

HIP - 40

**GENERAL
CORRESPONDENCE**

YEAR(S):

1998

Public Service Company
of New Mexico
Alvarado Square MS 0408
Albuquerque, NM 87158

SEP 16 1998



September 14, 1998

Mr. Jack Ford
New Mexico Energy, Minerals, and Natural Resources Dept.
Oil Conservation Division
2040 South Pacheco Street
Santa Fe, NM 87505

Dear Mr. Ford:

In August, 1998, Public Service Company of New Mexico, Gas Services, (PNMGS) ran a hydrostatic test on used pipeline near Belen, NM. Preliminary results of analysis of water samples from each end of the pipe showed arsenic at levels above WQCC standards. Preliminary lab reports were faxed to you. Copies of the final lab results are enclosed.

On your advice, PNMGS built a lined, temporary evaporation pond on site. Plans were faxed to you, and your suggestions incorporated in the pond design. A copy of the final plans is also enclosed.

Approximately 88,000 gallons of water was pumped into the pond. We estimate it will take about seven months to evaporate. The residue will then be tested to determine the correct method of disposal. We will disassemble the pond, check for any evidence of leakage, and restore the original grade.

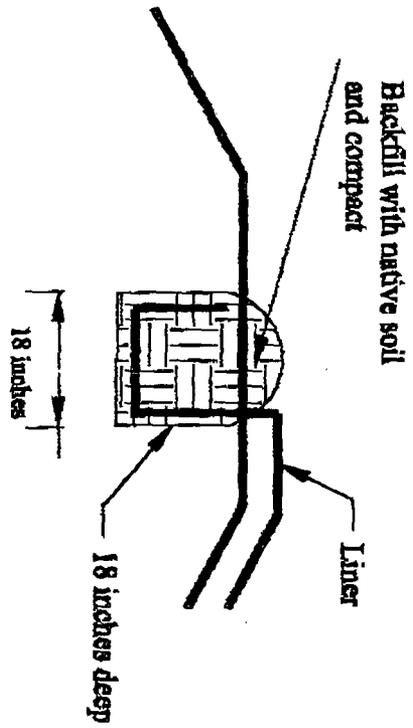
If you have any questions please call me at (505) 241-4954, or e-mail me at jarya@mail.pnm.com

Sincerely,

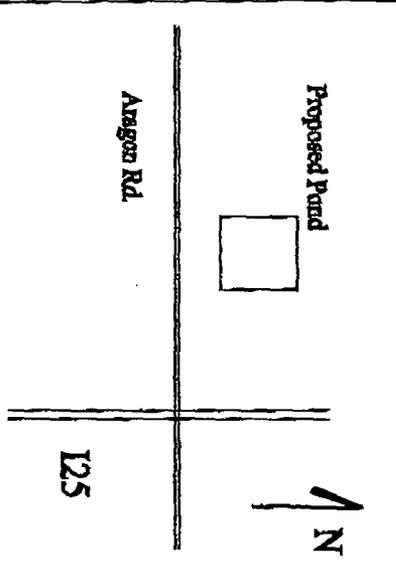
A handwritten signature in cursive script that reads "Jean Arya".

Jean Arya
Environmental Scientist

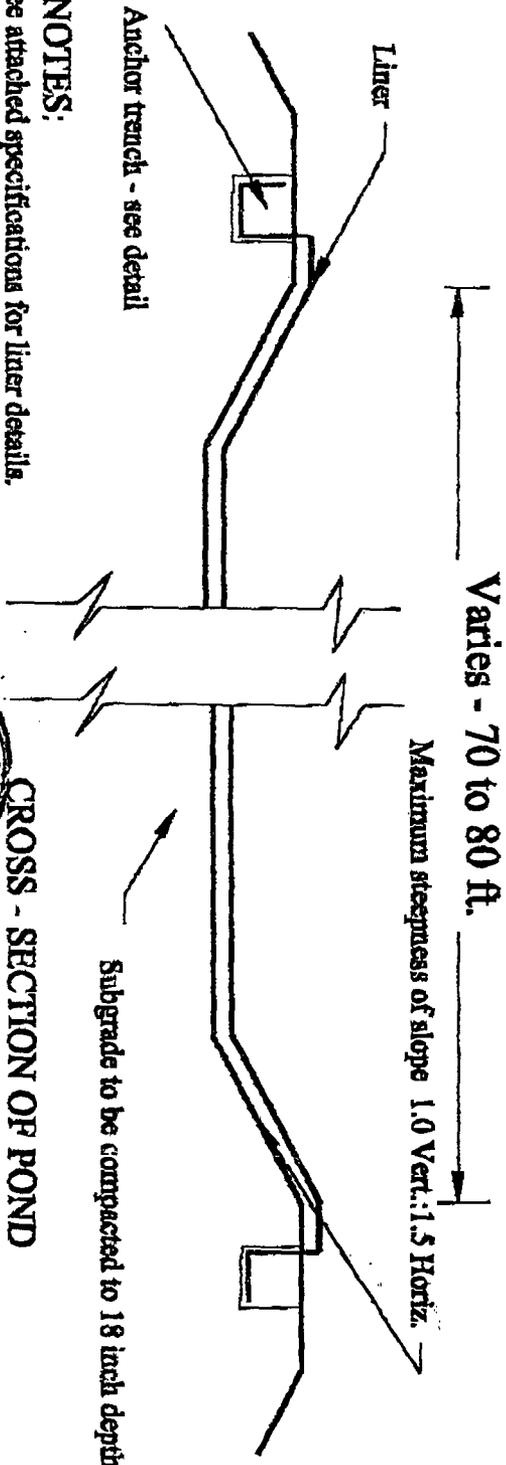
Enclosures



ANCHOR TRENCH DETAIL



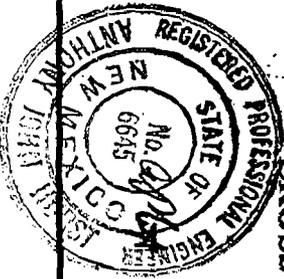
LOCATION DRAWING



CROSS - SECTION OF POND

NOTES:

1. See attached specifications for liner details.
2. Pond to be built from in situ native material
3. All angular rocks (and rounded rocks > 1/2in diam.) to be removed before placing liner on subsoil.
4. Maximum depth of pond 5.0 feet
Maximum depth of water 3.0 feet



Drawn by: A. Hunt Date: 8/28/98
 Design Details : 100,000 gallon Evaporation Pond
 Public Service Company of New Mexico
 Belen, New Mexico
 Not to scale

PINNACLE
LABORATORIES

Pinnacle Lab ID number 808050
August 31, 1998

PUBLIC SERVICE COMPANY
ALVARADO SQUARE-MS0408
ALBUQUERQUE, NM 87158

Project Name BELEN HYDRO
Project Number (none)

Attention: JEAN ARYA

On 8/18/98 Pinnacle Laboratories, Inc., formerly American Environmental Network (NM), Inc., (ADHS License No. AZ0592), received a request to analyze ~~non-aq~~ 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 418.1 was performed by Pinnacle Laboratories, Inc., Albuquerque, NM.

All other parameters were performed by ESL (OR) Inc., Durham, OR.

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



Kimberly D. McNeill
Project Manager



H. Mitchell Rubenstein, Ph. D.
General Manager

MR: mt

Enclosure

GENERAL CHEMISTRY - REAGENT BLANK
418.1

CLIENT	: PUBLIC SERVICE COMPANY	PINNACLE I.D.	: 808050
PROJECT #	: (none)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: BELEN HYDRO	UNITS	: MG/L

PARAMETER	PINNACLE I.D.	SAMPLE RESULT
PETROLEUM HYDROCARBONS	081998	<1.0

CHEMIST NOTES:
N/A

GENERAL CHEMISTRY - QUALITY CONTROL
418.1

CLIENT : PUBLIC SERVICE COMPANY
PROJECT # : (none)
PROJECT NAME : BELEN HYDRO

PINNACLE I.D. : 808050
SAMPLE MATRIX : AQUEOU
UNITS : MG/L

PARAMETER	PINNACLE I.D.	SAMPLE RESULT	DUP. RESULT	% RPD	SPIKED SAMPLE	SPIKE CONC.	% REC
PETROLEUM HYDROCARBONS	081998	<1.0	<1.0	N/A	14.1	12.0	118%

CHEMIST NOTES:
N/A

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

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

Environmental Services Laboratory, Inc.

17400 SW Upper Boones Ferry Road • Suite 270 • Portland, OR 97224 • (503) 670-8520

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

Date: 08/24/1998
AEN Account No.: 90147
AEN Job Number: 98.01680

Project: 808050 / PNM
Location: Belen Hydro

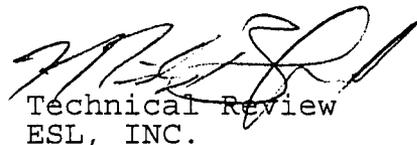
Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample Number	Sample Description	Matrix Type	Date Taken	Date Received
105245	808050-01 / Belen Hydro #1	Water	08/18/1998	08/19/1998
105246	808050-02 / Belen Hydro #2	Water	08/18/1998	08/19/1998

Approved by:



Andi Hoevet
Project Manager
ESL, INC.



Technical Review
ESL, INC.

The results from these samples relate only to the items tested. This report shall not be reproduced, except in full, without the written approval of the laboratory.

ANALYTICAL SERVICES FOR THE ENVIRONMENT

ANALYTICAL REPORT

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

08/24/1998
 Job No.: 98.01680

Page: 2

Project Name: 808050 / PNM
 Date Received: 08/19/1998

Sample Number Sample Description
 105245 808050-01 / Belen Hydro #1

<u>PARAMETERS</u>	<u>METHODS</u>	<u>RESULTS</u>	<u>REPORT LIMIT</u>	<u>UNITS</u>	<u>DATE ANALYZED</u>	<u>FLAG</u>
ICP/AA Digestion - Water	ICP	-			08/19/1998	
Antimony, ICP	6010	ND	0.005	mg/L	08/19/1998	
Arsenic, ICP	6010	ND	0.005	mg/L	08/19/1998	
Beryllium, ICP	6010	ND	0.002	mg/L	08/19/1998	
Cadmium, ICP	6010	ND	0.002	mg/L	08/19/1998	
Chromium, ICP	6010	ND	0.005	mg/L	08/19/1998	
Copper, ICP	6010	0.00720	0.005	mg/L	08/19/1998	
Lead, ICP	6010	ND	0.005	mg/L	08/19/1998	
Mercury Prep (W)		-			08/19/1998	
Mercury, CV (W)	7470	ND	0.0002	mg/L	08/19/1998	
Nickel, ICP	6010	ND	0.005	mg/L	08/19/1998	
Selenium, ICP	6010	0.00741	0.005	mg/L	08/19/1998	
Silver, ICP	6010	ND	0.005	mg/L	08/19/1998	
Thallium, ICP	6010	ND	0.01	mg/L	08/19/1998	
Zinc, ICP	6010	ND	0.02	mg/L	08/19/1998	DIL, Q

Sample Number Sample Description
 105246 808050-02 / Belen Hydro #2

<u>PARAMETERS</u>	<u>METHODS</u>	<u>RESULTS</u>	<u>REPORT LIMIT</u>	<u>UNITS</u>	<u>DATE ANALYZED</u>	<u>FLAG</u>
ICP/AA Digestion - Water	ICP	-			08/20/1998	
Antimony, ICP	6010	ND	0.005	mg/L	08/19/1998	
Arsenic, ICP	6010	3.51	0.005	mg/L	08/19/1998	MD
Beryllium, ICP	6010	ND	0.002	mg/L	08/19/1998	
Cadmium, ICP	6010	ND	0.002	mg/L	08/19/1998	
Chromium, ICP	6010	0.00584	0.005	mg/L	08/19/1998	
Copper, ICP	6010	0.0467	0.005	mg/L	08/19/1998	
Lead, ICP	6010	ND	0.005	mg/L	08/19/1998	
Mercury Prep (W)		-			08/19/1998	
Mercury, CV (W)	7470	ND	0.0002	mg/L	08/19/1998	
Nickel, ICP	6010	0.247	0.005	mg/L	08/19/1998	
Selenium, ICP	6010	ND	0.005	mg/L	08/19/1998	

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

Environmental Services Laboratory, Inc. (503) 670-8520 (503) 670-9243 FAX
 17400 SW Upper Boones Ferry Rd., Suite 270, Portland, OR 97224

ANALYTICAL REPORT

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

08/24/1998
Job No.: 98.01680

Page: 3

Project Name: 808050 / PNM
Date Received: 08/19/1998

Sample Number Sample Description
105246 808050-02 / Belen Hydro #2

<u>PARAMETERS</u>	<u>METHODS</u>	<u>RESULTS</u>	<u>REPORT LIMIT</u>	<u>UNITS</u>	<u>DATE ANALYZED</u>	<u>FLAG</u>
Silver, ICP	6010	ND	0.005	mg/L	08/19/1998	
Thallium, ICP	6010	0.00838	0.01	mg/L	08/19/1998	
Zinc, ICP	6010	0.117	0.005	mg/L	08/19/1998	

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

Environmental Services Laboratory, Inc. (503) 670-8520 (503) 670-9243 FAX
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QUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

Pinnacle Laboratories
2709-D Pan American Fwy NE
Albuquerque, NM 87107

Date: 08/24/1998

Job Number: 98.01680

Contact: Kim McNeill
Project: 808050 / PNM

Analyte	CCV		Percent Recovery	Date Analyzed
	True Concentration	Concentration Found		
Antimony, ICP	0.500	0.512	102.4	08/19/1998
Arsenic, ICP	0.500	0.510	102.0	08/19/1998
Beryllium, ICP	0.500	0.518	103.6	08/19/1998
Cadmium, ICP	0.500	0.517	103.4	08/19/1998
Chromium, ICP	0.500	0.515	103.0	08/19/1998
Copper, ICP	0.500	0.512	102.4	08/19/1998
Lead, ICP	0.500	0.519	103.8	08/19/1998
Mercury, CV (W)	0.00200	0.00199	99.5	08/19/1998
Nickel, ICP	0.500	0.516	103.2	08/19/1998
Selenium, ICP	0.500	0.512	102.4	08/19/1998
Silver, ICP	0.500	0.502	100.4	08/19/1998
Thallium, ICP	0.500	0.512	102.4	08/19/1998
Zinc, ICP	0.500	0.520	104.0	08/19/1998

CCV - Continuing Calibration Verification

Environmental Services Laboratory, Inc. (503)670-8520 (503)670-9243 FAX
17400 SW Upper Boones Ferry Rd., Suite 270, Portland, OR 97224

QUALITY CONTROL REPORT LABORATORY CONTROL STANDARD

Pinnacle Laboratories
2709-D Pan American Fwy NE
Albuquerque, NM 87107

Date: 08/24/1998

Job Number: 98.01680

Contact: Kim McNeill
Project: 808050 / PNM

Analyte	LCS		LCS % Recovery	Flags	Date Analyzed
	True Concentration	Concentration Found			
Antimony, ICP	0.500	0.527	105.4		08/19/1998
Antimony, ICP	0.500	0.503	100.6		08/19/1998
Arsenic, ICP	0.500	0.498	99.6		08/19/1998
Arsenic, ICP	0.500	0.493	98.6		08/19/1998
Beryllium, ICP	0.500	0.524	104.8		08/19/1998
Beryllium, ICP	0.500	0.498	99.6		08/19/1998
Cadmium, ICP	0.500	0.519	103.8		08/19/1998
Cadmium, ICP	0.500	0.486	97.2		08/19/1998
Chromium, ICP	0.500	0.525	105.0		08/19/1998
Chromium, ICP	0.500	0.495	99.0		08/19/1998
Copper, ICP	0.500	0.522	104.4		08/19/1998
Copper, ICP	0.500	0.490	98.0		08/19/1998
Lead, ICP	0.500	0.508	101.6		08/19/1998
Lead, ICP	0.500	0.484	96.8		08/19/1998
Mercury, CV (W)	0.00100	0.00101	101.0		08/19/1998
Nickel, ICP	0.500	0.511	102.2		08/19/1998
Nickel, ICP	0.500	0.482	96.4		08/19/1998
Selenium, ICP	0.500	0.503	100.6		08/19/1998
Selenium, ICP	0.500	0.476	95.2		08/19/1998
Silver, ICP	0.500	0.468	93.6		08/19/1998
Silver, ICP	0.500	0.495	99.0		08/19/1998
Thallium, ICP	0.500	0.522	104.4		08/19/1998
Thallium, ICP	0.500	0.485	97.0		08/19/1998
Zinc, ICP	0.500	0.507	101.4		08/19/1998
Zinc, ICP	0.500	0.488	97.6		08/19/1998

LCS - Laboratory Control Standard

Environmental Services Laboratory, Inc. (503)670-8520 (503)670-9243 FAX
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QUALITY CONTROL REPORT MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Pinnacle Laboratories
2709-D Pan American Fwy NE
Albuquerque, NM 87107

Date: 08/24/1998

Job Number: 98.01680

Contact: Kim McNeill
Project: 808050 / PNM

Analyte	Matrix		Spike Amount	Units	Percent Recovery	MSD		Percent Recovery	MS/MSD RPD	Flags	
	Spike Result	Sample Result				MSD Spike Amount	MSD Spike Amount				
Antimony, ICP	0.545	ND	0.500	mg/L	109.0	0.547	0.500	mg/L	109.4	0.4	
Antimony, ICP	0.513	ND	0.500	mg/L	102.6	0.508	0.500	mg/L	101.6	1.0	
Arsenic, ICP	0.512	ND	0.500	mg/L	102.4	0.509	0.500	mg/L	101.8	0.6	
Arsenic, ICP		3.51	0.500	mg/L			0.500	mg/L			MD
Beryllium, ICP	0.533	ND	0.500	mg/L	106.6	0.535	0.500	mg/L	107.0	0.4	
Beryllium, ICP	0.499	ND	0.500	mg/L	99.8	0.494	0.500	mg/L	98.8	1.0	
Cadmium, ICP	0.523	ND	0.500	mg/L	104.6	0.524	0.500	mg/L	104.8	0.2	
Cadmium, ICP	0.484	ND	0.500	mg/L	96.8	0.479	0.500	mg/L	95.8	1.0	
Chromium, ICP	0.530	ND	0.500	mg/L	106.0	0.532	0.500	mg/L	106.4	0.4	
Chromium, ICP	0.501	0.00584	0.500	mg/L	99.0	0.497	0.500	mg/L	98.2	0.8	
Copper, ICP	0.540	0.00720	0.500	mg/L	106.6	0.540	0.500	mg/L	106.6	0.0	
Copper, ICP	0.554	0.0467	0.500	mg/L	101.5	0.548	0.500	mg/L	100.3	1.2	
Lead, ICP	0.510	ND	0.500	mg/L	102.0	0.510	0.500	mg/L	102.0	0.0	
Lead, ICP	0.476	ND	0.500	mg/L	95.2	0.472	0.500	mg/L	94.4	0.8	
Mercury, CV (W)	0.00222	ND	0.0020	mg/L	111.0	0.0022	0.0020	mg/L	111.0	0.0	
Nickel, ICP	0.517	ND	0.500	mg/L	103.4	0.518	0.500	mg/L	103.6	0.2	
Nickel, ICP	0.726	0.247	0.500	mg/L	95.8	0.719	0.500	mg/L	94.4	1.5	
Selenium, ICP	0.514	0.00741	0.500	mg/L	101.3	0.517	0.500	mg/L	101.9	0.6	
Selenium, ICP	0.451	ND	0.500	mg/L	90.2	0.472	0.500	mg/L	94.4	4.6	
Silver, ICP	0.477	ND	0.500	mg/L	95.4	0.483	0.500	mg/L	96.6	1.3	
Silver, ICP	0.507	ND	0.500	mg/L	101.4	0.504	0.500	mg/L	100.8	0.6	

QC Sample:
105245

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

MS = Matrix Spike

MSD = Matrix Spike Duplicate

RPD = Relative Percent Difference

dil. = Diluted Out

Environmental Services Laboratory, Inc. (503)670-8520 (503)670-9243 FAX
17400 SW Upper Boones Ferry Rd., Portland, OR 97224

QUALITY CONTROL REPORT MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Pinnacle Laboratories
2709-D Pan American Fwy NE
Albuquerque, NM 87107

Date: 08/24/1998
Job Number: 98.01680

Contact: Kim McNeill
Project: 808050 / PNM

Analyte	Matrix	Sample	Spike	Units	Percent	MSD		Percent	MS/MSD	Flags	
	Spike					MSD	Spike				Recovery
	Result	Result	Amount		Recovery	Result	Amount	Units			
Thallium, ICP	0.489	0.00838	0.500	mg/L	96.1	0.484	0.500	mg/L	95.1	1.0	
Zinc, ICP	0.531	ND	0.500	mg/L	106.2	0.530	0.500	mg/L	106.0	0.2	DIL, Q
Zinc, ICP	0.612	0.117	0.500	mg/L	99.0	0.604	0.500	mg/L	97.4	1.6	

QC Sample:

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

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

Environmental Services Laboratory, Inc. (503)670-8520 (503)670-9243 FAX
17400 SW Upper Boones Ferry Rd., Portland, OR 97224

QUALITY CONTROL REPORT BLANKS

Pinnacle Laboratories
2709-D Pan American Fwy NE
Albuquerque, NM 87107

Date: 08/24/1998

Job Number: 98.01680

Contact: Kim McNeill
Project: 808050 / PNM
Location: Belen Hydro

Analyte	Blank Analysis	Report Limit	Units	Date Analyzed
Antimony, ICP	ND	0.005	mg/L	08/19/1998
Antimony, ICP	ND	0.005	mg/L	08/19/1998
Arsenic, ICP	ND	0.005	mg/L	08/19/1998
Arsenic, ICP	ND	0.005	mg/L	08/19/1998
Beryllium, ICP	ND	0.002	mg/L	08/19/1998
Beryllium, ICP	ND	0.002	mg/L	08/19/1998
Cadmium, ICP	ND	0.002	mg/L	08/19/1998
Cadmium, ICP	ND	0.002	mg/L	08/19/1998
Chromium, ICP	ND	0.005	mg/L	08/19/1998
Chromium, ICP	ND	0.005	mg/L	08/19/1998
Copper, ICP	ND	0.005	mg/L	08/19/1998
Copper, ICP	ND	0.005	mg/L	08/19/1998
Lead, ICP	ND	0.005	mg/L	08/19/1998
Lead, ICP	ND	0.005	mg/L	08/19/1998
Mercury, CV (W)	ND	0.0002	mg/L	08/19/1998
Nickel, ICP	ND	0.005	mg/L	08/19/1998
Nickel, ICP	ND	0.005	mg/L	08/19/1998
Selenium, ICP	ND	0.005	mg/L	08/19/1998
Selenium, ICP	ND	0.005	mg/L	08/19/1998
Silver, ICP	ND	0.005	mg/L	08/19/1998
Silver, ICP	ND	0.005	mg/L	08/19/1998
Thallium, ICP	ND	0.01	mg/L	08/19/1998
Thallium, ICP	ND	0.01	mg/L	08/19/1998
Zinc, ICP	ND	0.005	mg/L	08/19/1998
Zinc, ICP	ND	0.005	mg/L	08/19/1998

Environmental Services Laboratory, Inc. (503) 670-8520 (503) 670-9243 FAX
17400 SW Upper Boones Ferry Rd., Portland, OR 97224

FLAG GLOSSARY

A	This sample does not have a typical gasoline pattern.
B1	This sample does not have a typical diesel pattern.
B	Analyte found in the associated blank as well as the sample.
C	The sample contains a lighter hydrocarbon than gasoline.
CN	See case narrative
CS	Outside control limits or unusual matrix; see case narrative.
D	The sample extends to a heavier hydrocarbon range than gasoline.
d	Results on a dry weight basis
DIL	Result was calculated from dilution.
E	The sample extends to a lighter hydrocarbon range than diesel.
F	The sample extends to a heavier hydrocarbon range than diesel.
G	The positive result for gasoline is due to single component contamination.
I	The oil pattern for this sample is not typical.
J	The result for this compound is an estimated concentration.
L	The LCS recovery exceeded control limits. See the LCS page of this report.
LM	The LCS recovery exceeded control limits; the MS/MSD were in control validating the batch.
M	MS and/or MSD percent recovery exceeds control limits.
MD	Unable to calculate MS/MSD recovery due to high amount of analyte; greater than 4 times spike level.
MR	The MS/MSD RPD is greater than method criteria. The sample was re-extracted and re-analyzed with similar results indicating a non-homogeneous sample.
MM	The Matrix Spike exceeded control limits; LCS was in control validating the batch.
MI	Outside control limits due to matrix interference.
N	Manual integration performed on sample for quantification.
N/A	Not Applicable.
NC	Not calculable.
NO	Not Analyzed.
P	A post digestion spike was analyzed, and recoveries were within control limits.
Q	Detection limits elevated due to sample matrix.
Q1	Detection limits elevated due to high levels of non-target compounds. Sample(s) run at a dilution.
R	The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
R1	The duplicate RPD was greater than 20%. Visual inspection showed the sample to be non-homogeneous.
RD	RPD not applicable for results less than five times the reporting limit.
RH	The Relative Percent Difference (RPD) between two columns was greater than 40%, the higher result was reported.
RL	The Relative Percent Difference (RPD) between two columns was greater than 40%, the lower result was reported due to obvious interference with the higher result.
RP	MS/MSD RPD is greater than 20%
SR	Surrogate recovery outside control limits. See the surrogate page of the report.
SD	Unable to quantitate surrogate due to sample dilution.
SC	Sample not provided to laboratory in proper sampling container.
V	Volatile analysis was requested, sample container received with headspace.
X1	The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
X	Sample was analyzed outside recommended holding times.
Y	The result for this parameter was greater than the TCLP regulatory limit.
Z	The pattern seen for the parameter being analyzed is not typical.



PUBLIC SERVICE COMPANY OF NEW MEXICO

Company

Alvarado Square

Department/Mailstop

MS 0408

Address

Albuquerque,

NM

87158

City

State

Zip Code

DATE: 8.31.98

TO: JACK FORD, OCD

FAX TELEPHONE NO. 827-8177

FROM: JEAN ARCHA

TELEPHONE NO. 241-4954

FAX TELEPHONE No. (505) 241-2340

NUMBER OF PAGES BEING TRANSMITTED INCLUDING COVER SHEET: 5

MESSAGE: PLEASE CALL IF YOU HAVE QUESTIONS

Jean

Tony Heret, P.E.

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Prepared by Tony Hurst:
For
PNM POND
to be constructed for evaporation of Waste Water in Belen.

August 30, 1998

Pond to be constructed per the attached drawing :

100,000 gallon Evaporation Pond
Public Service Company of New Mexico
Belen, New Mexico

Dated 8/28/98

Lining Contractor to provide:

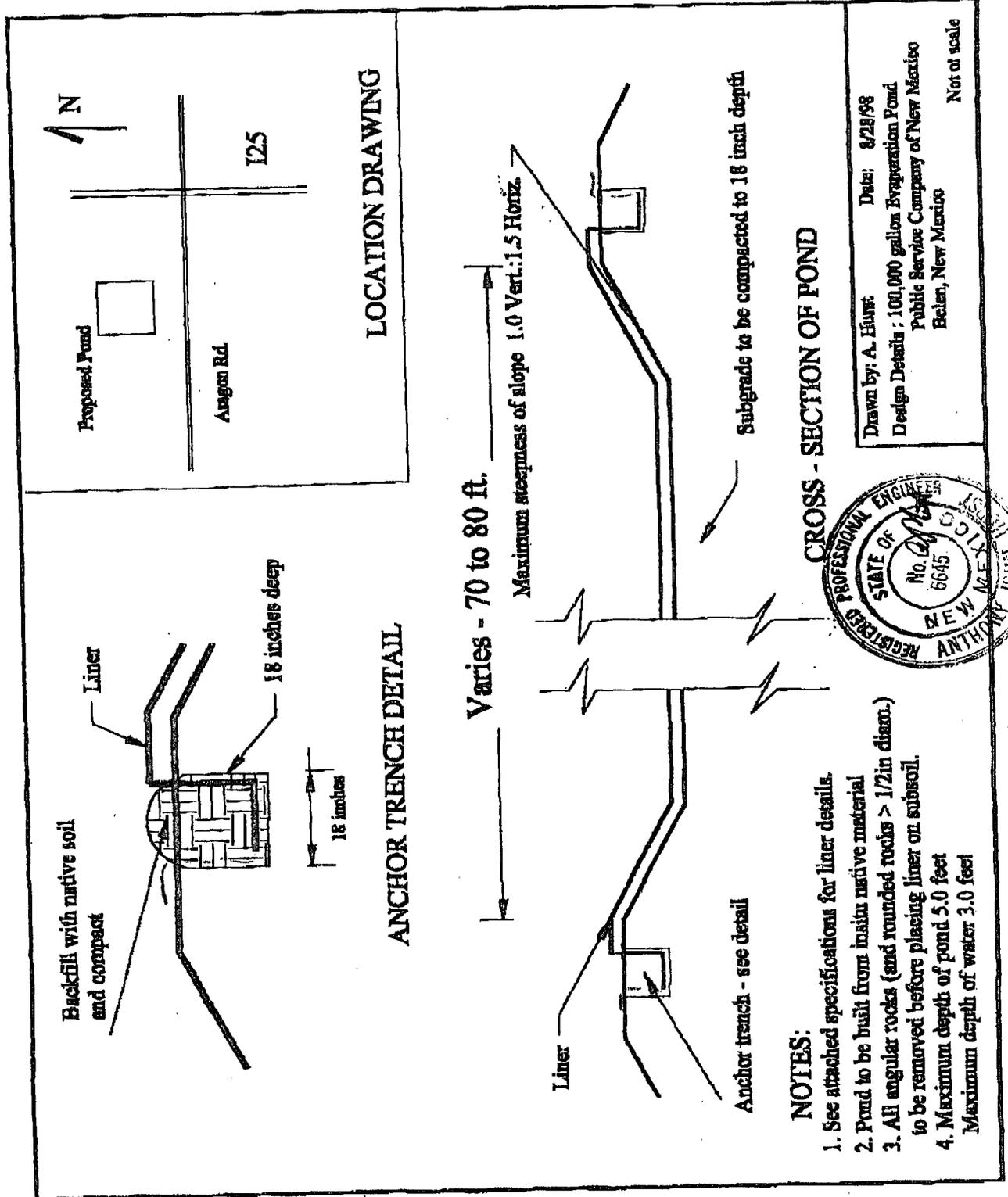
1. Furnish 60 mil textured HDPE liner material.
2. Place the liner on a clean, dry, well-compacted subgrade established and maintained by others in accordance with PNM provided drawings.
3. Accomplish all required field seaming in accordance with manufacturer requirements.
4. Non-destructive testing of all field seams - results to be provided to the owner (PNM representative).
5. Provide a final inspection of the installed liner, and repair any areas damaged by the installation crew.
6. Dispose of all waste materials generated by the installation crew.

The following items are to be provided by others (PNM Earthmoving Contractor):

1. All required dirt/earthwork, pipe, and concrete work, including fine grading.
2. Excavation of the anchor trench.
3. Any required dewatering, and other subsurface preparation prior to and during liner installation.
4. Backfill and compaction of the anchor trench.
5. Provide equipment with operator to unload, store, and spread the liner material.
6. Place any required gravel, sand, etc. over the liner.
7. Any required third party testing of liner materials or seams.

Notes:

1. Liner Installation procedure to be attached to contract. Procedure to include:
 - HDPE Unloading requirements.
 - Material Deployment procedures
 - Material seaming/wedge welding requirements
 - Requirements for Air pressure testing of seams
 - Extrusion welding process
 - Project documentation
 - Seam testing requirements



FRICION SEAL® HDC GEOMEMBRANE**(Single-Sided)****SPECIFICATIONS****60 mil (1.5 mm)**

FRICION SEAL HDC, National Seal Company's textured high density polyethylene (HDPE) geomembrane, is made from high molecular weight polyethylene resin compounded specifically for use in NSC geomembranes. The resin has been formulated to be resistant to chemicals, ultraviolet degradation, as well as leaching additives. FRICION SEAL HDC is produced with a textured surface on one side and is smooth on the other side.

Refer to NSC's Manufacturing Quality Control Manual to determine the test methods and frequencies used as a part of NSC's quality control program.

RESIN PROPERTIES	METHOD	UNITS	MINIMUM¹	TYPICAL
Oxidative Induction Time	ASTM D 3895, mod. Al pan, 200°C, 1 atm O ₂	minutes	100	130
<u>SHEET PROPERTIES</u>	<u>METHOD</u>	<u>UNITS</u>	<u>MINIMUM¹</u>	<u>TYPICAL</u>
Thickness	ASTM D 751, 1593, 5199			
Minimum average		mils	60.0	60.7
Lowest individual		mils	54.0	
Density	ASTM D 1505	g/cm ³	0.940	0.948
Carbon Black Content	ASTM D 4218	percent	2.0	2.45
Carbon Black Dispersion	ASTM D 5596	rating	Category 1 or 2	Category 1
Tensile Properties ⁴	ASTM D 638			
Stress at Yield		psi	2200	2550
		ppi	132	155
Stress at Break		psi	1500	2875
		ppi	90	175
Strain at Yield	1.3" gage length (NSF)	percent	13.0	14.0
Strain at Break	2.0" gage or extensometer	percent	150	350
	2.5" gage length (NSF)	percent	120	280
Dimensional Stability ²	ASTM D 1204, NSF mod.	percent	1.5	0.1
Tear Resistance	ASTM D 1004	ppi	750	930
		lbs	45	56
Puncture Resistance	ASTM D 4833	ppi	1800	2400
		lbs	108	145
Constant Load ESCR, ³	ASTM D 5397 (Single Point)	hours	200	>400

¹ This value represents the minimum acceptable test value for a roll as tested according to NSC's Manufacturing Quality Control Manual. Individual test specimen values are not addressed in this specification.

² Indicates Maximum Average Roll Value.

³ Testing performed on smooth edge.

⁴ The minimum stress values are normalized to the nominal sheet thickness. NSC certifies properties based on values calculated using nominal sheet thickness only.



NATIONAL SEAL COMPANY
1245 Corporate Blvd. - Suite 300
Aurora, IL 60504
(630) 888-1161 • (800) 323-3820
FAX: (630) 888-6556

FRICITION SEAL® HDC GEOMEMBRANE

(Single-Sided)

PHYSICAL PROPERTIES

60 mil (1.5 mm)

<u>PROPERTIES</u>	<u>METHOD</u>	<u>UNITS</u>	<u>MINIMUM¹</u>	<u>TYPICAL</u>
Multi-Axial Tensile Elongation	ASTM D 5617	percent		
Critical Cone Height	ASTM D 5514	cm		
Wide Width Tensile	ASTM D 4885			
Stress at Yield		psi		
Strain at Yield		%		
Brittleness Temp. by Impact ²	ASTM D 746	°C	-75	<-90
Coef. of Linear Thermal Exp. ²	ASTM E 831	°C ⁻¹	1.5 x 10 ⁻⁴	1.2 x 10 ⁻⁴
ESCR, Bent Strip	ASTM D 1693	hours	1500	>10,000
Hydrostatic Resistance	ASTM D 751	psi		
Modulus of Elasticity	ASTM D 638	psi	80,000	116,000
Ozone Resistance	ASTM D 1149, 168 hrs	P/F	p	p
Permeability ²	ASTM E 96	cm/sec · Pa	2.3x10 ⁻¹⁴	8.1 x 10 ⁻¹⁵
Puncture Resistance	FTMS 101, method 2065	ppi	1300	1500
		lbs	78	91
Soil Burial Resistance ²	ASTM D 3083, NSF mod.	% change	10	0
Tensile Impact	ASTM D 1822	ft lbs/in ²		
Volatile Loss ²	ASTM D 1203, A	percent	0.10	0.08
Water Absorption ²	ASTM D 570, 23°C	percent	0.10	0.04
Water Vapor Transmission ²	ASTM E 96	g/day · m ²	0.024	0.009

SEAM PROPERTIES

<u>SEAM PROPERTIES</u>	<u>METHOD</u>	<u>UNITS</u>	<u>MINIMUM²</u>	<u>TYPICAL</u>
Shear Strength	ASTM D 4437, NSF mod.	psi	2000	2700
		ppi	120	166
Peel Strength	ASTM D 4437, NSF mod.	psi	1500	1870
(hot wedge fusion)		ppi	90	115
Peel Strength	ASTM D 4437, NSF mod.	psi	1300	1590
(fillet extrusion)		ppi	78	98

Seam testing is the responsibility of the installer and/or CQC personnel.

STANDARD ROLL WIDTH

23 FT.

Information regarding the physical properties of National Seal Company products, including the information contained in this specification sheet, is, to the best of our knowledge, information and belief, representative of National Seal Company products. All information, data, suggestions, opinions and recommendations are offered without guarantee or warranty of any kind. The final determination as to the appropriateness or suitability of any National Seal Company product in any particular application rests with the user and is the user's sole responsibility.

National Seal Company reserves the right to alter, change or modify its products and its product specifications at any time without notice. Please check with your National Seal Company sales or technical representative to assure that specifications are current.

0897



NATIONAL SEAL COMPANY
 1245 Corporate Blvd. - Suite 300
 Aurora, IL 60504
 (630) 898-1161 • (800) 323-3820
 FAX: (630) 898-8556



Public Service Company
of New Mexico
Alvarado Square MS 0408
Albuquerque, NM 87158

RECEIVED
AUG 20 1998
MINS.
DIV



August 17, 1998

Mr. Jack Ford
New Mexico Energy, Minerals, and Natural Resources Dept.
Oil Conservation Division
2040 South Pacheco Street
Santa Fe, NM 87505

Dear Mr. Ford:

RE: PNM 12" pipeline near Belen

Public Service Company of New Mexico (PNM), Gas Services, is building a 12" pipeline near Belen, NM. This line joins an existing 8" line, which has been in use for about two years. We plan to perform separate hydrostatic tests on the old and new pipelines. Some of the water from the new 12" line test will be transferred to the used 8" line to test it. Both discharges, if clean, will be sent to the same evaporation pond.

Attached is information additional to my submittal to Mr. Roger Anderson on July 31, 1998. A sketch map of the pond location is superimposed on an aerial photo. If you have any questions please call me at (505) 241-4954, or e-mail me at jarya@mail.pnm.com

Sincerely,

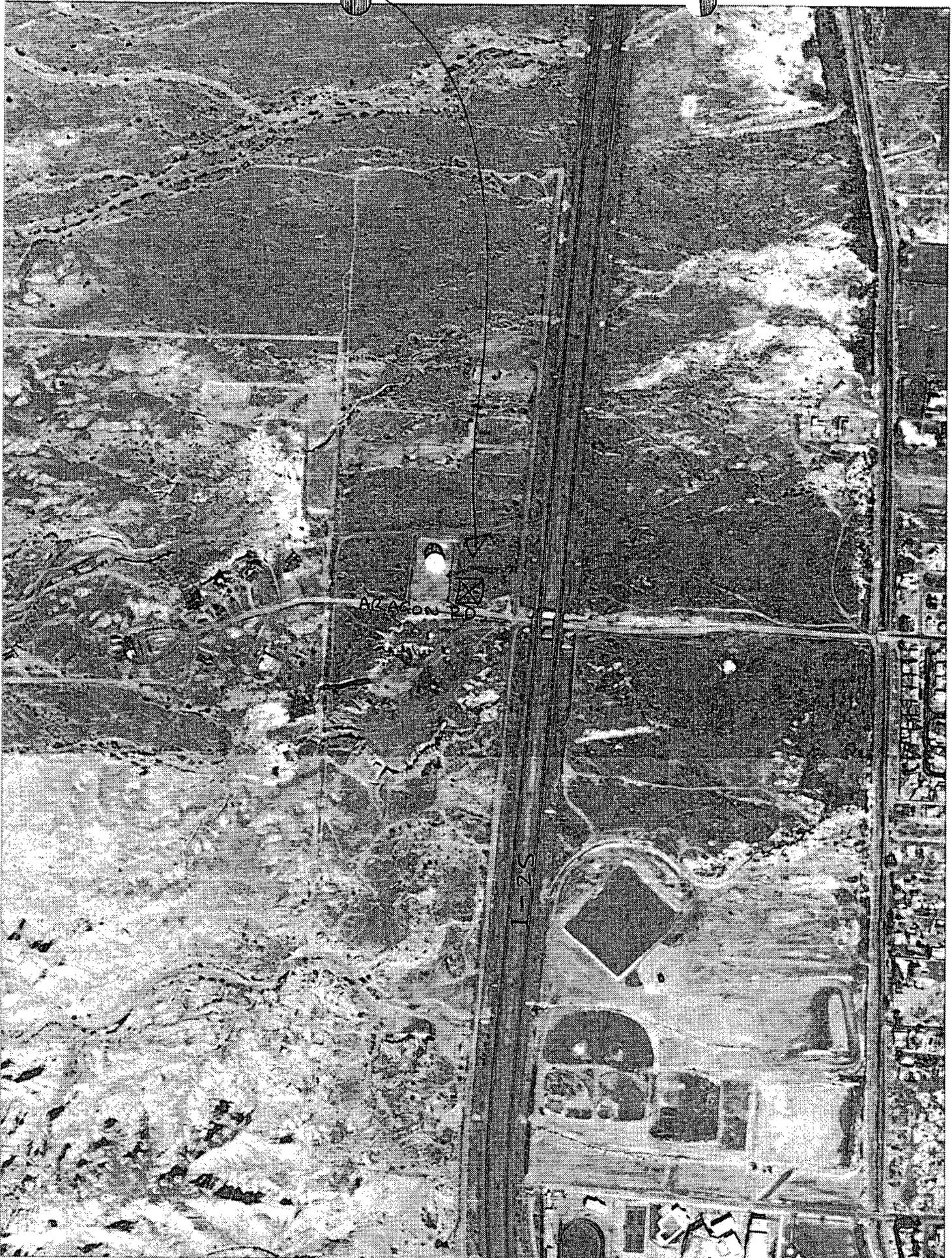
A handwritten signature in cursive script that reads "Jean Arya".

Jean Arya
Environmental Scientist

Enclosure

ENGINEERED POND FOR HYDROSTATIC TEST DISCHARGE

N
↑



PUBLIC SERVICE COMPANY OF NEW MEXICO
FAX MEMO

TO: Jack Ford, OCD

FROM: Jean Arya *JA* tel: 241-4954
fax: 241-2340
e-mail: jarya@mail.pnm.com

SUBJECT: Disposal of Hydrostatic Test Water from used pipe

DATE: August 21, 1998

Attached are the preliminary reports on analysis of water samples taken from the used gas pipe near Belen. I sampled both ends of the pipe on Tuesday, August 18. "Belen Hydro #1" refers to the sample taken at the end where the water was transferred from the previous test of new pipe. "Belen Hydro #2" is the sample from the far end.

The metals were sent to Oregon for analysis. The preliminary results were faxed to Pinnacle Labs here in Albuquerque, where their project manager added the hand-written notes to clarify the tiny font. They were then faxed to me, so I hope the copy you receive is legible.

My own abstract of results over the detection limit follows. I used half the detection limit to calculate the average where one of the results was non-detect.

<u>Parameter</u>	<u>Sample #1</u>	<u>Sample #2</u>	<u>Average</u>	<u>WQCC Standard</u>
petroleum hydrocarbons	-	2.8 mg/L	1.650 mg/L	not known
arsenic	-	3.6 mg/L	1.801 mg/L	0.1 mg/L
chromium	-	0.006 mg/L	0.004 mg/L	0.05 mg/L
copper	0.0072 mg/L	0.047 mg/L	0.027 mg/L	1.0 mg/L
nickel	-	0.26 mg/L	0.131 mg/L	0.2 mg/L
selenium	0.00741 mg/L	-	0.005 mg/L	0.05 mg/L
zinc	0.0126 mg/L	0.26 mg/L	0.136 mg/L	10.0 mg/L

The crew would like to release this water to the evaporation pond, where depth to ground water is approximately 100 feet, on Monday. Please let me know whether they have permission to do so.

GW > 100' - unlined

To Jean Arya
@ PNM
241-2340

Preliminary Results

Final report will be issued
following data review

GENERAL CHEMISTRY RESULTS

410.1

CLIENT : PUBLIC SERVICE COMPANY PINNACLE I.D. : 808050
PROJECT # : (none) DATE RECEIVED : 8/18/98
PROJECT NAME : BELEN HYDRO

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	BELEN SYDRO #1	AQUEOUS	8/18/98	8/19/98	8/19/98	1
02	BELEN HYDRO #2	AQUEOUS	8/18/98	8/19/98	8/19/98	1
PARAMETER	DET. LIMIT	UNITS	01	02		
PETROLEUM HYDROCARBONS, IR	1.0	MG/L	< 1.0	2.8		

CHEMIST NOTES:

N/A

MS
8/19/98

Received Aug-21-98 09:38am from: 503 620 0393 - AMERICAN ENV NET NM
AUG 21 '98 08:34AM ESL PORTLAND

page 1
P.1/3
To Jean Arya
@ PNM
241-2340

Environmental Services Laboratory, Inc.
17400 SW Upper Boones Ferry Rd. / Suite 270 / Durham, OR 97224
503-684-0447

Kim McNeill
Pinnacle Laboratories
2709-D San American Fwy NE
Albuquerque, NM 87107

Date: 08/20/1998
AEM Account No.: 90147
AEM Job Number: 98.01680

Project: 808050 / PNM
Location: Belen Hydro

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

Sample Number	Sample Description	Matrix Type	Date Taken	Date Received
105245	808050-01 / Belen Hydro #1	Water	08/18/1998	08/19/1998
105246	808050-02 / Belen Hydro #2	Water	08/18/1998	08/19/1998

Approved by:

Project Manager
ESL, INC.

Technical Review
ESL, INC.

The results from these samples relate only to the items tested. This report shall not be reproduced, except in full, without the written approval of the laboratory.

PRELIMINARY REPORT

ANALYTICAL REPORT

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

08/20/1998
 Job No.: 98.01680
 Page: 2

Project Name: 308050 / PNM
 Date Received: 08/19/1998

Sample Number: 105245
 Sample Description: 308050-01 / Belen Hydro #1 **Belen Hydro #1**

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
ICP/AA Digestion - Water	ICP	-			08/19/1998	
Arsimony, ICP	6010	ND	0.005	mg/L	08/19/1998	
Arsenic, ICP	6010	ND	0.005	mg/L	08/19/1998	
Beryllium, ICP	6010	ND	0.002	mg/L	08/19/1998	
Cadmium, ICP	6010	ND	0.002	mg/L	08/19/1998	
Chromium, ICP	6010	ND	0.005	mg/L	08/19/1998	
Copper, ICP	6010	0.00720	0.005	mg/L	08/19/1998	Cu = 0.00720 mg/L
Lead, ICP	6010	ND	0.005	mg/L	08/19/1998	
Mercury Prep (W)	-	-			08/19/1998	
Mercury, CV (W)	7470	ND	0.0002	mg/L	08/19/1998	
Nickel, ICP	6010	ND	0.005	mg/L	08/19/1998	
Selenium, ICP	6010	0.00741	0.005	mg/L	08/19/1998	Se = 0.00741 mg/L
Silver, ICP	6010	ND	0.005	mg/L	08/19/1998	
Thallium, ICP	6010	ND	0.01	mg/L	08/19/1998	
Zinc, ICP	6010	0.0220	0.005	mg/L	08/19/1998	Zn = 0.0220 mg/L

Sample Number: 105246
 Sample Description: 308050-02 / Belen Hydro #2 **Belen Hydro #2**

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
ICP/AA Digestion - Water	ICP	-			08/19/1998	
Arsimony, ICP	6010	ND	0.005	mg/L	08/19/1998	
Arsenic, ICP	6010	3.8	0.005	mg/L	08/19/1998	As = 3.6 mg/L
Beryllium, ICP	6010	ND	0.002	mg/L	08/19/1998	
Cadmium, ICP	6010	ND	0.002	mg/L	08/19/1998	
Chromium, ICP	6010	0.006	0.005	mg/L	08/19/1998	Cr = 0.006 mg/L
Copper, ICP	6010	0.047	0.005	mg/L	08/19/1998	Cu = 0.047 mg/L
Lead, ICP	6010	ND	0.005	mg/L	08/19/1998	
Mercury Prep (W)	-	-			08/19/1998	
Mercury, CV (W)	7470	ND	0.0002	mg/L	08/19/1998	
Nickel, ICP	6010	0.26	0.005	mg/L	08/19/1998	Ni = 0.26 mg/L
Selenium, ICP	6010	ND	0.005	mg/L	08/19/1998	

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

ANALYTICAL REPORT

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

08/20/1998
 Job No.: 98.01680
 Page: 3

Project Name: 808050 / PNM
 Date Received: 08/19/1998

Sample Number 105246
 Sample description 808050-01 / Balen Hydra #1

PARAMETERS	METHOD	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
Silver, ICP	6010	ND	0.005	ug/L	08/19/1998	
Thallium, ICP	6010	ND	0.01	ug/L	08/19/1998	
Zinc, ICP	6010	0.12	0.005	ug/L	08/19/1998	Zn = 0.12mg/L

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

Environmental Services Laboratory, Inc. (502) 670-1520 (503) 670-3243 FAX
 17400 NW Upper Boones Ferry Rd., Suite 270, Portland, OR 97229
PRELIMINARY REPORT



Company _____
 Alvarado Square
 Department/Mailstop _____
 MS 0408
 Address _____
 Albuquerque, NM 87158
 City State Zip Code

DATE: 8-21-98

TO: JACK FORD, OCD

FAX TELEPHONE NO. 827-8177

FROM: JEAN ARYA

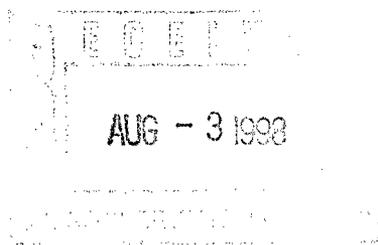
TELEPHONE NO. 241-1952 FAX TELEPHONE No. (505) 241-2340

NUMBER OF PAGES BEING TRANSMITTED INCLUDING COVER SHEET: 6

MESSAGE:

The information contained in this facsimile message is confidential and solely for the use of the individual or entity named above. If the recipient of this message is not the intended recipient, or the employee or agent responsible for delivering it to the intended recipient, you are hereby notified that any dissemination, distribution, copying or unauthorized use of this communication is strictly prohibited. If you have received this facsimile in error, please notify the sender immediately by telephone.

Public Service Company
of New Mexico
Alvarado Square MS 0408
Albuquerque, NM 87158



CERTIFIED MAIL
RETURN RECEIPT REQUESTED

July 31, 1998

Mr. Roger Anderson
New Mexico Energy, Minerals, and Natural Resources Dept.
Oil Conservation Division
2040 South Pacheco Street
Santa Fe, NM 87505

Dear Mr. Anderson:

Public Service Company of New Mexico, Gas Services, is building a 12" pipeline near Belen, NM. This line joins an existing 8" line, which has been in use for about two years. We plan to perform separate hydrostatic tests on the old and new pipelines. Some of the water from the new 12" line test will be transferred to the used 8" line to test it. Both discharges, if clean, will be sent to the same evaporation pond.

I enclose information about the two separate tests. If you have any questions on either please call me at (505) 241-4954, or e-mail me at jarya@mail.pnm.com

Sincerely,

A handwritten signature in cursive script that reads "Jean Arya".

Jean Arya
Environmental Scientist

Enclosures

July 31, 1998

Public Service Company of New Mexico, Gas Services, requests permission to discharge the following hydrostatic test dewatering:

Condition of pipe:	New, unused
Quantity:	188,000 gallons*
Quality:	Drinking water
Source of water:	City of Belen
Location of discharge:	T5N R1E S13
Planned date of discharge:	August 10, 1998

*The total water used in this test will be 268,000 gallons. 80,000 gallons will be transferred to test another pipe, leaving 188,000 gallons to dispose of at that time. It will be discharged to an evaporation pond on land in the estate of Weldon Burris. The land use agreement is enclosed.

Public Service Company of New Mexico, Gas Services, requests permission to discharge the following hydrostatic test dewatering:

Condition of pipe:	Used for two years
Quantity:	80,000 gallons
Quality:	Drinking water
Source of water:	City of Belen
Location of discharge:	T5N R1E S13
Planned date of discharge:	August 17, 1998

The used pipeline will be pigged and cleaned before filling with the hydrostatic test water. After the test a sample will be analyzed for total metals, and for hydrocarbons. If the water meets WQCC standards it will be discharged to an evaporation pond on land in the estate of Weldon Burris. The land use agreement is enclosed. If the water exceeds WQCC standards it will be disposed of according to State and Federal regulations.

LAND USE AGREEMENT

This Agreement is entered into between Public Service Company of New Mexico (PNM) and The Estate of Weldon Burris (Burris) through its agent Jack Darling.

WHEREAS Burris owns property (Burris Property) located in Belen, New Mexico, as shown on Exhibit A attached hereto; and

WHEREAS PNM is currently installing new natural gas facilities, from Aragon Road along the I-25 West Frontage Road and north to Los Lunas; and

WHEREAS PNM desires to utilize a portion of the Burris Property as a construction staging, lay-down area, and ponding area (Staging Area), for natural gas equipment, facilities, and supplies.

NOW THEREFORE IT IS HEREBY AGREED AS FOLLOWS:

1. For \$1.00 and other valuable consideration given, PNM shall utilize the Staging Area for all construction activities. The Staging Area shall be approximately 400' x 400' in the approximate location as shown on the attached Exhibit A.
2. Term of this Agreement shall commence on May 1, 1998, and shall terminate when PNM completes construction of its natural gas line from Belen to Los Lunas which is expected to occur on or about September 30, 1998. If the natural gas line completion date is extended beyond September 30, 1998, then the term of this Agreement shall be automatically extended to accommodate such completion, but in no event shall this Agreement be extended beyond December 1, 1999, without Jack Darling's specific written approval.
3. PNM shall have the right to use the Staging Area for storage of gas pipes, vehicles, equipment and any other items needed for installation of PNM gas facilities on the Burris Property. PNM shall have the right to erect a temporary fence around the Staging Area for security purposes. PNM shall also have the right to blade the Staging Area prior to PNM entry. PNM shall be granted unrestricted access to and from the Staging Area.
4. A cultural resources survey will also be conducted of the Staging Area prior to May 1, 1998. At the conclusion of this Agreement, PNM will conduct a cultural resource survey of the Staging Area. A copy of such will be provided to Jack Darling upon request.
5. At the conclusion of this Agreement, PNM shall remove all temporary fencing and materials, clean up and remove any contaminated soil caused by fuel, hydraulic oil or other spills from PNM's activities, and restore the Staging Area as much as

reasonably possible to its prior condition. PNM will also re-fence the Burris Property and level high ground spots.

6. Subject to Section 56-7-1 NMSA, 1978, PNM shall indemnify and hold Burris and its successors and assigns harmless from and against all liability, damages, suits, actions, costs, and expenses, including reasonable attorney's fees, caused by or arising out of any of PNM's activities and operations within, and leading to and from the Staging Area.
7. The terms and conditions of this Agreement shall be binding upon the successors and assigns of the signatories here-to.

AGREED this ____ day of April, 1998.

PUBLIC SERVICE COMPANY OF NEW MEXICO

By: *Robert [Signature]*

Its: *Manager, Right of Way Dept.*

ESTATE OF WELDON BURRIS

By: *Jack Darling*
Jack Darling

Its: Agent