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June 17, 1993

To: Lowell Braxton, Associate Director

From: Randy Harden, Sr. Reclamation Engineer

RE: Blazon Mine Reclamation under Bond Forfeiture, ACT/007/021, Folder #2, Carbon County, Utah

Summary:

In consideration of reclamation requirements for the Blazon #1 Mine under bond forfeiture, the following analysis and cost information has been provided.

The basis for these cost data is in consideration that the current reclamation work at the site has failed to adequately meet the standard for success for implementation of an alternate postmining land use of light industrial. Since completion of reclamation work accomplished by the operator in 1988, no effort or activity has been observed to implement the alternate post mining land use. Consequently, due the failure of the alternate land use, the site would be required to be fully reclaimed to the pre-mining land use of wildlife and grazing.

Under bond forfeiture, insufficient funds are available to conduct total reclamation to the pre-mining land use. Reclamation of the site will have to be based on utilization of the remaining $38,000.00 in the forfeiture account. Reclamation costs for total reclamation are provided below in order to establish the priorities for which these funds will be expended.

Analysis:

Reclamation costs are based as individual costs for each item as separate activities. Cost reductions as a result of combining activities, primarily earthwork operations, if they are concurrent would be significant. Costs have been factored to include engineering, inspection and administrative costs associated with reclamation activities. Activities have been listed in order of priority and logical sequence for reclamation activities.

Breakdown of Reclamation Costs by Individual Activities:

1. Water Well. Abandon, test as necessary and plug using a certified water well driller.

   $ 1,500.00

2. Culvert Removals. Remove two 72" dia. culverts in Mud Creek and one 24" dia. culvert beneath the mine facilities pad for Little Snyder Drainage, regrade and restore channel, filter blanket material and riprap.

   $ 14,000.00

3. Sediment Pond. Backfill and regrade sediment pond, remove spillway structures, resoil backfilled area with oustslope materials from pond, re-seed and mulch backfilled area (≈0.2 acres).

   $ 3,500.00

4. Foundations and Structures. Remove concrete building pad, leach field system, and power lines.

   $ 5,000.00

5. Mine facilities pad area. Backfill and grade pad area (≈11,000 YD3), develop borrow area for topsoil cover, resoil backfilled area (≈2,100 YD3), re-seed and mulch backfilled and borrow area (≈1.3 acres).

   $ 18,500.00

6. Highwall Elimination. Construct temporary crossing over Mud Creek, remove vegetation, topsoil and cover material from existing reclaimed area earthwork, develop borrow area, transport material and backfill highwall area (≈5,800 YD3), resoil backfilled area (≈1,200 YD3), re-seed and mulch backfilled and borrow area (≈0.8 acres).

   $ 36,000.00

7. Mine Access Road. Regrade and reduce profile from haul road to jeep trail as per pre mining conditions (≈7,200 YD3), develop topsoil borrow area, resoil backfilled area (≈1,800 YD3), re-seed and mulch backfilled and borrow area (≈1.2 acres).

   $ 16,000.00

8. Stream relocation and restoration. Re establish approximate stream channel gradient in Mud Creek, relocate stream channel with suitable meanders to match upstream and downstream conditions. (≈850 ft of channel) Note - this cannot be accomplished unless items 3 through 7 are completed.

$ 14,000.00

Summary:

Total costs for accomplishing individual reclamation of each of the previous activities total $108,500. This amount should be considered as a high-end cost for reclamation of the Blazon Mine because these costs were considered as costs to contract and perform each activity separately. A more realistic cost for total reclamation including all of the above activities would be on the order of $60-80,000.

Recommendations:

In light of the amount of funds that are available to conduct reclamation work under bond forfeiture, it is recommended that items 1 through 5 above be completed to minimize to the best extent possible, safety and environmental related concerns at the Blazon site. The estimated cost for these reclamation activities could be expected to range from $30,000 to $45,000. Depending on detailed designs and actual bids for the reclamation work, the scope of work could be increased or reduced to maximize the current amount of funds available to the site for reclamation.

cc: J Carter
D Haddock
M Wright