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State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Norman H. Bangarter
Governor

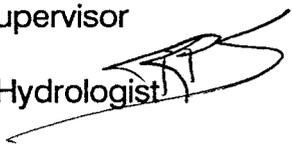
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April 18, 1991

TO: Daron Haddock, Permit Supervisor

FROM: Rick P. Summers, Senior Hydrologist 

RE: Proposed Spillway Modification, NOV Abatement Plan, N91-39-1-4: 1 of 4, (received March 22, 1991),
Proposed Small Area Exemption, NOV Abatement Plan, N91-39-1-4: 4 of 4, Hiawatha Mines, U.S. Fuel Co., ACT/007/011, Folder #2, Carbon County, Utah

Summary:

Abatement for NOV N91-39-1-4, 1 of 4

The proposal for the modification of the spillways for ponds D003 and D009 as submitted is not approvable. The proposed design is not prudent engineering. The intent of the open channel spillway regulation is to provide for a nonrestrictive, nonclogging passage for the design peak. The 3/4 round culverts proposed would require cross-bracing to maintain culvert integrity. This cross-bracing would potentially act as an impediment to the passage of debris.

Additionally, adequate freeboard is not maintained from the maximum flow depth at peak flow to the top of the open culvert. This freeboard appears to be less than 1/2 foot. Freeboard allowance cannot be given for the area from the top of the culvert to the top of the embankment due to the erodible nature of the removed embankment. There is significant potential for loss of the open culvert due to piping should the passage of the flow event overtop the open culvert and flow down the interface between the culvert and the embankment.

The Division recommends the most prudent design to meet the requirements of R614-301-742.223 would be the installation of an excavated, riprapped open channel spillway.

Additionally, the proposal needs to be formatted for incorporation into the existing MRP. Existing MRP narratives, cross-sections, and maps should be revised reflecting the proposed changes.

Page 2
Memo/Daron Haddock
ACT/007/011
April 18, 1991

The designs need to be certified by a registered professional engineer and a commitment to inspect the construction regularly and submit a final certification of the pond modification upon completion needs to be included (R614-301-512.300).

Abatement for NOV N91-39-1-4, 4 of 4

The Division has verified the applicant's drainage area, predicted runoff volume, and the stage-volume capacity of the proposed catch basin. The applicant's calculations are acceptable.

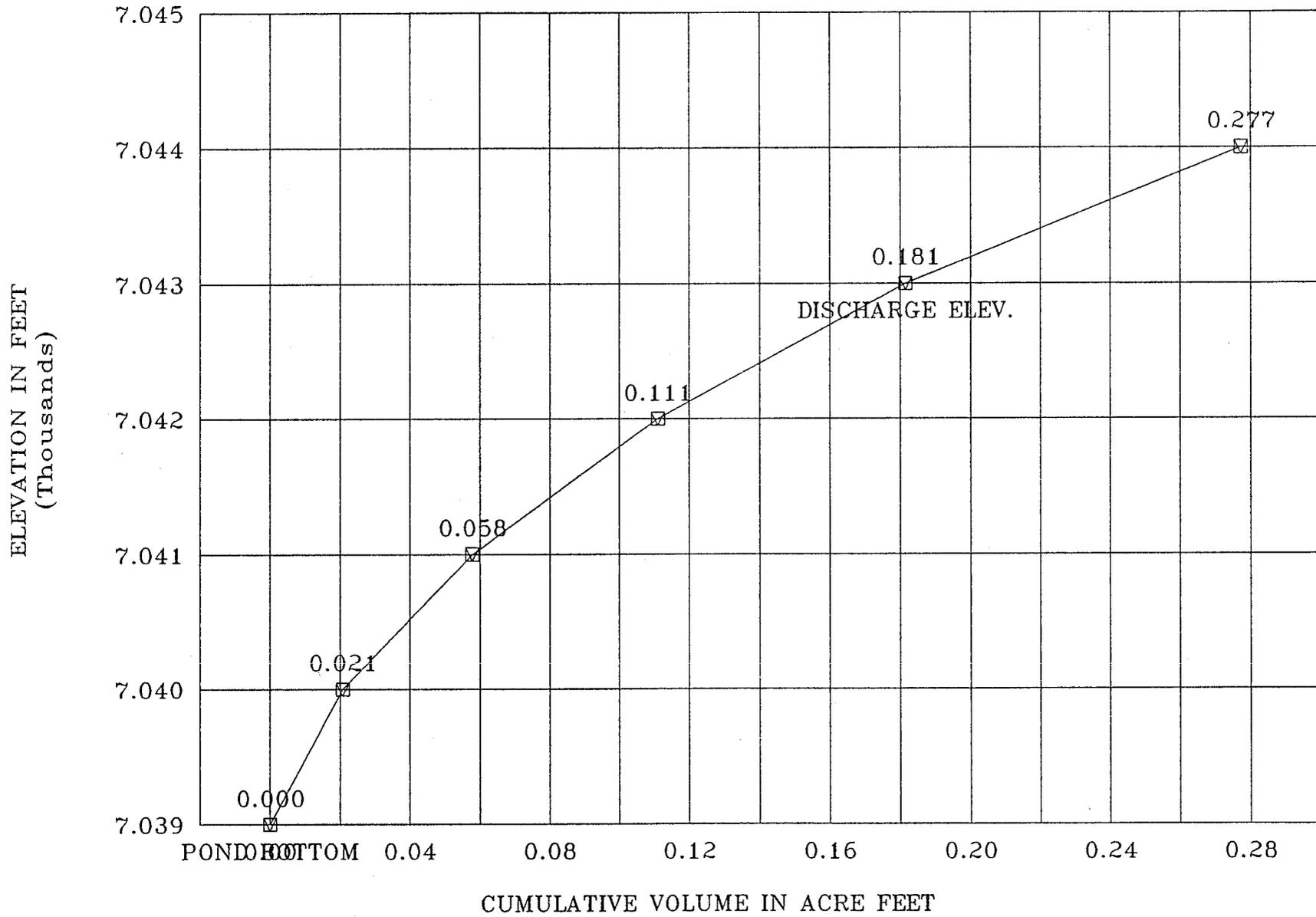
The proposal for the catch basin to treat the 1.88 acre area in the vicinity of the coal slurry pond #5 will be approvable following the receipt of the following information:

1. Clarify the discrepancy between soil types cited in the text and on figure 2 (i.e., styrch vs. Hernandez). The source of this information should also be cited.
2. Figure 1 needs a scale.
3. The proposal needs to be formatted for incorporation into the existing MRP. Existing MRP narratives, cross-sections, and maps should be revised reflecting the proposed changes.

I will be available to discuss any of these issues with the operator as needed.

STAGE VOLUME CURVE

HIAWATHA CATCH BASIN 4/18/91



STAGE VOLUME CURVE INPUT
 R.P. SUMMERS
 VERSION 1.0
 OCTOBER 27, 1989

INPUT POSSIBLE ON GREEN HIGHLIGHTS ONLY

TITLE 1ST LINE = STAGE VOLUME CURVE
 TITLE 2ND LINE = HIAWATHA CATCH BASIN 4/18/91
 X AXIS TITLE = CUMULATIVE VOLUME IN ACRE FEET
 Y AXIS TITLE = ELEVATION IN FEET

ELEVATION (FT)	AREA (FT2)	INC VOL (FT3)	CUM VOL (FT3)	CUM VOL (AC FT)	ENTER COMMENT AS APPROPRIATE
7039.00	547.00	0.00	0.00	0.000	POND BOTTOM
7040.00	1266.00	906.50	906.50	0.021	
7041.00	1961.00	1613.50	2520.00	0.058	
7042.00	2666.00	2313.50	4833.50	0.111	
7043.00	3476.00	3071.00	7904.50	0.181	DISCHARGE ELEV.
7044.00	4864.00	4170.00	12074.50	0.277	