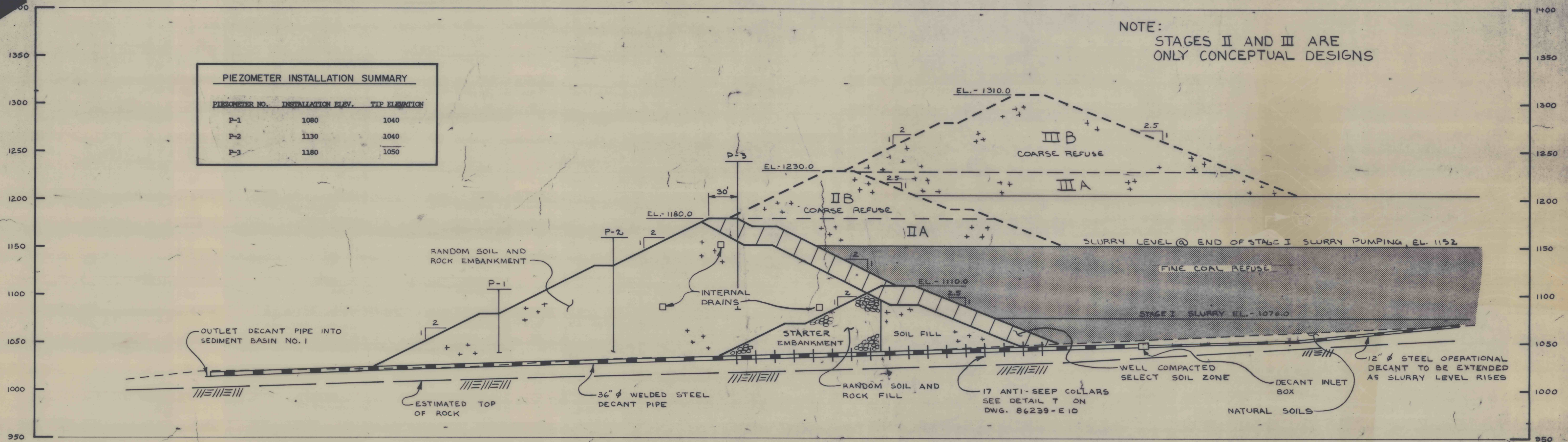
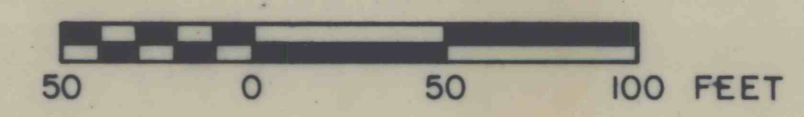


DATE	BY	REVISION	RECORD	DR.	CC



PIEZOMETER NO.	INSTALLATION ELEV.	TIP ELEVATION
P-1	1080	1040
P-2	1130	1040
P-3	1180	1050

GENERALIZED SECTION THROUGH THE IMPOUNDMENT  
SCALE: 1" = 50'



SUMMARY OF IMPOUNDMENT STAGING

Stage	Stage Crest (Elev.)	Estimated Time to Construct		Embankment Volume (1) 106 CF	Slurry		Design Storm			Available Storage 106 CF	Method of Storm Control	
		Incremental (yrs.)	Cumulative (yrs.)		Volume (2) 106 CF	Crest (Ft.)	Type	Volume 106 CF	Crest (Elev.)			Freeboard (Ft.)
Starter	1110	0.17	0.17	99,700 cy	—	—	OPP	11.1	1105	5	15.7	36 in. diameter welded steel decant
Stage I	1180	0.58	0.75	428,600 cy	2.61	1076	PMP	62.2	1160.0	20	64.6	12 in. diameter operational decant
Slurry Pumping Phase	1180	11.57(3)	12.32	---	52.06	1152	PMP	143.6	1177.0 (Max.)	3.0 (Min.)	12.6	12 in. diameter operational decant and PMP emergency spillway at Elev. 1161.5
(STAGES II AND III ARE CONCEPTUAL DESIGN ONLY)												
Stage IIA	1180	0.19	12.51	3.09	0.85	1153.0	PMP	143.6	1177.0 (Max.)	3.0 (Min.)	8.7	Emergency spillway at Elev. 1161.5
Stage IIB (including spillway notch closure)	1230	0.33	12.84	5.34	1.47	1154.0	PMP	143.6	1227 (Max.)	3.0 (Min.)	94.9	PMP emergency spillway at Elev. 1211.5 NOTE: Spillway at Elev. 1211.5 must be operational prior to filling in notch of Stage I spillway
Total Refuse Pumping Phase	1230	4.0	16.84	Total Refuse Volume (4): 83.2	—	1205.0	PMP	143.6	1227 (Max.)	3.0 (Min.)	11.7	Emergency spillway at Elev. 1211.5
Stage IIIA	1230	0.47	17.31	7.68	2.12	1206	PMP	143.6	1227 (Max.)	3.0 (Min.)	9.6	Emergency spillway at Elev. 1211.5
Stage IIIB (including spillway notch closure)	1310	1.01	18.32	16.46	4.55	1208	PMP	143.6	1227 (Max.)	3.0 (Min.)	21.3	PMP storm stored
Total Refuse Pumping Phase	1310	11.67	30.0	Total Refuse Volume: 242.7	—	1291.5	PMP	143.6	1307.0 (Max.)	3.0 (Min.)	0	PMP storm stored for approximately 8.5 years. NOTE: PMP Emergency Spillway at Elev. 1291.5 must be operational when slurry level reaches approximate Elev. 1242.

- The Starter and Stage I embankments are to be constructed of strip mine spoil and spillway excavation materials.
- The estimated slurry production rate is  $4.5 \times 10^6$  cu. ft./yr.
- The estimated coarse refuse production rate is  $16.3 \times 10^6$  cu. ft./yr.
- Cumulative years includes 12.3 MCF of storage added to the impoundment due to mining of the Lower Hershaw Seam. (Starter and Stage I embankment volume less spillway excavation volume)
- The estimated total refuse production rate is  $20.8 \times 10^6$  cu. ft./yr.

**SRW ASSOCIATES INC.**

SCALE: AS NOTED    APPROVED BY: *[Signature]*    DRAWN BY: D. BRENT  
DATE: AUG. 14, 1986    CHECKED BY: *[Signature]*

BETHERGY MINES CORPORATION  
WEST VIRGINIA DIVISION  
BROWN'S BRANCH IMPOUNDMENT,  
BOONE COUNTY, WEST VIRGINIA

GENERALIZED SECTION THROUGH THE IMPOUNDMENT    SHEET NUMBER 9 of 17  
DRAWING NUMBER 86239 - E.3