

UNC MINING AND MILLING



Division of United Nuclear Corporation
A **UNC RESOURCES** Company

P.O. Box 3951
Albuquerque, New Mexico 87190

4801 Indian School Road, N.E.
Albuquerque, New Mexico 87110
Telephone 505/265-4421

February 19, 1980

Mr. Cubia Clayton
Bureau Chief
NM ENVIRONMENTAL IMPROVEMENT DIVISION
P.O. Box 968
Santa Fe, New Mexico 87503

RE: NECR TAILINGS IMPOUNDMENT -- WEEKLY REPORT
February 10 - February 16, 1980

Dear Mr. Clayton:

To ensure compliance with NMEID letters dated October 23 and 31, 1979, and the NRC Order dated October 26, 1979, the following documents are forwarded for the week of operations from February 10th through February 16th, 1980.

1. Sergeant, Hauskins & Beckwith weekly report to the New Mexico State Engineer.
2. Summary sheet of the freeboard levels in the northern and southern cells and the borrow pit areas.
3. Analysis of water samples from monitoring wells 201, 202, 204, and 205.
4. Daily inspection sheets for starter dam, north and south cross dikes.
5. Evaporation and precipitation readings.
6. Aerial photograph of the tailings impoundment taken on February 13, 1980.

Sincerely,

Thomas M. Hill
Director, Tailings Management

THM:jb

cc: Mr. Ross Scarano, NRC
Mr. G. Wayne Kerr, NRC
Dr. John Nelson

9712100196 800219
PDR ADOCK 04008907
C PDR



SERGEANT, HAUSKINS & BECKWITH

CONSULTING SOIL AND FOUNDATION ENGINEERS

APPLIED SOIL MECHANICS • ENGINEERING GEOLOGY • MATERIALS ENGINEERING

B. DWAIN SERGENT, P.E.
BENNY E. McMILLAN, P.E.
NORMAN H. WITZ, P.E.

JOHN B. HAUSKINS, P.E.
DALEY BEDENKOP, P.E.

GEORGE H. BECKWITH, P.E.
ROBERT R. KOONS, P.E.

ROBERT D. BOOTH, P.E.
ROBERT W. CROSSLEY, P.E.

-February 19, 1980

State of New Mexico
Natural Resources Department
Water Resources Division
Bataan Memorial Building
Santa Fe, New Mexico 87503

SHB Job No. E79-1096

Attention: Mr. S. E. Reynolds
State Engineer

Re: Church Rock Tailings Dam
Church Rock, New Mexico

Gentlemen:

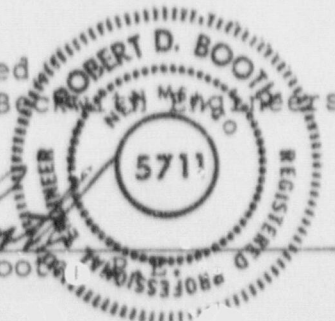
Transmitted herewith are (1) liquid surface elevations of the north, central and southern cells as well as the borrow pit, (2) readings on the piezometers installed in the northern and southern cross dikes, (3) horizontal and vertical measurements on the survey monuments installed in the northern and southern cross dikes and the starter dam, and (4) readings on the Hall Hydrostatic Pressure Cell Piezometers (HPC-7's) installed on the downstream side of the existing starter dam. These data are for the week ending February 16, 1980.

Should you have any questions, please do not hesitate to contact us.

Respectfully submitted
Sargent, Hauskins & Beckwith

By

Robert D. Booth



Copies: Addressee (1)
United Nuclear Corporation (1)

REPLY TO: 2821 GIRARD BLVD., N.E., ALBUQUERQUE, NEW MEXICO 87107

PHOENIX
(602) 272-6648

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POND LIQUID SURFACE ELEVATIONS

<u>DATE</u>	<u>NORTH POND</u>	<u>CENTRAL POND</u>	<u>SOUTHERN POND</u>	<u>BORROW PIT</u>
09/06/79	6956.4	6954.4	6953.4	---
09/13/79	---	---	6953.1	---
09/20/79	6955.8	6954.0	6952.7	---
09/24/79	6955.6	6954.0	6952.7	---
10/01/79	6955.3	6953.7	6952.5	---
10/08/79	---	---	6952.2	---
10/11/79	6955.0	6954.6	6952.2	---
10/17/79	6954.6	6953.4	6951.9	---
10/21/79	6954.6	6953.1	6951.8	---
10/23/79	6954.6	6953.9	6951.3	---
10/24/79	6954.6	6953.5	6951.5	---
10/25/79	6954.7	6953.4	6951.4	---
10/26/79	6954.7	6953.8	6951.7	---
10/27/79	6954.6	6955.0	6951.6	---
10/28/79	6954.6	6954.0	6951.6	---
10/29/79	6954.6	6954.3	6951.6	---
10/30/79	6954.5	6954.4	6951.7	6939.2
10/31/79	6954.5	6954.8	6951.6	6939.6
11/01/79	6954.5	6954.7	6951.6	6939.9
11/02/79	6954.5	6955.2	6951.6	6940.5
11/03/79	6954.4	6955.5	6951.5	6940.7
11/04/79	6954.4	6955.6	6951.5	6941.9
11/05/79	6954.4	6955.9	6951.6	6942.6
11/06/79	6954.3	6956.8	6951.5	6942.1
11/07/79	6954.3	6956.1	6951.5	6942.5
11/08/79	6954.5	6956.3	6951.6	6943.3
11/09/79	6954.4	6956.3	6951.6	6943.6
11/10/79	6954.5	6956.3	6951.6	6943.6



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CONSULTING SOIL AND FOUNDATION ENGINEERS
SAN DIEGO & RIVERSIDE, CALIFORNIA

POND LIQUID SURFACE ELEVATIONS

<u>DATE</u>	<u>NORTH POND</u>	<u>CENTRAL POND</u>	<u>SOUTHERN POND</u>	<u>BORROW PIT</u>
11/11/79	6954.5	6956.4	6951.6	6943.5
11/12/79	6954.4	6956.3	6951.6	6943.1
11/13/79	6954.3	6956.3	6951.6	6943.1
11/14/79	6954.3	6956.8	6951.1	6942.9
11/15/79	6954.3	6957.3	6951.1	6943.2
11/16/79	6954.3	6956.3	6951.0	6943.4
11/17/79	6954.3	6956.6	6951.1	6943.7
11/18/79	6954.3	6956.5	6951.2	6943.9
11/19/79	6954.3	6956.0	6951.2	6944.4
11/20/79	6954.2	6956.1	6951.2	6944.5
11/21/79	6954.2	6957.4	6951.1	6944.8
11/22/79	6954.2	6957.5	6951.1	6945.2
11/23/79	6954.2	6956.8	6951.1	6945.6
11/24/79	6954.1	6957.9	6951.1	6945.7
11/25/79	6954.1	6956.6	6951.1	6945.8
11/26/79	6954.1	6957.1	6950.8	6946.0
11/27/79	6954.1	6958.0	6950.8	6946.1
11/28/79	6954.0	6956.5	6950.8	6946.5
11/29/79	6954.0	6956.7	6950.8	6946.6
11/30/79	6954.0	6956.4	6950.8	6947.0
12/01/79	6954.1	6956.5	6950.8	6947.2
12/02/79	6954.2	6956.8	6950.8	6947.4
12/03/79	6954.0	6956.0	6950.8	6947.6
12/04/79	6954.0	6955.6	6950.8	6947.7
12/05/79	6954.5	6957.4	6950.8	6948.1
12/06/79	6954.5	6956.8	6950.7	6948.4
12/07/79	6954.4	6956.8	6950.7	6948.6
12/08/79	6954.4	6956.9	6950.7	6949.0



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CONSULTING SOIL AND FOUNDATION ENGINEERS
SAN ANTONIO, TEXAS

POND LIQUID SURFACE ELEVATIONS

<u>DATE</u>	<u>NORTH POND</u>	<u>CENTRAL POND</u>	<u>SOUTHERN POND</u>	<u>BORROW PIT</u>
12/09/79	6954.4	6956.6	6950.7	6949.2
12/10/79	6954.4	6957.2	6950.8	6949.4
12/11/79	6954.4	6957.2	6950.8	6949.4
12/12/79	6954.4	6957.3	6950.8	6949.6
12/13/79	6954.3	6957.2	6950.8	6950.0
12/14/79	6954.3	6956.9	6950.8	6950.1
12/15/79	6954.3	6956.9	6950.8	6950.3
12/16/79	6954.2	6956.8	6950.7	6950.8
12/17/79	6954.1	6957.2	6950.8	6951.0
12/18/79	6954.1	6957.3	6950.7	6951.1
12/19/79	6954.1	6957.3	6950.7	6951.4
12/20/79	6954.1	6957.5	6950.7	6951.6
12/21/79	6954.1	6958.0	6950.7	6951.9
12/22/79	6954.1	6957.8	6950.7	6952.1
12/23/79	6954.2	6956.8	6950.9	6952.6
12/24/79	6954.2	6956.7	6950.8	6952.7
12/25/79	6954.2	6956.9	6951.4	6953.0
12/26/79	6954.1	6956.9	6951.3	6953.4
12/27/79	6954.0	6957.0	6950.8	6953.8
12/28/79	6954.0	6957.4	6950.8	6954.0
12/29/79	6954.0	6957.4	6950.8	6954.3
12/30/79	6954.0	6957.5	6950.8	6954.5
12/31/79	6954.0	6957.6	6950.8	6954.8
1/01/80	6954.0	6958.0	6950.8	6955.0
1/02/80	6954.0	6958.9	6950.8	6955.2
1/03/80	6954.0	6958.3	6950.8	6955.4
1/04/80	6954.0	6957.8	6950.8	6955.9
1/05/80	6954.0	6957.8	6950.8	6956.2



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POND LIQUID SURFACE ELEVATIONS

<u>DATE</u>	<u>NORTH POND</u>	<u>CENTRAL POND</u>	<u>SOUTH POND</u>	<u>B. PIT #1</u>	<u>B. PIT #2</u>
1/06/80	6954.0	6957.6	6950.7	6956.5	--
1/07/80	6953.9	6957.8	6950.5	6956.7	--
1/08/80	6953.9	6957.7	6950.4	6956.8	--
1/09/80	6953.9	6957.8	6050.4	6957.3	--
1/10/80	6953.9	6958.0	6950.4	6957.3	--
1/11/80	6953.9	6961.2	6950.4	6957.4	--
1/12/80	6953.9	6958.8	6950.4	6957.4	--
1/13/80	6953.9	6957.8	6950.4	6957.4	--
1/14/80	6953.8	6957.8	6950.3	6957.5	--
1/15/80	6953.8	6956.8	6950.3	6957.7	--
1/16/80	6953.8	6957.0	6050.3	6957.8	--
1/17/80	6953.7	6956.9	6950.3	6958.0	--
1/18/80	6953.7	6957.0	6950.3	6958.2	--
1/19/80	6953.7	6958.7	6950.3	6958.3	--
1/20/80	6953.7	6957.4	6950.3	6958.5	--
1/21/80	6953.8	6956.8	6950.3	6958.8	--
1/22/80	6953.8	6958.2	6950.3	6958.9	--
1/23/80	6953.8	6957.8	6950.2	6958.9	6934.5
1/24/80	6953.8	6956.5	6950.2	6958.9	6935.1
1/25/80	6953.8	6956.8	6950.2	6958.9	6936.1
1/26/80	6953.8	6956.7	6950.2	6958.9	6936.8
1/27/80	6953.8	6956.7	6950.2	6958.8	6938.3
1/28/80	6953.8	6956.4	6950.2	6958.9	6939.0
1/29/80	6953.8	6956.6	6950.2	6958.9	6939.8
1/30/80	6953.8	6956.8	6950.2	6958.8	6941.8
1/31/80	6953.8	6956.6	6950.2	6958.8	6942.8
2/01/80	6953.8	6956.6	6950.2	6958.8	6943.8
2/02/80	6953.8	6956.8	6950.2	6958.8	6944.4
2/03/80	6953.7	6957.1	6950.2	6958.8	6944.7
2/04/80	6953.7	6955.9	6950.2	6958.8	6945.0
2/05/80	6953.7	6955.9	6950.2	6958.9	6946.0



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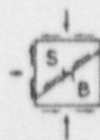
POND LIQUID SURFACE ELEVATIONS

<u>DATE</u>	<u>NORTH POND</u>	<u>CENTRAL POND</u>	<u>SOUTH POND</u>	<u>B. PIT #1</u>	<u>B. PIT #2</u>
2/06/80	6953.6	6955.8	6950.2	6958.8	6947.2
2/07/80	6953.6	6956.0	6950.1	6958.9	6947.6
2/08/80	6953.6	6957.0	6950.1	6958.9	6948.5
2/09/80	6953.6	6957.0	6950.1	6958.9	6949.0
2/10/80	--	6957.0	--	6958.9	6949.5
2/11/80	--	6958.0	--	6958.9	6949.8
2/12/80	6953.5	6958.0	6950.0	6958.9	6950.0
2/13/80	--	6957.7	--	6958.9	6950.2
2/14/80	--	6957.7	--	6958.9	6950.4
2/15/80	--	6957.9	--	6958.9	6950.8
2/16/80	--	6957.0	--	6958.9	6951.2

6 days

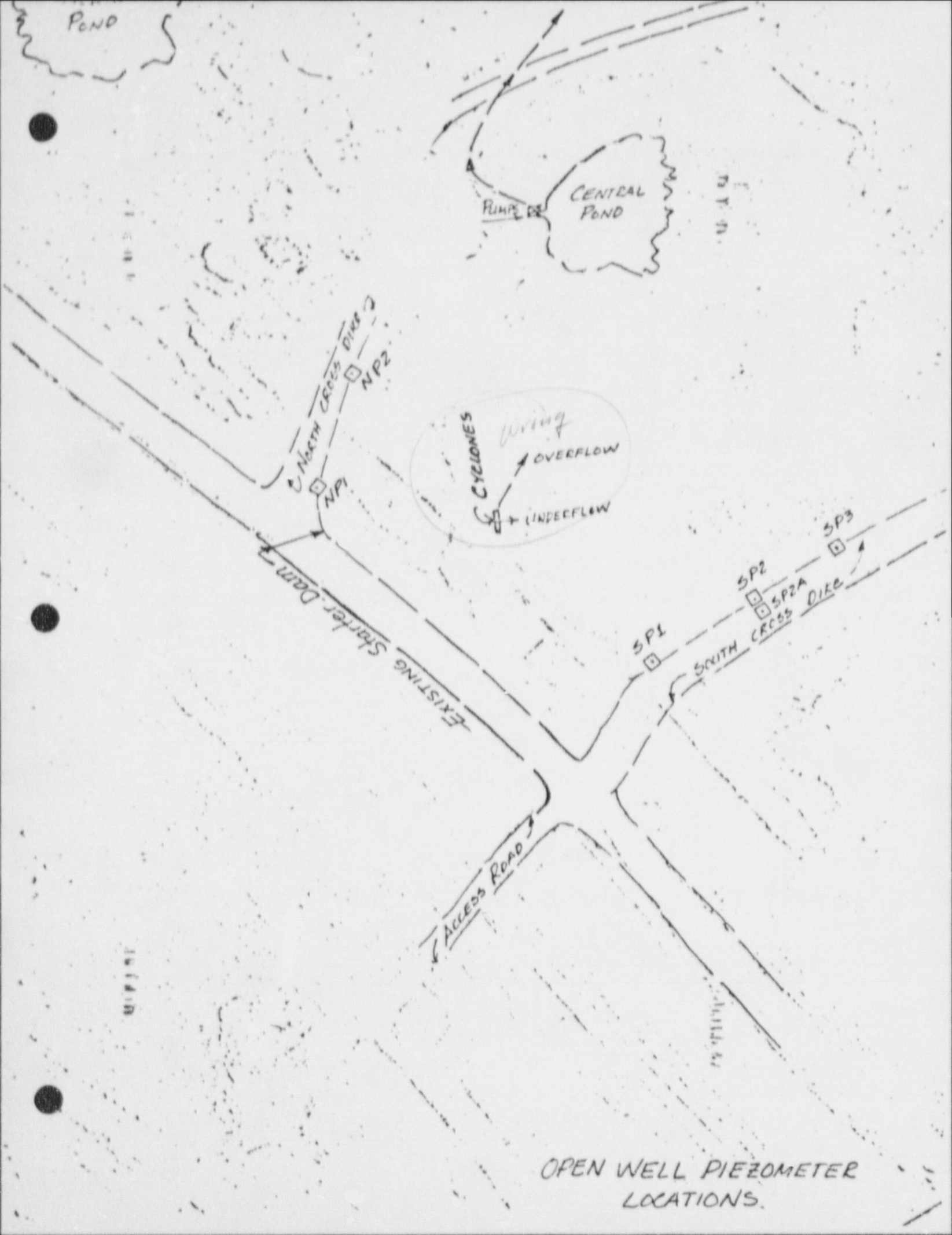
11-11-80

11-11-80



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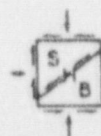


OPEN WELL PIEZOMETER
LOCATIONS.

OPEN WELL PIEZOMETER ELEVATIONS*

<u>SP-1</u>	<u>SP-2</u>	<u>SP-3</u>	<u>NP-1</u>	<u>NP-2</u>
6972.46	6969.67	6969.38	6968.33	6971.44

* Top of piezometer



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OPEN WELL PIEZOMETER READINGS*

<u>DATE</u>	<u>SP-1</u>	<u>SP-2</u>	<u>SP-3</u>	<u>NP-1</u>	<u>NP-2</u>
11/19/79	6956.7	6958.3	6959.5	6951.8	6950.6
11/20/79	6956.7	6958.3	6959.5	6951.8	6950.6
11/21/79	6956.7	6958.3	6959.5	6951.8	6950.6
11/26/79	6957.0	6958.3	6958.5	6951.8	6952.6
11/27/79	6956.9	6958.3	6958.5	6951.8	6952.6
11/28/79	6956.0	6958.3	6958.5	6951.8	6952.8
11/29/79	6956.0	6958.1	6958.5	6951.8	6952.8
11/30/79	6956.0	6958.0	6958.5	6951.8	6952.8
12/03/79	6956.8	6958.4	6958.7	6951.8	6953.7
12/04/79	6956.8	6958.4	6958.7	6951.8	6953.7
12/05/79	6956.8	6958.4	6958.5	6951.8	6954.5
12/06/79	6956.8	6958.4	6958.5	6951.8	6954.5
12/07/79	6956.8	6958.4	6958.5	6951.8	6954.5
12/10/79	6956.8	6958.4	6958.5	6951.8	6953.7
12/11/79	6956.8	6958.4	6958.5	6951.8	6953.7
12/12/79	6956.8	6958.4	6958.5	6951.8	6953.7
12/13/79	6956.8	6957.8	6958.5	6951.8	6954.5
12/14/79	6956.8	6957.8	6958.5	6951.8	6954.5
12/15/79	6956.8	6957.8	6958.5	6951.8	6954.5
12/17/79	6957.0	6958.5	6958.5	6951.8	6954.5
12/18/79	6957.0	6958.5	6958.5	6951.8	6954.5
12/19/79	6957.0	6958.5	6958.5	6951.8	6954.5
12/20/79	6957.3	6959.0	6958.5	6951.8	6954.5
12/21/79	6957.3	6959.0	6958.5	6951.8	6954.5
12/26/79	6957.3	6958.6	6958.6	6952.0	6954.8
12/28/79	6957.0	6958.8	6958.5	6952.0	6955.0
1/03/80	6957.7	6959.5	6959.2	6952.8	6954.8
1/05/80	6957.7	6959.5	6959.2	6952.8	6954.8

*Elevation of liquid surface



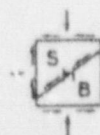
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OPEN WELL PIEZOMETER READINGS*

<u>DATE</u>	<u>SP-1</u>	<u>SP-2</u>	<u>SP-3</u>	<u>NP-1</u>	<u>NP-2</u>
1/08/80	6957.7	6959.5	6959.5	6952.6	6954.2
1/10/80	6958.0	6959.5	6959.3	6952.6	6954.2
1/14/80	6958.0	6959.5	6958.8	6952.6	6953.9
1/16/80	6958.0	6959.5	6958.8	6952.6	6953.9
1/21/80	6958.0	6959.3	6958.8	6952.6	6954.2
1/23/80	6958.0	6959.0	6958.8	6952.5	6954.2
1/28/80	6958.2	6959.3	6958.9	6952.8	6954.4
1/30/80	6958.2	6959.3	6958.9	6952.6	6954.4
2/05/80	6957.9	6959.0	6958.5	6952.6	6954.4
2/07/80	6957.9	6959.0	6958.5	6952.6	6954.4
2/12/80	6957.8	6958.7	6958.8	6952.8	6953.9
2/14/80	6958.0	6958.7	6958.8	6952.6	6954.3

*Elevation of liquid surface



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NORTH

POND



PIT N° 1

PIT N° 2

OPEN WELL PIEZOMETER READINGS

BORROW PIT AREA

<u>DATE</u>	<u>B-1</u>	<u>B-2</u>	<u>B-3</u>	<u>B-4</u>	<u>B-5</u>	<u>B-6</u>	<u>B-7</u>
2/05/80	6945.9	6936.1	6932.7	6940.3	6894.3	6947.6	Dry
2/12/80	6945.2	6938.5	6932.3	6939.9	6894.1	6943.1	Dry
2/14/80	6945.2	6939.3	6933.5	6940.0	6894.3	6943.1	Dry



SERGEANT, HAUSKINS & BECKWITH

CONSULTING SOIL AND FOUNDATION ENGINEERS
PHOENIX • TUCSON • ALBUQUERQUE

Scanlon & associates, inc.

engineers and planners

to: S H & B

Sergent, Hauskins & Beckwith

2821 Girard Blvd. N.E. 87107

attention: BOB BOOTH

Transmitted

date: 2-18-80

job number: 79064

job: UNC Monitor Runs

enclosures: 4 sheets of 11x17

☐ photo	☐ your use
☐ copies	☐ your approval
☐ tracings	☐ your records files
☐ specifications	☒ outline and comment
☐ shop drawings	☐ revisions and corrections
☒ x studies reports	☐ in response to your request

action taken: During the week of 2-11-80 we finished building concrete Instrument Stations at Monitor Run Control points "A", "O", "P". This has resulted in a noticeable difference in Control Distances between these stations due to the Reflectors now being mounted on top of the Stations instead of ground level, as before. This should not affect distances to monitor points. We wish to call your attention to a correction in the Base Reference Distance from Station "A" to S-5 from 2061.637 to 2061.726 and the Resultant change in the Relative change sheets. We wish to call your attention to the apparent sinking of Station B-2, and the apparent movement between Station "A" and 5-3, and Station "P" and N-16.

Thank you W. D. Houston

Scanlon & associates, inc.

engineers and planners

February 18, 1980

79064

United Nuclear Corporation
Real Estate and Facilities Division
4801 Indian School Road
Albuquerque, New Mexico 87108

ATTN: Robert G. Patterson

Gentlemen:

Enclosed herein are the most recent results of the monitoring survey for the tailings dam at United Nuclear Corporation's Church Rock Mill site. This data contains results from Monitoring run number 20. The tabulated data provides slope distance and vertical measurements to 29 monitoring stations placed on the existing tailings dam and cross dikes. Distances are taken from five primary control monuments in the dam vicinity. Section A of this report contains a tabulation of slope distances measured by field survey, Section B contains a tabulation of relative distance change from the base reference at run number 2, Section C contains a tabulation of elevation data, and Section D contains a listing of coordinates and elevations of the control stations and bench marks, and a listing of coordinates and elevations of the monitor stations computed from data obtained during run number 1.

Elevations contained herein are based on spirit level measurements from known bench marks. Accuracy of elevations is plus or minus three hundredths (± 0.03) of a foot. Distances shown herein are taken from electronic distance meter measurements. Run numbers 1 and 3 have distance accuracies of plus or minus four hundredths (± 0.04) of a foot. All other runs have distance accuracies of plus or minus three hundredths (± 0.03) of a foot.

The monitoring survey is set up to allow for periodic remeasurement of distance and elevation data. A remeasurement cycle can be completed in approximately three (3) days. We believe that the monitoring survey will be sufficient to measure any movement of the dam.

Sincerely,

SCANLON & ASSOCIATES, INC.

Clifford E. Anderson
New Mexico P.E. & L.S. #6472

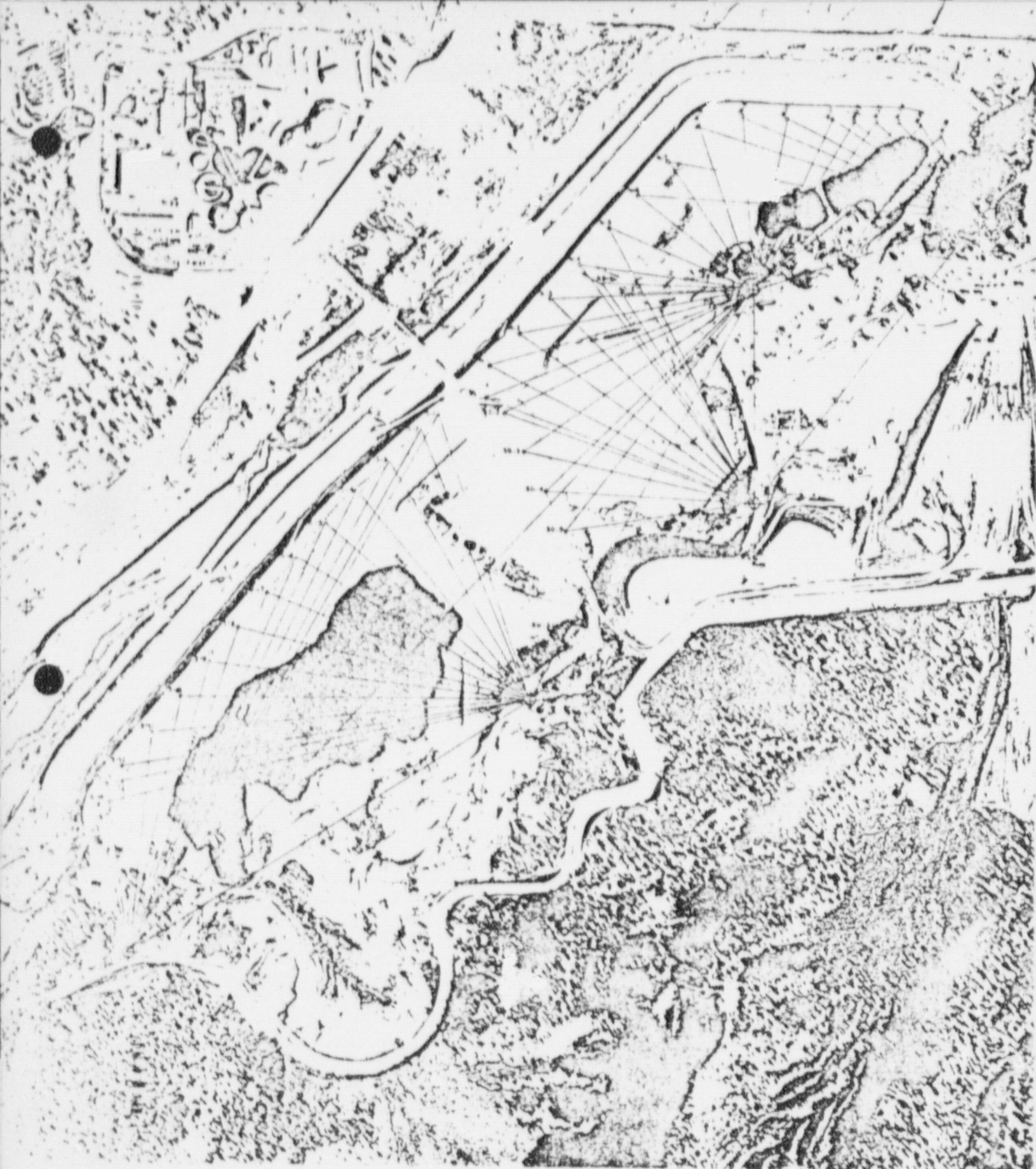
CC: Sergeant, Hauskins & Beckwith
U.N.C. Church Rock Mill

PLEASE REPLY TO

— SANTA FE, NEW MEXICO 87502
— ALBUQUERQUE, NEW MEXICO 87110
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510 WEST TEXAS
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TELEPHONE: (505) 265-6941
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TELEPHONE: (505) 327-1073



- Control Stations
- Bench Marks
- Monitor Stations
- ▣ Indicator Boards

U.N.C. TAILINGS DAM
CHURCH ROCK
 DECEMBER-1979

Scale: 1" = 555' ±

Job No. 79064

1000

1000

1000

SECTION A

Slope Distances

CLIENT U. N. C. MILLING
PROJECT TAILINGS DAM
LOCATION CHURCH ROCK, NM
JOB NO. 79064

RUN NO.	1	2	3	4	5	6	7
INSTRUMENT	HP-3805	HP-3808		HP-3808A	HP-3808A	HP-3808A	HP-3808A
DATE	8-16-79	9-18-79	10-20-79	10-27-79	11-1-79	11-6-79	11-13-79
TIME	2:35 P.M.	10:30 AM		4:30 P.M.	5:10 P.M.	10:45 A.M.	11:15 AM
H.M.	4.99'	4.35'		4.35'	4.36'	4:36'	4.36'
WEATHER	P.Cldy 0-5	Clr., 0-10			Clr. 0-5	Clr. 0-3	Clr. 0-3
TEMP. °F		66°			40°	56°	47°
PRESS.	7025.10	7000		7025.10	7025.10	7025.10	7025.10
CORR.					57 ppm	65 ppm	59 ppm
	SLOPE DIST.	SLOPE DIST.	SLOPE DIST.	SLOPE DIST.	SLOPE DIST.	SLOPE DIST.	SLOPE DIST.
	*	4012.272	*	4012.270	4012.281	4012.298	4012.262
S ₀	1491.49	1491.480	*	1491.501	1491.503	1491.514	1491.498
S ₉	1308.09	1308.081	*	1308.099	1308.123	1308.115	1308.093
S ₁₀	1130.16	1130.135	*	1130.150	1130.177	1130.163	1130.153
S ₁₁	960.68	960.648	*	960.666	960.694	960.680	960.679
S ₁₂	807.59	807.554	*	807.579	807.563	807.588	807.578
"M"	*	2096.941	*	2096.940	2096.927	2096.945	2096.951

CLIENT U.N.C. MILLING
PROJECT TAILINGS DAM
LOCATION CHURCH ROCK, NM
JOB NO. 79064

JOB NO. 79064

RUN NO.	2	8	9	10	11	12	13
INSTRUMENT	HP-3808	HP-3808A	HP-3808A	HP-3808A	HP-3808A	HP-3808A	HP-3808A
DATE	9-18-79	11-20-79	11-27-79	12-4-79	12-11-79	12-17-79	12-20-79
TIME	10:30 AM	8:30 AM	8:10 AM	8:45 AM	4:10 PM	3:10 PM	4:00 PM
H.M.	4.35'	4.36'	4.36'	4.36'	4.36'	4.36'	4.36'
WEATHER	Clr., 0-10	Cldy, SN20-30	Cldy, Windy	Clr, Clm.	Cldy, Cool	Clr, Clm.	Cldy, Brzy
TEMP. °F	66°	22°	32°	35°	42°	52°	48°
PRESS.	7000	7025.10	7025.10	7025.10	7025.10	7025.10	7025.10
CORR.		50 ppm	52 ppm	55 ppm	57 ppm	1 ppm	60 ppm
	SLOPE DIST.	SLOPE DIST.	SLOPE DIST.	SLOPE DIST.	SLOPE DIST.	SLOPE DIST.	SLOPE DIST.
"O"	4012.272	4012.291	4012.307	4012.292	4012.270	4012.281	4012.279
S8	1491.480	1491.500	1491.502	1491.509	1491.499	1491.494	1491.503
S9	1308.081	1308.122	1308.107	1308.137	1308.101	1308.111	1308.098
S10	1130.135	1130.160	1130.154	1130.179	1130.152	1130.156	1130.149
S11	960.648	960.688	960.666	960.677	960.664	960.673	960.697
S12	807.554	807.593	807.572	807.575	807.563	807.575	807.574
"M"	2096.941	2096.937	2096.921	2096.941	2096.920	2096.934	2096.919

DATE 3-01-20
CLIENT U.N.C. MILLING
PROJECT TAILINGS DAM
LOCATION CHURCH ROCK, NM
JOB NO. 79064

[illegible]

NOTE: SLOPE DISTANCES SHOWN IN PARENTHESIS ARE FROM RUN #18.

CLIENT: U.N.C. MILLING
PROJECT: TAILINGS DAM
LOCATION: CHURCH ROCK, NM
JOB NO. 79064

CLIENT U.N.C. MILLING
PROJECT TAILINGS DAM
LOCATION CHURCH ROCK, NM
JOB NO. 79064

* NO MEASUREMENT. REQUIRED

PROJECT TAILINGS DAM
LOCATION CHURCH ROCK, NM
JOB NO. 79064

123

NOTE: SLOPE DISTANCES SHOWN IN PARENTHESIS ARE FROM RUN #18.

CLIENT U.N.C. MILLING
PROJECT TAILINGS DAM
LOCATION CHURCH ROCK, NM
JOB NO. 79064

NOTE: SLOPE DISTANCES SHOWN IN PARENTHESIS ARE FROM RUN #18

CLIENT U N C. MILLING
PROJECT TAILINGS DAM
LOCATION CHURCH ROCK, NM
JOB NO. 79064

* NO MEASUREMENT REQUIRED **TEMPORARY RESTRICTION

**TEMPORARY OBSTRUCTION. STATION DISTURBED, MEASUREMENTS CONTINUED.

★ ★ TEMPORARY OBSTRUCTION

CLIENT U. N. C. MILLING
PROJECT TAILINGS DAM
LOCATION CHURCH ROCK, NM
JOB NO. 79064

RUN NO.	2	20					
INSTRUMENT	HP-3808	HP-3820A					
DATE	9-18-79	2-13-80					
TIME	3:30 PM	12:20 PM					
H.M.	4.58'	4.58'					
WEATHER	CL, WM, 0-15	0-10					
TEMP. °F	78°	42°					
PRESS.	29.60"	23.25					
CORR.	71 ppm	55 ppm					
	SLOPE DIST.	SLOPE DIST.	SLOPE DIST.	SLOPE DIST.	SLOPE DIST.	SLOPE DIST.	SLOPE DIST.
"P"	1580.233	1580.322					
N1	1332.966	1332.965					
N2	1286.523	1286.506					
N3	1281.687	1281.660					
N4	1306.565	1306.547					
N5	1362.648	1362.600					
SD1	1290.092	1290.051					
SD2	1203.639	1203.624					
SD3	1052.698	1052.557					
SD4	933.958	933.934					
SD5	849.129	849.080					
ND1	1183.925	1183.916					
ND2	1099.086	1099.082					
ND3	935.904	935.898					
B3	(777.748)	777.738					
B4	(916.410)	916.390					
B5	(1354.228)	1354.217					
B6	(1392.403)	1392.398					
B7	(1452.260)	1452.248					
"O"	933.896	933.924					

CLIENT D.W.C. MILLING
PROJECT TAILINGS DAM
LOCATION CHURCH ROCK, NM
JOB NO. 79064

* NO MEASUREMENT REQUIRED

CLIENT U.N.C. MILLING
PROJECT TAILINGS DAM
LOCATION CHURCH ROCK, NM
JOB NO. 79064

STATION DISTURBED, MEASUREMENTS CONTINUED.

RUN NO.	2 (18)	14	15	16	17	18	19
INSTRUMENT	HP-3808	HP-3808A	HP-3808A	HP-3808A	HP-3820A	HP-3820A	HP-3820A
DATE	9-18-79	1-3-80	1-9-80	1-15-80	1-23-80	1-29-80	2-4-80
TIME	2:30 PM	2:10 PM	8:05 AM	3:30 PM	1:30 PM	9:00 AM	4:00 PM
H.M.	4.76'	4.76'	4.76'	4.76'	4.76'	4.76'	4.76'
WEATHER	Clr, Wm, 0-10	Ptly, Cldy, 0-5	Cldy, Cld.	Clr, Cl, 10-15	Clr, Calm	Cldy 20-25	Clr, Wm 0-5
TEMP. °F	78°F	40°	30°	40°	38°	35°	50°
PRESS.	6980	7007.76	7007.76	7007.76	7007.76(23.4)	7007.76(23.05)	23.31
CORR.	6980	58 ppm	52 ppm	56 ppm	52 ppm	54 ppm	58 ppm
	SLOPE DIST.	SLOPE DIST.	SLOPE DIST.	SLOPE DIST.	SLOPE DIST.	SLOPE DIST.	SLOPE DIST.
"N"	934.011	934.023	934.019	934.009	933.997	934.007	934.005
N1	1229.761	1229.760	1229.752	1229.758	1229.758	1229.755	1229.741
N2	1061.802	**	1061.796	1061.791	1061.796	1061.797	1061.782
N3	914.250	914.240	914.230	914.226	914.221	914.226	914.212
N4	788.729	788.734	788.722	788.733	788.712	788.701	788.703
N5	700.835	700.812	700.819	700.815	700.800	700.778	700.780
N6	661.875	661.881	661.847	661.856	661.829	661.817	661.814
N7	683.191	683.174	683.174	683.175	683.159	683.129	683.138
N8	757.347	757.336	757.329	757.305	757.278	757.253	757.256
N9	758.289	758.268	758.257	758.268	758.236	758.216	758.221
N10	761.800	761.777	761.780	761.797	761.785	761.756	761.763
N11	817.498	817.485	817.478	817.492	817.477	817.461	817.469
N12	861.120	861.140	861.098	861.104	861.089	861.079	861.091
N13	918.335	918.363	918.322	918.331	918.317	918.307	918.302
N14	977.672	977.696	977.672	977.678	977.663	977.652	977.644
N15	1032.741	1032.757	1032.738	1032.725	1032.724	1032.719	1032.709
N16	1068.282	1068.297	1068.297	1068.286	1068.263	1068.269	1068.259
SD1	1286.044	1286.035	1268.010	1286.012	1286.007	1286.018	1286.009
SD2	1256.808	1256.811	1256.791	1256.799	1256.772	* 1256.784	1256.774
SD3	1249.167	1248.942	1248.920	1248.925	1248.905	* 1248.914	1248.909
SD4	1283.270	1283.288	1283.278	1283.280	1283.268	* 1283.261	1283.254
SD5	1351.283	1351.271	1351.254	1351.245	1351.237	* 1351.241	1351.221
ND1	689.000	689.014	689.008	689.033	689.007	* 689.007	688.997
ND2	598.257	598.261	598.260	598.261	598.258	* 598.257	598.260
ND3	428.277	428.268	428.265	428.273	428.247	* 428.253	428.245
B1	(595.694)				595.695	* 595.694	595.685
B2	(399.045)				399.096	* 399.045	399.050
B3	(1084.119)				1084.121	* 1084.119	1084.101
B4	(1021.513)				1021.527	* 1021.513	1021.501
B5	(1653.002)				1653.004	* 1653.002	1653.007
B6	(1509.193)				1509.199	* 1509.193	1509.192
B7	(1376.785)				1376.779	* 1376.785	1376.785
	1032.911	1032.912	1032.901	1032.898	1032.902	1032.905	1032.903

Note: SLOPE DISTANCES SHOWN IN PARENTHESIS ARE FROM RUN #18

* NO MEASUREMENT

** TEMPORARY OBSTRUCTION

RUN NO.	2 (18)	20					
INSTRUMENT	HP-3908	HP-3820A					
DATE	9-18-79	2-14-80					
TIME	2:30 PM	9:50 AM					
H.M.	4.76'	7012.52					
WEATHER	C1, Wm 0-10	Cldy 5-10					
TEMP. °F	78°F	45 °					
PRESS.	6980	23.13					
CCRR.	6980	57 ppm					
	SLOPE DIST.	SLOPE DIST.	SLOPE DIST.	SLOPE DIST.	SLOPE DIST.	SLOPE DIST.	SLOPE DIST.
"N"	934.011	934.002					
N1	1229.761	1229.734					
N2	1061.802	1061.778					
N3	914.250	914.206					
N4	788.729	788.687					
N5	700.835	700.782					
N6	661.875	661.806					
N7	683.191	683.136					
N8	757.347	757.256					
N9	758.289	758.213					
N10	761.800	761.767					
N11	817.498	817.475					
N12	861.120	861.087					
N13	918.335	918.313					
N14	977.672	977.665					
N15	1032.741	1032.732					
N16	1068.282	1068.271					
SD1	1286.044	1285.992					
SD2	1256.803	1256.755					
SD3	1249.167	1248.889					
SD4	1283.270	1283.239					
SD5	1351.283	1351.201					
ND1	689.000	689.002					
ND2	598.257	598.265					
ND3	428.277	428.248					
B1	(595.694)	595.689					
B2	(399.045)	399.055					
B3	(1084.119)	1084.096					
B4	(1021.513)	1021.501					
B5	(1653.002)	1652.990					
B6	(1509.193)	1509.179					
B7	(1376.785)	1376.749					
	1032.911	1033.022					

CLIENT: D.N.C. MILLING
PROJECT: TAIBINGS DAM
LOCATION: CHURCH ROCK, NM
JOB NO. 79064

* NO MEASUREMENT REQUIRED

CLIENT U.N.C. MILLING
PROJECT TAILINGS DAM
LOCATION CHURCH ROCK, NM
JOB NO. 79064

RUN NO.	2	8	9	10	11	12	13
INSTRUMENT	HP-3808	HP-3808A	HP-3808A	HP-3808A	HP-3808A	HP-3808A	HP-3808A
DATE	9-18-79	11-20-79	11-26-79	12-4-79	12-11-79	12-18-79	12-21-79
TIME	1:15 PM	1:00 PM	3:00 PM	12:15 PM	11:30 AM	11:30 AM	11:00 AM
H.M.	4.37'	4.37'	4.37'	4.37'	4.37'	4.37'	4.37'
WEATHER	Cl, WM 0-5	Clay, SN20-30	Clr, Windy	Clr, Clm	Clay, Cool, 10-15	Clr, Clm	Clay, Cl, 10-20
TEMP. ° F	76°	27°	57°	54°	48°	54°	44°
PRESS.	7020	7048.26	7048.26	7048.26	7048.26	7048.26'	7048.26
CORR.	72 ppm	50 ppm	64 ppm	62 ppm	60 ppm	62 ppm	56 ppm
	SLOPE DIST.	SLOPE DIST.	SLOPE DIST.	SLOPE DIST.	SLOPE DIST.	SLOPE DIST.	SLOPE DIST.
"N"	1580.495	1580.478	1580.485	1580.476	1580.470	1580.493	1580.485
N6	1509.554	1509.540	1509.533	1509.515	1509.521	1509.540	1509.534
N7	1399.075	1399.063	1399.056	1399.042	1399.038	1399.058	1399.053
N8	1308.721	1308.696	1308.697	1308.689	1308.698	1308.699	1308.691
N9	1142.196	1142.192	1142.184	1142.165	1142.175	1142.190	1142.174
N10	959.552	929.551	959.526	959.523	959.519	959.542	959.535
N11	785.950	785.942	785.922	785.919	785.927	785.954	785.950
N12	703.712	703.720	703.682	703.672	703.682	703.697	703.701
N13	631.029	631.034	630.995	630.989	631.002	631.021	631.031
N14	561.711	561.715	561.688	561.691	561.704	561.732	561.750
N15	492.325	492.339	492.289	492.296	492.292	492.347	492.304
N16	412.296	412.274	412.247	412.259	412.256	412.318	412.268
	1033.229	1033.246	1033.223	1033.222	1033.210	1033.235	1033.217

PROJECT TAILINGS DAM
LOCATION CHURCH ROCK, NM
JOB NO. 72064

Note: SLOPE DISTANCES SHOWN IN PARENTHESIS ARE FROM RUN #18
* NO MEASUREMENT

* NO MEASUREMENT NOTE: SLOPE DISTANCES SHOWN IN PARENTHESIS ARE FROM RUN #18.

0.00000

0.00000

0.00000

SECTION B

Relative Distance Change

PAGE 1 OF 20
CLIENT U N C MILLING
PROJECT TAILINGS DAM
LOCATION CHURCH ROCK, NM
JOB NO. 79084

NO.	1	2	3	4	5	6	7
DATE	8-16-79	9-18-79	10-20-79	10-27-79	11-1-79	11-6-79	11-13-79
MONITOR ID. NUMBER	BASE REFERENCE DISTANCE	**	RELATIVE	CHANGE	(FT.)		
"0"	4012.272	*	-0.002	+0.009	+0.026	-0.010	
S8	1401.480	*	+0.021	+0.023	+0.034	+0.018	
S9	1308.081	*	+0.018	+0.042	+0.034	+0.012	
S10	1130.135	*	-0.025	+0.042	+0.028	+0.018	
S11	960.648	*	+0.018	+0.046	+0.032	+0.031	
S12	807.554	*	+0.025	+0.009	+0.034	+0.024	
"M"	2096.941	*	-0.001	-0.014	+0.004	+0.010	

* * PLUS INDICATES DISTANCE AWAY FROM INSTRUMENT LOCATION. MINUS INDICATES DISTANCE TOWARD INSTRUMENT LOCATION.

CUSTOMER: U S C MILLING
PROJECT: TAILINGS DAM
LOCATION: CHURCH ROCK, NM
JOB NO: 79054

* * PLUS INDICATES DISTANCE AWAY FROM INSTRUMENT LOCATION. MINUS INDICATES DISTANCE TOWARD INSTRUMENT LOCATION.

FOOD PENNSYLVANIA CHOLE, NE
ALD. QUARQUE, NM 8700

MONITOR STATION RELATIVE CHANGE
INSTRUMENT STATION "A"

CLIENT U.N.C. MILLING
PROJECT TAILINGS DAM
LOCATION CHURCH ROCK, NM
JOB NO. 19054

RUN NO.	2 (18)	14	15	16	17	18	19
		1-2-80	1-8-80	1-15-80	1-21-80	1-30-80	2-5-80
MONITOR ID. NUMBER	BASE REFERENCE DISTANCE	* * RELATIVE CHANGE (F.T.)					
"O"	4012.272	+0.033	+0.013	+0.015	-0.008	-0.013	-0.015
S1	(2718.420)						+0.032
S2	(2623.197)						+0.020
S3	(2431.743)						+0.026
S4	(2244.637)						+0.018
S5	(2061.726)						+0.012
S6	(1867.090)						-0.002
S7	(1677.429)						+0.009
S8	1491.480	+0.025	+0.032	+0.029	+0.010	-0.007	-0.002
S9	1308.081	+0.066	+0.057	+0.040	+0.029	+0.020	+0.018
S10	1130.135	+0.045	+0.042	+0.027	+0.021	-0.001	+0.002
S11	960.648	+0.047	+0.037	+0.025	+0.011	0.000	+0.002
S12	807.554	+0.030	+0.035	+0.029	+0.018	+0.012	+0.016
S13	(736.948)						+0.013
S14	(653.854)						+0.010
"M"	2096.941	+0.012	-0.018	-0.013	-0.010	-0.029	-0.023

* * PLUS INDICATES DISTANCE AWAY FROM INSTRUMENT LOCATION. MINUS INDICATES DISTANCE TOWARD INSTRUMENT LOCATION.

NOTE: BASE REFERENCE DISTANCES SHOWN IN PARENTHESIS ARE FROM RUN #18

CLIENT: U N C MILLING
PROJECT: MILLINGS DAM
LOCATION: CHURCH ROCK, NM
JOB NO: 79064

NOTE: BASE REFERENCE DISTANCES SHOWN IN PARENTHESIS ARE FROM RUN #18.

CLIENT: U.N.C. MILLING
PROJECT: TAILINGS DAM
LOCATION: CHURCH ROCK, NM
JOB NO. 79084

* SEE SECTION A

* * PLUS INDICATES DISTANCE AWAY FROM INSTRUMENT LOCATION. MINUS INDICATES DISTANCE TOWARD INSTRUMENT LOCATION.

* SEE SECTION A

PROJECT TAILINGS DAM
LOCATION CHURCH ROCK, NM
JOB NO. 79064

* * PLUS INDICATES DISTANCE AWAY FROM INSTRUMENT LOCATION, MINUS INDICATES DISTANCE TOWARD INSTRUMENT LOCATION.

CLIENT: V.N.C. MILLING
PROJECT: TAILINGS DAM
LOCATION: CHURCH ROCK, NM
JOB NO. 79064

NOTE: BASE REFERENCE DISTANCES SHOWN IN PARENTHESIS ARE FROM RUN #18.

CLIENT: U N C MILITARY
PROJECT: TAILINGS DAM
LOCATION: CHURCH ROCK, NM
JOB NO. 79064

NOTE: BASE REFERENCE DISTANCES SHOWN IN PARENTHESIS ARE FROM RUN #18.

PAGE 2 OF 20
CLIENT U.N.C. MILLING
PROJECT TAILINGS DAM
LOCATION CHURCH ROCK, NM
JOB NO. 79034

[illegible]

* SEE SECTION A

* * PLUS INDICATES DISTANCE AWAY FROM INSTRUMENT LOCATION. MINUS INDICATES DISTANCE TOWARD INSTRUMENT LOCATION.

CLIENT U.N.C. MILLING
PROJECT TAILINGS DAM
LOCATION CHURCH ROCK, NM
JOB NO. 79084

* * PLUS INDICATES DISTANCE AWAY FROM INSTRUMENT LOCATION. MINUS INDICATES DISTANCE TOWARD INSTRUMENT LOCATION.

RUN NO.	2 (18)	14	15	16	17	18	19
DATE	9-18-79	1-4-80	1-9-80	1-15-80	1-23-80	1-28-80	2-5-80
MONITOR ID NUMBER	BASE REFERENCE DISTANCE	** RELATIVE CHANGE (F.T.)					
"P"	1580.233	+0.004	-0.018	-0.018	-0.012	-0.016	-0.025
N1	1332.966	+0.023	+0.011	+0.011	+0.003	-0.013	0.000
N2	1286.523	-0.005	-0.007	-0.015	-0.017	-0.025	-0.017
N3	1281.687	*	-0.017	-0.011	-0.014	-0.030	-0.020
N4	1306.565	-0.002	+0.003	-0.012	-0.012	-0.033	-0.019
N5	1362.648	+0.002	-0.003	-0.022	-0.029	-0.045	-0.037
SD1	1290.092	-0.018	-0.004	-0.015	-0.019	-0.047	-0.040
SD2	1203.639	-0.011	-0.004	-0.015	-0.018	-0.027	-0.020
SD3	1052.698	-0.143	-0.131	-0.151	-0.152	-0.156	-0.150
SD4	933.958	-0.008	+0.006	-0.006	-0.009	-0.017	-0.011
SD5	849.129	-0.027	-0.014	-0.027	-0.044	-0.047	-0.047
ND1	1183.925	+0.035	+0.011	+0.001	0.000	-0.002	0.000
ND2	1099.086	+0.003	+0.009	+0.002	*	-0.001	-0.014
ND3	935.904	+0.016	+0.017	+0.008	+0.013	-0.002	-0.001
B3	(777.748)						-0.031
B4	(916.410)						-0.033
B5	(1354.228)						-0.012
B6	(1392.403)						-0.009
B7	(1452.260)						-0.003
"O"	933.896	+0.013	+0.018	+0.011	+0.019	+0.006	-0.002

* SEE SECTION A
** PLUS INDICATES DISTANCE AWAY FROM INSTRUMENT LOCATION. MINUS INDICATES DISTANCE TOWARD INSTRUMENT LOCATION.

NOTE: BASE REFERENCE DISTANCES SHOWN IN PARENTHESIS ARE FROM RUN #18.

PROJECT: CHURCH ROCK, NM
JOB NO: 79084

NOTE: BASE REFERENCE DISTANCES SHOWN IN PARENTHESIS ARE FROM RUN #18.

* SEE SECTION A.

* * PLUS INDICATES DISTANCE AWAY FROM INSTRUMENT LOCATION. MINUS INDICATES DISTANCE TOWARD INSTRUMENT LOCATION.

PROJECT: BAILINGS DAM
LOCATION: CHURCH ROCK, NM
JOB NO: 79084

* * PLUS INDICATES DISTANCE AWAY FROM INSTRUMENT LOCATION. MINUS INDICATES DISTANCE TOWARD INSTRUMENT LOCATION.

RUN NO.	2 (18)	14	15	16	17	18	19
DATE	9-18-79	1-3-80	1-9-80	1-15-80	1-23-80	1-29-80	2-4-80
MONITOR ID NUMBER	BASE REFERENCE DISTANCE	** RELATIVE CHANGE (F.T.)					
"N"	934.011	+0.012	+0.008	-0.002	-0.014	-0.004	-0.006
N1	1229.761	-0.001	-0.009	-0.003	-0.003	-0.006	-0.020
N2	1061.802	*	-0.006	-0.011	-0.006	-0.005	-0.020
N3	914.250	-0.010	-0.020	-0.024	-0.029	-0.024	-0.038
N4	788.729	+0.005	-0.007	+0.004	-0.017	-0.028	-0.026
N5	700.835	-0.023	-0.016	-0.020	-0.035	-0.057	-0.055
N6	661.875	+0.006	-0.028	-0.019	-0.046	-0.058	-0.061
N7	683.191	-0.016	-0.017	-0.015	-0.032	-0.062	-0.053
N8	757.347	-0.011	-0.018	-0.042	-0.069	-0.094	-0.091
N9	758.289	-0.021	-0.032	-0.021	-0.053	-0.073	-0.068
N10	761.800	-0.023	-0.020	-0.003	-0.015	-0.044	-0.037
N11	817.498	-0.013	-0.020	-0.006	-0.021	-0.037	-0.029
N12	861.120	+0.020	-0.022	-0.016	-0.031	-0.041	-0.029
N13	918.335	+0.028	-0.013	-0.004	-0.018	-0.028	-0.033
N14	977.672	+0.024	-0.002	+0.006	-0.009	-0.020	-0.028
N15	1032.741	+0.016	-0.003	-0.016	-0.017	-0.022	-0.032
N16	1068.282	+0.015	+0.015	+0.004	-0.019	-0.013	-0.023
SD1	1286.044	-0.009	-0.034	-0.032	-0.037	-0.026	-0.035
SD2	1256.808	+0.003	-0.017	-0.009	-0.036	-0.024	-0.034
SD3	1249.167	+0.225	-0.247	-0.242	-0.262	-0.253	-0.258
SD4	1283.270	+0.018	+0.008	+0.010	-0.002	-0.009	-0.016
SD5	1351.283	-0.012	-0.029	-0.038	-0.046	-0.042	-0.062
ND1	689.000	+0.014	+0.008	+0.033	+0.007	+0.007	-0.003
ND2	598.257	-0.004	+0.003	+0.004	+0.001	0.000	+0.003
ND3	428.277	-0.009	-0.012	-0.004	-0.030	-0.024	-0.032
B1	(595.694)						-0.009
B2	(399.045)						+0.005
B3	(1084.119)						-0.018
B4	(1021.513)						-0.012
B5	(1653.002)						+0.005
B6	(1509.193)						-0.001
B7	(1376.785)						0.000
"P"	1032.911	+0.001	-0.010	-0.013	-0.009	-0.006	-0.008

* SEE SECTION A

** PLUS INDICATES DISTANCE AWAY FROM INSTRUMENT LOCATION. MINUS INDICATES DISTANCE TOWARD INSTRUMENT LOCATION.

NOTE: BASE REFERENCE DISTANCES SHOWN IN PARENTHESIS ARE FROM RUN #18.

RUN NO.	2 (18)	20					
DATE	9-18-79	2-14-80					
MONITOR ID. NUMBER	BASE REFERENCE DISTANCE		**	RELATIVE	CHANGE	(F.T.)	
"N"	934.011	-0.009					
N1	1229.761	-0.027					
N2	1061.802	-0.024					
N3	914.250	-0.044					
N4	788.729	-0.042					
N5	700.835	-0.053					
N6	661.875	-0.069					
N7	683.191	-0.055					
N8	757.347	-0.091					
N9	758.289	-0.076					
N10	761.800	-0.033					
N11	817.498	-0.023					
N12	861.120	-0.033					
N13	918.335	-0.022					
N14	977.672	-0.007					
N15	1032.741	-0.009					
N16	1068.282	-0.011					
SD1	1285.044	-0.052					
SD2	1256.808	-0.053					
SD3	1249.167	-0.278					
SD4	1283.270	-0.031					
SD5	1351.283	-0.082					
ND1	689.000	+0.002					
ND2	598.257	+0.008					
ND3	428.277	-0.029					
B1	(595.674)	-0.005					
B2	(399.045)	+0.010					
B3	(1084.119)	-0.023					
B4	(1021.513)	-0.012					
B5	(1653.002)	-0.012					
B6	(1509.193)	-0.014					
B7	(1376.785)	-0.036					
"P"	1032.911	+0.111					

* SEE SECTION A

** PLUS INDICATES DISTANCE AWAY FROM INSTRUMENT LOCATION. MINUS INDICATES DISTANCE TOWARD INSTRUMENT LOCATION.

NOTE: BASE REFERENCE DISTANCES SHOWN IN PARENTHESIS ARE FROM RUN #18.

* * PLUS INDICATES DISTANCE AWAY FROM INSTRUMENT LOCATION. MINUS INDICATES DISTANCE TOWARD INSTRUMENT LOCATION.

CLIENT U. N. C. MILLING
PROJECT IALINGS DAM
LOCATION CHURCH ROCK, NM
JOB NO. 72084

* * PLUS INDICATES DISTANCE AWAY FROM INSTRUMENT LOCATION. MINUS INDICATES DISTANCE TOWARD INSTRUMENT LOCATION.

* * PLUS INDICATES DISTANCE AWAY FROM INSTRUMENT LOCATION. MINUS INDICATES DISTANCE TOWARD INSTRUMENT LOCATION.

COLONY D M C MILLING
PROJECT, TAILINGS DAM
LOCATION, CHURCH ROCK, NM
JOB NO. 72084

NOTE: BASE REFERENCE DISTANCES SHOWN IN PARENTHESIS ARE FROM RUN #18.

* SEE SECTION A

NOTE: BASE REFERENCE DISTANCES SHOWN IN PARENTHESIS ARE FROM RUN #18.

to 10 101-2

10 101-2

10 101-2

SECTION C

Elevations

ALICE FENNELLIAN CIRCLE, NE
ALICE CIRCLE, NM 87110

MONITOR STATION ELEVATIONS

CLIENT: U. N. C. MILLING
PROJECT: TAILINGS DAM
LOCATION: CHURCH ROCK, NM
JOB NO. 72064

[illegible]

* NO MEASUREMENT REQUIRED

CLIENT: U N C MILLING
PROJECT: TAILINGS DAM
LOCATION: CHURCH ROCK, NM
JOB NO: 72064

*STATION DISTURBED, MEASUREMENTS CONTINUED

MONITOR STATION ELEVATIONS

RUN NO.	2 (18)	14	15	16	17	18	19
	12-27-79	1-8-80	1-8-80	1-15-80	1-21-80	1-31-80	2-6-80
MONITOR ID NUMBER	ELEVATION						
N1	6968.973	6968.927	6968.933	6968.917	6968.927	* 6968.925	6968.939
N2	69.266	68.690	68.703	68.690	68.687	68.688	68.699
N3	68.837	68.767	68.773	68.750	68.763	68.758	68.772
N4	67.964	67.920	67.940	67.927	67.917	67.918	67.922
N5	69.373	69.347	69.357	69.333	69.347	69.338	69.349
N6	69.380	69.340	69.360	69.337	69.333	69.325	69.342
N7	69.900	69.870	69.880	69.850	69.863	69.852	69.855
N8	69.000	68.953	68.967	68.947	68.937	68.918	68.925
N9	70.433	70.383	70.383	70.353	70.363	70.345	70.355
N10	69.060	69.010	69.020	69.003	68.990	68.978	68.989
N11	68.070	68.047	68.053	68.027	68.033	68.022	68.032
N12	67.637	67.593	67.600	67.580	67.577	67.568	67.579
N13	68.117	68.070	68.086	68.067	68.057	68.048	68.059
N14	68.580	68.530	68.536	68.513	68.510	68.502	68.509
N15	68.103	68.087	68.093	68.067	68.070	68.065	68.079
N16	68.927	68.920	68.936	68.910	68.903	68.905	68.912
ND1	68.201	68.113	68.126	68.110	68.110	68.105	68.115
ND2	68.401	68.313	68.323	68.303	68.317	68.305	68.319
SD1	72.911	72.870	72.883	72.863	72.877	72.868	72.882
SD2	68.563	68.447	68.460	68.453	68.440	68.442	68.452
SD3	69.926	69.813	69.823	69.823	69.803	69.808	69.809
SD4	69.116	68.833	68.823	68.817	68.813	68.815	68.815
SD5	67.823	67.647	67.643	67.647	67.620	67.632	67.622
S1	68.710	68.637	68.626	68.627	68.623	68.632	68.629
S2	(67.152)					67.152	67.165
S3	(66.708)					66.708	66.719
S4	(67.062)					67.062	67.055
S5	(66.985)					66.985	66.995
S6	(66.555)					66.555	65.562
S7	(65.332)					65.332	55.342
S8	(65.078)					65.078	65.079
S9	64.955	64.917	** 64.917	64.910	64.903	64.922	64.922
S10	64.561	64.460	** 64.467	64.467	64.443	64.458	64.465
S11	63.668	63.643	** 63.637	63.640	63.633	63.652	63.655
S12	64.048	63.997	** 64.007	64.020	63.993	64.012	64.005
S13	64.348	64.250	** 64.240	64.247	64.230	64.245	64.239
S14	(63.645)					63.645	63.632
B1	(65.768)					65.768	65.765
B2	(74.661)					74.661	74.641
B3	(74.005)					74.005	73.931
B4	(76.392)					76.392	76.388
B5	(74.018)					74.018	74.018
B6	(7010.658)					7010.658	7010.658
B7	(7010.378)					7010.378	7010.378
	(7009.641)					7009.641	7009.641

* NO MEASUREMENT REQUIRED NOTE: ELEVATIONS SHOWN IN PARENTHESES ARE FROM RUN 18.

MONITOR STATION ELEVATIONS

RUN NO.	2 (18)	20				
DATE	9-17-79	2-12-80				
MONITOR ID NUMBER	ELEVATION					
N1	6968.973	6968.942				
N2	69.266	68.702				
N3	68.837	68.775				
N4	67.964	67.935				
N5	69.373	69.362				
N6	69.380	69.349				
N7	69.900	69.862				
N8	69.000	68.932				
N9	70.433	70.359				
N10	69.060	68.997				
N11	68.070	68.035				
N12	67.637	67.579				
N13	68.117	68.062				
N14	68.580	68.509				
N15	68.103	68.072				
N16	68.927	68.912				
ND1	68.201	68.105				
ND2	68.401	68.309				
SD1	72.911	72.872				
SD2	68.563	68.455				
SD3	69.926	69.815				
SD4	69.116	68.825				
SD5	67.823	67.632				
SD6	68.710	68.635				
S1	(67.152)	67.172				
S2	(66.708)	66.725				
S3	(67.062)	67.072				
S4	(66.985)	66.995				
S5	(66.555)	65.565				
S6	(65.332)	65.339				
S7	(65.078)	65.085				
S8	64.955	64.925				
S9	64.561	64.459				
S10	63.668	63.659				
S11	64.048	64.019				
S12	64.348	64.249				
S13	(63.645)	63.629				
S14	(65.768)	65.769				
B1	(74.661)	74.621				
B2	(74.005)	73.865				
B3	(76.392)	76.382				
B4	(74.018)	74.015				
B5	(7010.658)	7010.658				
B6	(7010.378)	7010.371				
B7	(7009.641)	7009.641				

* NO MEASUREMENT REQUIRED

NOTE: ELEVATIONS SHOWN IN PARENTHESES ARE FROM RUN 1F

POND WATER SURFACE
 ELEVATIONS AND INDICATOR BOARD READINGS

CLIENT: U.N.C. MILLING
 PROJECT: TAILINGS DAM
 LOCATION: CHURCH ROCK, NM
 JOB NO.: 72064

RUN NO.	1	2	3	4	5	6	7
E	*8-17-79	*9-17-79	10-20-79	10-27-79	11-1-79	11-6-79	11-11-79
NORTH POND:							
Actual Water Surface Elevation			6954.6	6954.66	6954.47	6954.33	6954.42
Indicator Board #1 Reading						6954.37	6954.40
Indicator Board #2 Reading						**	**
CENTER POND:							
Actual Water Surface Elevation			6953.1	6953.71	6954.86	6955.80	6956.06
Indicator Board #1 Reading						6955.9	6956.25
Indicator Board #2 Reading						**	**
Indicator Board #3 Reading						**	**
SOUTH POND:							
Actual Water Surface Elevation			6951.8	6951.81	6951.65	6951.53	6951.49
Indicator Board #1 Reading						6951.1	51.14
Indicator Board #2 Reading						**	**
BORROW PIT WEST							
Actual Water Surface Elevation						6942.12	6943.10
Indicator Board #1 Reading						6942.15	43.09
Indicator Board #2 Reading						**	**
Indicator Board #3 Reading						**	**

* NO MEASUREMENT REQUIRED
 ** DRY

MONITOR STATION ELEVATIONS

RUN NO.	3	8	9	10	11	12	13
MONITOR ID NUMBER	10-20-79	11-19-79	11-27-79	12-3-79	12-11-79	12-17-79	12-20-79
ELEVATION							
NORTH POND:							
WATER ELEV.	6954.6	6954.25	6954.11	6954.15	6954.34	6954.10	6954.12
IND BD. # 1		6954.27	6954.10	6954.15	6954.37	54.20	54.15
IND BD. # 2		**	**	**	6954.40	54.20	**
CIR. POND:							
WATER ELEV.	6953.1	6956.63	6957.11	6956.77	6956.41	6956.47	6956.07
IND BD. # 1		6957.65	*	*	*** 6957.00	56.70	56.65
IND BD. # 2		6956.60	6957.06	6956.70	6956.45	56.40	**
IND BD. # 3		**	**	**	****	****	****
SOUTH POND:							
WATER ELEV.	6951.8	6951.35	6951.17	6951.03	6950.85	6950.71	6950.58
IND BD. # 1		**	**	**	**	**	**
IND BD. # 2		**	**	6950.90	**	**	**
BARROW:	Run #6						
WATER ELEV.	6942.12	6944.50	6946.17	6947.64	6949.69	6951.19	6951.95
IND BD. # 1		44.47	46.10	*	6949.55	*****	*****
IND BD. # 2		**	**	6947.60	6949.52	51.00	51.70
IND BD. # 3		**	**	**	**	**	**

* NO MEASUREMENT REQUIRED

** DRY

*** IN SANDS

**** REMOVED

***** UNDER WATER

MONITOR STATION ELEVATIONS

CLIENT: U N C MILLING
PROJECT: TAILINGS DAM
LOCATION: CHURCH ROCK, NM
JOB NO.: 72064

RUN NO.	3	14	15	16	17	18	19
	10-20-79	12-27-79	1-8-80	1-15-80	1-21-80	1-31-80	2-6-80
MONITOR ID NUMBER	ELEVATION						
NORTH POND:							
WATER ELEV.	6954.6	6954.02	6953.87	6953.80	6953.84	6953.75	6953.64
IND. BD. #1		54.10	53.90	53.85	**	**	**
IND. BD. #2		**	**	**	**	**	**
CTR. POND:							
WATER ELEV.	6952.1	6956.76	6959.19	6957.77	6955.06	6955.08	6955.83
IND. BD. #1		*** 57.5	Obscured	Destroyed	Destroyed	Destroyed	Destroyed
IND. BD. #2		56.7	59.20	57.70	**	**	**
IND. BD. #3		****	****	****	**	**	**
SOUTH POND:							
WATER ELEV.	6951.8	6950.68	6950.37	6950.34	6950.26	6950.20	6950.02
IND. BD. #1		**	**	**	**	**	**
IND. BD. #2		**	**	**	**	**	**
BORROW:	Run #6						
WATER ELEV.	6942.12	6954.05	6957.28	6957.46	6958.79	6958.77	6958.85
IND. BD. #1		*****	*****	*****	*****	*****	*****
IND. BD. #2		*****	*****	*****	*****	*****	*****
IND. BD. #3		53.78	56.90	57.00	58.70	58.80	58.85
E. BORROW:							
WATER ELEV.					6933.22	6942.82	6947.17
IND. BD. #1					33.10	42.90	47.50
IND. BD. #2					**	**	**

* NO MEASUREMENT REQUIRED
** DRY

*** IN SANDS
**** REMOVED

***** UNDER WATER

MONITOR STATION ELEVATIONS

RUN NO.	3	20					
MONITOR ID NUMBER	10-20-79	2-12-80					
	ELEVATION						
NORTH POND:							
WATER ELEV.	6954.6	6953.53					
IND. BD. #1		**					
IND. BD. #2		**					
CTR. POND:							
WATER ELEV.	6953.1	6955.84					
IND. BD. #1		Destroyed					
IND. BD. #2		**					
IND. BD. #3		**					
SOUTH POND:							
WATER ELEV.	6951.8	6950.00					
IND. BD. #1		**					
IND. BD. #2		**					
BORROW:	Run #6						
WATER ELEV.	6942.12	6958.56					
IND. BD. #1		*****					
IND. BD. #2		*****					
IND. BD. #3		58.70					
IND. BD. #4		**					
E. BORROW:							
WATER ELEV.		6949.77					
IND. BD. #1		*****					
IND. BD. #2		50.00					

* NO MEASUREMENT REQUIRED
** DRY

*** IN SANDS
**** REMOVED

***** UNDER WATER

SECTION D

Coordinates

CONTROL DATA

Control Station	North	East	Elevation	Book/ Page #	HM/HR
HV-8	74879.0857	58109.5529	7002.700		
HV-9	74 97.8898	60728.0114	7052.595		
UN-1	75142.4300	60625.4400	6968.539		
"J"	73784.8820	57211.5465	6958.80		
"K"	72951.0275	56465.3355	6941.78		
"L"	72192.9313	55641.5765	6915.41		
"A"	71448.7365	56964.1401	7025.098	#3 / pg.9	4.36/0.45
"M"	72588.2574	58724.0426	6990.772	#3 / pg.11	4.63/0.45
"N"	73479.8944	59697.6297	6996.271	#3 / pg.14	4.58/0.45
"O"	74413.3084	59667.7009	7007.765	#3 / pg.12	4.76/0.45
"P"	74743.1061	60645.8649	7048.262	#3 / pg.22	4.37/0.45
"Q"	73600.32	60139.11	6970.16	#4 / pg.16	
BM-1			6958.870	#3 / pg.5	
BM-2			6970.328	#5 / pg.7	
BM-2A			6968.245	#11/ pg. 22	
BM-3C			6967.477	#7 / pg.3	
BM-4			6973.068	#3 / pg.30	
BM-4A			6973.018	#12/ pg.17	
BM-5			6970.842	#3 / pg.29	
BM-5A			6970.012	#11 / pg.23	
BM-6			6963.36	#7 / pg.9	
BM-6A			6965.10	SP2 / pg.24	
BM-7			6973.565	#12/ pg. 10	
BM-8			7009.638	#12/ pg. 8	
BM-9			7013.428	#12/ pg. 12	
BM-10			6980.218	#12/ pg. 14	
"Q"			6970.27*	SP3/ pg. 17	
BM-6			6963.03*	SP3/ pg. 17	

*BENCH MOVED, ELEVATION REESTABLISHED

NOTE: ELEVATIONS SHOWN IN PARENTHESIS ARE FROM RUN #18

RUN NO.	1	1	1 (18)			
MONITOR ID NUMBER	8-16-79 North	8-16-79 East	8-17-79 Elevation	Sgl./Trpl. Height of Reflector	Depth of Sta Concrete/Bar	
N1	74050.6170	58493.4593	6968.967	0.21'/0.36'	4' / 8'	
N2	74195.6817	58629.2949	69.260	0.21'/0.36'	4.5' / 8'	
N3	74349.6125	58756.7309	68.830	0.21'/0.36'	4' / 8'	
N4	74502.7248	58885.3336	67.960	0.21'/0.36'	4' / 8'	
N5	74657.0965	59012.0635	69.360	0.21'/0.36'	4' / 8'	
N6	74810.6509	59140.1116	69.370	0.19'/0.34'	6' / 10'	
N7	74964.9859	59266.9679	69.887	0.18'/0.33'	6' / 10'	
N8	75118.4863	59394.9203	68.990	0.21'/0.36'	4' / 8'	
N9	75166.2337	59588.1225	70.427	0.21'/0.36'	5' / 8'	
N10	75164.3351	59787.7497	69.047	0.19'/0.34'	7' / 10'	
N11	75164.2676	59987.6674	68.057	0.18'/0.33'	6' / 10'	
N12	75163.5567	60087.9796	67.630	0.21'/0.36'	5' / 8'	
N13	75168.8476	60187.8037	68.103	0.21'/0.36'	5.5' / 8'	
N14	75167.7843	60287.9114	68.580	0.18'/0.33'	8' / 10'	
N15	75153.1887	60386.8324	68.090	0.18'/0.33'	8' / 12'	
N16	75109.6713	60476.6512	68.910	0.17'/0.32'	7.5' / 12'	
ND1	74421.1261	58980.1738	68.217	0.21'/0.36'	4.5' / 8'	
ND2	74382.8670	59071.8514	68.413	0.21'/0.36'	5' / 8'	
	74304.2753	59255.4255	72.886	0.21'/0.36'	5' / 8'	
SD1	73914.2072	58483.2785	68.580	0.21'/0.36'	4' / 8'	
SD2	73840.6627	58549.7613	69.960	0.21'/0.36'	5' / 8'	
SD3	73672.1307	58663.1109	69.160	0.21'/0.36'	4' / 8'	
SD4	73502.6784	58764.5408	67.913	0.21'/0.36'	4' / 8'	
SD5	73328.8795	58862.6641	6968.723	0.21'/0.36'	4' / 8'	
S1	73830.8218	58272.4978	(67.152)			
S2	73760.6123	58202.1304	(66.708)			
S3	73619.2823	58058.8317	(67.062)			
S4	73479.7116	57917.9329	(66.985)			
S5	73342.3236	57777.2044	(66.555)			
S6	73183.2930	57652.1104	(65.332)			
S7	73027.6515	57526.9059	(65.078)			
S8	72873.2051	57401.4738	6964.980	0.21'/0.36'	4' / 8'	
S9	72717.2815	57276.6467	64.610	0.21'/0.36'	4' / 8'	
S10	72561.0944	57152.7013	63.690	0.21'/0.36'	4' / 8'	
S11	72405.0916	57027.2799	64.090	0.21'/0.36'	4' / 8'	
S12	72251.2639	56901.8319	64.417	0.18'/0.33'	6' / 10'	
S13	71605.7029	57206.5790	(63.645)			
S14	72078.4995	56800.1353	(65.768)			
B1	73818.9014	59679.7637	(74.661)			
B2	74020.3316	59609.6531	(74.005)			
B3	73666.0868	60452.3507	(76.392)			
B4	73865.0085	60528.7523	(74.018)			
B5	73509.1235	61051.4926	(7010.658)			
B6	73808.8896	61050.5782	(7010.378)			
B7	74103.4697	61009.1626	(7009.641)			

LOCATION OF HALL HYDROSTATIC PRESSURE CELLS (HPC-7)

Piezometer Number

Location

PS-1	Not Yet Installed
PS-2	Not Yet Installed
PS-3	25' L of CL Sta. 13+00
PS-4	100' L of CL Sta. 13+00
PS-5	100' L of CL Sta. 19+00
PS-6	25' L of CL Sta. 19+00
PS-7	25' L of CL Sta. 24+50
PS-8	25' L of CL Sta. 30+50
PS-9	25' L of CL Sta. 39+00
PS-10	100' L of CL Sta. 45+00
PS-11	25' L of CL Sta. 45+00
PS-12	25' L of CL Sta. 50+00
PS-13	100' L of CL Sta. 56+60
PS-14	25' L of CL Sta. 56+60



SERGEANT, HAUSKINS & BECKWITH

CONSULTING ENGINEERS
PHOENIX • ALBUQUERQUE • SANTA FE

PIEZOMETRIC READINGS

Date: 2-13-80

Console # 78

TAILINGS DAM EMBANKMENT

Observer: Don Armstrong

Piezometer Numbers	PS-1	PS-2	PS-3	PS-4	PS-5	PS-6	PS-7	PS-8	PS-9	PS-10	PS-11	PS-12	PS-13	PS-14
Serial Number	2251	2253	2247	2250	2254	2260	2261	2264	2268	2269	2270	2271	2279	2300
Gauge Reading	27/12/11/16	23/12/11/17	27	53	29	31	10	10	16	21	18	20	18	20
Indicated Pressure (PSI)			1.6	3.2	1.7	1.9	.6	.6	1	1.3	1.1	1.2	1.1	1.2
ΔP (PSI)			2.1	2.4 1.7	1.8	1.6	.4	.6	.8	1	.9	1.	1.1	1.0
Actual Pressure (PSI)			0	2.4 1.3	0	.3	.2	0	.2	.3	.2	.2	0	.2
Pressure Cell Elevation (FT)			6927.5	6922.5	6923.6	6928.6	6929.0	6935.4	6947.6	6959.6	6962.6	6957.0	6962.0	6965.0
Piezometric Pressure (FT)			0	1.7 1.7	0	.7	.5	0	.5	.7	.5	.5	0	.5
Piezometric Elevation (FT)			6927.5	6923.2	6923.6	6929.3	6929.5	6935.4	6948.1	6951.3	6963.1	6957.5	6962.0	6965.5

Indicated Pressure = Gauge Reading x 0.06

Piezometric Pressure = Actual Pressure x 2.307

 ΔP - Taken from Calibration Graph

REMARKS: P-35P-4 Still laying down

flow-12

2. Miller, J. Swanquist, R. Booth

FREE BOARD GAGE RECORD

DAILY SUMMARY

1980

Feb

		SOUTH		CENTRAL		PITI	NORTH		PITII	
		1	2	3	4	5	6	7	8	
3	1	50.9	50.7	-	57.7	58.8	54.0	53.9	44.6	Maldonado
	2	50.9	50.7	-	57.0	58.9	54.0	53.9	44.6	Romero
	3	50.9	50.7	-	56.7	58.9	54.0	53.9	44.9	Perea
4	1	50.9	50.7	-	57.0	58.8	54.0	53.9	45.3	Maldonado
	2	50.9	50.7	-	57.0	58.9 $\frac{1}{2}$	54.0	53.9	45.4	Romero
	3	50.9	50.7	-	56.8	58.9	54.0	53.9	45.7	Perea
5	1	50.9	50.7	-	57.0	58.9	54.0	53.9	45.1	Beaquivier
	2	50.9	50.7	-	57.0	58.9	54.0	53.9	46.0	Romero
	3	50.9	50.7	-	56.7	58.9	54.0	53.9	46.3	Perea
6	1	50.9	50.7	-	56.9	58.9	54.0	53.9	46.7	Beaquivier
	2	50.9	50.7	-	57.0	58.9	54.0	53.9	47.0	Romero
	3	50.9	50.7	-	56.7	58.9	54.0	53.9	47.2	Perea
7	1	50.9	50.7	-	57.0	58.9	54.0	53.9	47.5	Beaquivier
	2	50.9	50.7	-	57.0	58.9	54.0	53.9	47.4	Romero
	3	50.9	50.7	-	57.0	58.8	54.0	53.9	47.8	Maldonado
8	1	50.9	50.7	-	57.0	59.0	54.0	53.9	47.8	Beaquivier
	2	50.9	50.7	-	57.0	58.9	54.0	53.9	48.3	Romero
	3	50.9	50.7	-	57.0	58.8	54.0	53.9	48.7	Maldonado
9	1	50.9	50.7	-	57.0	58.8	54.0	53.9	48.9	Beaquivier
	2	50.9	50.7	-	57.0	58.9	54.0	53.9	49.0	Romero
	3	50.9	50.7	-	57.0	58.8	54.0	53.9	49.3	Maldonado
10	1	50.9	50.7	-	57.0	59.0	54.0	53.9	49.4	Beaquivier
	2	50.9	50.7	-	57.0	58.9	54.0	53.9	49.5	Perea
	3	50.9	50.7	-	57.0	58.8	54.0	53.9	49.6	Maldonado
11	1	50.9	50.7	-	57.0	58.9	54.0	53.9	49.7	Beaquivier
	2	50.9	50.7	-	57.0	58.9	54.0	53.9	49.7	SEKIGA
	3	50.9	50.7	-	57.0	58.8	54.0	53.9	49.9	Maldonado
12	1	50.9	50.7	-	57.0	58.9	54.0	53.9	49.9	Romero
	2	50.9	50.7	-	57.0	58.9	54.0	53.9	50.0	SEKIGA
	3	50.9	50.7	-	57.0	58.8	54.0	53.9	50.2	Maldonado
13	1	50.9	50.7	-	57.0	58.7	54.0	53.9	50.1	Romero
	2	50.9	50.7	-	57.0	58.7	54.0	53.9	50.2	Perea
	3	50.9	50.7	-	57.0	58.8	54.0	53.9	50.29	Maldonado

Repairing Gage #8

Note: to all readings add 6,900 ft for true elevation.

FREE BOARD GAGE RECORD DAILY SUMMARY

1980		<u>SOUTH</u>		<u>CENTRAL P.T.</u>			<u>NORTH</u>		<u>Pt. II</u>	
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>		
Feb 14	1	<50.9	<50.7	—	52.0	58.8	<54.0	<53.9	50.3	Romero
	2	<50.9	<50.7	—	52.0	58.7	<54.0	<53.9	50.4	Perez
	3	<50.9	<50.7	—	<52.0	58.9	<54.0	<53.9	50.5	Bearquiver
15	1	<50.9	<50.7	—	<52.0	58.1	<54.0	<53.9	50.6	Romero
	2	50.9	50.7	—	<52.0	58.7	54.0	53.9	50.8	Sekiya
	3	50.9	50.7	—	52.0	58.9	54.0	53.9	50.9	Bearquiver
16	1	50.9	50.7	—	<52.0	58.9	54.0	53.9	51.1	Romero
	2	50.9	50.7	—	?	58.8	54.0	53.9	?	Maldonado
	3	50.9	50.7	—	52.0	58.9	<54.0	53.9	51.5	Bearquiver
17	1	50.9	50.7	—	52.0	58.9	<54.0	53.9	51.6	Romero
	2									
	3									
18	1									
	2									
	3									
19	1									
	2									
	3									
20	1									
	2									
	3									
21	1									
	2									
	3									
22	1									
	2									
	3									
23	1									
	2									
	3									
24	1									
	2									
	3									

Note: To all readings add 6,900 ft for true elevation.

Sample Identification / Sampling Date 2-12-80	Well 201	Well 202	Well 203
Aluminum (mg/l)			Well Dry
Arsenic (mg/l)			
Barium (mg/l)			
Boron (mg/l)			
Cadium (mg/l)			
Chloride (mg/l)	21.5	71.3	
Chromium (mg/l)			
Cobalt (mg/l)			
Conductivity (μ mhos/cm) 25°C	2,100	5,100	
Salinity (parts per thousand)	1.5	4.0	
Cyanide (mg/l)			
Fluoride (mg/l)			
Iron (mg/l)			
Lead (mg/l)			
Magnesium (mg/l)			
Manganese (mg/l)			
Molybdenum (mg/l)			
Nitrogen (Ammonia) (mg/l)			
Nitrogen (Nitrate) (mg/l)			
Nickel (mg/l)			
pH 25°C	6.42	3.49	
Selenium (mg/l)			
Silver (mg/l)			
Sodium (mg/l)			
Sulfate (mg/l)	2,114.5	6,828.4	
Total Dissolved Solids (mg/l)	3,681.1	12,514.3	
Total Mercury (mg/l)			
Vanadium (mg/l)			
Zinc (mg/l)			

Sample Identification / Sampling Date 2-12-80	Well 204	Well 205	
Aluminum (mg/l)		Well Dry	
Arsenic (mg/l)			
Barium (mg/l)			
Boron (mg/l)			
Cadium (mg/l)			
Chloride (mg/l)	26.7		
Chromium (mg/l)			
Cobalt (mg/l)			
Conductivity (umhos/cm) 25°C	800		
Salinity (parts per thousand)	0.25		
Cyanide (mg/l)			
Fluoride (mg/l)			
Iron (mg/l)			
Lead (mg/l)			
Magnesium(mg/l)			
Manganese(mg/l)			
Molybdenum (mg/l)			
Nitrogen (Ammonia) (mg/l)			
Nitrogen (Nitrate) (mg/l)			
Nickel (mg/l)			
pH 25°C	7.09		
Selenium (mg/l)			
Silver (mg/l)			
Sodium (mg/l)			
Sulfate (mg/l)	310.2		
Total Dissolved Solids (mg/l)	764.4		
Total Mercury (ug/l)			
Vanadium (mg/l)			
Zinc (mg/l)			



Memorandum

DATE: 10 Feb 80

CC: Bob Booth (SH&B)
Mill File 2.02.10 ✓

TO: Tom Bailey, Tom Hill

FROM: G. A. Swanquist

SUBJECT: Daily Inspection - Starter Dam, North & South Cross Dikes

Inspection Conducted by: G. A. Swanquist

Time: From 1⁰⁰ pm A.M./F.M. TO 2⁰⁰ pm A.M./P.M.

Check as applicable

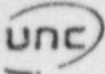
1. Starter Dam
2. North Cross Dike
3. South Cross Dike

1. Seepage		2. Cracks		3. Settlement	
YES	NO	YES	NO	YES	NO
	✓		✓		✓
	✓		✓		✓
	✓		✓		✓

Description and qualifying statement to each "Yes" mark: _____

General Comments: Shut down mill @ 12¹⁵ pm. Water
beginning to encroach on sand beach south
last end of center cross dike. Pumping out
excess water with temporary pump setup.

UNC MINING AND MILLING



Division of United Nuclear Corporation
A UNC RESOURCES Company

Church Rock Operations
PO Drawer 20

Gallup New Mexico 87301
Telephone 505 722-6551

Memorandum

DATE: 11/ Feb 80
TO: Tom Bailey, Tom Hill
FROM: G. A. Swanquist
SUBJECT: Daily Inspection - Starter Dam, North & South Cross Dikes

CC: Bob Booth (SH&B)
Mill File 2.02.10

Inspection Conducted by: G. A. Swanquist

Time: From 11:00 A.M. ~~11:00~~ TO 11:15 A.M. ~~11:00~~

Check as applicable

	1. Seepage		2. Cracks		3. Settlement	
	YES	NO	YES	NO	YES	NO
1. Starter Dam		✓		✓		✓
2. North Cross Dike		✓		✓		✓
3. South Cross Dike		✓		✓		✓

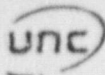
Description and qualifying statement to each "Yes" mark: _____

General Comments: Notified shutdown of yesterday to

ELD J. Stewart.

Shutdown continuing through today

UNC MINING AND MILLING



Division of United Nuclear Corporation
A UNC RESOURCES Company

Church Rock Operations
PO Drawer 33

Gallup, New Mexico 87301
Telephone 505-722-6551

Memorandum

DATE: 12 Feb 1980
TO: D. D. Turberville, J. Abbiss, T. M. Kilroy
FROM: G. A. Swanquist
SUBJECT: Daily Inspection - Starter Dam, North & South Cross Dikes

CC: Bob Booth (SH&B)
Mill File 2.02.10

Inspection Conducted by: G. A. Swanquist

Time: From 10:15 A.M. TO 11:30 A.M.

Check as applicable

1. Starter Dam
2. North Cross Dike
3. South Cross Dike

1. Seepage		2. Cracks		3. Settlement	
YES	NO	YES	NO	YES	NO
	☒		☒		☒
	☒		☒		☒
	☒		☒		☒

Description and qualifying statement to each "Yes" mark: _____

General Comments: _____

Started Mill @ 5pm
Water pumped out. (See inspection of 10 Feb)



Memorandum

DATE: 13 Feb 80
TO: Tom Bailey, Tom Hill
FROM: G. A. Swanquist
SUBJECT: Daily Inspection - Starter Dam, North & South Cross Dikes

CC: Bob Booth (SH&B)
Mill File 2.02.10

Inspection Conducted by: G. A. Swanquist

Time: From 4:00 A.M./P.M. TO 4:30 A.M./P.M.

Check as applicable

1. Starter Dam
2. North Cross Dike
3. South Cross Dike

1. Seepage		2. Cracks		3. Settlement	
YES	NO	YES	NO	YES	NO
	☒		☒		☒
	☒		☒		☒
	☒		☒		☒

Description and qualifying statement to each "Yes" mark: _____

General Comments: _____

Memorandum

DATE: 14 Feb 1980

CC: Bob Booth (SH&B)
Mill File 2.02.10

TO: Tom Bailey, Tom Hill

FROM: G. A. Swanquist

SUBJECT: Daily Inspection - Starter Dam, North & South Cross Dikes

Inspection Conducted by:

Time: From 7:30 A.M. ~~1944~~ TO 8:15 A.M. ~~1944~~.

Check as applicable

1. Starter Dam
2. North Cross Dike
3. South Cross Dike

Check as applicable					
1. Seepage		2. Cracks		3. Settlement	
YES	NO	YES	NO	YES	NO
	☒		☒		☒
	☒		☒		☒
	☒		☒		☒

Description and qualifying statement to each "Yes" mark:_____

General Comments:

CC: Bob Booth (SH&B)
Mill File 2.02.10

SUBJECT: Daily Inspection - Starter Dam, North & South Cross Dikes

Time: From 7:30 A.M. / ~~P.M.~~ TO 8:40 A.M. / ~~P.M.~~

1. Seepage		2. Cracks		3. Settlement	
YES	NO	YES	NO	YES	NO
	✓		✓		✓
	✓		✓		✓
	✓		✓		✓

1. Starter Dam
2. North Cross Dike
3. South Cross Dike

Description and qualifying statement to each "Yes" mark:

General Comments:

Memorandum

DATE: 16 Feb 80

CC: Bob Booth (SH&B)
Mill File 2.02.10

TO: Tom Bailey, Tom Hill

FROM: G. A. Swarquist

SUP/ECT: Daily Inspection - Starter Dam, North & South Cross Dikes

Inspection Conducted by:

Time: From 8⁰⁰ A.M./P.M. TO 8³⁰ A.M./P.M.

Check as applicable

	1. Seepage		2. Cracks		3. Settlement	
	YES	NO	YES	NO	YES	NO
1. Starter Dam		✓		✓		✓
2. North Cross Dike		✓		✓		✓
3. South Cross Dike		✓		✓		✓

Description and qualifying statement to each "Yes" mark: _____

General Comments:

DATE	READING BEGINNING	READING ADDED	READING ENDING	INDICATED EVAPORATION	PRECIP- ITATION	TRUE EVAPOR	NUMBER OF DAYS	EVAPOR PER DAY
2-4	3.634	none						
2-7					.12			
2-8					.04			
2-11			Frozen no readings possible- Pond not frozen					
2-15					.80			
2-16					.29			
2-17					.18			
2-18			4.079	-.445	1.43	0.985	14	.070

ALL READINGS IN INCHES

Method of Calculation:

#4 Indicated evaporation- $1 + 2 - 3 = 4$

#6 True evaporation- $4 + 5 = 6$

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