

UNION CARBIDE CORPORATION

URAVAN, COLORADO

SUA - 673

SOLID WASTE DISPOSAL

REPORT

JUNE 1980

8007310 500

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SOLID WASTE REPORT - JUNE 1980

DATA SUMMARY

1.0 MONITOR POINTS

The monitor point movements have been within the accuracy limit of the surveying capability. There appears to be no sign of these monitor points having sustained movement in a specific direction.

The general location of the monitor points is illustrated on Plate 1.0.

2.0 PIEZOMETRIC MEASUREMENTS

Location of piezometers is shown on Plate 2.0. Plates 2.1 through 2.11 represent cross-sections through the tailing piles.

2.1 POND ONE

Piezometers 2-24 and 2-25 showed decreases of 1.77 and 1.97 feet, respectively. This reflects the discontinued use of Pond One and the subsequent stabilization of pore water along the leading dike. Piezometers 2-17 and 2-18, both shallow and deep casings show decreases in pore water pressure with the deeper casings showing the greater decrease. Cross-section B-B' on Plate 2.4 show dotted lines for the actual surface elevations for these piezometers as they are translocated to fit the cross section line.

2.2 POND TWO

All casagrande piezometers on Pond Two showed decreases in pore pressure. Maximum decrease was for piezometer 2.26 at 1.16 feet or fourteen inches. Mean decrease is estimated at 0.20 feet or 2.4 inches. Pond Two piezometers and pore water pressures are in a stabilized state. The pneumatic piezometers also do not show any marked increase in pressure.

(2.0 Piezometric Measurements, continued)

2.3 POND THREE

Using a linear regression analysis, the casagrande system piezometers on Pond Three are showing a continued increase in pore pressure. Piezometer 3-1 showed the maximum increase of 0.63 feet. Mean increase for piezometers 3-2, 3-3, 3-4 and 3-5 is 0.175 feet or two inches. The pneumatic piezometers appear to vary by 0.4 psig. which is within the accuracy of the measuring equipment.

Spigot locations versus response in piezometer levels correlation does not appear for Pond Three.

Pneumatic piezometers 3P-2 and 3P-6 are now abandoned. Pneumatic piezometers 3P-3, 3P-4, 3P-7 and 3P-8 stopped working correctly on July 9, 1980. The tubing for these piezometers was extended beyond the boundary of Phase 2B work and the previous surface locations of these piezometers were buried under construction activities.

3.0 OPERATION SUMMARY

3.1 POND ONE

Minimum freeboard on Pond One was reached on June 3rd with 8 feet. The emergency spillway into Pond Two was completed. Pond One is being utilized for raffinate transport to Club Mesa and is maintaining freeboard and beach width requirements.

3.2 POND TWO

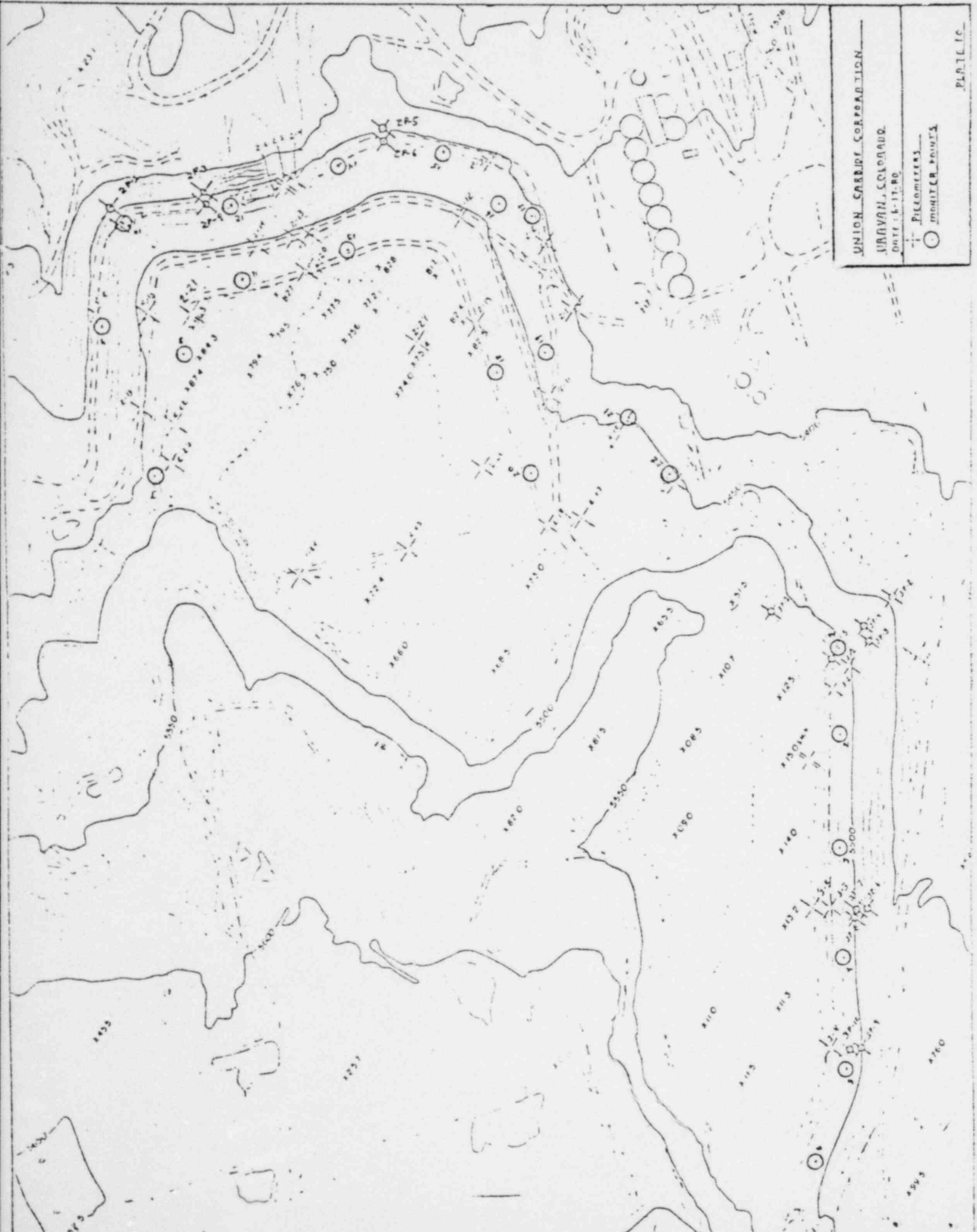
Pond Two freeboard was maintained in excess of 13 feet. Beach width averaged 375 feet. Phase 2A construction buried all remaining horizontal drains and neared completion by the end of the month.

3.3 POND THREE

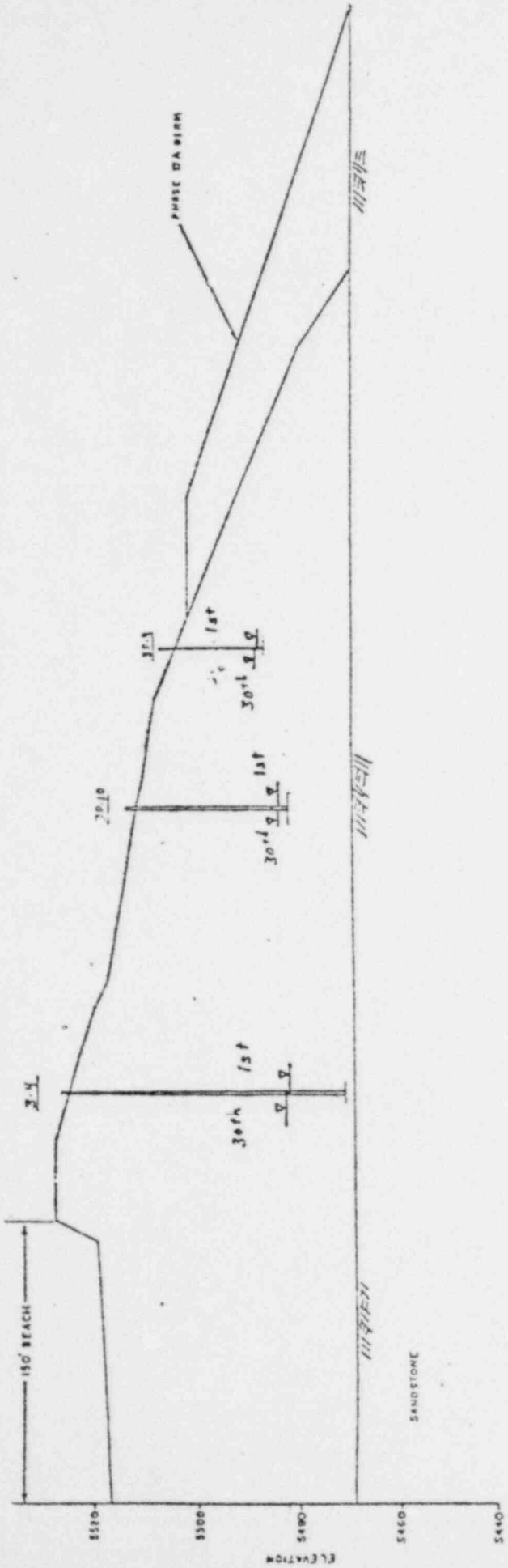
Pond Three minimum freeboard was reached on June 29th, at 12.5 feet. Minimum beach was 200 feet. Average piezometer increase of two inches for the month was noted during usage of this pond. The internal drain system for the toe berm was installed during June which allowed, at the time, no accurate measurement of toe seepage.

3.4 BERM & DRAINAGE CONDITION

The outer berms have shown no evidence of slippage or crack formations. The toe of the Pond One berm, located between Pond One and Two, showed approximately a two foot wet zone at the bottom edge along the entire length. No slippage was noted.

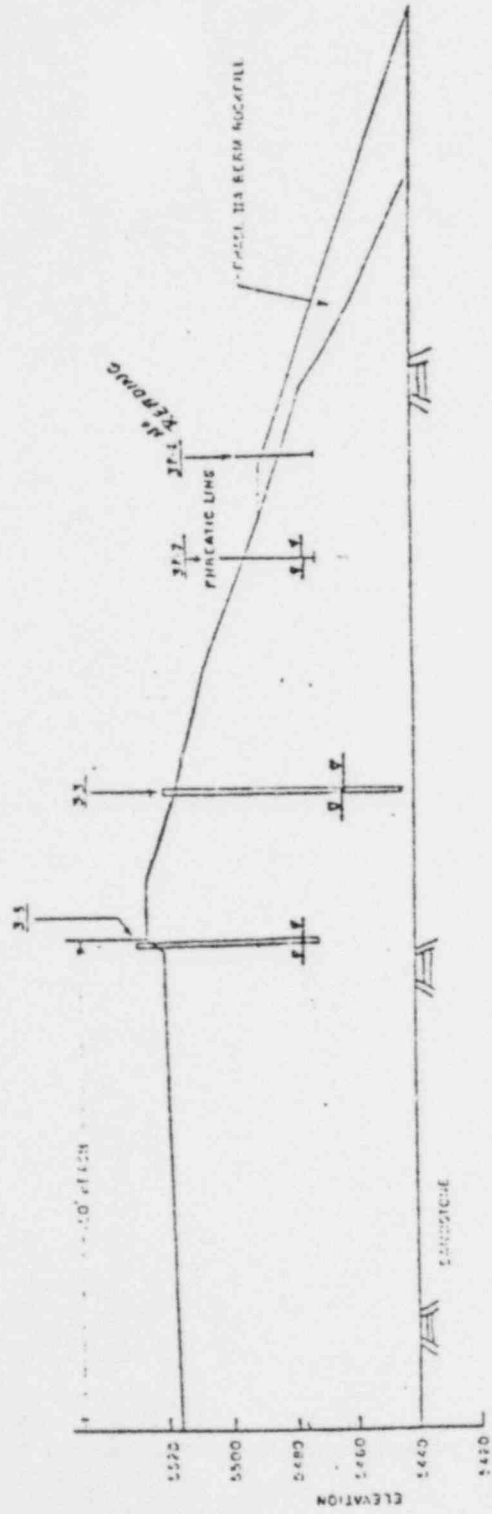


UNION CARBIDE CORPORATION
URAVAN, COLOMBIA
DATE: 8-17-60
Picrometers
Monitor points
PLATE 1C

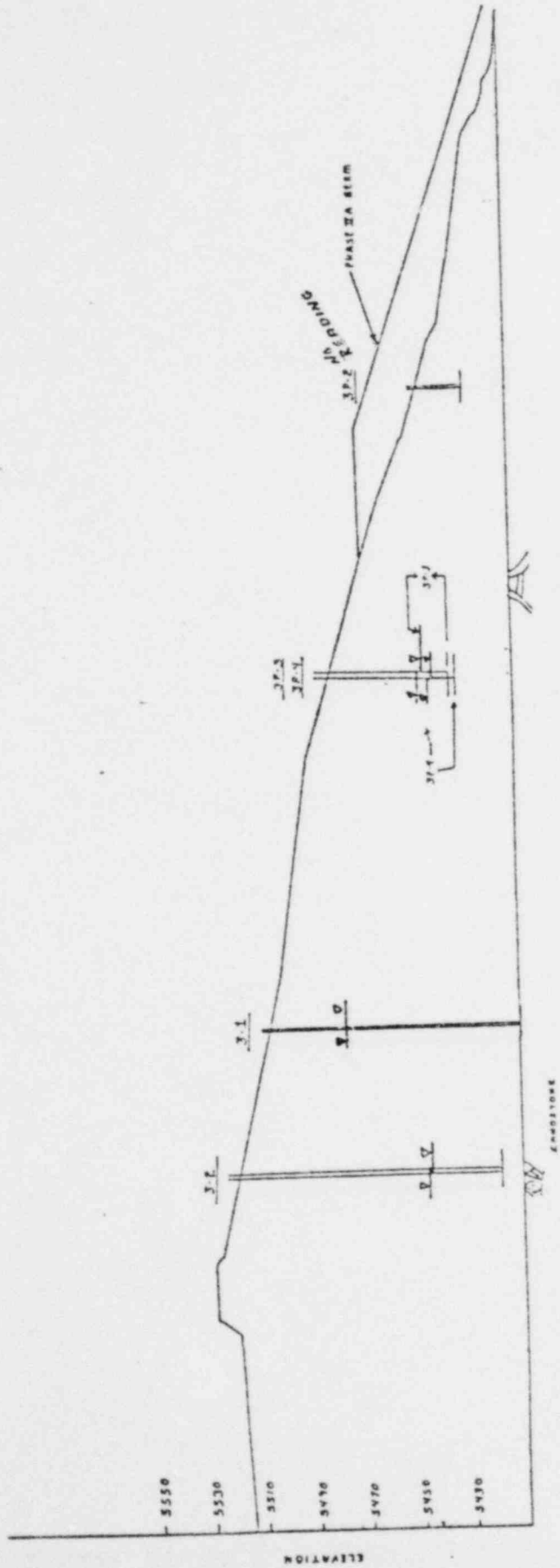


POND 3
 PHASE II A SECTION 25 - 25
 BERM ELEV. 5528

UNION CARBIDE CORPORATION
 URAPAN, COLORADO PLANT
 DATE: 7/14/80
 PLATE 21



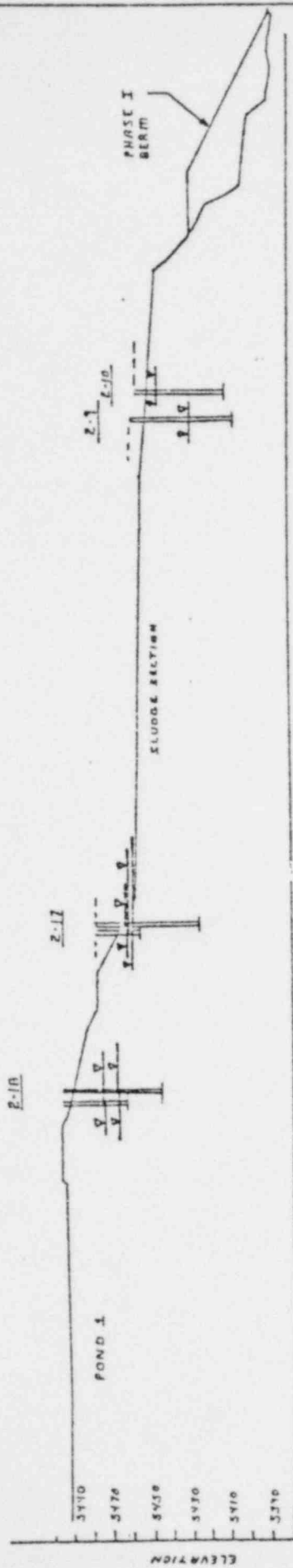
POND 3
 PHASE IIA SECTION 20-20
 BERM ELEV. 5528



SCALE 1"=40'

POND 3
 PHASE II SECTION A-D
 BERM ELEV 5528

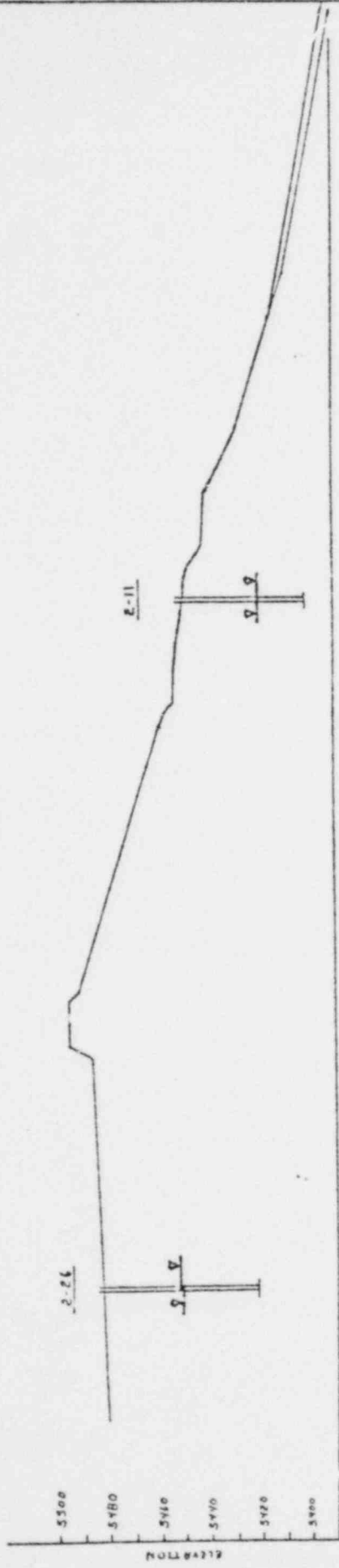
UNION CARBIDL CORPORATION
 URAPAN, COLORADO PLANT
 DATE: 7/14/80
 PLATE 23



SCALE 1" = 50'

POND 112
SECTION B-B'
BERM ELEV 5418

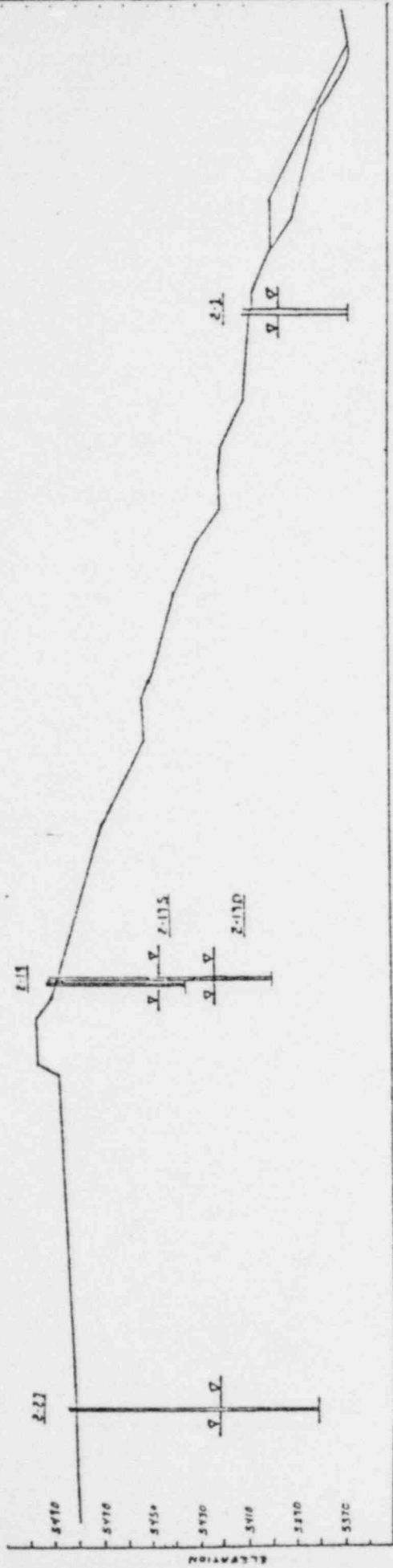
UNION CARBIDE CORPORATION
URAVAN, COLORADO PLANT
DATE: 7/2/60
PLATC 2-4



SCALE 1"=40'

POND 2
SECTION C-C'
BERM ELEV. 5496

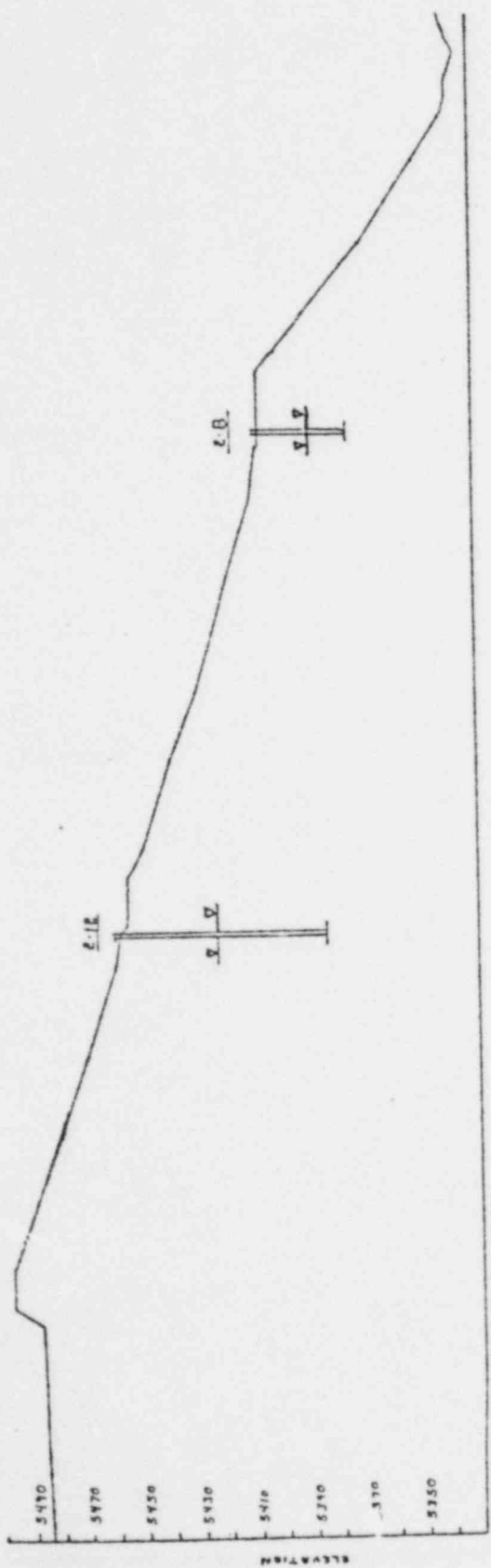
UNION CARBIDE CORPORATION
URAVAN, COLORADO PLANT
DATE: 7/14/80
PLATE 2.5



SCALE 1" = 40'

POND Z
SECTION D-D'
BERM ELEV. 5495

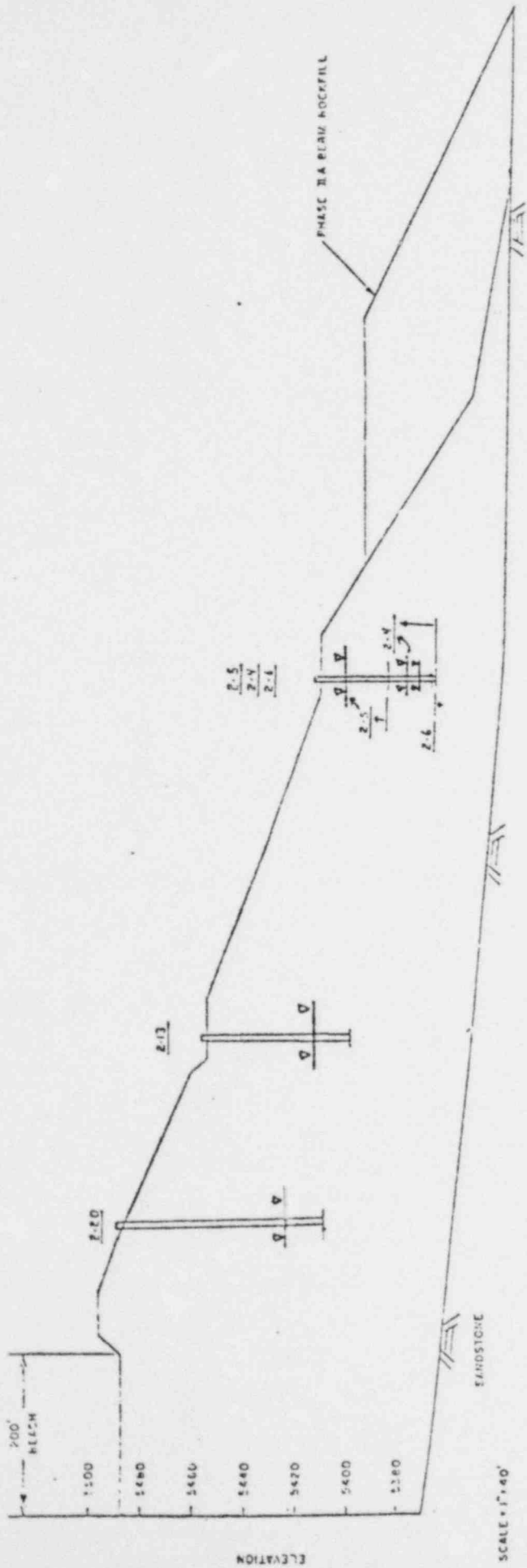
UNION CARBIDE CORPORATION
URRVAN, COLORADO PLANT
DATE: 7/1/80
PLATE 21



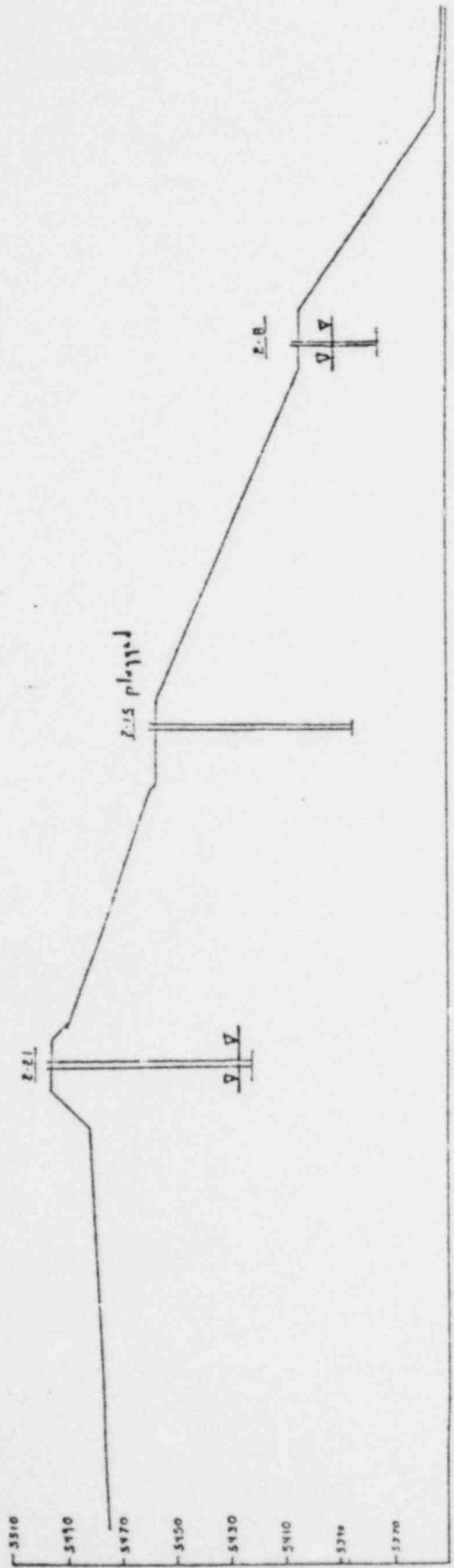
SCALE: 1"=40'

POND 2
SECTION E-E'
BENH ELEV. 5496

UNION CARBIDE CORPORATION
URAVAN, COLORADO PLANT
DATE: 7/14/80
PLATE 2.7

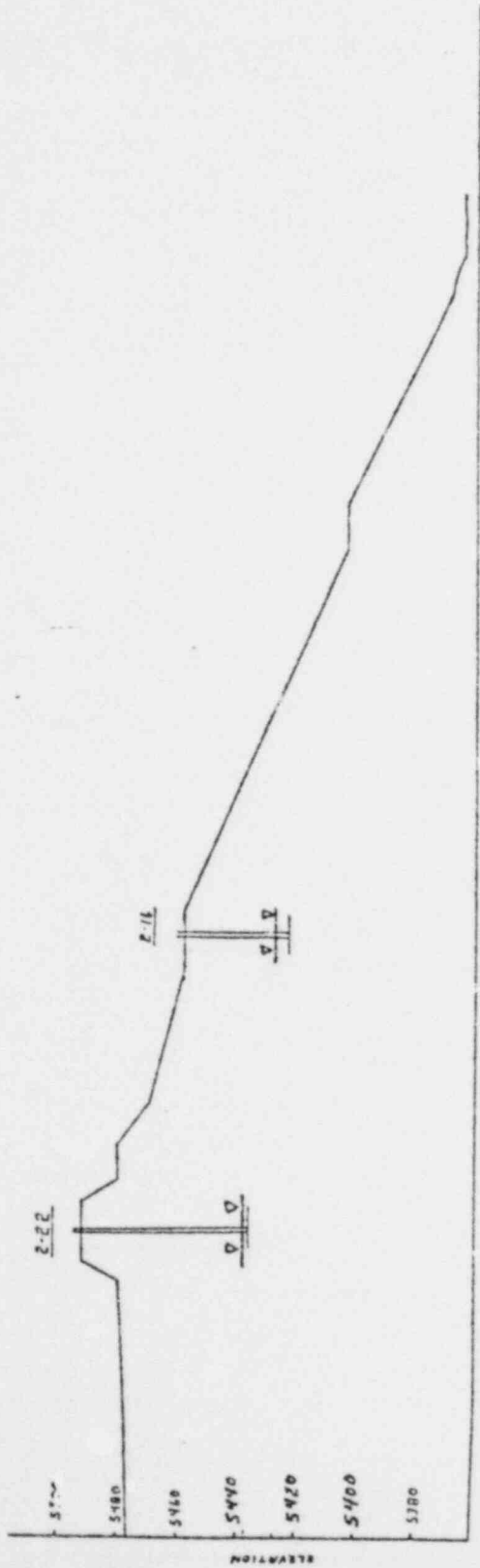


POUND 2
 PHASE IIA SECTION 13-18
 BERM ELEV. 5496



POND 2
 PHASE IIA SECTION F-F'
 BERM ELEV. 5496

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 URAVAN, COLORADO PLANT
 DATE: 7/14/80
 SHEET 2.9



POND 2
SECTION G-G'
BERM ELEV. 5416

UNION CARBIDE CORPORATION
URAVAN, COLORADO PLANT
DATE: 7/14/80
PLATE 2/18

MONITOR POINTS - FIELD DATA

URAVAN, COLORADO

ORIGINAL DATA
 N. 173,122.254
 E. 21,900.579
 ELEV. 5510.900

MOVEMENT POINT DATA SHEET
 MOVEMENT POINT NO. MP-1
 GRAVAN TAILINGS DAM

TIME & DATE	NORTH COORDINATE	EAST COORDINATE	ΔN	ΔE	ELEVATION	DELEV
A 2/17/80 4:00 PM	173,122.826	81,900.544	+0.032	-0.033	5510.900	0.000
B 2/18/80 3:15 PM	173,153.847	81,900.501	-0.005	-0.078	5510.903	+0.003
C 2/19/80 3:25 PM	173,153.867	81,900.521	+0.013	-0.023	5510.906	+0.006
D 2/21/80 7:30 AM	173,183.831	81,900.544	+0.027	-0.035	5510.901	+0.001
E 2/24/80 10:00 AM	173,193.542	81,900.525	+0.019	-0.054	5510.905	+0.005
F 2/24/80 6:30 PM	173,153.908	81,900.545	+0.054	-0.034	5510.906	+0.006
G 2/1/80 0800	173,122.821	81,900.492	-0.022	-0.024	5510.905	+0.005
H 2/19/80 0800	173,153.859	81,900.503	+0.015	-0.076	N/A	N/A
I 2/14/80 0800	173,183.947	81,900.522	-0.007	-0.057	5510.903	+0.003
J 2/22/80 0800	173,153.848	81,900.493	+0.012	-0.081	5510.904	+0.004
K 2/12/80 0730	173,153.833	81,900.514	-0.021	-0.052	5510.899	-0.001
L 2/27/80 0730	173,153.845	81,900.527	-0.010	-0.052	5510.894	-0.007
M 2/19/80 0730	173,153.833	81,900.462	+0.029	-0.117	5510.885	-0.015
N 2/27/80 0730	173,153.859	81,900.501	+0.015	-0.078	5510.882	-0.018

MOVEMENT POINT DATA SHEET

ORIGINAL DATA

MOVEMENT POINT NO. MP-13

N 174,227.885

URAUAN TAILING DAM

E 82,020.327

ELEV 5486.609

	TIME & DATE	NORTH COORDINATE	ΔN	EAST COORDINATE	ΔE	ELEVATION	ΔELEV
A	3/7/80 4:00 P.M.	174,227.843	-0.043	82,020.346	+0.009	5486.607	0.000
B	3/13/80 3:15 P.M.	174,227.876	-0.010	82,020.291	-0.043	5486.607	+0.001
C	3/19/80 3:25 P.M.	174,227.910	+0.024	82,020.322	-0.015	5486.607	-0.001
D	3/21/80 7:30 A.M.	174,227.837	-0.047	82,020.290	-0.047	N/A	N/A
E	3/24/80 10:00 A.M.	174,227.870	-0.016	82,020.305	-0.032	5486.594	0.014
F	3/27/80 0730	174,227.875	-0.011	82,020.332	-0.005	5486.608	0.000
G	4/1/80 0800	174,227.916	+0.030	82,020.354	+0.017	5486.590	-0.018
H	4/9/80 0900	174,227.825	-0.041	82,020.339	+0.002	N/A	N/A
I	4/14/80 0800	174,227.867	-0.024	82,020.272	-0.045	5486.595	+0.007
J	4/22/80 0900	174,227.898	+0.012	82,020.347	+0.010	5486.596	-0.012
K	5/12/80 0730	174,227.881	-0.005	82,020.344	+0.007	5486.563	-0.045
L	5/27/80 0730	174,227.883	-0.003	82,020.341	+0.010	5486.554	-0.051
M	6/9/80 0730	174,227.876	-0.010	82,020.318	-0.019	5486.543	-0.060
N	6/24/80 0730	174,227.849	-0.037	82,020.292	-0.045	5486.584	-0.024

PIEZOMETRIC MEASUREMENTS

URAVAN, COLORADO

PNEUMETER REFERENCE POINT	2P-1	2P-2	2P-3	2P-4	2P-5	2P-6
TIP ELEVATION	5364.26	5361.87	5362.17	5359.91	5354.92	5357.60
SPACE ELEVATION	5411.03	5410.87	5410.58	5413.31	5408.19	5401.50
	Psig	Psig	Psig	Psig	Psig	Psig
DAY						
1	1.0	—	1.0	1.2	0.8	1.0
2	1.0	—	1.2	1.8	1.2	0.8
3	0.4	—	0.8	0.8	1.0	1.2
4	1.2	—	0.8	1.2	1.2	1.2
5	1.2	—	1.0	1.6	1.4	1.2
6	1.0	—	1.6	2.0	1.6	1.0
7	0.8	0.4	1.0	1.2	1.2	0.8
8	1.0	0.8	1.2	1.2	1.4	0.8
9	1.0	.8	1.2	1.4	1.2	1.0
10	1.0	1.0	1.2	1.0	1.2	1.2
11	2.0	1.2	1.2	2.0	1.2	1.0
12	2.0	0.8	1.0	1.4	1.0	1.0
13	1.0	1.0	1.2	1.8	1.0	1.0
14	2.4	1.8	1.0	1.8	1.2	1.6
15	1.6	1.2	1.2	1.4	1.0	1.0
16	1.2	0.8	1.0	1.4	0.6	1.0
17	2.8	1.4	1.6	1.2	1.2	0.4
18	2.0	0.8	1.2	2.0	1.4	1.2
19	1.4	0.8	1.4	1.2	1.8	1.6
20	1.0	1.0	1.2	2.0	1.0	1.0
21	1.2	1.0	1.2	1.6	1.4	1.0
22	1.0	1.0	1.2	1.6	1.0	1.0
23	1.0	1.0	1.4	1.6	1.4	1.2
24	1.4	1.0	1.6	2.0	0.8	1.0
25	2.0	1.0	1.4	2.2	1.2	1.0
26	2.2	1.0	1.8	2.4	2.0	1.2
27	1.2	0.8	1.6	2.2	1.2	1.2
28	1.0	1.0	1.4	2.0	1.4	1.0
29	1.2	0.8	1.6	2.4	1.4	1.2
30	1.2	0.8	1.6	2.4	1.4	1.2
31						
MEAN						
STD. DEV.						

PIEZOMETER	3P-7	3P-8	3P-9	3P-10
REFERENCE POINT				
TIP ELEVATION	5472.25	5478.01	5485.50	5481.81
ORFICE ELEVATION	5498.15	5499.01	5500.70	5508.51
	Psig	Psig	Psig	Psig
DAY				
1	1.6	1.0	1.0	1.4
2	1.6	1.0	1.4	1.8
3	1.2	0.4	1.0	1.2
4	1.2	0.8	1.2	1.6
5	1.2	0.8	4	2.0
6	1.6	0.4	2.0	1.8
7	1.2	0.4	1.2	1.2
8	1.2	0.8	1.4	1.6
9	1.4	0.8	0.2	1.0
10	1.6	0.8	1.4	1.8
11	1.2	1.0	1.6	1.8
12	1.4	0.6	1.2	1.4
13	1.4	0.8	1.2	1.8
14	1.4	0.8	1.2	1.6
15	1.4	0.8	1.0	1.2
16	1.6	0.8	1.0	1.4
17	1.6	0.8	1.0	2.0
18	2.0	0.8	1.6	1.8
19	1.2	0.6	1.4	2.0
20	1.4	0.6	1.4	1.8
21	1.6	0.8	1.4	2.0
22	1.4	0.6	1.2	1.6
23	1.8	0.6	1.0	1.8
24	2.0	1.0	2.0	1.2
25	1.6	0.8	1.0	1.8
26	1.6	0.6	1.2	2.0
27	1.6	0.6	1.2	1.6
28	1.6	0.8	1.0	1.8
29	1.6	0.8	1.2	1.6
30	1.4	0.8	1.6	1.4
31				
MEAN				
STD. DEV.				

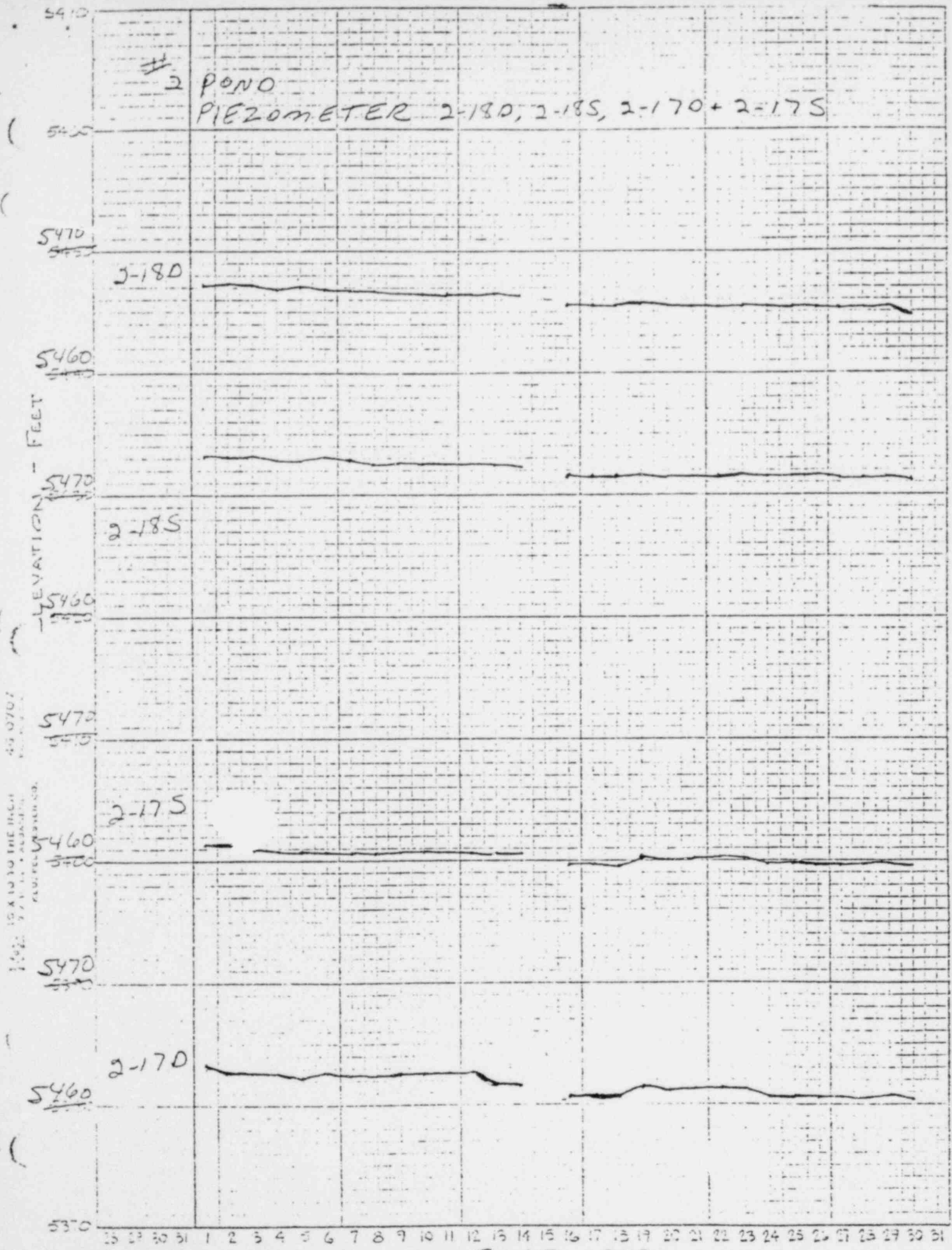
PIEZOMETER	REFERENCE POINT	FASTING ELEVATION	SURFACE ELEVATION	DAY
3-1	5513.00	5509.83		
3-2	5521.35	5518.43	5519.73	
3-3	5521.52			
3-4	5524.55	5532.25		
1	5474.60	5443.81	5463.81	5482.22
2	5474.50	5443.93	5464.02	5482.55
3	5474.00	5443.89	5463.69	5482.34
4	5474.08	5443.68	5463.77	5482.38
5	5474.75	5443.85	5463.90	5482.43
6	5473.88	5443.93	5464.00	5482.47
7	5473.83	5443.77	5463.50	5482.38
8	5473.75	5443.60	5463.94	5482.34
9	5474.58	5443.77	5463.94	5482.47
10	5474.75	5443.93	5464.10	5482.38
11	5474.07	5443.85	5464.02	5482.30
12	5474.75	5443.85	5464.02	5482.38
13	5474.17	5443.81	5463.85	5482.47
14	5474.21	5443.85	5464.02	5482.63
15	PIEZOMETER OUT OF ORDER			
16	5473.42	5443.23	5463.27	5481.93
17	5473.58	5443.23	5463.35	5482.05
18	5473.54	5443.14	5463.44	5482.05
19	5474.32	5443.93	5464.06	5482.55
20	5474.42	5443.98	5463.94	5482.55
21	5474.42	5443.89	5464.02	5482.55
22	5474.46	5444.02	5464.02	5482.76
23	5474.75	5444.02	5464.19	5482.76
24	5474.75	5444.02	5464.10	5482.68
25	5474.75	5443.64	5464.06	5482.55
26	5474.83	5443.98	5464.10	5482.72
27	5475.58	5443.95	5464.10	5482.63
28	5476.13	5444.02	5464.10	5482.72
29	5474.08	5443.81	5464.10	5482.68
30	5474.33	5444.06	5464.10	5482.59
31				
MEAN				
STD.				
DEV.				

PIEZOMETER	2-1	2-2	2-3	2-4	2-5	2-6
REFERENCE POINT						
CASING ELEVATION	5410.25	5418.57	5408.95	5412.21	5412.94	5412.66
SURFACE ELEVATION	5407.58	5417.70	5406.74	5411.28	5410.32	5410.2
DAY						
1	5391.58	5398.74	5358.58	5370.59	5393.15	5364.2
2	5391.71	5398.74	5358.62	5370.71	5392.94	5364.1
3	5391.67	5398.65	5358.53	5370.21	5392.94	5364.1
4	5391.67	5398.57	5358.41	5370.13	5392.94	5364.0
5	5391.67	5398.78	5358.42	5370.59	5392.94	5364.1
6	5391.63	5398.61	5358.53	5370.59	5392.94	5364.1
7	5391.50	5398.57	5358.45	5370.38	5392.86	5364.08
8	5391.45	5398.49	5358.38	5370.33	5392.81	5364.05
9	5391.42	5398.61	5358.45	5370.38	5392.109	5364.08
10	5391.58	5398.57	5358.53	5370.54	5392.94	5364.1
11	5391.58	5398.61	5358.70	5370.46	5392.94	5364.0
12	5391.50	5398.57	5358.45	5370.63	5392.94	5363.9
13	5391.58	5398.65	5358.53	5370.71	5392.90	5363.9
14	5391.50	5398.57	5358.37	5370.59	5392.94	5363.9
15	PIEZOMETER OUT OF ORDER					
16	5390.92	5398.03	5358.95	5369.59	5392.36	5363.5
17	5391.04	5398.15	5358.03	5369.84	5392.48	5363.6
18	5390.92	5398.11	5357.99	5369.88	5392.23	5363.6
19	5391.58	5398.61	5358.37	5370.46	5392.94	5364.0
20	5391.46	5398.57	5358.53	5370.50	5392.86	5364.0
21	5391.50	5398.65	5358.49	5370.46	5392.86	5364.1
22	5391.50	5398.57	5358.62	5370.50	5392.94	5364.0
23	5391.67	5398.65	5358.53	5370.75	5392.94	5363.9
24	5391.58	5398.57	5358.45	5370.46	5392.94	5363.9
25	5391.67	5398.57	5358.49	5370.46	5392.86	5364.1
26	5391.71	5398.61	5358.45	5370.25	5392.94	5364.2
27	5391.58	5398.49	5358.49	5370.54	5392.94	5364.0
28	5391.67	5398.65	5358.45	5370.38	5392.94	5364.1
29	5391.63	5398.10	5358.49	5370.38	5392.98	5364.0
30	5391.67	5398.57	5358.53	5370.67	5392.94	5363.9
31						
MEAN						
STD. DEV.						

PIEZOMETER	2-7	2-8	2-9	2-10	2-11	2-12
REFERENCE POINT						
CASING ELEVATION	5412.88	5410.93	5462.43	5458.78	5454.97	5460.65
SURFACE ELEVATION	5410.88	5410.93	5458.46	5455.53	5452.39	5458.40
DAY						
1	5376.42	5386.84	5427.47	5440.45	5422.60	5400.4
2	5376.21	5386.89	5427.51	5440.36	5422.51	5400.4
3	5376.21	5386.80	5427.18	5440.78	5422.55	5400.4
4	5376.30	5386.84	5427.43	5440.78	5422.47	5400.4
5	5376.21	5386.89	5427.43	5440.78	5422.47	5400.4
6	5376.21	5386.89	5427.43	5440.78	5422.55	5400.4
7	5376.13	5386.76	5427.26	5440.53	5422.47	5400.4
8	5376.05	5386.76	5427.18	5440.53	5422.39	5400.4
9	5375.96	5386.89	5427.18	5440.53	5422.39	5400.28
10	5376.13	5386.93	5427.26	5440.53	5422.47	5400.3
11	5376.13	5386.76	5427.18	5439.86	5422.47	5400.4
12	5376.13	5386.76	5427.11	5440.20	5422.39	5400.4
13	5376.09	5386.93	5427.01	5440.11	5422.47	5400.4
14	5376.05	5386.89	5427.10	5439.99	5422.47	5400.3
15	PIEZOMETER OUT OF ORDER					
16	5375.17	5386.22	5426.60	5440.28	5421.85	5399.6
17	5375.55	5386.35	5426.51	5440.16	5421.97	5399.86
18	5375.55	5386.35	5426.60	5440.20	5421.97	5399.86
19	5376.05	5386.01	5427.43	5440.53	5422.55	5400.28
20	5376.01	5386.85	5427.35	5440.53	5422.47	5400.29
21	5375.96	5386.76	5427.18	5440.36	5422.39	5400.2
22	5376.26	5386.76	5427.14	5440.36	5422.51	5400.3
23	5376.21	5387.01	5427.10	5440.36	5422.55	5400.4
24	5376.05	5386.93	5427.06	5440.28	5422.55	5400.2
25	5375.88	5386.85	5427.00	5440.20	5422.39	5400.3
26	5375.88	5386.93	5427.10	5440.78	5422.47	5400.3
27	5376.05	5386.89	5427.01	5440.07	5422.43	5400.3
28	5375.88	5386.93	5427.10	5440.11	5422.47	5400.3
29	5376.05	5386.93	5427.10	5440.26	5422.47	5400.3
30	5376.13	5386.91	5427.10	5440.07	5422.47	5400.3
31						
MEAN						
STD. DEV.						

PIEZOMETER	DATE	REFERENCE POINT	CASING ELEVATION	SURFACE ELEVATION	DAY
2-12	2-17a	5458.23	5476.90	5474.86	
2-14	2-17a	5460.24	5476.90	5474.86	
2-15	2-16	5458.53	5462.14	5459.10	
2-16	2-16	5462.14	5462.14	5474.86	
1		5409.81	5463.23	5461.15	
2		5409.90	5462.64	5461.15	
3		5409.73	5462.56	5460.9	
4		5409.73	5462.27	5460.9	
5		5409.77	5462.56	5460.9	
6		5409.77	5462.64	5460.9	
7		5409.66	5462.47	5462.57	
8		5409.65	5462.39	5462.48	
9		5409.65	5462.52	5462.57	
10		5409.65	5462.68	5462.73	
11		5409.65	5462.14	5462.82	
12		5409.73	5462.56	5462.90	
13		5409.73	5462.47	5462.61	
14		5409.56	5462.39	5462.57	
15		PIEZOMETER	OUT OF ORDER		
16		5409.23	5462.10	5460.82	
17		5408.94	5462.97	5460.85	
18		5408.94	5462.97	5460.69	
19		5409.65	5462.56	5461.32	
20		5409.61	5462.52	5461.23	
21		5409.61	5462.39	5461.23	
22		5409.65	5462.52	5461.23	
23		5409.61	5462.56	5461.07	
24		5409.44	5462.31	5460.82	
25		5409.31	5462.27	5460.73	
26		5409.48	5462.31	5460.78	
27		Plugged	5462.27	5460.73	
28		Plugged	5462.31	5460.65	
29		Plugged	5462.07	5460.63	
30		"	5462.27	5460.36	
31		"	5462.27	5460.36	

PIEZOMETER REFERENCE POINT	2-22	2-23	2-24	2-25	2-26	2-27
CASING ELEVATION	5493.90	5494.20	5496.68	5493.74	5486.53	5483.5
SURFACE ELEVATION	5492.56	5487.66	5491.54	5470.53	5483.53	5481.2
DAY						
1	5436.36	DRY	5484.22	5482.20	5450.95	5420.6
2	5436.40	DRY	5484.47	5482.16	5450.99	5420.6
3	5436.40	DRY	5484.31	5482.07	5450.99	5420.6
4	5436.32	DRY	5484.26	5481.91	5450.91	5420.6
5	5436.36	DRY	5484.35	5481.95	5450.91	5420.9
6	5436.40	DRY	5484.26	5481.82	5450.74	5420.9
7	5436.23	DRY	5484.18	5481.82	5450.79	5420.8
8	5436.07	DRY	5484.14	5481.78	5450.73	5420.76
9	5436.40	DRY	5484.18	5481.82	5450.61	5420.76
10	5436.40	DRY	5484.18	5481.82	5450.70	5420.7
11	5436.36	DRY	5484.18	5481.78	5450.70	5421.0
12	5436.32	DRY	5484.18	5481.24	5450.61	5420.9
13	5436.32	DRY	5483.93	5481.49	5450.53	5420.8
14	5436.36	DRY	5483.93	5481.41	5450.53	5420.8
15	PIEZOMETER OUT OF ORDER					
16	5435.82	DRY	5483.26	5480	5449.82	5420.3
17	5435.86	DRY	5483.18	5480.74	5449.78	5420.26
18	5435.82	DRY	5483.18	5480.74	5449.74	5420.1
19	5436.48	DRY	5483.26	5480.82	5450.20	5420.6
20	5436.44	DRY	5483.22	5480.82	5450.28	5420.9
21	5436.40	DRY	5483.18	5480.87	5450.11	5420.7
22	5436.44	DRY	5483.26	5480.74	5450.11	5420.7
23	5436.44	DRY	5483.10	5480.66	5450.20	5420.9
24	5436.40	DRY	5482.93	5480.49	5450.11	5420.7
25	5436.44	DRY	5483.01	5480.49	5449.99	5420.8
26	5436.48	DRY	5483.01	5480.49	5450.03	5420.6
27	5436.48	DRY	5482.89	5480.49	5449.99	5420.9
28	5436.48	DRY	5482.93	5480.37	5450.03	5421.0
29	5436.32	DRY	5483.01	5480.32	5450.1	5421.0
30	5436.48	DRY	5482.60	5480.24	5449.57	5420.6
31						
MEAN						
STD. DEV.						



547.0

#2 POND
PIEZOMETER 2-14, 2-7

5450

5450

5450

5430

5420

ELEVATION - FEET

5410

Bottomed
2-14

5400

5390

5380

2-7

5370

13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

MONTH JUNE 1980

16-2 10 X 10 TO THE INCH
7 X 10 IN. ALUMINUM
40 0707
KUPFER & ESSER CO.

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(

(

5470

#2

POND

PIEZOMETER 2-20, 2-13, 2-5 + 2-4

5460

5450

5440

5430

ELEVATION - FEET

5420

5410

5400

5390

5380

5370

2-20

2-13

2-5

2-4

5369.59

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

MONTH JUNE 1980

16-20 10 X 10 TO THE PUNCH
16-20 7 7/16 10 1/2 - 1/4 INCH
PAPER PENCIL NUMBER 60
50 0707

#2 POND
PIEZOMETER 2-6

5440

5430

5420

5410

5400

5390

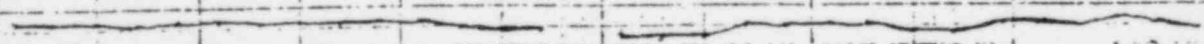
5380

5370

2-6

5360

5350



JUNE 1980 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

46 0782

10 X 16 TO THE INCHES
K. B. BROWN
K. B. BROWN & COMPANY CO. WASH DC

5470

#2 POND
PIEZOMETER 2-190, 2-195, 2-1, 2-2

5460

5450

2-195

5440

LEVATION - FEET

5430

2-190

5410

5400

2-2

5390

2-1

5380

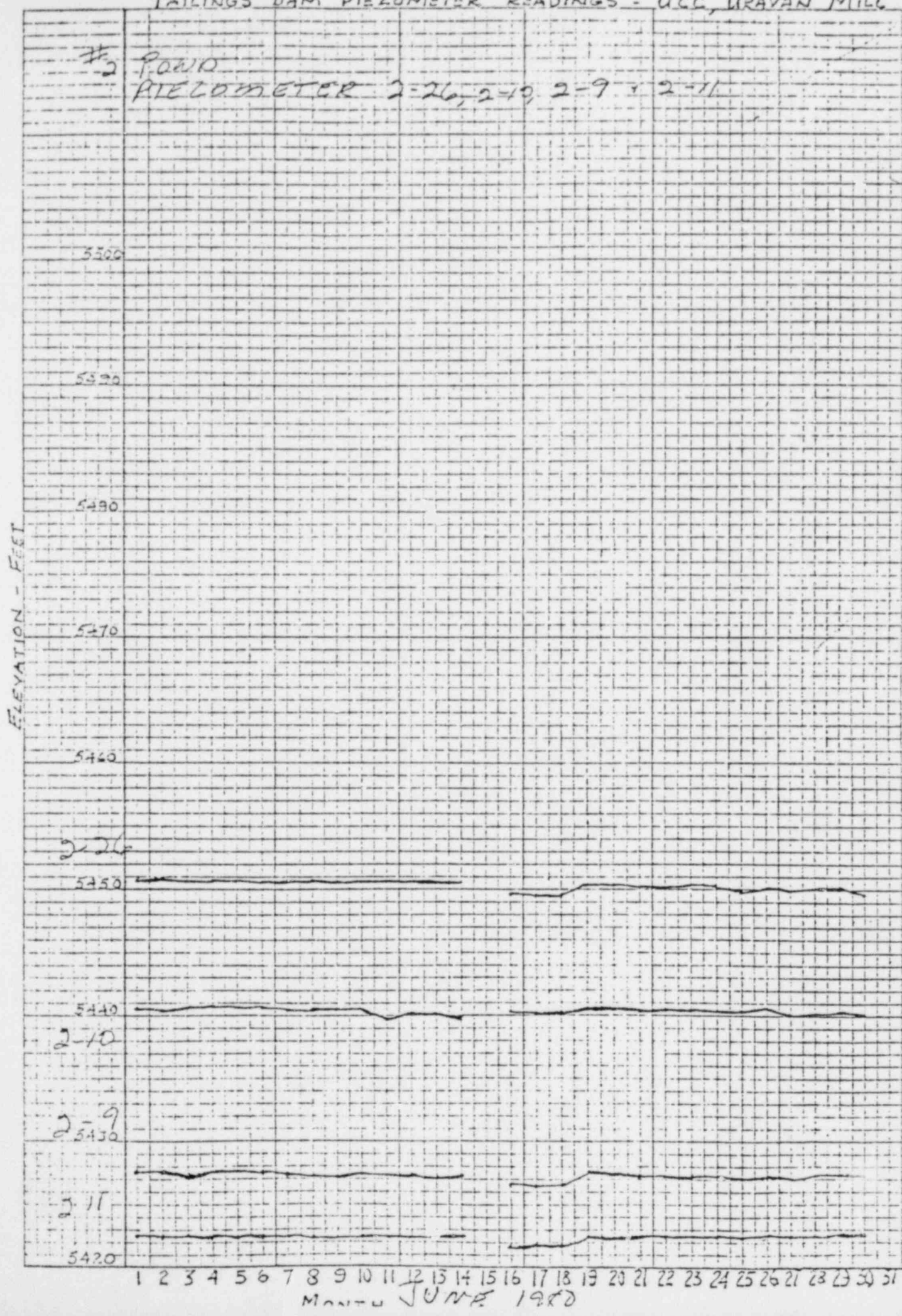
5370

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TIME 1987

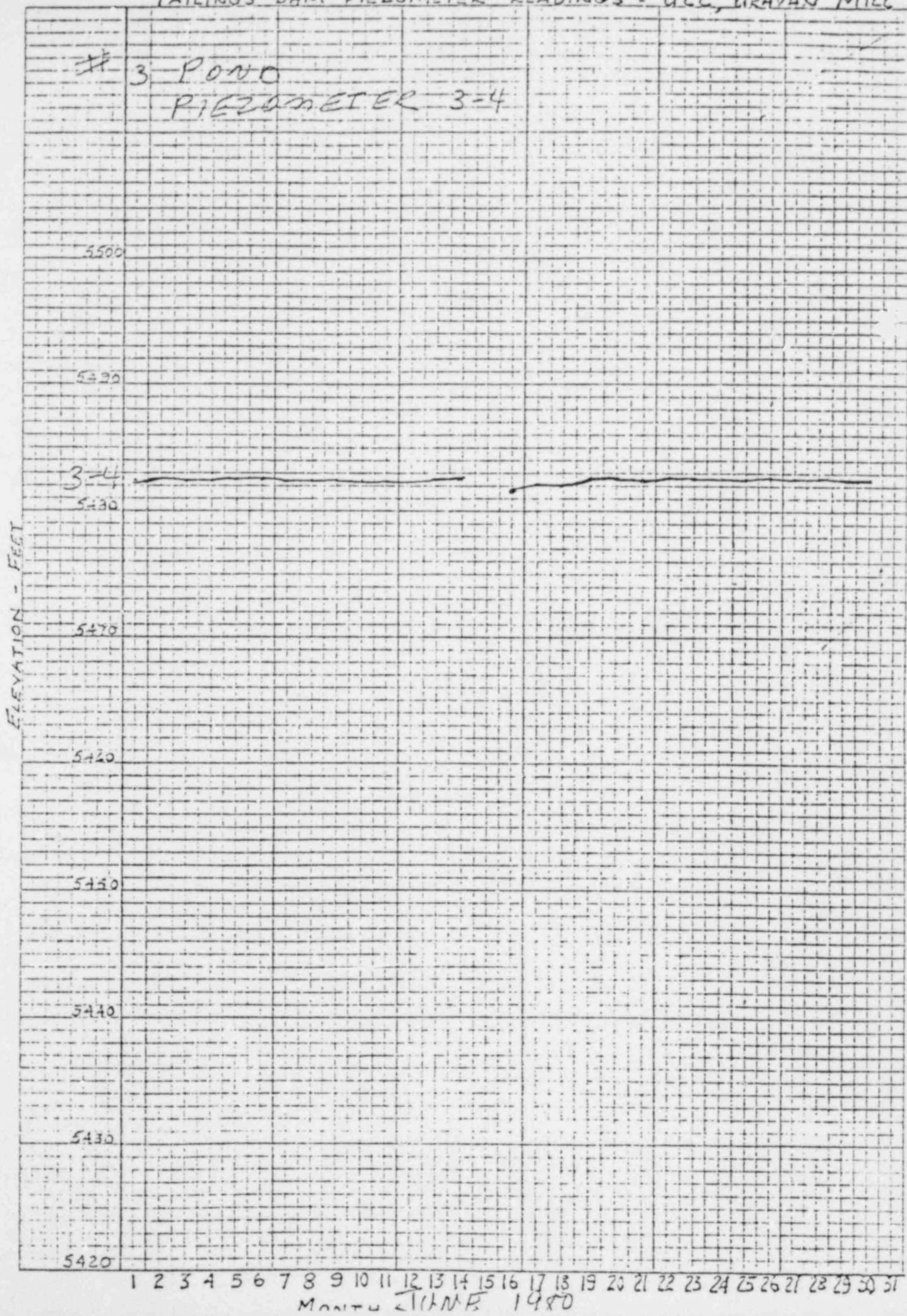
411 0207
411 0207
GEORGE & LEON CO.

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UNITED STATES GEOLOGICAL SURVEY

#2 Pond

PIEZOMETER

2-3

2-12

5440

5430

5420

5410

2-12

5400

5390

5380

5370

2-3

5360

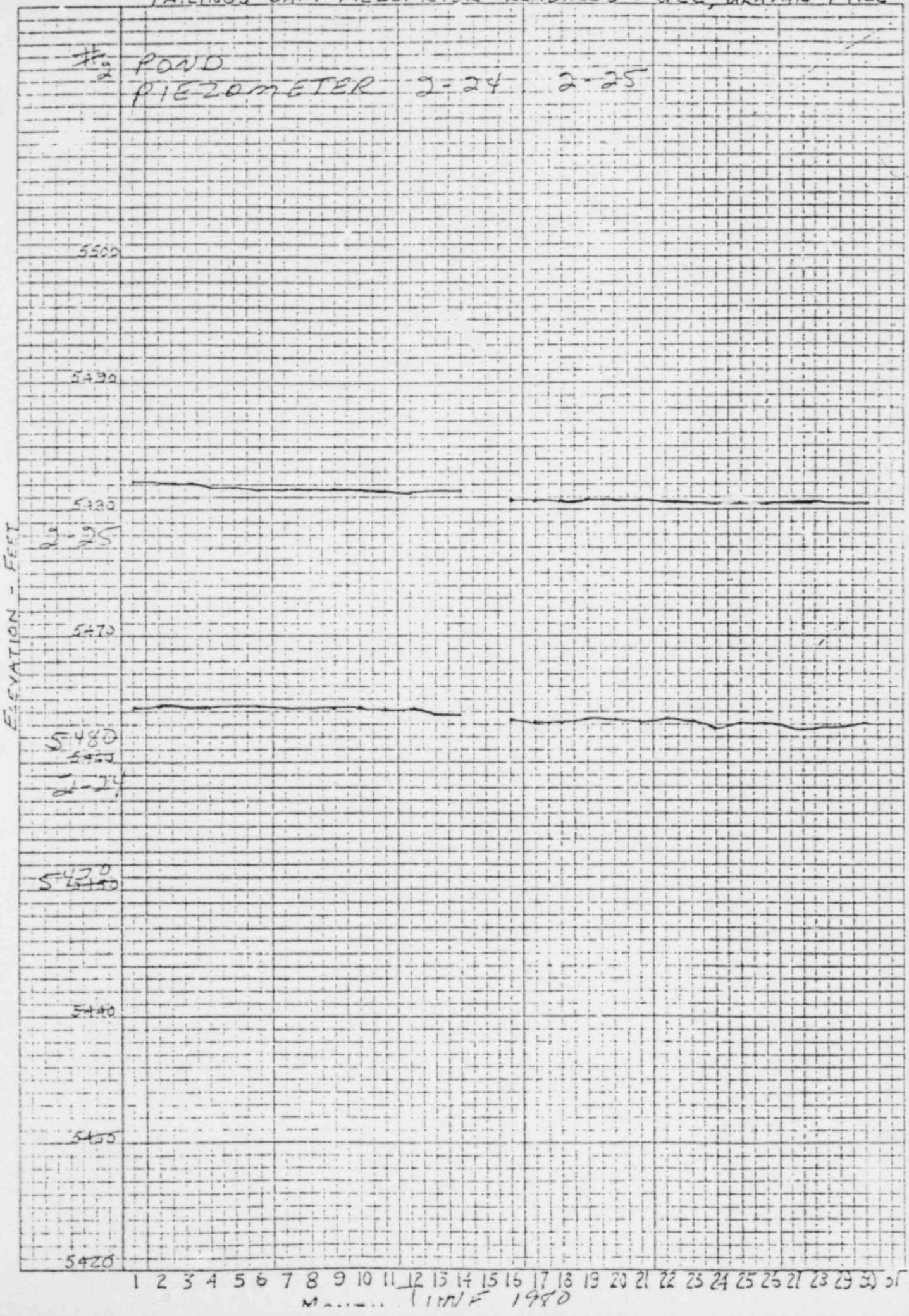
5350

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

46 0782

IN A 10 TO THE BUREAU OF GEOSURVEY
AT THE NATIONAL BUREAU OF STANDARDS

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GEOTECHNICAL CONSULTANTS
 INCORPORATED
 1000 EAST 10TH AVENUE
 DENVER, COLORADO 80202
 PHONE 303-733-1111
 FAX 303-733-1112

OPERATION COMMENTS

URAVAN, COLORADO

UNION CARBIDE CORPORATION
URAVAN ENVIRONMENTAL DEPARTMENT

Pond # 1

Month JUNE 1980

DAY	BEACH FT.	FREEBOARD FT.	SPIGOT LOCATION	SURVEYOR INITIALS	METEOROLOGICAL CONDITIONS
1	200/150	8' 5"	NONE	EH	CLEAR
2	200/150	8	O	EH	CLEAR
3	200/150	8	O	EH	CLEAR
4	200/150	8' 2"	O	EH	CLEAR
5	200/150	8' 3"	O	EH	CLEAR
6	200/150	8' 5"	NONE	EH	CLEAR
7	200/150	8.25'	NONE	NB	CLEAR
8	200/150	8.25'	NONE	SS	CLEAR
9	200/150	8	NONE	EH	CLEAR
10	200/150	8	NONE	EH	CLEAR
11	200/150	8.20	NONE	EH	CLEAR
12	200/150	8.30	NONE	EH	CLEAR
13	200/150	8.30	NONE	EH	CLEAR
14	200/150	8.25	O	EH	CLEAR
15	200/150	>8'	NONE	NB	CLEAR
16	200/150	>8	NONE	EH	CLEAR
17	200/150	>8	NONE	EH	CLEAR
18	200/150	8' 3 1/2	NONE	EH	CLEAR
19	200/150	8' 4"	NONE	EH	CLEAR
20	200/150	8' 4	NONE	EH	CLEAR
21	200/150	8' 5	NONE	SS	CLEAR
22	200/150	8' 5	NONE	EH	CLEAR
23	200/150	8' 4"	NONE	EH	CLEAR
24	200/150	8' 5"	NONE	EH	Hot/CLEAR
25	200/150	8' 6"	NONE	EH	CLEAR
26	200/150	8' 5	O	EH	"
27	200/150	8' 5"	O	EH	"
28	200/150	>8'	O	NB	CLEAR
29	200/150	>8	O	SS	"
30	200/150	8' 1"	O	EH	"
31					

UNION CARBIDE CORPORATION
URAVAN ENVIRONMENTAL DEPARTMENT

Pond: # 3

Month JUNE 1980

DAY	BEACH FT.	FREEBOARD FT.	SPIGOT LOCATION	SURVEYOR INITIALS	METEOROLOGICAL CONDITIONS
1	> 200	14' 2"	1640'	EH	CLEAR
2	> 200	14' 4"	1640'	EH	CLEAR
3	> 200	13' 11"	1260'	EH	CLEAR
4	> 200	14' 1 1/2"	800'	EH	CLEAR
5	> 200	14' 3"	1640'	EH	CLEAR
6	> 200	14' 3"	640	EH	CLEAR
7	> 200	> 14'	1140	MB	CLEAR
8	> 200	14' 3" 14.25	1100	SS	CLEAR
9	> 200	13' 10"	640'	EH	CLEAR
10	> 200	13' 5"	580'	EH	CLEAR
11	> 200	13' 2"	480	EH	CLEAR
12	> 200	12' 8"	440	EH	CLEAR
13	> 200	12' 9"	0	EH	CLEAR
14	> 200	12' 8"	360	EH	CLEAR
15	> 200	> 12.5'	280'	MB	CLEAR
16	> 200	13'	280	EH	CLEAR
17	> 200	13' 3"	240	EH	CLEAR
18	> 200	13' 1"	200'	EH	CLEAR
19	> 200	12' 11"	160	EH	CLEAR
20	> 200	13' 4"	120	EH	HOT
21	> 200	13' 5"	80	SS	CLEAR
22	> 200	12' 8 1/2"	20	EH	CLEAR
23	> 200	12' 5 1/2"	1640	EH	CLEAR
24	> 200	12' 7 1/2"	1460	EH	CLEAR HOT
25	> 200	13' 2"	1420	EH	CLEAR
26	> 200	13' 4"	1380	EH	"
27	> 200	13' 5"	1340	EH	"
28	> 200	> 12.75"	1300	MB	CLEAR
29	> 200	12.50	1260	SS	"
30	> 200	12' 7"	1220	EH	"
31					

Month JUNE 1980

TAILING PILE SURFACE SEEPAGE

DATE	WEIR #1 FLOW GPM	WEIR #2 FLOW GPM	WEIR #3 FLOW GPM	WEIR #4 FLOW GPM	WEIR #5 FLOW GPM	WEIR #6 FLOW GPM
1	—	401	—	.64		
2	—	401	—	1.27		
3	—	401	—	1.27		
4	—	401	—	.64		
5	—	401	—	.64		
6	—	401	—	0		
7	—	401	—	1.27		
8	—	401	—	0		
9	—	0	—	19.7		
10	—	0	—	1.27		
11	—	0	—	1.27		
12	—	0	—	.64		
13	—	0	—	.64		
14	—	0	—	.64		
15	—	401	—	TRACE		
16	—	401	—	.64		
17	—	401	—	.64		
18	—	401	—	.64		
19	—	401	—	40.5		
20	—	401	—	7.16		
21	—	401	—	19.7		
22	—	0	—	.64		
23	—	0	—	.64		
24	—	0	—	.64		
25	—	401	—	.64		
26	—	0	—	.64		
27	—	0	—	.64		
28	—	0	—	TRACE		
29	—	0	—	0		
30	—	401	—	.64		
31						
MEAN FLOW						

- Locations: #1 - #3 Pile Seepage Ditch
 #2 - Decant Liquor to Upper Return Water Pond
 #3 - #2 Pile - Lower Return Water Pond
 #4 - #1 Pile - Club Mesa Drainage
 #5 - #2 Pile - West Slope Drainage
 #6 - #2 Pile - Center Slope Drainage

16S54