECT CHACO LINED PONDS SKETCH #3
 SUBJECT LEAK DETECTION SYSTEM
 LINER BOTTOM (2 REQUIRED)



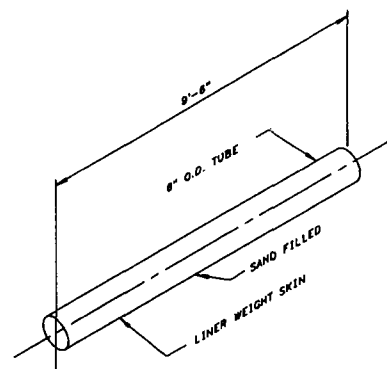
NOTE: ALL CONNECTIONS THROUGH PRIMARY
 LINER OR SECONDARY LINERS
 SHALL HAVE A LINER BOOT
 DETAIL "B" STD-1-P17

(2) 4" POND INLETS
 COMPLETE WITH SPASH GUARD
 INLET @ 2' BELOW TOP OF BERM
 TIE TO BOOT - EXTEND 3'-0"
 INTO POND BOTTOM
 WIDTH AT BOTTOM 9'-0"

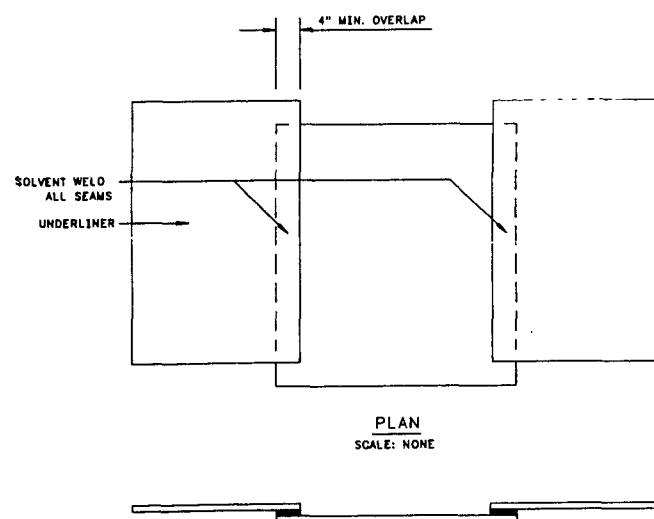
REV.
1



SECTION "B-B"
STD-1-P16
SCALE: N.T.S.



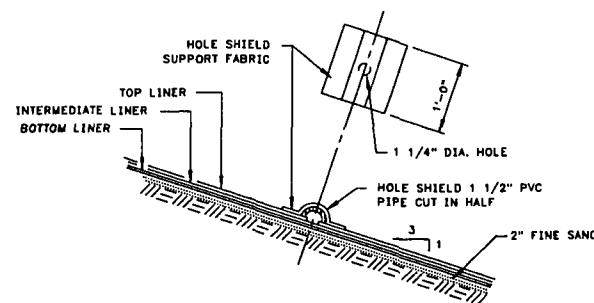
DETAIL "4"
POND LINER WEIGHT
STD-1-P16
SCALE: NONE
SEE SKETCH 4



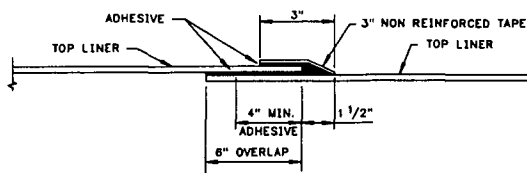
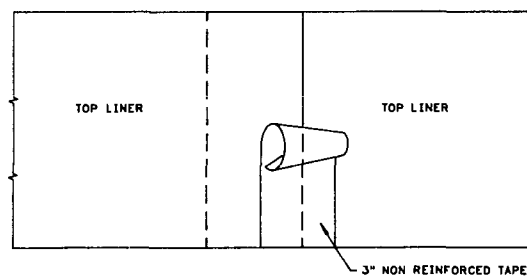
PLAN
SCALE: NONE

ELEVATION

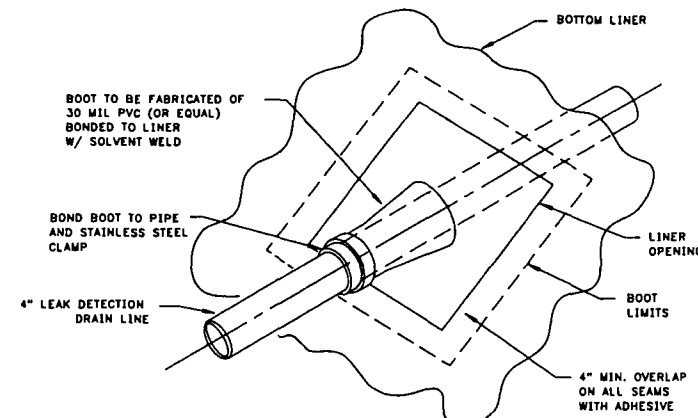
UNDERLINER SEAM SEALING DETAIL



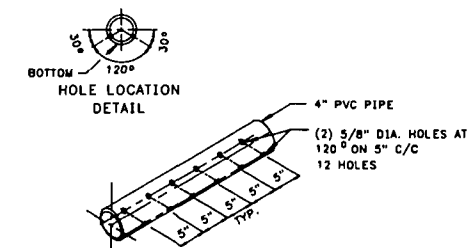
DETAIL "5"
LINER VENT DETAIL
STD-1-P16
TYPICAL 16 PLACES
SCALE: NONE



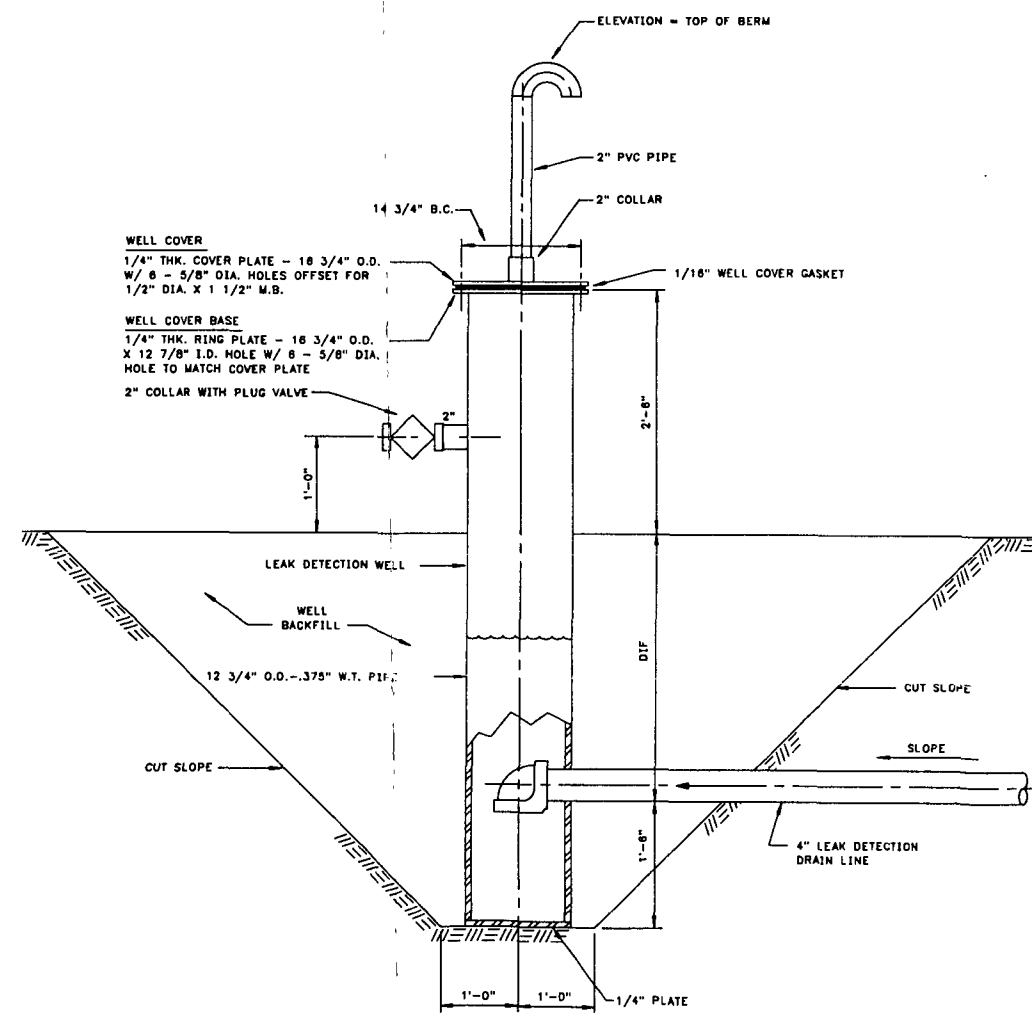
TOP LINER
SEAM SEALING DETAIL
SCALE: NONE



DETAIL "B"
LINER BOOT
SCALE: NONE
STD-1-P16



DETAIL "A"
PERFORATED PIPE
SCALE: NONE



DETAIL "1"
LEAK DETECTION WELL
SCALE: NONE

ENG. RECORD	DATE
DRAFTING	JN 9/17/87
DESIGN	
COMPUTER	MD 9/17/87
GRAPHICS	
CHECKED	
PROJECT	
APPROVAL	
DESIGN	
APPROVAL	
COMPUTER	
SAVE NAME	STD144

El Paso
NATURAL GAS COMPANY

EVAPORATION POND
MISCELLANEOUS SECTIONS AND DETAILS

SCALE: NOTED
W.O.:

DWG. NO.

STD-1-P17

REV.

STD-1-P17
DWG. NO.

EVAPORATION POND
TITLE

NO. DATE BY

DESCRIPTION

W.O. APP. PRT. SEP. DATE TO

PRINT RECORD

LEGEND

[illegible]

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

DATE RECEIVED : 07/08/94

REPORT DATE : 07/15/94

ATI I.D. : 407329

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	941048 Monitor Well MW-1	AQUEOUS	07/06/94
02	941049 Monitor Well MW-2	AQUEOUS	07/06/94
03	941050 Monitor Well MW-3	AQUEOUS	07/06/94
04	941051 Monitor Well MW-4	AQUEOUS	07/06/94
05	941052 Monitor Well MW-5	AQUEOUS	07/06/94
06	941053 Monitor Well MW-6	AQUEOUS	07/06/94
07	941054 Monitor Well MW-7	AQUEOUS	07/06/94
08	941055 Monitor Well MW-7 Dup	AQUEOUS	07/06/94
09	941056 20 Inch Discharge	AQUEOUS	07/06/94

----- TOTALS -----

MATRIX	# SAMPLES
AQUEOUS	9

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.

METALS RESULTS

ATI I.D. : 407329

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

DATE RECEIVED : 07/08/94

REPORT DATE : 07/15/94

PARAMETER	UNITS	01	02	03	04	05
0.05 SILVER (EPA 200.7/6010)	MG/L	<0.010	<0.010	<0.010	<0.010	<0.010
0.10 ARSENIC (EPA 206.2/7060)	MG/L	<0.005	<0.005	0.005	<0.005	<0.005
1.00 BARIUM (EPA 200.7/6010)	MG/L	0.060	0.022	0.065	0.014	0.022
0.01 CADMIUM (EPA 213.2/7131)	MG/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
0.05 CHROMIUM (EPA 200.7/6010)	MG/L	<0.010	<0.010	<0.010	<0.010	<0.010
0.002 MERCURY (EPA 245.1/7470)	MG/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
0.05 LEAD (EPA 239.2/7421)	MG/L	<0.002	<0.002	<0.002	<0.002	<0.002
0.05 SELENIUM (EPA 270.2/7740)	MG/L	0.005	<0.005	<0.005	0.014	0.019

MW-1

MW-2

MW-3

MW-4

MW-5

PRELIMINARY

METALS RESULTS

ATI I.D. : 407329

CLIENT : EL PASO NATURAL GAS CO.

DATE RECEIVED : 07/08/94

PROJECT # : (NONE)

PROJECT NAME : CHACO M.W.

REPORT DATE : 07/15/94

PARAMETER	UNITS	06	07	08	09
0.05 SILVER (EPA 200.7/6010)	MG/L	<0.010	<0.010	<0.010	<0.010
0.10 ARSENIC (EPA 206.2/7060)	MG/L	<0.005	<0.005	<0.005	0.005
1.00 BARIUM (EPA 200.7/6010)	MG/L	0.028	0.026	0.026	0.206
0.01 CADMIUM (EPA 213.2/7131)	MG/L	<0.0005	<0.0005	<0.0005	<0.0005
0.05 CHROMIUM (EPA 200.7/6010)	MG/L	<0.010	<0.010	<0.010	0.049
0.002 MERCURY (EPA 245.1/7470)	MG/L	<0.0002	<0.0002	<0.0002	<0.0002
0.05 LEAD (EPA 239.2/7421)	MG/L	<0.002	<0.002	<0.002	<0.002
0.05 SELENIUM (EPA 270.2/7740)	MG/L	0.058	<0.005	<0.005	<0.005

MW-6

MW-7

MW-7

Field
Duplicate

20"

Discharge

PRELIMINARY

GAS CHROMATOGRAPHY RESULTS

Page 3

Test : EPA 8010/8020 (HALOGENATED/AROMATIC VOLATILES)

Client : ANALYTICAL TECHNOLOGIES, INC.

ATT I.D. : 407096

Project # : 407329

Project Name: EL PASO NATURAL GAS

Sample Client ID #	Matrix	Date Sampled	Date Extracted	Date Analyzed	Dil. Factor
1 407329-01	WATER	06-JUL-94	N/A	12-JUL-94	1.00
2 407329-02	WATER	06-JUL-94	N/A	12-JUL-94	1.00
3 407329-03	WATER	06-JUL-94	N/A	12-JUL-94	1.00

Parameter	Units	1 MW-1	2 MW-2	3 MW-3
BENZENE	UG/L	<0.50	<0.50	<0.50
BROMODICHLOROMETHANE	UG/L	<0.20	<0.20	<0.20
BROMOFORM	UG/L	<1.0	<1.0	<1.0
BROMOMETHANE	UG/L	<1.0	<1.0	<1.0
CARBON TETRACHLORIDE	UG/L	<0.20	<0.20	<0.20
CHLOROBENZENE	UG/L	<0.50	<0.50	<0.50
CHLOROETHANE	UG/L	<1.0	<1.0	<1.0
CHLOROFORM	UG/L	<0.20	<0.20	<0.20
CHLOROMETHANE	UG/L	<1.0	<1.0	<1.0
DIBROMOCHLOROMETHANE	UG/L	<0.20	<0.20	<0.20
1,2-DIBROMOETHANE	UG/L	<0.50	<0.50	<0.50
1,2-DICHLOROBENZENE	UG/L	<0.50	<0.50	<0.50
1,3-DICHLOROBENZENE	UG/L	<0.50	<0.50	<0.50
1,4-DICHLOROBENZENE	UG/L	<0.50	<0.50	<0.50
DICHLORODIFLUOROMETHANE	UG/L	<1.0	<1.0	<1.0
1,1-DICHLOROETHANE	UG/L	<0.20	<0.20	<0.20
1,2-DICHLOROETHANE	UG/L	<0.20	<0.20	<0.20
1,1-DICHLOROETHENE	UG/L	<0.20	<0.20	<0.20
CIS-1,2-DICHLOROETHENE	UG/L	<0.20	<0.20	<0.20
TRANS-1,2-DICHLOROETHENE	UG/L	<0.20	<0.20	<0.20
1,2-DICHLOROPROPANE	UG/L	<0.20	<0.20	<0.20
CIS-1,3-DICHLOROPROPENE	UG/L	<0.20	<0.20	<0.20
TRANS-1,3-DICHLOROPROPENE	UG/L	<0.20	<0.20	<0.20
ETHYLBENZENE	UG/L	<0.50	<0.50	<0.50
METHYLENE CHLORIDE	UG/L	<2.0	<2.0	<2.0
1,1,2,2-TETRACHLOROETHANE	UG/L	<0.50	<0.50	<0.50
TETRACHLOROETHENE	UG/L	<0.20	<0.20	<0.20
TOLUENE	UG/L	<0.50	<0.50	<0.50
1,1,1-TRICHLOROETHANE	UG/L	<0.20	<0.20	<0.20
1,1,2-TRICHLOROETHANE	UG/L	<0.20	<0.20	<0.20
TRICHLOROETHENE	UG/L	<0.20	<0.20	<0.20
TRICHLOROFLUOROMETHANE	UG/L	<2.0	<2.0	<2.0
VINYL CHLORIDE	UG/L	<0.20	<0.20	<0.20
XYLENES (TOTAL)	UG/L	<1.0	<1.0	<1.0

SURROGATES

BROMOFLUOROBENZENE (ELCD)

t

95

91

83

BROMOFLUOROBENZENE (PID)

t

107

104

92

Post-It Fax Note	7671	Date	7/14/94	Page	8
To	Tish K.	From	Chase M. GAN		
Company	ATI LAB	Co.	ATI ID		
Phone #		Phone #			
Fax #		Fax #			

GAS CHROMATOGRAPHY RESULTS

Page 4

Test : EPA 8010/8020 (HALOGENATED/AROMATIC VOLATILES)
 Client : ANALYTICAL TECHNOLOGIES, INC.
 Project # : 407329
 Project Name: EL PASO NATURAL GAS

ATI I.D. : 407096

Sample #	Client ID	Matrix	Date Sampled	Date Extracted	Date Analyzed	Dil. Factor
4	407329-04	WATER	06-JUL-94	N/A	12-JUL-94	1.00
5	407329-05	WATER	06-JUL-94	N/A	12-JUL-94	1.00
6	407329-06	WATER	06-JUL-94	N/A	12-JUL-94	1.00

Parameter	Units	4 MW-4	5 MW-5	6 MW-6
BENZENE	UG/L	<0.50	<0.50	<0.50
BROMODICHLOROMETHANE	UG/L	<0.20	<0.20	<0.20
BROMOFORM	UG/L	<1.0	<1.0	<1.0
BROMOMETHANE	UG/L	<1.0	<1.0	<1.0
CARBON TETRACHLORIDE	UG/L	<0.20	<0.20	<0.20
CHLOROBENZENE	UG/L	<0.50	<0.50	<0.50
CHLOROETHANE	UG/L	<1.0	<1.0	<1.0
CHLOROFORM	UG/L	<0.20	<0.20	0.33
CHLOROMETHANE	UG/L	<1.0	<1.0	<1.0
DIBROMOCHLOROMETHANE	UG/L	<0.20	<0.20	<0.20
1,2-DIBROMOETHANE	UG/L	<0.50	<0.50	<0.50
1,1-DICHLOROBENZENE	UG/L	<0.50	<0.50	<0.50
1,3-DICHLOROBENZENE	UG/L	<0.50	<0.50	<0.50
1,4-DICHLOROBENZENE	UG/L	<0.50	<0.50	<0.50
DICHLORODIFLUOROMETHANE	UG/L	<1.0	<1.0	<1.0
1,1-DICHLOROETHANE	UG/L	<0.20	<0.20	<0.20
1,2-DICHLOROETHANE	UG/L	<0.20	<0.20	<0.20
1,1-DICHLOROETHENE	UG/L	<0.20	<0.20	<0.20
CIS-1,2-DICHLOROETHENE	UG/L	<0.20	<0.20	<0.20
TRANS-1,2-DICHLOROETHENE	UG/L	<0.20	<0.20	<0.20
1,2-DICHLOROPROPANE	UG/L	<0.20	<0.20	<0.20
CIS-1,3-DICHLOROPROPENE	UG/L	<0.20	<0.20	<0.20
TRANS-1,3-DICHLOROPROPENE	UG/L	<0.20	<0.20	<0.20
ETHYLENE	UG/L	<0.50	<0.50	<0.50
ETHYLENE CHLORIDE	UG/L	<2.0	<2.0	<2.0
1,1,2,2-TETRACHLOROETHANE	UG/L	<0.50	<0.50	<0.50
TETRACHLOROETHENE	UG/L	<0.20	<0.20	<0.20
TOLUENE	UG/L	<0.50	<0.50	<0.50
1,1,1-TRICHLOROETHANE	UG/L	<0.20	<0.20	<0.20
1,1,2-TRICHLOROETHANE	UG/L	<0.20	<0.20	<0.20
TRICHLOROETHENE	UG/L	<0.20	<0.20	<0.20
TRICHLOROFLUOROETHANE	UG/L	<2.0	<2.0	<2.0
VINYL CHLORIDE	UG/L	<0.20	<0.20	<0.20
XYLENES (TOTAL)	UG/L	<1.0	<1.0	<1.0

SURROGATES

BROMOFLUOROBENZENE (ELCD)
 BROMOFLUOROBENZENE (PID)

4	86	99	95
4	99	109	106

GAS CHROMATOGRAPHY RESULTS

Page 5

Test : EPA 8010/8020 (HALOGENATED/AROMATIC VOLATILES)

Client : ANALYTICAL TECHNOLOGIES, INC.

ART I.D. : 407096

Project # : 407329

Project Name: EL PASO NATURAL GAS

Sample #	Client ID	Matrix	Date Sampled	Date Extracted	Date Analyzed	Dil. Factor
7	407329-07	WATER	06-JUL-94	N/A	12-JUL-94	1.00
8	407329-08	WATER	06-JUL-94	N/A	12-JUL-94	1.00
9	407329-09	WATER	06-JUL-94	N/A	12-JUL-94	1.00

Parameter	Units	7 MW-7	8 MW-7 Field Dup	9 20" Discharge
BENZENE	UG/L	<0.50	<0.50	<0.50
BROMODICHLOROMETHANE	UG/L	<0.20	<0.20	<0.20
BROMOFORM	UG/L	<1.0	<1.0	<1.0
BROMOMETHANE	UG/L	<1.0	<1.0	<1.0
CARBON TETRACHLORIDE	UG/L	<0.20	<0.20	<0.20
CHLOROBENZENE	UG/L	<0.50	<0.50	<0.50
CHLOROETHANE	UG/L	<1.0	<1.0	<1.0
CHLOROFORM	UG/L	<0.20	<0.20	<0.20
CHLOROMETHANE	UG/L	<1.0	<1.0	<1.0
DIBROMOCHLOROMETHANE	UG/L	<0.20	<0.20	<0.20
1,2-DIBROMOMETHANE	UG/L	<0.50	<0.50	<0.50
1,2-DICHLOROBENZENE	UG/L	<0.50	<0.50	<0.50
1,3-DICHLOROBENZENE	UG/L	<0.50	<0.50	<0.50
1,4-DICHLOROBENZENE	UG/L	<0.50	<0.50	<0.50
DICHLORODIFLUOROMETHANE	UG/L	<1.0	<1.0	<1.0
1,1-DICHLOROETHANE	UG/L	<0.20	<0.20	<0.20
1,2-DICHLOROETHANE	UG/L	<0.20	<0.20	<0.20
1,1-DICHLOROETHANE	UG/L	<0.20	<0.20	<0.20
CIS-1,2-DICHLOROETHENE	UG/L	<0.20	<0.20	<0.20
TRANS-1,2-DICHLOROETHENE	UG/L	<0.20	<0.20	<0.20
1,2-DICHLOROPROPANE	UG/L	<0.20	<0.20	<0.20
CIS-1,3-DICHLOROPROPENE	UG/L	<0.20	<0.20	<0.20
TRANS-1,3-DICHLOROPROPENE	UG/L	<0.20	<0.20	<0.20
ETHYLBENZENE	UG/L	<0.50	<0.50	<0.50
METHYLENE CHLORIDE	UG/L	<2.0	<2.0	<2.0
1,1,2,2-TETRACHLOROETHANE	UG/L	<0.50	<0.50	<0.50
TETRACHLOROETHENE	UG/L	<0.20	<0.20	<0.20
TOLUENE	UG/L	1.7	1.8	<0.50
1,1,1-TRICHLOROETHANE	UG/L	<0.20	<0.20	<0.20
1,1,2-TRICHLOROETHANE	UG/L	<0.20	<0.20	<0.20
TRICHLOROETHENE	UG/L	<0.20	<0.20	<0.20
TRICHLOROFLUOROMETHANE	UG/L	<2.0	<2.0	<2.0
VINYL CHLORIDE	UG/L	<0.20	<0.20	<0.20
XYLENES (TOTAL)	UG/L	<1.0	<1.0	<1.0

SURROGATES

BROMOFLUOROBENZENE (KLCD)

t

99

96

93

BROMOFLUOROBENZENE (PID)

t

102

105

95

GAS CHROMATOGRAPHY - QUALITY CONTROL

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Page 6

Test : EPA 8010/8020 (HALOGENATED/AROMATIC VOLATILES)
 Blank I.D. : 31186
 Client : ANALYTICAL TECHNOLOGIES, INC.
 Project # : 407129
 Project Name: EL PASO NATURAL GAS

ATI I.D. : 407096
 Data Extracted: N/A
 Data Analyzed : 11-JUL-94
 Dil. Factor : 1.00

Parameters	Units	Results
BENZENE	UG/L	<0.50
BROMODICHLOROMETHANE	UG/L	<0.20
BROMOFORM	UG/L	<1.0
BROMOMETHANE	UG/L	<1.0
CARBON TETRACHLORIDE	UG/L	<0.20
CHLOROBENZENE	UG/L	<0.50
CHLOROETHANE	UG/L	<1.0
CHLOROFORM	UG/L	<0.20
CHLOROMETHANE	UG/L	<1.0
DIBROMOCHLOROMETHANE	UG/L	<0.20
1,2-DIBROMOETHANE	UG/L	<0.50
1,2-DICHLOROBENZENE	UG/L	<0.50
1,3-DICHLOROBENZENE	UG/L	<0.50
1,4-DICHLOROBENZENE	UG/L	<0.50
DICHLORODIFLUOROMETHANE	UG/L	<1.0
1,1-DICHLOROETHANE	UG/L	<0.20
1,2-DICHLOROETHANE	UG/L	<0.20
1,1-DICHLOROETHENE	UG/L	<0.20
CIS-1,2-DICHLOROETHENE	UG/L	<0.20
TRANS-1,2-DICHLOROETHENE	UG/L	<0.20
1,2-DICHLOROPROPANE	UG/L	<0.20
CIS-1,3-DICHLOROPROPENE	UG/L	<0.20
TRANS-1,3-DICHLOROPROPENE	UG/L	<0.20
ETHYLBENZENE	UG/L	<0.50
METHYLENE CHLORIDE	UG/L	<2.0
1,1,2,2-TETRACHLOROETHANE	UG/L	<0.50
TETRACHLOROETHENE	UG/L	<0.20
TOLUENE	UG/L	<0.50
1,1,1-TRICHLOROETHANE	UG/L	<0.20
1,1,2-TRICHLOROETHANE	UG/L	<0.20
TRICHLOROETHENE	UG/L	<0.20
TRICHLOROFLUOROMETHANE	UG/L	<2.0
VINYL CHLORIDE	UG/L	<0.20
XYLENES (TOTAL)	UG/L	<1.0

SURROGATES

BROMOFLUOROBENZENE (ELCD)
 BROMOFLUOROBENZENE (PID)

4 108
 4 121

Acceptable.
 J

7/15/94

GAS CHROMATOGRAPHY - QUALITY CONTROL

REAGENT BLANK

Page 7

Test : EPA 8010/8020 (HALOGENATED/AROMATIC VOLATILES)
 Blank I.D. : 31203
 Client : ANALYTICAL TECHNOLOGIES, INC.
 Project # : 407229
 Project Name: EL PASO NATURAL GAS

ATI I.D. : 407096
 Date Extracted: N/A
 Date Analyzed : 12-JUL-94
 Dil. Factor : 1.00

Parameters	Units	Results
BENZENE	UG/L	<0.50
BROMODICHLOROMETHANE	UG/L	<0.20
BROMOFORM	UG/L	<1.0
BROMOMETHANE	UG/L	<1.0
CARBON TETRACHLORIDE	UG/L	<0.20
CHLOROBENZENE	UG/L	<0.50
CHLOROETHANE	UG/L	<1.0
CHLOROFORM	UG/L	<0.20
CHLOROMETHANE	UG/L	<1.0
DIBROMOCHLOROMETHANE	UG/L	<0.20
1,2-DIBROMOMETHANE	UG/L	<0.50
1,2-DICHLOROBENZENE	UG/L	<0.50
1,3-DICHLOROBENZENE	UG/L	<0.50
1,4-DICHLOROBENZENE	UG/L	<0.50
1-CHLORODIFLUOROMETHANE	UG/L	<1.0
1,1-DICHLOROETHANE	UG/L	<0.20
1,2-DICHLOROETHANE	UG/L	<0.20
1,1-DICHLOROETHENE	UG/L	<0.20
CIS-1,2-DICHLOROETHENE	UG/L	<0.20
TRANS-1,2-DICHLOROETHENE	UG/L	<0.20
1,2-DICHLOROPROPANE	UG/L	<0.20
CIS-1,3-DICHLOROPROPENE	UG/L	<0.20
TRANS-1,3-DICHLOROPROPENE	UG/L	<0.20
ETHYLENE	UG/L	<0.50
METHYLENE CHLORIDE	UG/L	<2.0
1,1,2,2-TETRACHLOROETHANE	UG/L	<0.50
TETRACHLOROETHENE	UG/L	<0.20
TOLUENE	UG/L	<0.50
1,1,1-TRICHLOROETHANE	UG/L	<0.20
1,1,2-TRICHLOROETHANE	UG/L	<0.20
TRICHLOROETHENE	UG/L	<0.20
TRICHLOROFLUOROMETHANE	UG/L	<2.0
VINYL CHLORIDE	UG/L	<0.20
XYLENES (TOTAL)	UG/L	<1.0

SURROGATES

BROMOFLUOROBENZENE (FLCD)
 BROMOFLUOROBENZENE (PID)

92
 99

Acceptable.
 JF
 7/15/94

GAS CHROMATOGRAPHY - QUALITY CONTROL

MEMED

Page 2

Test : EPA 8010/8020 (HALOGENATED/AROMATIC VOLATILES)
 MEMED # : 64672
 Client : ANALYTICAL TECHNOLOGIES, INC.

ARI I.D. : 407096
 Data Extracted: N/A
 Date Analyzed : 11-JUL-94
 Sample Matrix : WATER
 REF I.D. : 407071-03

Project # : 407329
 Project Name: EL PASO NATURAL GAS

PARAMETERS	Units	Sample Result	Conc Spike	Spiked Sample	t Rec	Dup Spike	Dup t Rec	RPD
BENZENE	UG/L	<0.20	2.0	2.1	105	2.1	105	0
CHLOROBENZENE	UG/L	<0.20	2.0	2.2	110	2.4	120	9
CHLOROFORM	UG/L	<0.20	2.0	2.3	115	2.4	120	4
1,1-DICHLOROTHENE	UG/L	<0.20	2.0	1.8	90	2.2	110	20
TETRACHLOROTHENE	UG/L	<0.20	2.0	2.3	115	2.4	120	4
TOLUENE	UG/L	<0.20	2.0	2.4	120	2.4	120	0
TRICHLOROTHENE	UG/L	<0.20	2.0	2.3	115	2.3	115	0

t Recovery = (Spike Sample Result - Sample Result)*100/Spike Concentration

RPD (Relative % Difference) = (Spiked Sample Result - Duplicate Spike Result)*100/Average Result

Acceptable
 7/15/94

GAS CHROMATOGRAPHY - QUALITY CONTROL

BLANK SPIKE

Page 9

Test : EPA 8010/8020 (HALOGENATED/AROMATIC VOLATILES)
Blank Spike #: 48302
Client : ANALYTICAL TECHNOLOGIES, INC.
Project #: 407329
Project Name : EL PASO NATURAL GAS

ATI I.D. : 407096
Data Extracted: N/A
Data Analyzed : 11-JUL-94
Sample Matrix : WATER

Parameters	Units	Blank Result	Spiked Sample	Spike Conc.	% Rec
BENZENE	UG/L	<0.50	4.1	4.0	103
CHLOROBENZENE	UG/L	<0.50	4.1	4.0	103
CHLOROFORM	UG/L	<0.20	2.0	2.0	100
1,1-DICHLOROETHENE	UG/L	<0.20	1.8	2.0	90
TETRACHLOROETHENE	UG/L	<0.20	2.1	2.0	105
TOLUENE	UG/L	<0.50	4.2	4.0	105
TRICHLOROETHENE	UG/L	<0.20	2.0	2.0	100

% Recovery = (Spike Sample Result - Sample Result)*100/Spike Concentration

RPD (Relative % Difference) = (Spiked Sample - Blank Result)*100/Average Result

Acceptable.
JR
7/15/94

GAS CHROMATOGRAPHY - QUALITY CONTROL

BLANK SPIKE

Page 10

Test : EPA 8010/8020 (HALOGENATED/AROMATIC VOLATILES)
 Blank Spike #: 48340
 Client : ANALYTICAL TECHNOLOGIES, INC.
 Project #: 407329
 Project Name : EL PASO NATURAL GAS

ATI I.D. : 407096
 Date Extracted: N/A
 Date Analysed : 12-JUL-94
 Sample Matrix : WATER

Parameters	Units	Blank Result	Spiked Sample	Spike Conc.	% Rec
BENZENE	UG/L	<0.50	3.7	4.0	93
CHLOROBENZENE	UG/L	<0.50	4.1	4.0	103
CHLOROFORM	UG/L	<0.20	2.0	2.0	100
1,1-DICHLOROETHENE	UG/L	<0.20	2.0	2.0	100
TETRACHLOROETHENE	UG/L	<0.20	2.1	2.0	105
TOLUENE	UG/L	<0.50	3.7	4.0	93
TRICHLOROETHENE	UG/L	<0.20	.1	2.0	105

% Recovery = (Spike Sample Result - Sample Result)*100/Spike Concentration

RPD (Relative % Difference) = (Spiked Sample - Blank Result)*100/Average Result

Accepted
 E
 7/15/94



DATE: 7-6-94 PAGE 1 OF 1

AVAILABLE

PROJECT MANAGER: JOHN LAM BON

COMPANY: EL PASO NATURAL GAS CO.

ADDRESS: P.O. BOX 4990
FARMINGTON N.M. 87409

PHONE: 505-599-2144

FAX: 505-599-2261

BILL TO: SAME AS ABOVE

COMPANY: _____

ADDRESS: _____

[illegible]

PROJECT INFORMATION

21-111-100-01

FROM NO:

PROJ. NAME **CHACO M.W.**

P.O. NO.:

Supper wk

[illegible]PUSH ☐ 24r ☐ 48r ☐ 72r ☒ 1 WEEK

{NORMAL} 02 WEEK

Comments:

CHARGE TO

107-65209-01-0525-0017-51-1170

1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 26

Signature: Dennis Burt Time: 1930

Printed Name: OSCAR S BIRD Date: 7-6-99

Company: **SL AUTO NATURAL GAS** Phone: **372-2041**

444 100 100 100 100

Signature: _____ **Time:** _____

Printed Name: _____ Date: _____

Company

ACKNOWLEDGMENTS

Signature	Time
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Printed Name: _____ Date: _____

Содержание

[illegible]

Signature	Title
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Printed Name: _____ Date: _____

Company

11-10-1123

Signature: _____ Title: _____

Printed Name: _____ Date: _____

Abstract

11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 1040 1041 1042 1043 1044 10

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Symptoms

100

FAX . . . FAX . . . FAX . . . FAX . . . FAX . . . FAX . . . FAX . . . FAX . . .

FROM:



Analytical **Technologies**, Inc.

2709-D Pan American Freeway, NE
Albuquerque, NM

(505) 344-3777
(505) 344-4413 FAX

____ Mitch Rubenstein
____ Letitia Krakowski
____ Terri Dettre
____ Beth Proffitt

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Company : _____
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Please see the mesh results -
other study - (retals) later
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El Paso Natural Gas Company - Field Services Lab Report

Anion/Cation Balance Information and Calculations

Sample Number:	941048	941049	941050	941051	941052
SAMPLE POINT	Monitor Well MW-1	Monitor Well MW-2	Monitor Well MW-3	Monitor Well MW-4	Monitor Well MW-5
Concentration:	meq/l	meq/l	meq/l	meq/l	meq/l
CATIONS:					
CALCIUM AS Ca	9.28	1.90	8.83	24.40	22.60
MAGNESIUM AS Mg	2.39	0.74	3.54	7.16	8.23
POTASSIUM AS K	0.08	0.00	0.00	0.20	0.18
SODIUM (+/- Difference)	7.84	20.24	21.99	57.62	57.36
SODIUM (Actual)	7.04	20.39	21.70	60.65	63.22
CATIONS TOT(w/o Na)	11.74	2.64	12.37	31.76	31.01
CATIONS TOT(w/act. Na)	18.79	23.03	34.07	92.42	94.23
CATIONS TOT(w/cal. Na)	19.58	22.88	34.36	89.38	88.37
ANIONS:					
ALKALINITY AS CO3	0.00	0.00	0.00	0.00	0.00
ALKALINITY AS HCO3	7.01	10.21	11.96	9.13	7.41
CHLORIDE AS Cl	4.43	4.34	5.13	14.05	9.59
SULFATE AS SO4	8.14	8.33	17.26	66.21	71.37
FLUORIDE AS F	0.00	0.00	0.00	0.00	0.00
ANIONS (TOTAL)	9.58	22.88	34.36	89.38	88.37
TDS (ACTUAL)	1194	1428	2132	6040	6170
TDS (CALC. w/cal. Na)	1157	1373	2096	5861	5869
PERCENT DIFF. w/cal. Na	3	4	2	3	5
TDS (CALC. w/act. Na)	1139	1377	2089	5931	6004
PERCENT DIFF. w/act. Na	5	4	2	2	3
SODIUM (CALCULATED)	180	465	505	1325	1319
SODIUM AS Na (ACTUAL)	162	469	499	1395	1454
Relative % Difference RPD	3%	0%	0%	1%	2%
ANION/CATION % Difference	104.23	99.36	100.85	96.72	93.78

El Paso Natural Gas Company - Field Services Lab Report

Anion/Cation Balance Information and Calculations

Sample Number:	941053	941054	941055	941056	0
SAMPLE	Monitor	Monitor	Monitor	20 Inch	0
POINT	Well	Well	Well	Discharge	0
	MW-6	MW-7	MW-7 Dup	0	0
Concentration:	meq/l	meq/l	meq/l	meq/l	meq/l

CATIONS:

CALCIUM AS Ca	1.35	5.14	5.19	10.03	0.00
MAGNESIUM AS Mg	0.41	1.40	1.40	3.79	0.00
POTASSIUM AS K	0.00	0.05	0.05	0.79	0.00
SODIUM (+/- Difference)	35.50	20.91	20.02	6.33	0.00
SODIUM (Actual)	35.22	20.43	20.48	7.78	0.00
CATIONS TOT(w/o Na)	1.76	6.59	6.64	4.61	0.00
CATIONS TOT(w/act. Na)	36.98	27.02	27.12	22.39	0.00
CATIONS TOT(w/cal. Na)	37.26	27.50	26.66	20.93	0.00

ANIONS:

ALKALINITY AS CO3	0.00	0.00	0.00	0.17	0.00
ALKALINITY AS HCO3	6.82	8.46	8.44	2.62	0.00
CHLORIDE AS Cl	3.50	4.74	4.54	1.55	0.00
SULFATE AS SO4	26.94	14.30	13.68	16.59	0.00
FLUORIDE AS F	0.00	0.00	0.00	0.00	0.00
ANIONS (TOTAL)	37.26	27.50	26.66	20.93	0.00

TDS (ACTUAL)	2400	1696	1680	1530	0
TDS (CALC. w/cal. Na)	2471	1712	1655	1354	0
PERCENT DIFF. w/cal. Na	-3	-1	2	11	#DIV/0!
TDS (CALC. w/act. Na)	2465	1701	1665	1388	0
PERCENT DIFF. w/act. Na	-3	0	1	9	#DIV/0!
SODIUM (CALCULATED)	816	481	460	145	0
SODIUM AS Na (ACTUAL)	810	470	471	179	0
Relative % Difference RPD	0%	1%	1%	3%	#DIV/0!
ANION/CATION % Difference	100.76	101.75	98.31	93.49	#DIV/0!

To: John Lambdin Date: July 11, 1994
From: Dennis Bird Place: Field Services
 Engineering-Lab
Subject: Chaco Plant Monitor Wells

On Wednesday, July 6, 1994, Norman Norvelle, Lupe Rangel and myself traveled to Chaco Plant to perform monitoring well sampling. The following analytical parameters are to be performed on these groundwater samples: General Chemistry, Nitrates as NO₃-N, RCRA Metals by Total Digestion, Aromatic Hydrocarbons 602 and Chlorinated Hydrocarbons 601. The requested analysis for RCRA Metals by Total Digestion, Aromatic Hydrocarbons 602 and Chlorinated Hydrocarbons 601 was sent to Analytical Technologies in Phoenix Arizona for analysis. The Field Services Laboratory will be performing the General Chemistry and Nitrates as NO₃-N in our lab.

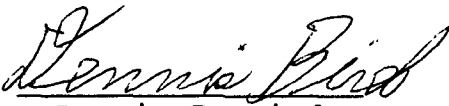
We also collected a sample from the 20 inch total discharge line going to the ponds. The same parameters will be analyzed as the monitor wells. A Field duplicate was collected on monitor well MW-7.

The following information was collected on each well.

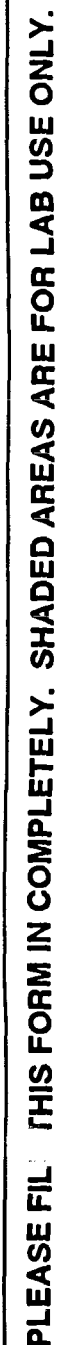
Monitor Well #	Pipe ID	Static Level	Total Depth	Gallons Bailed
MW-1	4"	14.85'	25.5'	21.0
MW-2	4"	15.20'	27.6'	26.0
MW-3	4"	9.45'	22.4'	26.0
MW-4	4"	19.15'	30.9'	27.0
MW-5	4"	25.05'	30.6'	10.0
MW-6	4"	11.45'	24.6'	26.0
MW-7	4"	7.70'	19.5'	30.0

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

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

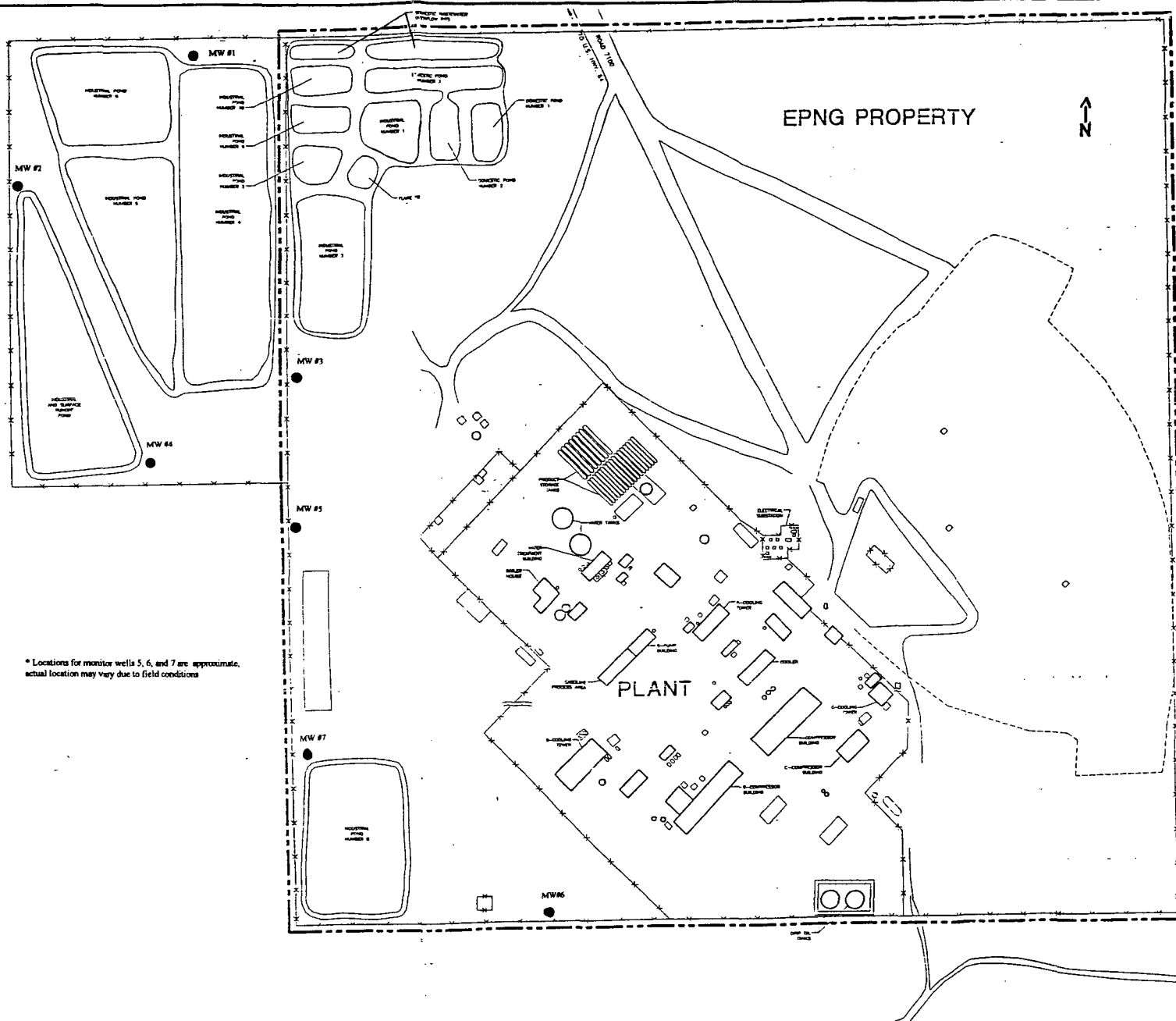

Dennis P. Bird

cc: Nancy Prince
Kris Sinclair



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El Paso
Natural Gas Company

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

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

August 1, 1994

Re: Discharge Plan GW-071
EPNG Chaco Canyon Gas Processing Plant
July 25, 1994 Meeting Requirements

RECEIVED
AUG 05 1994
OIL CONSERVATION DIV.
SANTA FE

Dear Mr. Anderson,

As we discussed in our July 25, 1994 meeting EPNG proposes to Modify the Chaco Plant Discharge Plan. This modification would enable EPNG to continue to use ponds #3, 4, 5, 6, 8, and the industrial/surface runoff pond for non contact water and to waive the requirement to replace the noncontact drainlines. Since the discharge water quality exceeds the background water quality, EPNG feels this modification would not adversely impact the environment.

In support of this modification EPNG has drilled seven monitor wells. Four wells were drilled in 1993 adjacent to the ponds in the northwest corner of Chaco Plant. Based on this information the NMOCD required EPNG to determine the ground water gradient, background water characteristics, and why the water in monitor well #4 was of such poor quality. In response to this directive, EPNG drilled three additional monitor wells, wells #5, 6, and 7. All gradient maps, water analysis, and well information are located in the tabs.

The low quality water in monitor well #4 was repeated in monitor well #5. Based upon the gradient map located in Tab 1, the high TDS might be caused by produced water from an oil well located up gradient to wells #4 and #5. This well was removed sometime in the early 1980s eliminating this source of contamination. Another explanation based upon the ground water gradient map in Tab 2, indicates the high TDS waters may be coming in from off site.

EPNG proposes to sample the monitor wells and 20" discharge quarterly for major anions, cations, TDS, and WQCC metals cadmium, chromium, and mercury. If after four sampling runs the cadmium and mercury are below WQCC levels EPNG wishes to discontinue testing for these metals.

The plant discharge contains no harmful chemicals in excess of WQCC limits and exceeds background water quality. EPNG believes this discharge plan modification will have no adverse effects on ground water. If you have any question or comments please call me at (915) 541-3317.

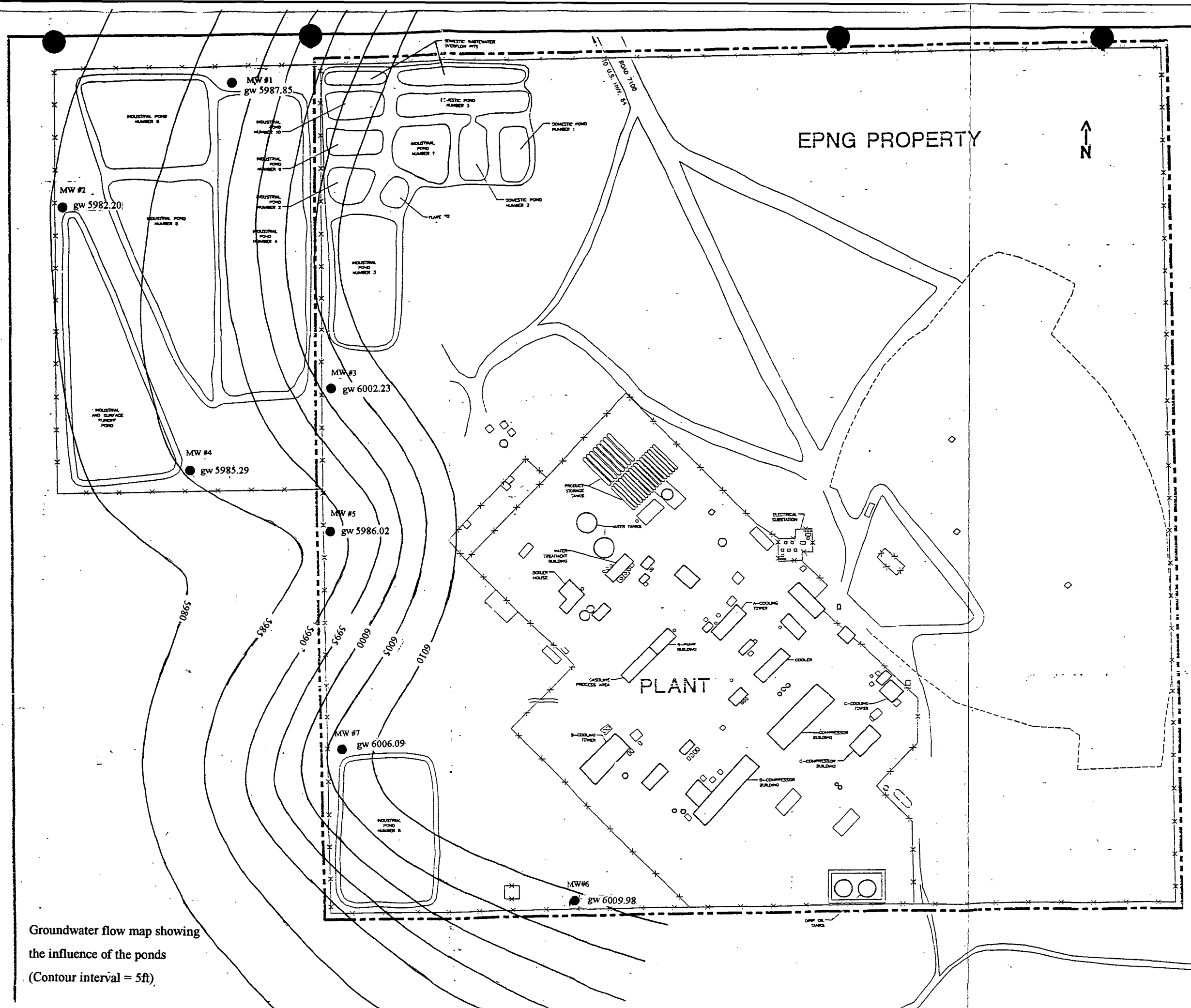
Sincerely:

A handwritten signature in cursive script that reads "Kris A. Sinclair". The signature is written in black ink and is positioned above the printed name and title.

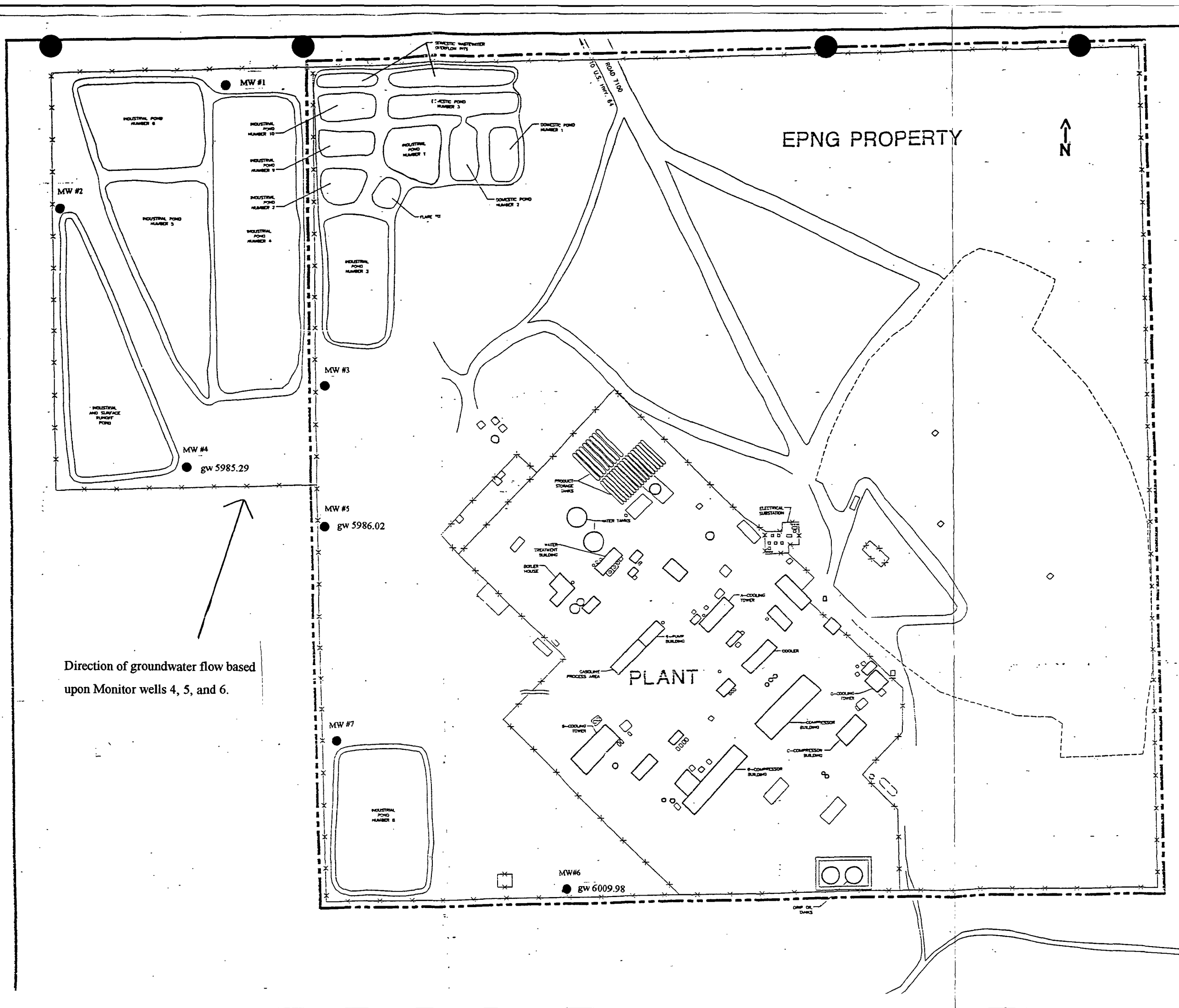
Kris A. Sinclair
Compliance Engineer

Enclosed:

Tab 1-----Groundwater flow map showing the influence of the ponds.
Tab 2-----Map showing the groundwater flow based upon the three wells least influenced by the ponds.
Tab 3-----Aerial photo of Chaco Plant showing pump jack.
Tab 4-----Aerial photo of Chaco Plant showing NAPI fields.
Tab 5-----Water analysis for all monitoring wells and 20" discharge line.
Tab 6-----Record of subsurface exploration.
Tab 7-----Well installation diagrams.
Tab 8-----Well installation data sheets.



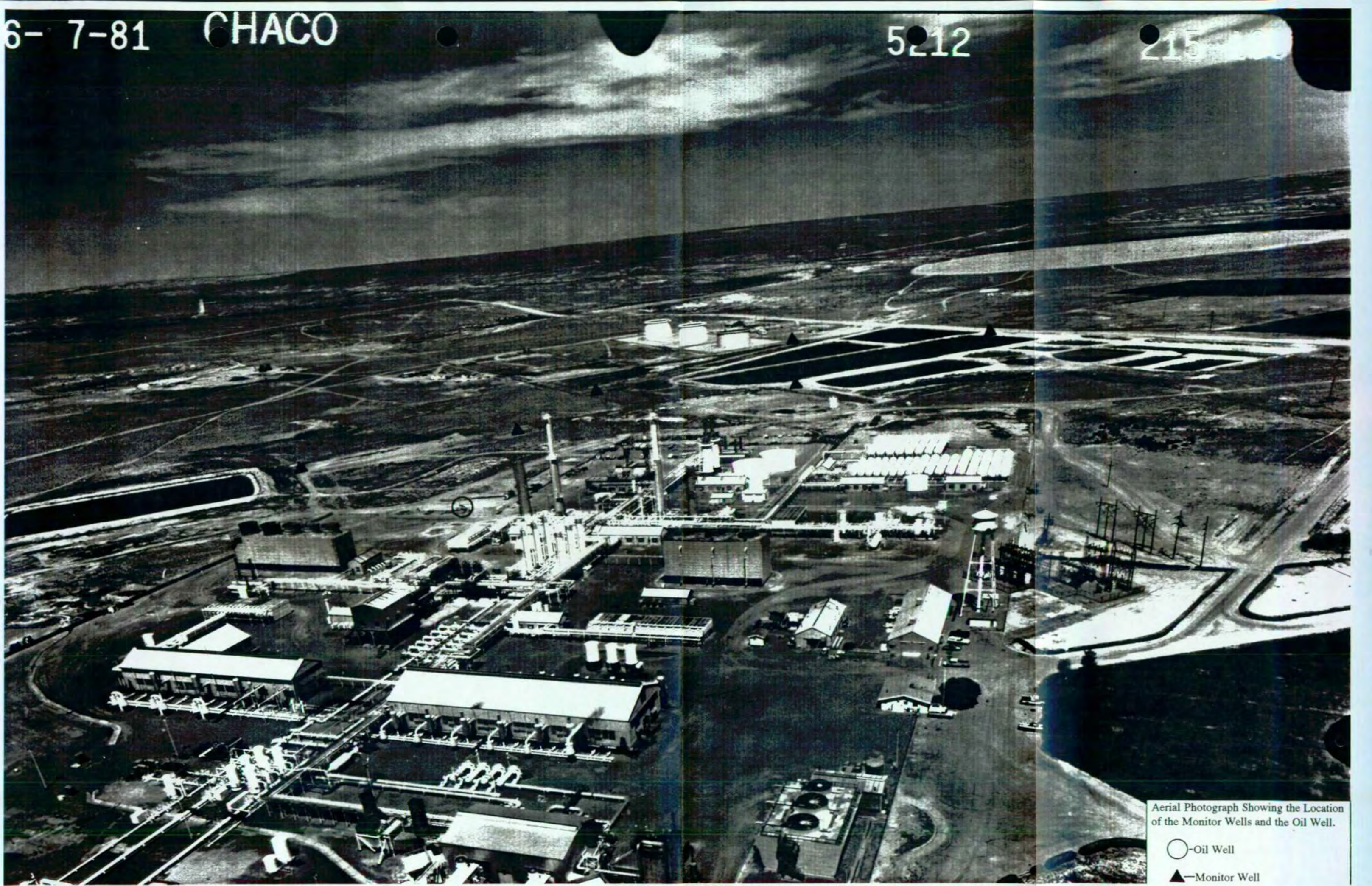
Groundwater flow map showing
the influence of the ponds
(Contour interval = 5ft)



6- 7-81 CHACO

5212

215



Aerial Photograph Showing the Location of the Monitor Wells and the Oil Well.

○—Oil Well

▲—Monitor Well

10/18/82



→ N

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Analytical**Technologies**, Inc.2709-D Pan American Freeway, NE Albuquerque, NM 87107
Phone (505) 344-3777 FAX (505) 344-4113

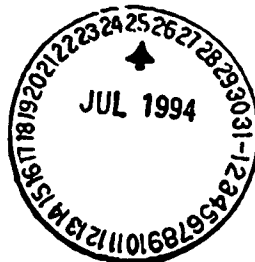
ATI I.D. 407329

July 22, 1994

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

Project Name/Number: CHACO M.W.

Attention: John Lambdin



On 07/08/94, Analytical Technologies, Inc., (ADHS License No. A20015), received a request to analyze aqueous samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

EPA method 8010/8020 analyses was performed by ATI, 5550 Morehouse Drive, San Diego, CA 92121.

Metals analyses were performed by Analytical Technologies, Inc., 9830 S. 51st Street, Suite B-113, Phoenix, AZ.

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

Letitia Krakowski, Ph.D.
Project ManagerH. Mitchell Rubenstein, Ph.D.
Laboratory Manager

MR:jt

Enclosure

Corporate Offices: 5550 Morehouse Drive San Diego, CA 92121 (619) 458-9141



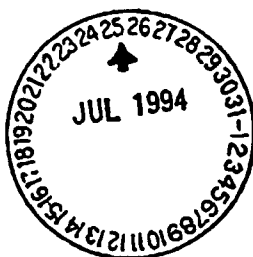
Analytical Technologies, Inc.

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

DATE RECEIVED : 07/08/94
REPORT DATE : 07/22/94

ATI ID: 407329

		ATI ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	MW-1	407329-01	941048	AQUEOUS	07/06/94
02	MW-2	407329-02	941049	AQUEOUS	07/06/94
03	MW-3	407329-03	941050	AQUEOUS	07/06/94
04	MW-4	407329-04	941051	AQUEOUS	07/06/94
05	MW-5	407329-05	941052	AQUEOUS	07/06/94
06	MW-6	407329-06	941053	AQUEOUS	07/06/94
07	MW-7	407329-07	941054	AQUEOUS	07/06/94
08	MW-7 Dup	407329-08	941055	AQUEOUS	07/06/94
09	20" Discharge	407329-09	941056	AQUEOUS	07/06/94



---TOTALS---

<u>MATRIX</u>	<u>#SAMPLES</u>
AQUEOUS	9

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.

METALS RESULTS

ATI I.D. : 407329

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

DATE RECEIVED : 07/08/94

REPORT DATE : 07/22/94

PARAMETER	UNITS	01	02	03	04	05
SILVER (EPA 200.7/6010)	MG/L	<0.010	<0.010	<0.010	<0.010	<0.010
ARSENIC (EPA 206.2/7060)	MG/L	<0.005	<0.005	0.005	<0.005	<0.005
BARIUM (EPA 200.7/6010)	MG/L	0.060	0.022	0.065	0.014	0.022
CADMIUM (EPA 213.2/7131)	MG/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
CHROMIUM (EPA 200.7/6010)	MG/L	<0.010	<0.010	<0.010	<0.010	<0.010
MERCURY (EPA 245.1/7470)	MG/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
LEAD (EPA 239.2/7421)	MG/L	<0.002	<0.002	<0.002	<0.002	<0.002
SELENIUM (EPA 270.2/7740)	MG/L	<0.005	<0.005	<0.005	0.014	0.019

MW-1

MW-2

MW-3

MW-4

MW-5



Analytical Technologies, Inc.

METALS RESULTS

ATI I.D. : 407329

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

DATE RECEIVED : 07/08/94

REPORT DATE : 07/22/94

PARAMETER	UNITS	06	07	08	09
SILVER (EPA 200.7/6010)	MG/L	<0.010	<0.010	<0.010	<0.010
ARSENIC (EPA 206.2/7060)	MG/L	<0.005	<0.005	<0.005	0.005
BARIUM (EPA 200.7/6010)	MG/L	0.028	0.026	0.026	0.206
CADMIUM (EPA 213.2/7131)	MG/L	<0.0005	<0.0005	<0.0005	<0.0005
CHROMIUM (EPA 200.7/6010)	MG/L	<0.010	<0.010	<0.010	0.049
MERCURY (EPA 245.1/7470)	MG/L	<0.0002	<0.0002	<0.0002	<0.0002
LEAD (EPA 239.2/7421)	MG/L	<0.002	<0.002	<0.002	<0.002
SELENIUM (EPA 270.2/7740)	MG/L	0.058	<0.005	<0.005	<0.005

MW-6

MW-7

MW-7

20'

Field

Dup.

Discharge



Analytical Technologies, Inc.

METALS - QUALITY CONTROL

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

ATI I.D. : 407329

PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP. RESULT	RPD	SPIKED SAMPLE	SPIKE CONC	% REC
SILVER	MG/L	40732901	<0.010	<0.010	NA	0.946	1.00	95
ARSENIC	MG/L	40732901	<0.005	<0.005	NA	0.050	0.050	100
ARSENIC	MG/L	40732909	0.005	0.006	18	0.051	0.050	92
BARIUM	MG/L	40760101	0.018	0.018	0	1.01	1.00	99
CADMIUM	MG/L	40732901	<0.0005	<0.0005	NA	0.0053	0.0050	106
CHROMIUM	MG/L	40756501	0.013	0.011	17	0.950	1.00	94
MERCURY	MG/L	40757001	<0.0002	<0.0002	NA	0.0050	0.0050	100
LEAD	MG/L	40732901	<0.002	<0.002	NA	0.047	0.050	94
SELENIUM	MG/L	40750901	<0.005	<0.005	NA	0.046	0.050	92

Acceptable.
JS
7/27/94

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

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



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

Page 3

Test : EPA 8010/8020 (HALOGENATED/AROMATIC VOLATILES)

Client : ANALYTICAL TECHNOLOGIES, INC.

ATI I.D. : 407096

Project # : 407329

Project Name: EL PASO NATURAL GAS

Sample #	Client ID	Matrix	Date Sampled	Date Extracted	Date Analyzed	Dil. Factor
1	407329-01	WATER	06-JUL-94	N/A	12-JUL-94	1.00
2	407329-02	WATER	06-JUL-94	N/A	12-JUL-94	1.00
3	407329-03	WATER	06-JUL-94	N/A	12-JUL-94	1.00

Parameter	Units	1 MW-1	2 MW-2	3 MW-3
BENZENE	UG/L	<0.50	<0.50	<0.50
BROMODICHLOROMETHANE	UG/L	<0.20	<0.20	<0.20
BROMOFORM	UG/L	<1.0	<1.0	<1.0
BROMOMETHANE	UG/L	<1.0	<1.0	<1.0
CARBON TETRACHLORIDE	UG/L	<0.20	<0.20	<0.20
CHLORO BENZENE	UG/L	<0.50	<0.50	<0.50
CHLOROETHANE	UG/L	<1.0	<1.0	<1.0
CHLOROFORM	UG/L	<0.20	<0.20	<0.20
CHLOROMETHANE	UG/L	<1.0	<1.0	<1.0
DIBROMOCHLOROMETHANE	UG/L	<0.20	<0.20	<0.20
1,2-DIBROMOETHANE	UG/L	<0.50	<0.50	<0.50
1,2-DICHLORO BENZENE	UG/L	<0.50	<0.50	<0.50
1,3-DICHLORO BENZENE	UG/L	<0.50	<0.50	<0.50
1,4-DICHLORO BENZENE	UG/L	<0.50	<0.50	<0.50
DICHLORODIFLUOROMETHANE	UG/L	<1.0	<1.0	<1.0
1,1-DICHLOROETHANE	UG/L	<0.20	<0.20	<0.20
1,2-DICHLOROETHANE	UG/L	<0.20	<0.20	<0.20
1,1-DICHLOROETHENE	UG/L	<0.20	<0.20	<0.20
CIS-1,2-DICHLOROETHENE	UG/L	<0.20	<0.20	<0.20
TRANS-1,2-DICHLOROETHENE	UG/L	<0.20	<0.20	<0.20
1,2-DICHLOROPROPANE	UG/L	<0.20	<0.20	<0.20
CIS-1,3-DICHLOROPROPENE	UG/L	<0.20	<0.20	<0.20
TRANS-1,3-DICHLOROPROPENE	UG/L	<0.20	<0.20	<0.20
ETHYLBENZENE	UG/L	<0.50	<0.50	<0.50
METHYLENE CHLORIDE	UG/L	<2.0	<2.0	<2.0
1,1,2,2-TETRACHLOROETHANE	UG/L	<0.50	<0.50	<0.50
TETRACHLOROETHENE	UG/L	<0.20	<0.20	<0.20
TOLUENE	UG/L	<0.50	<0.50	<0.50
1,1,1-TRICHLOROETHANE	UG/L	<0.20	<0.20	<0.20
1,1,2-TRICHLOROETHANE	UG/L	<0.20	<0.20	<0.20
TRICHLOROETHENE	UG/L	<0.20	<0.20	<0.20
TRICHLOROFLUOROMETHANE	UG/L	<2.0	<2.0	<2.0
VINYL CHLORIDE	UG/L	<0.20	<0.20	<0.20
XYLENES (TOTAL)	UG/L	<1.0	<1.0	<1.0

SURROGATES

BROMOFLUOROBENZENE (ELCD)

%

95

91

83

BROMOFLUOROBENZENE (PID)

%

107

104

92



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

Page 4

Test : EPA 8010/8020 (HALOGENATED/AROMATIC VOLATILES)

Client : ANALYTICAL TECHNOLOGIES, INC.

ATI I.D. : 407096

Project # : 407329

Project Name: EL PASO NATURAL GAS

Sample #	Client ID	Matrix	Date Sampled	Date Extracted	Date Analyzed	Dil. Factor
4	407329-04	WATER	06-JUL-94	N/A	12-JUL-94	1.00
5	407329-05	WATER	06-JUL-94	N/A	12-JUL-94	1.00
6	407329-06	WATER	06-JUL-94	N/A	12-JUL-94	1.00

Parameter	Units	4 MW-4	5 MW-5	6 MW-6
BENZENE	UG/L	<0.50	<0.50	<0.50
BROMODICHLOROMETHANE	UG/L	<0.20	<0.20	<0.20
BROMOFORM	UG/L	<1.0	<1.0	<1.0
BROMOMETHANE	UG/L	<1.0	<1.0	<1.0
CARBON TETRACHLORIDE	UG/L	<0.20	<0.20	<0.20
CHLORO BENZENE	UG/L	<0.50	<0.50	<0.50
CHLOROETHANE	UG/L	<1.0	<1.0	<1.0
CHLOROFORM	UG/L	<0.20	<0.20	0.33
CHLOROMETHANE	UG/L	<1.0	<1.0	<1.0
DIBROMOCHLOROMETHANE	UG/L	<0.20	<0.20	<0.20
1,2-DIBROMOETHANE	UG/L	<0.50	<0.50	<0.50
1,2-DICHLORO BENZENE	UG/L	<0.50	<0.50	<0.50
1,3-DICHLORO BENZENE	UG/L	<0.50	<0.50	<0.50
1,4-DICHLORO BENZENE	UG/L	<0.50	<0.50	<0.50
DICHLORODIFLUOROMETHANE	UG/L	<1.0	<1.0	<1.0
1,1-DICHLOROETHANE	UG/L	<0.20	<0.20	<0.20
1,2-DICHLOROETHANE	UG/L	<0.20	<0.20	<0.20
1,1-DICHLOROETHENE	UG/L	<0.20	<0.20	<0.20
CIS-1,2-DICHLOROETHENE	UG/L	<0.20	<0.20	<0.20
TRANS-1,2-DICHLOROETHENE	UG/L	<0.20	<0.20	<0.20
1,2-DICHLOROPROPANE	UG/L	<0.20	<0.20	<0.20
CIS-1,3-DICHLOROPROPENE	UG/L	<0.20	<0.20	<0.20
TRANS-1,3-DICHLOROPROPENE	UG/L	<0.20	<0.20	<0.20
ETHYLBENZENE	UG/L	<0.50	<0.50	<0.50
METHYLENE CHLORIDE	UG/L	<2.0	<2.0	<2.0
1,1,2,2-TETRACHLOROETHANE	UG/L	<0.50	<0.50	<0.50
TETRACHLOROETHENE	UG/L	<0.20	<0.20	<0.20
TOLUENE	UG/L	<0.50	<0.50	<0.50
1,1,1-TRICHLOROETHANE	UG/L	<0.20	<0.20	<0.20
1,1,2-TRICHLOROETHANE	UG/L	<0.20	<0.20	<0.20
TRICHLOROETHENE	UG/L	<0.20	<0.20	<0.20
TRICHLOROFLUOROMETHANE	UG/L	<2.0	<2.0	<2.0
VINYL CHLORIDE	UG/L	<0.20	<0.20	<0.20
XYLENES (TOTAL)	UG/L	<1.0	<1.0	<1.0

SURROGATES

BROMOFLUOROBENZENE (ELCD)	86	99	95
BROMOFLUOROBENZENE (PID)	99	109	106



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

Page 5

Test : EPA 8010/8020 (HALOGENATED/AROMATIC VOLATILES)

Client : ANALYTICAL TECHNOLOGIES, INC.

ATI I.D. : 407096

Project # : 407329

Project Name: EL PASO NATURAL GAS

Sample #	Client ID	Matrix	Date Sampled	Date Extracted	Date Analyzed	Dil. Factor
7	407329-07	WATER	06-JUL-94	N/A	12-JUL-94	1.00
8	407329-08	WATER	06-JUL-94	N/A	12-JUL-94	1.00
9	407329-09	WATER	06-JUL-94	N/A	12-JUL-94	1.00

Parameter	Units	7 MW-7	8 MW-7 Dup	9 20' Pdsdy.
BENZENE	UG/L	<0.50	<0.50	<0.50
BROMODICHLOROMETHANE	UG/L	<0.20	<0.20	<0.20
BROMOFORM	UG/L	<1.0	<1.0	<1.0
BROMOMETHANE	UG/L	<1.0	<1.0	<1.0
CARBON TETRACHLORIDE	UG/L	<0.20	<0.20	<0.20
CHLOROBENZENE	UG/L	<0.50	<0.50	<0.50
CHLOROETHANE	UG/L	<1.0	<1.0	<1.0
CHLOROFORM	UG/L	<0.20	<0.20	<0.20
CHLOROMETHANE	UG/L	<1.0	<1.0	<1.0
DIBROMOCHLOROMETHANE	UG/L	<0.20	<0.20	<0.20
1,2-DIBROMOETHANE	UG/L	<0.50	<0.50	<0.50
1,2-DICHLOROBENZENE	UG/L	<0.50	<0.50	<0.50
1,3-DICHLOROBENZENE	UG/L	<0.50	<0.50	<0.50
1,4-DICHLOROBENZENE	UG/L	<0.50	<0.50	<0.50
DICHLORODIFLUOROMETHANE	UG/L	<1.0	<1.0	<1.0
1,1-DICHLOROETHANE	UG/L	<0.20	<0.20	<0.20
1,2-DICHLOROETHANE	UG/L	<0.20	<0.20	<0.20
1,1-DICHLOROETHENE	UG/L	<0.20	<0.20	<0.20
CIS-1,2-DICHLOROETHENE	UG/L	<0.20	<0.20	<0.20
TRANS-1,2-DICHLOROETHENE	UG/L	<0.20	<0.20	<0.20
1,2-DICHLOROPROPANE	UG/L	<0.20	<0.20	<0.20
CIS-1,3-DICHLOROPROPENE	UG/L	<0.20	<0.20	<0.20
TRANS-1,3-DICHLOROPROPENE	UG/L	<0.20	<0.20	<0.20
ETHYLBENZENE	UG/L	<0.50	<0.50	<0.50
METHYLENE CHLORIDE	UG/L	<2.0	<2.0	<2.0
1,1,2,2-TETRACHLOROETHANE	UG/L	<0.50	<0.50	<0.50
TETRACHLOROETHENE	UG/L	<0.20	<0.20	<0.20
TOLUENE	UG/L	1.7	1.5	<0.50
1,1,1-TRICHLOROETHANE	UG/L	<0.20	<0.20	<0.20
1,1,2-TRICHLOROETHANE	UG/L	<0.20	<0.20	<0.20
TRICHLOROETHENE	UG/L	<0.20	<0.20	<0.20
TRICHLOROFLUOROMETHANE	UG/L	<2.0	<2.0	<2.0
VINYL CHLORIDE	UG/L	<0.20	<0.20	<0.20
XYLENES (TOTAL)	UG/L	<1.0	<1.0	<1.0

SURROGATES

BROMOFLUOROBENZENE (ELCD)

%

99

96

93

BROMOFLUOROBENZENE (PID)

%

102

105

95



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - QUALITY CONTROL

REAGENT BLANK

Page 6

Test : EPA 8010/8020 (HALOGENATED/AROMATIC VOLATILES)
 Blank I.D. : 31186
 Client : ANALYTICAL TECHNOLOGIES, INC.
 Project # : 407329
 Project Name: EL PASO NATURAL GAS

ATI I.D. : 407096
 Date Extracted: N/A
 Date Analyzed : 11-JUL-94
 Dil. Factor : 1.00

Parameters	Units	Results
BENZENE	UG/L	<0.50
BROMODICHLOROMETHANE	UG/L	<0.20
BROMOFORM	UG/L	<1.0
BROMOMETHANE	UG/L	<1.0
CARBON TETRACHLORIDE	UG/L	<0.20
CHLOROBENZENE	UG/L	<0.50
CHLOROETHANE	UG/L	<1.0
CHLOROFORM	UG/L	<0.20
CHLOROMETHANE	UG/L	<1.0
DIBROMOCHLOROMETHANE	UG/L	<0.20
1,2-DIBROMOETHANE	UG/L	<0.50
1,2-DICHLOROBENZENE	UG/L	<0.50
1,3-DICHLOROBENZENE	UG/L	<0.50
1,4-DICHLOROBENZENE	UG/L	<0.50
DICHLORODIFLUOROMETHANE	UG/L	<1.0
1,1-DICHLOROETHANE	UG/L	<0.20
1,2-DICHLOROETHANE	UG/L	<0.20
1,1-DICHLOROETHENE	UG/L	<0.20
CIS-1,2-DICHLOROETHENE	UG/L	<0.20
TRANS-1,2-DICHLOROETHENE	UG/L	<0.20
1,2-DICHLOROPROPANE	UG/L	<0.20
CIS-1,3-DICHLOROPROPENE	UG/L	<0.20
TRANS-1,3-DICHLOROPROPENE	UG/L	<0.20
ETHYLBENZENE	UG/L	<0.50
METHYLENE CHLORIDE	UG/L	<2.0
1,1,2,2-TETRACHLOROETHANE	UG/L	<0.50
TETRACHLOROETHENE	UG/L	<0.20
TOLUENE	UG/L	<0.50
1,1,1-TRICHLOROETHANE	UG/L	<0.20
1,1,2-TRICHLOROETHANE	UG/L	<0.20
TRICHLOROETHENE	UG/L	<0.20
TRICHLOROFLUOROMETHANE	UG/L	<2.0
VINYL CHLORIDE	UG/L	<0.20
XYLENES (TOTAL)	UG/L	<1.0
SURROGATES		
BROMOFLUOROBENZENE (ELCD)	%	108
BROMOFLUOROBENZENE (PID)	%	121

Acceptable.
 8/27/94



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - QUALITY CONTROL

REAGENT BLANK

Page 7

Test : EPA 8010/8020 (HALOGENATED/AROMATIC VOLATILES)
 Blank I.D. : 31203
 Client : ANALYTICAL TECHNOLOGIES, INC.
 Project # : 407329
 Project Name: EL PASO NATURAL GAS

ATI I.D. : 407096
 Date Extracted: N/A
 Date Analyzed : 12-JUL-94
 Dil. Factor : 1.00

Parameters	Units	Results
BENZENE	UG/L	<0.50
BROMODICHLOROMETHANE	UG/L	<0.20
BROMOFORM	UG/L	<1.0
BROMOMETHANE	UG/L	<1.0
CARBON TETRACHLORIDE	UG/L	<0.20
CHLOROBENZENE	UG/L	<0.50
CHLOROETHANE	UG/L	<1.0
CHLOROFORM	UG/L	<0.20
CHLOROMETHANE	UG/L	<1.0
DIBROMOCHLOROMETHANE	UG/L	<0.20
1,2-DIBROMOETHANE	UG/L	<0.50
1,2-DICHLOROBENZENE	UG/L	<0.50
1,3-DICHLOROBENZENE	UG/L	<0.50
1,4-DICHLOROBENZENE	UG/L	<0.50
DICHLORODIFLUOROMETHANE	UG/L	<1.0
1,1-DICHLOROETHANE	UG/L	<0.20
1,2-DICHLOROETHANE	UG/L	<0.20
1,1-DICHLOROETHENE	UG/L	<0.20
CIS-1,2-DICHLOROETHENE	UG/L	<0.20
TRANS-1,2-DICHLOROETHENE	UG/L	<0.20
1,2-DICHLOROPROPANE	UG/L	<0.20
CIS-1,3-DICHLOROPROPENE	UG/L	<0.20
TRANS-1,3-DICHLOROPROPENE	UG/L	<0.20
ETHYLBENZENE	UG/L	<0.50
METHYLENE CHLORIDE	UG/L	<2.0
1,1,2,2-TETRACHLOROETHANE	UG/L	<0.50
TETRACHLOROETHENE	UG/L	<0.20
TOLUENE	UG/L	<0.50
1,1,1-TRICHLOROETHANE	UG/L	<0.20
1,1,2-TRICHLOROETHANE	UG/L	<0.20
TRICHLOROETHENE	UG/L	<0.20
TRICHLOROFLUOROMETHANE	UG/L	<2.0
VINYL CHLORIDE	UG/L	<0.20
XYLENES (TOTAL)	UG/L	<1.0

SURROGATES

BROMOFLUOROBENZENE (ELCD)
 BROMOFLUOROBENZENE (PID)

92
 99

Accepted
7/27/94



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - QUALITY CONTROL

MSMSD

Page 1

Test : EPA 8010/8020 (HALOGENATED/AROMATIC VOLATILES)
MSMSD # : 64672
Client : ANALYTICAL TECHNOLOGIES, INC.

ATI I.D. : 407096
Date Extracted: N/A
Date Analyzed : 11-JUL-94
Sample Matrix : WATER
REF I.D. : 407071-03

Project # : 407329
Project Name: EL PASO NATURAL GAS

Parameters	Units	Sample Result	Conc Spike	Spiked Sample	% Rec	Dup Spike	Dup % Rec	RPD
BENZENE	UG/L	<0.50	2.0	2.1	105	2.1	105	0
CHLOROBENZENE	UG/L	<0.50	2.0	2.2	110	2.4	120	9
CHLOROFORM	UG/L	<0.20	2.0	2.3	115	2.4	120	4
1,1-DICHLOROETHENE	UG/L	<0.20	2.0	1.8	90	2.2	110	20
TETRACHLOROETHENE	UG/L	<0.20	2.0	2.3	115	2.4	120	4
TOLUENE	UG/L	<0.50	2.0	2.4	120	2.4	120	0
TRICHLOROETHENE	UG/L	<0.20	2.0	2.3	115	2.3	115	0

% Recovery = (Spike Sample Result - Sample Result)*100/Spike Concentration

RPD (Relative % Difference) = (Spiked Sample Result - Duplicate Spike Result)*100/Average Result

Acceptable.
R
7/27/94



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - QUALITY CONTROL

BLANK SPIKE

Page 9

Test : EPA 8010/8020 (HALOGENATED/AROMATIC VOLATILES)
Blank Spike #: 48302
Client : ANALYTICAL TECHNOLOGIES, INC.
Project #: 407329
Project Name : EL PASO NATURAL GAS

ATI I.D. : 407096
Date Extracted: N/A
Date Analyzed : 11-JUL-94
Sample Matrix : WATER

Parameters	Units	Blank Result	Spiked Sample	Spike Conc.	% Rec
BENZENE	UG/L	<0.50	4.1	4.0	103
CHLOROBENZENE	UG/L	<0.50	4.1	4.0	103
CHLOROFORM	UG/L	<0.20	2.0	2.0	100
1,1-DICHLOROETHENE	UG/L	<0.20	1.8	2.0	90
TETRACHLOROETHENE	UG/L	<0.20	2.1	2.0	105
TOLUENE	UG/L	<0.50	4.2	4.0	105
TRICHLOROETHENE	UG/L	<0.20	2.0	2.0	100

% Recovery = (Spike Sample Result - Sample Result)*100/Spike Concentration

RPD (Relative % Difference) = (Spiked Sample - Blank Result)*100/Average Result

Acceptable
8
7/27/94



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - QUALITY CONTROL

BLANK SPIKE

Page 10

Test : EPA 8010/8020 (HALOGENATED/AROMATIC VOLATILES)
Blank Spike #: 48340
Client : ANALYTICAL TECHNOLOGIES, INC.
Project # : 407329
Project Name : EL PASO NATURAL GAS

ATI I.D. : 407096
Date Extracted: N/A
Date Analyzed : 12-JUL-94
Sample Matrix : WATER

Parameters	Units	Blank Result	Spiked Sample	Spike Conc.	% Rec
BENZENE	UG/L	<0.50	3.7	4.0	93
CHLOROBENZENE	UG/L	<0.50	4.1	4.0	103
CHLOROFORM	UG/L	<0.20	2.0	2.0	100
1,1-DICHLOROETHENE	UG/L	<0.20	2.0	2.0	100
TETRACHLOROETHENE	UG/L	<0.20	2.1	2.0	105
TOLUENE	UG/L	<0.50	3.7	4.0	93
TRICHLOROETHENE	UG/L	<0.20	2.1	2.0	105

% Recovery = (Spike Sample Result - Sample Result)*100/Spike Concentration

RPD (Relative % Difference) = (Spiked Sample - Blank Result)*100/Average Result

Accepted
JR
7/27/94



Analytical Technologies, Inc.
Phoenix, Arizona

Chain of Custody

DATE 7/8/94 PAGE 1 OF 1

ELPRSD NO. REG. LAB

ID: 505-599-2261

AUG 02 '94

9:50 No. 001 P.15

AUG 2 '94 8:47

505 599 2261 PAGE.015

NETWORK PROJECT MANAGER: <u>Amy Klinger</u>						ANALYSIS REQUEST																				
COMPANY: Analytical Technologies, Inc. ADDRESS: 9830 S. 51st Street, Suite B-113 Phoenix, Arizona 85044						TOX	TOC	ORGANIC LEAD	SULFIDE	SURFACTANTS (MBAS)	632/632 MOD	619/619 MOD	601/602	8240 (TCLP 1311) ZHE	Diesel/Gasoline/BTEX/MTBE/ (MOD 8015/8020)	Volatiles Organics GC/MS (824/8240)	NACE	ASBESTOS	800	TOTAL COLIFORM	FECAL COLIFORM	GROSS ALPHA/BETA	RADIUM 226/228	AIR - O2, CO2, METHANE, CO, N2	AIR/Diesel/Gasoline/BTEX/ (MOD 8015/8020)	NUMBER OF CONTAINERS
CLIENT PROJECT MANAGER: <u>MT</u>																										
SAMPLE ID	DATE	TIME	MATRIX	LAB ID																						
407329 - 01	7/6	1610	Ag	01								X													4	
02		1623		02								X													4	
03		1642		03								X													4	
04		1701		04								X													4	
05		1719		05								X													4	
06		1736		06								X													4	
07		1755		07								X													4	
08	7/15/94	1755		08								X													4	
09		1830		09								X													4	

PROJECT INFORMATION			SAMPLE RECEIPT			SAMPLES SENT TO:		RELINQUISHED BY: 1.		RELINQUISHED BY: 2.	
PROJECT NUMBER: <u>407329</u>	TOTAL NUMBER OF CONTAINERS: <u>36</u>		CHAIN OF CUSTODY SEALS: <u>NA</u>			SAN DIEGO ☒	Signature: <u>Amy Klinger</u>	Time: <u>6p</u>	Signature:	Time:	
PROJECT NAME:	INTACT?: <u>NO</u>		RECEIVED GOOD COND./COLD: <u>Y</u>			FT. COLLINS	Printed Name: <u>Amy Klinger</u>	Date: <u>7/8/94</u>	Printed Name:	Date:	
QC LEVEL: <u>STD. IV</u>	LAB NUMBER: <u>407096</u>					RENTON	Analytical Technologies, Inc.		Company:		
TAT: <u>STANDARD RUSH</u>						PENSACOLA	Phoenix				
ATI WORKORDER #						PORTLAND	RECEIVED BY: 1.		RECEIVED BY: (LAB) 2.		
						AQUATIC	Signature:	Time:	Signature: <u>Lisa Tucker</u>	Time: <u>09:50</u>	
DUE DATE: <u>7/15/94</u>	<u>One week T.A.</u>						Printed Name:	Date:	Printed Name:	Date:	
TIME:							Analytical Technologies, Inc.		Company: <u>ATI - S.D.</u>		

Cooler #8731 = 3.6°C

ATI Labs: San Diego (619) 458-9141 • Phoenix (602) 496-4400 • Seattle (206) 228-8335 • Pensacola (904) 474-1001

DISTRIBUTION: White, Canary - ANALYTICAL TECHNOLOGIES, INC. • Pink - ORIGINATOR



DATE: 7-6-94 PAGE 1 OF 1

407.329

EL PASO NO. REG. LAB.

ID:505-599-2261

AUG 02 '94

9:51 No.001 P.16

AUG 2 '94 8:48

505 599 2261 PAGE.016

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

PROJECT MANAGER: JOHN HAM EDIN

COMPANY: EL PASO NATURAL GAS CO.

ADDRESS: P.O. BOX 4990
FARMINGTON N.M. 87499

PHONE: 505-599-2144

FAX: 505-599-2261

BILL TO: SAME AS ABOVE

COMPANY: _____

ADDRESS: _____

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
941048	7-6-94	1610	WATER	1
941049	7-6-94	1623	WATER	2
941050	7-6-94	1642	WATER	3
941051	7-6-94	1701	WATER	4
941052	7-6-94	1719	WATER	5
941053	7-6-94	1736	WATER	6
941054	7-6-94	1755	WATER	7
941055	7-6-94	1755	WATER	8
941056	7-6-94	1830	WATER	9

PROJECT INFORMATION		SAMPLE RECEIPT
PROJ. NO.:	NO. CONTAINERS	45
PROJ. NAME: CHACO M.W.	CUSTODY SEALS	YIN (NA)
P.O. NO.:	RECEIVED INTACT	Y
SHIPPED VIA:	RECEIVED COLD	Y

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☒ 1 WEEK (NORMAL) ☐ 2 WEEK

Comments: *CHANGE TO:*
107-65209-01-0525-0017-51-1170

ANALYSIS REQUEST					
	Petroleum Hydrocarbons (418.1)				
	(MOD 8016) Gas/Diesel				
	Diesel/Gasoline/BTxE/MTBE (MOD 8015/8020)				
	BTXE/MTBE (8020)				
X	Chlorinated Hydrocarbons (601/8010)	X	X	X	X
X	Aromatic Hydrocarbons (802/8020)	X	X	X	X
	SOWA Volatiles (502.1/503.1), 502.2 Reg. & Unreg.				
	Pesticides/PCB (608/8080)				
	Herbicides (619/8150)				
	Base/Neutral/Acid Compounds GC/MS (625/8270)				
	Volatile Organics GC/MS (824/8240)				
	Polynuclear Aromatics (810/8310)				
	SDWA Primary Standards - Arizona				
	SDWA Secondary Standards - Arizona				
	SDWA Primary Standards - Federal				
	SDWA Secondary Standards - Federal				
	The 13 Priority Pollutant Metals				
X	RCRA Metals by Total Digestion	X	X	X	X
X	RCRA Metals by TCLP (1311)	X	X	X	X

SAMPLED & RELINQUISHED BY: 1.		RELINQUISHED BY: 2.		RELINQUISHED BY:	
Signature:	Time: 1930	Signature:	Time:	Signature:	Time:
Printed Name:	Date: 7-6-94	Printed Name:	Date:	Printed Name:	Date:
Company:	Phone: 577-1011	Company:		Company:	
EL PASO NATURAL GAS					
RECEIVED BY: 1.		RECEIVED BY: 2.		RECEIVED BY: (LAB)	
Signature:	Time:	Signature:	Time:	Signature:	Time:
Printed Name:	Date:	Printed Name:	Date:	Printed Name:	Date:
Company:		Company:		Company:	
				Analytical Technologies, Inc.	

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

DISTRIBUTION: White, Canary - ATI • Pink - ORIGINATOR



MEMORANDUM

To: John Lambdin

Date: July 11, 1994

From: Dennis Bird

Place: Field Services
Engineering-Lab

Subject: Chaco Plant Monitor Wells

On Wednesday, July 6, 1994, Norman Norvelle, Lupe Rangel and myself traveled to Chaco Plant to perform monitoring well sampling. The following analytical parameters are to be performed on these groundwater samples: General Chemistry, Nitrates as $\text{NO}_3\text{-N}$, RCRA Metals by Total Digestion, Aromatic Hydrocarbons 602 and Chlorinated Hydrocarbons 601. The requested analysis for RCRA Metals by Total Digestion, Aromatic Hydrocarbons 602 and Chlorinated Hydrocarbons 601 was sent to Analytical Technologies in Phoenix Arizona for analysis. The Field Services Laboratory will be performing the General Chemistry and Nitrates as $\text{NO}_3\text{-N}$ in our lab.

We also collected a sample from the 20 inch total discharge line going to the ponds. The same parameters will be analyzed as the monitor wells. A Field duplicate was collected on monitor well MW-7.

The following information was collected on each well.

Monitor Well #	Pipe ID	Static Level	Total Depth	Gallons Bailed
MW-1	4"	14.85'	25.5'	21.0
MW-2	4"	15.20'	27.6'	26.0
MW-3	4"	9.45'	22.4'	26.0
MW-4	4"	19.15'	30.9'	27.0
MW-5	4"	25.05'	30.6'	10.0
MW-6	4"	11.45'	24.6'	26.0
MW-7	4"	7.70'	19.5'	30.0

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

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

A handwritten signature in cursive script that reads 'Dennis Bird'.

Dennis P. Bird

cc: Nancy Prince
Kris Sinclair

El Paso Natural Gas Company - Field Services Lab Report

Anion/Cation Balance Information and Calculations

Sample Number:	941048	941049	941050	941051	941052
SAMPLE POINT	Monitor Well MW-1	Monitor Well MW-2	Monitor Well MW-3	Monitor Well MW-4	Monitor Well MW-5
Concentration:	meq/l	meq/l	meq/l	meq/l	meq/l
CATIONS:					
CALCIUM AS Ca	9.28	1.90	8.83	24.40	22.60
MAGNESIUM AS Mg	2.39	0.74	3.54	7.16	8.23
POTASSIUM AS K	0.08	0.00	0.00	0.20	0.18
SODIUM (+/- Difference)	7.84	20.24	21.99	57.62	57.36
SODIUM (Actual)	7.04	20.39	21.70	60.65	63.22
CATIONS TOT(w/o Na)	11.74	2.64	12.37	31.76	31.01
CATIONS TOT(w/act. Na)	18.79	23.03	34.07	92.42	94.23
CATIONS TOT(w/cal. Na)	19.58	22.88	34.38	89.38	88.37
ANIONS:					
ALKALINITY AS CO ₃	0.00	0.00	0.00	0.00	0.00
ALKALINITY AS HCO ₃	7.01	10.21	11.96	9.13	7.41
CHLORIDE AS Cl	4.43	4.34	5.13	14.05	9.59
SULFATE AS SO ₄	8.14	8.33	17.26	66.21	71.37
FLUORIDE AS F	0.00	0.00	0.00	0.00	0.00
ANIONS (TOTAL)	19.58	22.88	34.38	89.38	88.37
TDS (ACTUAL)	1194	1428	2132	6040	6170
TDS (CALC. w/cal. Na)	1157	1373	2098	5861	5869
PERCENT DIFF. w/cal. Na	3	4	2	3	5
TDS (CALC. w/act. Na)	1139	1377	2089	5931	6004
PERCENT DIFF. w/act. Na	5	4	2	2	3
SODIUM (CALCULATED)	180	465	505	1325	1319
SODIUM AS Na (ACTUAL)	162	469	499	1395	1454
Relative % Difference RPD	3%	0%	0%	1%	2%
ANION/CATION % Difference	104.23	99.36	100.85	96.72	93.78

PROJECT: M.W.
SAVE FILE: 941053

[illegible]

REMARKS:

Analyst: Pennis Bird Date: 7-14-94
Lab Super.: John Saurda Date: 7-14-94

505 599 2261 PAGE.020

El Paso Natural Gas Company - Field Services Lab Report

Anion/Cation Balance Information and Calculations

Sample Number:	941053	941054	941055	941056	0
SAMPLE	Monitor	Monitor	Monitor	20 inch	0
POINT	Well	Well	Well	Discharge	0
	MW-6	MW-7	MW-7 Dup	0	0
Concentration:	meq/l	meq/l	meq/l	meq/l	meq/l

CATIONS:

CALCIUM AS Ca	1.35	5.14	5.19	10.03	0.00
MAGNESIUM AS Mg	0.41	1.40	1.40	3.79	0.00
POTASSIUM AS K	0.00	0.05	0.05	0.79	0.00
SODIUM (+/- Difference)	35.50	20.91	20.02	6.33	0.00
SODIUM (Actual)	35.22	20.43	20.48	7.78	0.00
CATIONS TOT(w/o Na)	1.78	6.59	6.64	14.61	0.00
CATIONS TOT(w/act. Na)	36.98	27.02	27.12	22.39	0.00
CATIONS TOT(w/cal. Na)	37.28	27.50	26.66	20.93	0.00

ANIONS:

ALKALINITY AS CO3	0.00	0.00	0.00	0.17	0.00
ALKALINITY AS HCO3	6.82	8.48	8.44	2.62	0.00
CHLORIDE AS Cl	3.50	4.74	4.54	1.55	0.00
SULFATE AS SO4	26.94	14.30	13.68	16.59	0.00
FLUORIDE AS F	0.00	0.00	0.00	0.00	0.00
ANIONS (TOTAL)	37.28	27.50	26.66	20.93	0.00

TDS (ACTUAL)	2400	1696	1680	1530	0
TDS (CALC. w/cal. Na)	2471	1712	1855	1354	0
PERCENT DIFF. w/cal. Na	-3	-1	2	11	#DIV/0!
TDS (CALC. w/act. Na)	2465	1701	1665	1388	0
PERCENT DIFF. w/act. Na	-3	0	1	9	#DIV/0!
SODIUM (CALCULATED)	816	481	460	145	0
SODIUM AS Na (ACTUAL)	810	470	471	179	0
Relative % Difference RPD	0%	1%	1%	5%	#DIV/0!
ANION/CATION % Difference	100.76	101.75	98.31	93.49	#DIV/0!

Records of Subsurface Exploration

RECORD OF SUBSURFACE EXPLORATION

Burlington Environmental Inc.

4000 Monroe Road

Farmington, New Mexico 87401

(505) 326-2282 FAX (505) 326-2388

Borehole # MW - 05

Well # MW - 05

Page 1 of 1

Project Name EPNG - Chaco Plant

Project Number 12588 Phase 2001 / 77

Project Location San Juan County, NM

Elevation

Borehole Location MW - 05

GWL Depth 23'

Logged By Scott Pope

Drilled By Rodgers Inc.

Date/Time Started 6-27-94 / 1100

Date/Time Completed 6-27-94 / 1345

Well Logged By Scott Pope

Personnel On-Site Scott Pope

Contractors On-Site Rodgers Inc.

Client Personnel On-Site Gerry Garibay

Drilling Method HSA 6 1/4" ID

Air Monitoring Method HNU, CGI

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: NDU			Drilling Conditions & Blow Counts
							BZ	BH	S	
0										
5	1	3.5 5.5	SS 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	0	0	
10	2	8.5 10.5	SS 24"	Brown SAND, fine-medium grained, loose, moist to wet.	SW	10.5	0	0	0	Driller noted change in conditions @ 7.5'.
				Brown-gray CLAY, trace fine Sand and Silt, stiff, moist, some evaporite filling of voids.	CL	13.5	0	0	0	Refusal @ 6".
15	3	13.5 15.5	SS 6"	Lt. Brown-Tan SAND, medium-coarse grained, very hard possibly cemented, moist.			0	0	0	
20	4	18.5 20.5	SS 8"	Tan-Buff SAND, same as above.	SW		0	0	0	Refusal @ 8".
				Lt. Brown-Buff SAND, fine grained, very hard, trace moisture, probably cemented.			0	0	0	Refusal @ 8".
25	5	23.5 25.5	SS 8"	Lt. Brown-Buff SAND, coarse grained, trace fine Gravel, trace Clay, moist-wet.	SP	24	0	0	0	Noted 1" water in bottom of hole on driller's tape.
30	6	28.5 30.5	SS 10"	Lt. Brown-Buff silty SAND, fine grained, very hard, moist, probably cemented.	SW	28.5	0	0	0	Refusal @ 10".
				TOB 29.2'						- Hole open to 28'. - Pulled auger up 2' to let water accumulate in borehole. Water came up to 25'. - Discussed well comple- tion with Gerry Garibay, will set @ 28' with 20' of screen.
35										
40										

Comments:

Geologist Signature

RECORD OF SUBSURFACE EXPLORATION

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

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

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

Elevation _____
Borehole Location MW - 06
GWL Depth 11.5'
Logged By Scott Pope
Drilled By Rodgers Inc.
Date/Time Started 6-28-94 / 0745
Date/Time Completed 6-28-94 / 0910

Well Logged By Scott Pope
Personnel On-Site Scott Pope
Contractors On-Site Rodgers Inc.
Client Personnel On-Site None
Drilling Method HSA 6 1/4" ID
Air Monitoring Method HNU, CGI

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: NDU			Drilling Conditions & Blow Counts
							BZ	BH	S	
0										
5	1	3.5 5.5	SS 12"	Brown-Lt. Brown SAND, fine grained, trace Silt, some evaporite filling of voids, very hard, moist.	SP		0	0	0	Refusal @ 12".
10	2	8.5 10.5	SS 24"	Brown SAND, fine grained, trace Silt, medium dense, moist to wet.			0	0	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	0	0	0	Pull augers 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 cuttings to show change. - No additional samples taken past 15.5'.
20										
25				TOB - 22.0'						
30										
35										
40										

Comments:

Geologist Signature

Scott T. Pope

RECORD OF SUBSURFACE EXPLORATION

Burlington Environmental Inc.

4000 Monroe Road

Farmington, New Mexico 87401

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

Borehole # MW - 07

Well # MW - 07

Page 1 of 1

Project Name EPNG - Chaco Plant

Project Number 12588 Phase 2001 / 77

Project Location San Juan County, NM

Elevation _____

Borehole Location MW - 07

GWL Depth 5'

Logged By Scott Pope

Drilled By Rodgers Inc.

Date/Time Started 6-27-94 / 1525

Date/Time Completed 6-27-94 / 1615

Well Logged By Scott Pope

Personnel On-Site Scott Pope

Contractors On-Site Rodgers Inc.

Client Personnel On-Site Gerry Garibay

Drilling Method HSA 6 1/4" ID

Air Monitoring Method HNU, CGI

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: NDU			Drilling Conditions & Blow Counts
							BZ	BH	S	
0										
5	1	3.5 5.5	SS 20"	Brown SAND, fine grained, trace Silt, loose saturated at bottom.	SP		0	0	0	- Very easy drilling.
10	2	8.5 10.5	SS 24"	Same as above with SAND fine to medium grained.			0	0	0	- Will drill to 17' and set well. - No samples taken after 10.5'.
15										
20										
25										
30										
35										
40										

Comments:

Geologist Signature

Well Installation Diagrams

MONITORING WELL INSTALLATION RECORD

Burlington Environmental Inc.

4000 Monroe Road

Farmington, New Mexico 87401

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

Borehole # MW-05

Well # MW-05

Page 1 of 1

Project Name EPNG CHACO

Project Number 12588 Phase 2001

Project Location SAN JUAN COUNTY, NEW MEXICO

Elevation _____

Well Location MW-05

GWL Depth 23.0

Installed By RODGERS, INC.

On-Site Geologist S. POPE

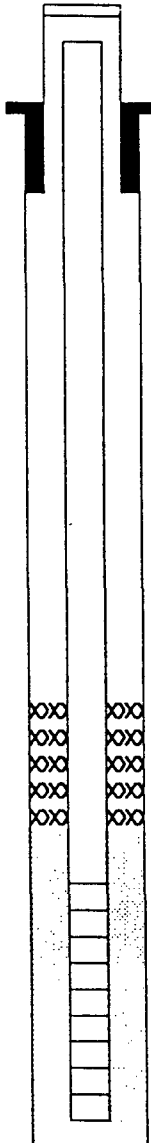
Personnel On-Site G. GARIBAY

Contractors On-Site RODGERS, INC.

Client Personnel On-Site P. MARQUEZ

Date/Time Started 1345 6/27/94

Date/Time Completed 1445 6/27/94

Depths in Reference to Ground Surface				
Item	Material	Depth (feet)		
Top of Protective Casing	8" STEEL LOCKING	+2.5		Top of Protective Casing <u>2.5</u>
Bottom of Protective Casing		-1.5		Top of Riser <u>2.0</u>
Top of Permanent Borehole Casing		N/A		Ground Surface <u>0.0</u>
Bottom of Permanent Borehole Casing		N/A		
Top of Concrete	PREMIX	+2.25		
Bottom of Concrete		-1.5		
Top of Grout		N/A		
Bottom of Grout		N/A		
Top of Well Riser	4" SCH 40 PVC	+2.0		
Bottom of Well Riser		-8.0		
Top of Well Screen	4" SCH 40 PVC	-8.0		Top of Seal <u>1.5</u>
Bottom of Well Screen	.010 SLOT	-28.1		
Top of Peltonite Seal	1/4" BENTONITE PELLETS	-1.5		
Bottom of Peltonite Seal		-5.7		Top of Gravel Pack <u>5.7</u>
Top of Gravel Pack	10-20 SILICA	-5.7		Top of Screen <u>8.0</u>
Bottom of Gravel Pack		-28.1		
Top of Natural Cave-In		-28.1		
Bottom of Natural Cave-In		-29.2		
Top of Groundwater		-23.0		Bottom of Screen <u>28.1</u>
Total Depth of Borehole		-29.2		Bottom of Borehole <u>29.2</u>

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

Geologist Signature

S. T. Pope

MONITORING WELL INSTALLATION RECORD

Burlington Environmental Inc.

4000 Monroe Road

Farmington, New Mexico 87401

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

Borehole # 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

Elevation _____

Well Location MW-06

GWL Depth 11.5

Installed By RODGERS, INC.

On-Site Geologist S. POPE

Personnel On-Site G. GARIBAY

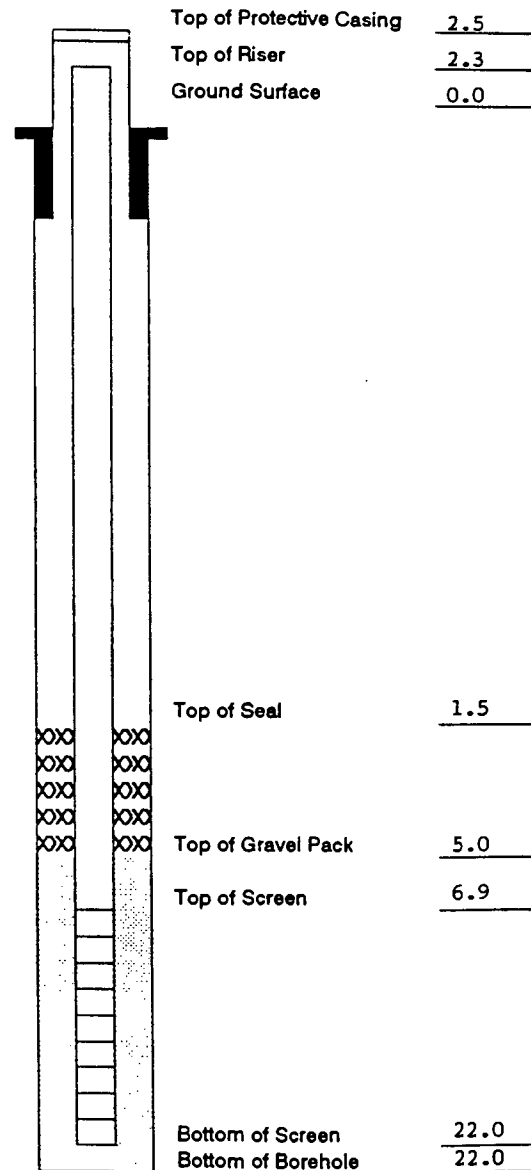
Contractors On-Site RODGERS, INC.

Client Personnel On-Site P. MARQUEZ

Date/Time Started 0910 6/28/94

Date/Time Completed 1100 6/28/94

Depths in Reference to Ground Surface		
Item	Material	Depth (feet)
Top of Protective Casing	8" STEEL LOCKING	+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	+2.5
Bottom of Concrete		-1.5
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
Bottom of Well Screen	.010 SLOT	-22.0
Top of Peltonite Seal	1/4" BENTONITE PELLETS	-1.5
Bottom of Peltonite Seal		-5.0
Top of Gravel Pack	10-20 SILICA	-5.0
Bottom of Gravel Pack		-22.0
Top of Natural Cave-In		N/A
Bottom of Natural Cave-In		N/A
Top of Groundwater		-11.5
Total Depth of Borehole		-22.0



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

[Signature]

MONITORING WELL INSTALLATION RECORD

Burlington Environmental Inc.

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

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

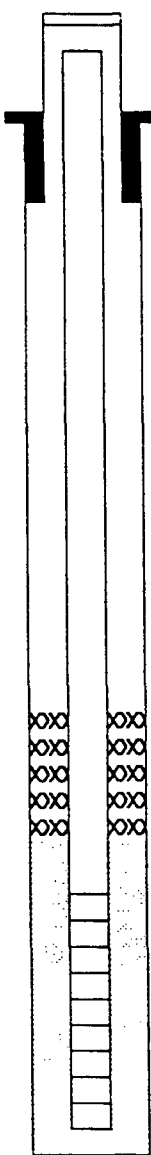
Project Name EPNG CHACO
Project Number 12588 Phase 2001
Project Location SAN JUAN COUNTY, NEW MEXICO

Elevation _____
Well Location MW-07
GWL Depth 4.0
Installed By RODGERS, INC.

On-Site Geologist S. POPE
Personnel On-Site S. POPE
Contractors On-Site RODGERS, INC.
Client Personnel On-Site G. GARIBAY

Date/Time Started 1615 6/27/94
Date/Time Completed 1715 6/27/94

Depths in Reference to Ground Surface				
Item	Material	Depth (feet)		
Top of Protective Casing	8" STEEL LOCKING	+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		N/A		
Bottom of Grout		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		
Bottom of Well Screen	.010 SLOT	-17.0		
Top of Peltonite Seal	1/4" BENTONITE PELLETS	0.0		
Bottom of Peltonite Seal		-1.5		
Top of Gravel Pack	10-20 SILICA	-1.5		
Bottom of Gravel Pack		-17.7		
Top of Natural Cave-In		N/A		
Bottom of Natural Cave-In		N/A		
Top of Groundwater		-4.0		
Total Depth of Borehole		-17.7		



Top of Protective Casing	<u>2.5</u>
Top of Riser	<u>2.3</u>
Ground Surface	<u>0.0</u>
Top of Seal	<u>0.0</u>
Top of Gravel Pack	<u>1.5</u>
Top of Screen	<u>1.9</u>
Bottom of Screen	<u>17.0</u>
Bottom of Borehole	<u>17.7</u>

Comments: 5 - 100 LB. BAGS OF SAND, 1 BUCKET PELLETS, HYDRATED WITH 4 GALLONS OF WATER. WL AFTER
INSTALLATION 5.0 BGS.

Geologist Signature

Scott T. Pope

Well Development Data Sheets

BURLINGTON
ENVIRONMENTAL

Well Development and Purging Data

☒ Development
☐ PurgingWell Number MW-5Page 1 of 1Project Name CHACOProject Manager SCOTT POPEProject No. 12588Client Company BURLINGTON ENVIRONMENTALPhase Task No. 2001. 77Site Name CHACO PLANT

Site Address _____

Development Criteria

- ☒ 3 to 5 Casing Volumes of Water Removal
☒ Stabilization of Indicator Parameters
☐ Other _____

Methods of Development

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

Water Volume Calculation

Initial Depth of Well (feet) 30.46Initial Depth to Water (feet) 25.05Height of Water Column in Well (feet) 5.41Diameter (inches): Well 4 Gravel Pack 10

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		<u>3.53</u>	<u>17.65</u>
Gravel Pack			
Drilling Fluids			
Total			<u>17.65</u>

Instruments

Serial No. (if applicable)

- ☒ pH Meter _____
☐ DO Monitor _____
☒ Conductivity Meter _____
☒ Temperature Meter _____
☐ Other _____

Water Disposal

Water Removal Data

Date	Time	Development Method		Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons)		Product Volume Removed (gallons)		Temperature (°C)	pH	Conductivity (umhos/cm)	Dissolved Oxygen (mg/L)	Comments
		Pump	Bailer				Increment	Cumulative	Increment	Cumulative					
6-29-94	1258		X		30.46		.25	.25			66.7	7.40	7,490		TAN WATER
	1306		X				.25	4.0			62.9	7.43	7,420		TAN
	1315		X				.25	8.0			61.7	7.53	7,910		TAN
	1331		X				.25	12.0			63.2	7.62	8,310		LIGHT TAN
	1450		X				.25	14.0			63.3	7.60	8,390		CLOUDY
	1503		X			27.01	.25	19.0			63.1	7.59	8,360		LIGHT CLOUDINESS

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

Comments BAILED WELL DOWN AT 12.0 GAL. LEFT IT TO RECOVER. MOVED TO MW-6. COMPLETED DEVELOPING WELL AT 1515. WELL STARTED TO BAIL DOWN AGAIN BEFORE I FINISHED. SLOW RECOVER

Developer's Signature(s) Robert ChampionDate 6-29-94 Reviewer STP Date 7/7/94

BURLINGTON
ENVIRONMENTAL

Well Development and Purging Data

Serial No. WDPD-

☒ Development
☐ PurgingWell Number MW-6Page 1 of 1Project Name CHACOProject Manager SCOTT POPEProject No. 12588Client Company BURLINGTON ENVIRONMENTALPhase/Task No. 2001.77Site Name CHACO PLANT

Site Address _____

Development Criteria

- ☒ 3 to 5 Casing Volumes of Water Removal
☒ Stabilization of Indicator Parameters
☐ Other _____

Methods of Development

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

Water Volume Calculation

Initial Depth of Well (feet) 24.53Initial Depth to Water (feet) 11.59Height of Water Column in Well (feet) 12.94Diameter (inches): Well 4 Gravel Pack 10

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		8.45	42.25
Gravel Pack			
Drilling Fluids			
Total			42.25

Instruments

Serial No. (If applicable)

- ☒ pH Meter _____
☐ DO Monitor _____
☒ Conductivity Meter _____
☒ Temperature Meter _____
☐ Other _____

Water Disposal

Water Removal Data

Date	Time	Development Method		Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons)		Product Volume Removed (gallons)		Temperature (°C)	pH	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Comments
		Pump	Bailer				Increment	Cumulative	Increment	Cumulative					
6-29-94	1355		X		24.53		.25	.25			67.5	8.01	5,470		TAN
	1404		X				.25	5.0			66.4	8.21	4,980		LIGHT TAN
	1414		X				.25	10.0			65.3	8.30	4,790		LIGHT TAN
	1423		X				.25	15.0			65.7	8.36	5,040		CLOUDY
	1430		X				.25	20.0			64.2	8.40	5,300		CLOUDY
	1439		X				.25	25.0			64.1	8.41	6,120		CLOUDY
	1527		X				.25	30.0			65.7	8.11	5,260		RED MILKY
✓	1540		X			21.40	.25	35.0			62.9	8.21	4,710		LIGHT CLOUDINESS

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

Comments BAILED WELL DOWN AFTER 25 GAL LEFT WELL TO RECOVER. MOVED BACK TO MW-5.
BAILED WELL DOWN AGAIN AT 350 GAL. COMPLETED DEVELOPMENT AT 1548'. SLOW RECOVERY.

Developer's Signature(s) Robert ChampionDate 6-29-94Reviewer STP Date 7/7/94

BURLINGTON
ENVIRONMENTAL

Well Development and Purging Data

Serial No. WDPD-

☒ Development
☐ PurgingWell Number MW-7Page 1 of 1Project Name CHACOProject Manager SCOTT POPE

Project No. _____

Client Company BURLINGTON ENVIRONMENTALPhase/Task No. 2001. 77Site Name CHACO PLANT

Site Address _____

Development Criteria

- ☒ 3 to 5 Casing Volumes of Water Removal
☒ Stabilization of Indicator Parameters
☐ Other _____

Methods of Development

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

Water Volume Calculation

Initial Depth of Well (feet) 19.60Initial Depth to Water (feet) 7.55Height of Water Column in Well (feet) 12.05Diameter (inches): Well 4 Gravel Pack 10

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		<u>7.87</u>	<u>39.35</u>
Gravel Pack			
Drilling Fluids			
Total			<u>39.35</u>

Instruments

Serial No. (If applicable)

- ☒ pH Meter _____
☐ DO Monitor _____
☒ Conductivity Meter _____
☒ Temperature Meter _____
☐ Other _____

Water Disposal

Water Removal Data

Date	Time	Development Method		Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons)		Product Volume Removed (gallons)		Temperature (°C)	pH	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Comments
		Pump	Bailer				Increment	Cumulative	Increment	Cumulative					
<u>6-30-94</u>	<u>0907</u>		<u>X</u>		<u>19.60</u>		<u>.25</u>	<u>.25</u>			<u>64.4</u>	<u>7.76</u>	<u>3,220</u>		<u>TAN WATER</u>
	<u>0916</u>		<u>X</u>				<u>.25</u>	<u>5.0</u>			<u>63.0</u>	<u>7.91</u>	<u>2,880</u>		<u>TAN</u>
	<u>0920</u>		<u>X</u>				<u>.25</u>	<u>10.0</u>			<u>62.4</u>	<u>7.86</u>	<u>3,010</u>		<u>LIGHT TAN</u>
	<u>0924</u>		<u>X</u>				<u>.25</u>	<u>15.0</u>			<u>62.4</u>	<u>7.85</u>	<u>3,060</u>		<u>LIGHT TAN</u>
	<u>0931</u>		<u>X</u>				<u>.25</u>	<u>20.0</u>			<u>62.4</u>	<u>7.93</u>	<u>3,080</u>		<u>LIGHT TAN</u>
	<u>0938</u>		<u>X</u>				<u>.25</u>	<u>25.0</u>			<u>62.8</u>	<u>7.87</u>	<u>3,110</u>		<u>CLOUDY</u>
	<u>0945</u>		<u>X</u>				<u>.25</u>	<u>30.0</u>			<u>63.3</u>	<u>7.89</u>	<u>3,110</u>		<u>CLOUDY</u>
	<u>0952</u>		<u>X</u>				<u>.25</u>	<u>35.0</u>			<u>63.6</u>	<u>7.90</u>	<u>3,150</u>		<u>SLIGHTLY CLOUDY</u>
	<u>0959</u>		<u>X</u>			<u>8.90</u>	<u>.25</u>	<u>40.0</u>			<u>63.7</u>	<u>7.93</u>	<u>3,190</u>		<u>SLIGHTLY CLOUDY</u>

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

Comments BAILED 5 CU'S OUT OF WELL. WELL PRODUCES GOOP AND RECOVERS FAST. INDICATOR PARAMETERS STABILIZED AND WATER WAS FAIRLY CLEAR. COMPLETED DEVELOPMENT AT 10:09

Developer's Signature(s) [Signature] Date 6-30-94 Reviewer _____ Date _____

RECEIVED

JUL 13 1994

**OIL CONSERVATION DIV.
SANTA FE**

July 11, 1994

Mr. Roger Anderson
New Mexico Oil Conservation Division
310 Old Santa Fe Trail
Santa Fe, NM 87501

Subject: Chaco Plant - Coke Breeze Disposal

The shallow anode beds within the Chaco Plant area were recently replaced. The beds are filled with coke breeze which is basically a coal type material (carbon). There are approximately 200 anode bed holes measuring 14 inches diameter and 20 feet deep that were recently excavated. There is approximately 160 cubic yards of a mixture of coke breeze and soil at Chaco Plant in a number of piles throughout the plant area.

Operations would like to dispose the coke breeze and soil at the old Chaco Plant trash pit. The old trash pit is located on the southwest side of the plant. The trash pit is not in use since dumpsters were set in April 1994. Currently, the solid waste is hauled by Waste Management and disposed at Crouch Mesa Landfill.

El Paso Natural Gas Company respectfully requests approval to dispose coke breeze and soil in the old Chaco Plant trash pit. If possible, please give us verbal approval as soon as possible.

If you need additional information or have any questions, please call me at 599-2176.

Anu Pundari
Anu Pundari
Sr. Compliance Engineer

cc: Mr. David Hall (EPNG)
Mr. Bill Olson (NMOCD)

*Verbal
Granted
7-12-94
HOM
CE*

RECORD OF PHONE CONVERSATION (W/CHRIS EUSTICE)

Date: 7-12-94 Time: 1:10 pm
RE: EPNG request to dispose of coke breeze
Name: ANU PUNDARI
Company: EPNG

EPNG requested in a 7-11-94 correspondence to
dispose of coke breeze, from pulled from anode
beds at the Chaco & Blanco plants by spreading.

Discussions w/ RCA: He told me to give verbal
to EPNG.

I called Anu and told her to go ahead.

Comments/Followup: _____

EPNG will dispose as stated in the requests
dated 7-11-94



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

3:20

Date

6/7/94

Originating Party

Other Parties

Denny Faust

Subject

EPNG Chaco GP ~~leak~~ spill on 6/1/94

Discussion

turbine seal failure resulted in spill of 59 bbl
of lubricating oil, but only a light film was vented out
Vent stack & assume approx 2/3 of spill went down compression line
no pooling or puddling, just light mist

Conclusions or Agreements

EPNG will rake it & allow to naturally remediate, submit
MSDS on lube oil to Denny w/ spill report

Distribution

Signed

Robert Myers



STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

May 20, 1994

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

CERTIFIED MAIL

RETURN RECEIPT NO. P-111-334-318

Mr. Kris Sinclair
El Paso Natural Gas Company
P.O. Box 1492
El Paso, TX 79978

**RE: Discharge Plan GW-071
EPNG Chaco Canyon Gas Processing Plant
Proposed Monitor Well Locations**

Dear Mr. Sinclair,

The New Mexico Oil Conservation Division (OCD) has reviewed your March 28, 1994 letter proposing additional monitor wells at the Chaco Canyon Gas Processing Plant in order to establish the groundwater gradient, as well as the background water quality in the vicinity of the plant. The proposal is hereby approved with the following conditions:

1. The monitor wells shall be drilled and completed in the same manner as the previous monitor wells.
2. EPNG shall notify OCD at least 72 hours in advance of all scheduled activities such that the OCD may have the opportunity to witness the events an/or split samples.
3. The wells shall be sampled for major anions/cations, WQCC metals, TDS, and aromatic and halogenated volatile organic compounds.
4. Results of the sampling shall be submitted to the OCD by August 1, 1994.

If you have any questions, please contact me at (505) 827-4080.

Sincerely,

Robert L. Myers II
Petroleum Engineering Specialist

RLM/rlm
xc: OCD Aztec Office

P 111 334 318



**Receipt for
Certified Mail**

No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

Sent to Sinclair - EPN6	
Street and No. PO 1492	
P.O., State and ZIP Code El Paso, TX 79978	
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	

PS Form 3800, June 1991



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
1:00

Date
5/17/94

Originating Party

Other Parties

Bobby Myers

Kris Sinclair - EPNG

Subject Chaco Plant DP modification

Discussion Industrial Pond #8 will be used only for winter time emergency overflow - MW#7 will monitor it

- told him we would want xcs of all future sample results, not just have them on file @ their Farmington lab

Conclusions or Agreements

modification is ~~approved~~ ~~is~~ approvable w/ conditions as above & those in EPNG's 3/28/94 letter - will send

Distribution

file

Signed

Bobby Myers

El Paso
Natural Gas Company

EPNG

APR 12 1994

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

NEW MEXICO OIL CONSERVATION DIV.
SANTA FE

Robert L. Meyers
New Mexico Oil Conservation Division
310 Old Santa Fe Trail
Santa Fe, NM 87501

March 28, 1994

RE: Discharge Plan GW-71
Proposed Chaco Plant Modifications
Ground water and Discharge Monitoring

Dear Mr. Myers:

EPNG submits this proposal in response to your February 23, 1994 letter. In your letter you brought up several issues:

- Elevated TDS and anion/cation levels in monitor well #4.
- Establishment of ground water gradient.
- Establishment of background water quality.
- Quarterly monitoring requirements.

EPNG proposes to drill 3 additional monitor wells, identified as monitor wells 5, 6, and 7 on the attached map. EPNG feels that this will be sufficient to determine:

- The ground water gradient.
- The potential for Chaco Plant to be the source of the high TDS water in monitor well #4.
- The background water quality.

Monitor wells #5 and #6 will be used to determine ground water gradient. If no water is encountered in well #5, EPNG will assume that no ground water is coming from the direction of the plant, and well #6 will not be drilled. If water is encountered in well #5, well #6 will be drilled as a background well. Well #7 will monitor the water quality in industrial pond #8. A map of the monitor well locations, complete with ground water elevations will be supplied to the NMOCD.

EPNG proposes to sample the monitor wells and 20" discharge quarterly for major anions, cations and TDS. We will also analyze quarterly for the WQCC metals cadmium, chromium, and mercury. If after four sampling runs, the levels of these metals are below WQCC limits, EPNG wishes to discontinue testing for these metals. As per your letter, EPNG will sample the 20" discharge line for BTEX, further sampling will not be required based on process knowledge. EPNG wishes to submit one complete set of analysis to the NMOCD after the wells have been drilled; thereafter all records for sampling will be kept on file in the EPNG Farmington Laboratory. These records will be available to the NMOCD whenever requested.

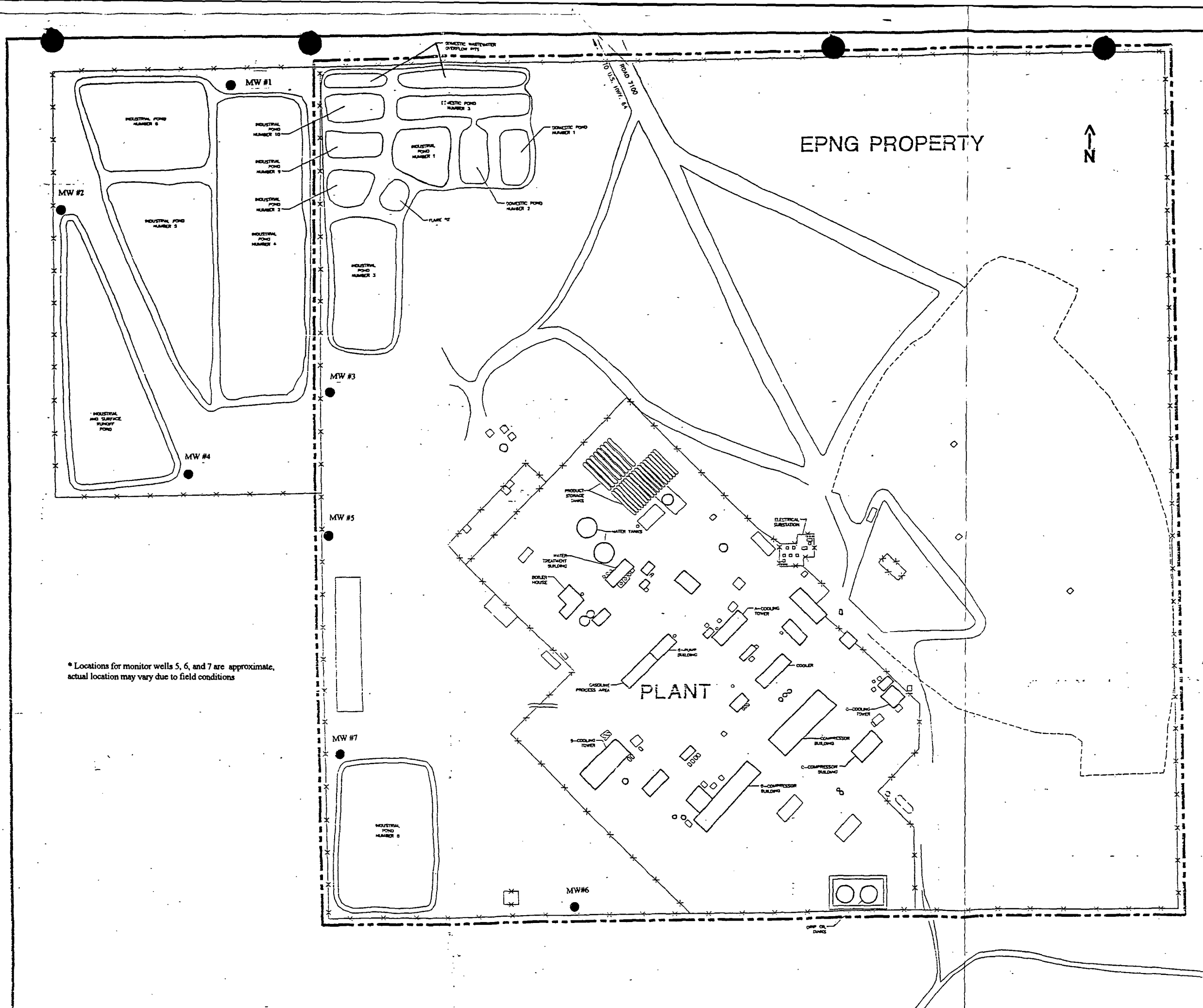
Since the plant discharge contains no harmful chemicals in excess of the WQCC limits, EPNG believes continued use of the unlined ponds will cause no adverse effects to ground water. If you have any questions or comments feel free to call me at (915) 541-3317.

Sincerely,

A handwritten signature in cursive script, reading "Kris Alan Sinclair".

Kris Alan Sinclair
Compliance Engineer

cc: W.D. Hall, EPNG
William Olson, NMOCD
Bobby Meyers, NMOCD
Roger Anderson, NMOCD
Denny Foust, NMOCD





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

11:00

Date

3/18/94

Originating Party

Other Parties

Kris Sinclair - EPN6

Subject

Proposed Chaco mud (11/93 proposal)

Discussion

- monitor well locations, one just to east of Well #4 & south of #3
if this dry, or salt water (not good to delineate high TDS in #4), drill another east of
pond #8 along south fence line
- also drill well @ NW corner of pond #8 as monitor well to keep #8 as emergency pond
- reminded him of need for well upgradient of facility, not just ponds

lined pond for oil/w separator still a go

keep pond #8 as emergency pond

Conclusions or Agreements:

- Kris will send ltr summarizing their proposal

Distribution

Signed

Robert L. Myers



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

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

February 23, 1994

CERTIFIED MAIL

RETURN RECEIPT NO. P-176-012-062

Mr. Kris Sinclair
El Paso Natural Gas Company
P.O. Box 1492
El Paso, TX 79978

**RE: Discharge Plan GW-071
Proposed Chaco Plant Modification
Groundwater and Discharge Monitoring**

Dear Mr. Sinclair,

The New Mexico Oil Conservation Division (OCD) met with you on November 17, 1993 to discuss the July 14, 1993 proposal submitted by El Paso Natural Gas (El Paso) to modify the discharge plan for the Chaco Canyon Gas Plant. The following items summarize the issues in El Paso's November 12, 1993 response to the OCD's discharge plan review, plus issues discussed in the November 17 meeting and our phone conversation of February 23, 1994:

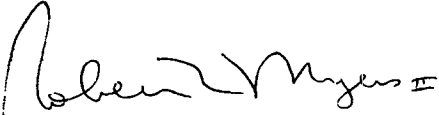
- As a result of OCD's review of the proposed modification, El Paso drilled and sampled four monitor wells adjacent to the ponds in October 1993. Sample analysis indicated that the water in MW-4 has a high Total Dissolved Solids (TDS) concentration, as well as elevated levels of anions/cations. Since this well may be downgradient of the plant, the OCD requires that El Paso to establish the groundwater gradient, as well as the background water quality;
- If this discharge plan modification is approved, the OCD will require quarterly monitoring of the monitor wells for WQCC metals, major anions/cations and TDS. The OCD will also require quarterly monitoring of the water from 20" non-contact water discharge line for WQCC metals, major anions/cations, organics and TDS. After initial sampling of the 20" discharge line for BTEX, El Paso will not have to sample for BTEX based on process knowledge;

Mr. Kris Sinclair
February 23, 1994
Page 2

- As requested in the November 17 meeting, the OCD would allow Pond 8 to be used only as an emergency overflow pond during the winter season when pondwater evaporation is at a minimum and the other ponds are reaching capacity; and,

I believe that this summarizes our meeting of November 17, and our phone conversation of February 23. OCD has published the public notice for El Paso's proposed modification, but is awaiting a response to the items above before finalizing review of the proposal. If you note any discrepancies or have any questions, please contact me at (505) 827-4080.

Sincerely,



Robert L. Myers II
Petroleum Engineering Specialist

RLM/rlm

xc: OCD Aztec Office



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
9:00 am

Date
Feb 23, 1994

Originating Party

Bobby Myers

Other Parties

Kris Sinclair - EPN6

Subject

Chaco Canyon - ^{11/93} Submittal to continue use of unlined ponds while lining only contact water pond

Discussion

would like, instead of drilling background monitor well, to ~~to~~ cont. to monitor existing wells for 1 yr to see if there is a trend to the high TDS problem

Roger & Bill agree that upgradient monitor well is necessary to determine if plant is responsible or if high background is normal for region

EPNG

PO Box 1492

El Paso TX 79978 -

Conclusions or Agreements

I will send letter summarizing results of 11/17/93 mtg, plus this conversation

Distribution

Signed

Robert Myers