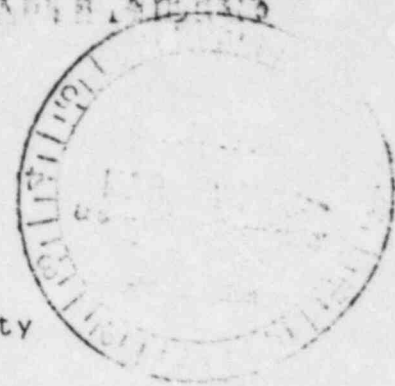


Return to USFO 467-SS
40-5492
PDR

FEDERAL-AMERICAN PARTNERS

307 4th Street
Gas 16th Street
RIVERTON, WYOMING 82501

March 1, 1983



Mr. W.C. Ackerman
Wyoming Department of Environmental Quality
401 West 19th Street
Cheyenne, WY 82001

Re: Subgrade Tailings Disposal
Plan, TFN 1 3/142

Dear Mr. Ackerman:

In your letter to me dated November 24, 1982, you asked for additional information relative to the sensitivity and applicability of the computer model used by Dames and Moore in the groundwater hydrologic studies of our tailings disposal plan and also that the time period be extended to assess impacts up to two hundred fifty years after reclamation.

Dames and Moore was asked to respond to these questions and two copies of their addendum report are enclosed. Please contact Mr. Murdock or Mr. Sharma if you have questions concerning this report.

You also suggested in your letter that if the material used to backfill the pit above the water table were borrowed from the pit wall, thereby increasing the size (and volume) of the pit, less storage capacity would be lost. This suggestion was studied by Federal-American Partners' Engineering Department and their analysis is presented in the enclosed memorandum from Gary Gavin to Bob Taylor. What you suggest is true but at some additional cost to the project as the memorandum indicates. The savings in storage capacity would still leave a shortfall in required storage volume of about thirty percent.

If you have further questions, please let me know.



Sincerely,
Niles J. Andrus
Niles J. Andrus
Acting Project Manager

NJA/mk

cc: Dan Gittan, NRC
Clint Smythe, TVA
Robert Davidson, TVA

FEE EXEMPT
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Info only

DESIGNATED ORIGINAL
Certified By *B Fisher*

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Office Memorandum

FEDERAL-AMERICAN PARTNERS

40-4492

TO : Bob Taylor *BT*

DATE: December 9, 1982

FROM : Gary Gavin

SUBJECT: Millwaste Alternatives

- Re: 1. DEQ Letter of June 10, 1982
Walt Ackerman
2. DEQ Letter of May 14, 1982
Bill Kearney
3. Dames & Moore Report of January
1981; Vols # 1 & 2
4. DEQ Letter of November 24, 1982
Walt Ackerman

A brief study was made to determine the economic and volumetric feasibility of the DEQ proposed alternative to above water table backfilling of the Sagebrush Millwaste area. The proposed alternative is as per DEQ letter of November 24, 1982 to Niles Andrus. The basic difference in this proposal is that backfill material would be "borrowed" from the pit wall. Thus, this alternative would increase the size, and volume, of the pit and less storage capacity would be lost.

In order to accomplish this a topsoil stockpile must be moved to an alternate location. Location, and thus haulage profiles, were computed for an area within approximately 1400'. Two basic haulages would be required in order to move the pit wall material to the backfill area. The first (profile #1) would require movement of the material above 6520' up a constructed ramp and out of the pit wall area. The second (profile #2) would be removed by a constructed ramp down to the pit floor. This profile would reduce haulage time and cost. For the purpose of this study only average estimated profiles were considered.

One additional item that should be addressed, for this proposal, is that of pit wall remnant ores. If this alternative is required, and mining is accomplished, royalty notifications must be made. This could lead to a substantial amount of time and cost, by the developer. Mining permits for the area may also be required.

A typical cross-section and proposed contour of the pit wall borrow area is enclosed. A brief rundown of economics, and storage volumes:

Economics

A brief estimation using average haulage profiles based on the same format as the September 9th memo:

Verified by

B. John

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Bob Taylor
 December 9, 1982
 Page Two

<u>Item</u>	<u>Yards</u>	<u>Approximate \$/Yard</u>	<u>Cost</u>
a. Topsoil Stockpile Removal	31,000	1.11*	\$ 34,000
b. Backfilling of Pit to 6440	1,452,000		
Profile #1	618,000	2.84*	1,755,000
Profile #2	834,000	1.58*	1,318,000
Backfilling Total			3,107,000
c. Placement/Compaction of 3' Clay Liner on Pit Bottom	184,000	4.00	736,000
d. Placement of Liner on Walls			
Clay	102,000	4.00	480,000
Randon Fill	249,000	2.00	498,000
Total			4,821,000
Previous Total (9/9/82)			4,614,000
Variance			(207,000)

*Taken from average haul cycles at hourly cost of \$358/scrapper and supportive fleet.

The increase in cost, over the previous alternative, is largely due to the addition of equipment required for the ripping and dozing of the undisturbed pit wall yardage. Additions for the dozing of a ramp to the bottom of the pit were also made in order to lessen the haulage cycle. Additional refinements could be made to the backfilling cost estimation and design. It is evident, however, that no significant economic gains can be made by this proposal.

Storage Volume

Estimations made on the proposed alternative indicate that storage volume could be increased by roughly 300 acre feet. The total volume available would then be increased to 3,479,293 tons. As in the previous September 9th study, this is assuming a 6490 top elevation. This alternative would not meet the required storage volume by about 30%**.

A rundown of individual proposals:

	<u>DEQ #1</u>	<u>DEQ #2</u>	<u>FAP</u>
Capacity:			
Acre feet	1,857	2,157	3,220
Yards	2,995,960	3,479,293	5,194,923
Tons ore (1.35 tons/yard)	4,044,546	4,697,046	7,013,160

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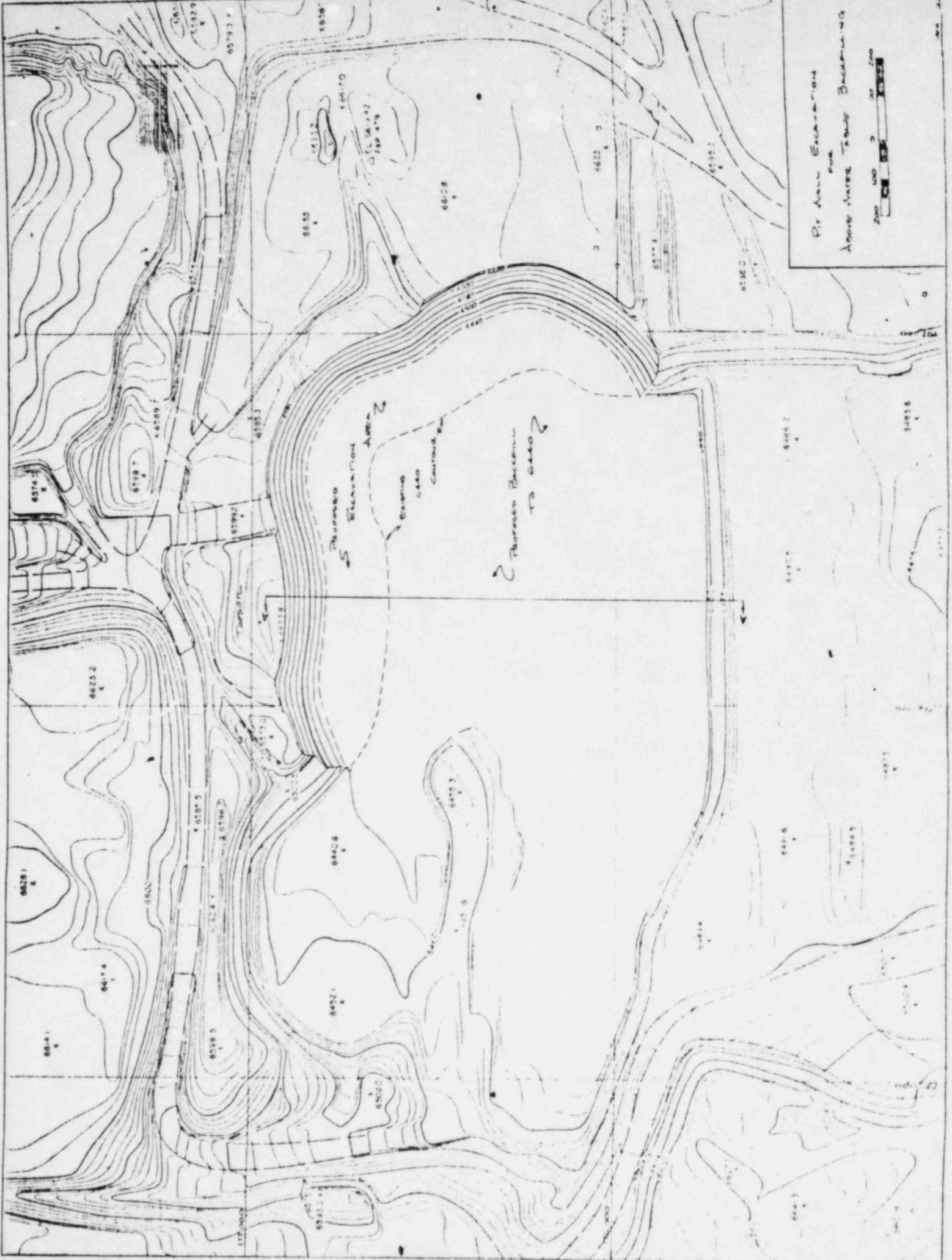
Bob Taylor
December 9, 1982
Page Three

Individual Proposals (cont.)

	<u>DEQ #1</u>	<u>DEQ #2</u>	<u>FAP</u>
Years Operation			
@ 1500 TPD	7.9	9.2	13.7
@ 2000 TPD	5.9	6.9	10.3

** The current reserve is estimated at 5,137,000 tons. Add 30% for additional reserve to be developed or acquired, and the result would be 6,678,000 tons ore.

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Proposed Excavation
from
Above Water Table Bottoming

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DEQ PROPOSAL #2

SECTION A-A'

SCALE H - 1" = 200'

V - 1" = 50'

