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Norman H. Bangerter
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State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

355 West North Temple
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Salt Lake City, Utah 84180-1203
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June 19, 1990

Mr. Michael Glasson
Senior Geologist
Andalex Resources, Inc.
P. O. Box 902
Price, Utah 84501

Dear Mr. Glasson:

Re: **Permanent Impoundments, Andalex Resources, Inc., Wildcat Loadout Facility, ACT/007/033-90A, Folder #2, Carbon County, Utah**

Attached is a Technical Memorandum that reviews the above-referenced permanent impoundment at the Wildcat Loadout Facility.

Please provide four copies suitable for insertion into the approved Permit Application Package by no later than July 9, 1990.

Sincerely,

Pamela Grubaugh-Littig
Permit Supervisor

djh
Attachments
cc: J. Emmons, DOGM
B. Malencik, DOGM, PFO
AT45/156

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June 18, 1990

TO: Pamela Grubaugh-Littig, Permit Supervisor

FROM: Jeff Emmons, Reclamation Hydrologist J.E.

RE: **Amendment to Permit Application Package, Permanent Impoundment, Andalex Resources, Inc., Wildcat Loadout, ACT/007/033, Folder #2, Carbon County, Utah**

Synopsis of Proposal

Currently, the Permit Application Package (PAP) proposes to extend Diversion UD-1 650 feet to intercept the undisturbed drainage located west of the existing impoundment. Due to topography and slope requirements, and environmental destruction, the Division determined it was not feasible to extend Diversion UD-1. A variance was granted by the Division based on a field inspection. Subsequently, the Division asked the operator to permit a permanent impoundment as an alternative to Diversion UD-1. The operator's first submittal was received on January 29, 1990.

On June 6, 1990, Susan White, Tom Munson and I met with Mr. John Pappas at the Wildcat Loadout to discuss the plan for utilizing the existing impoundment and small depression adjoining the impoundment for total containment of the disturbed drainage mentioned above. Sedimentation ponds act as final control for water leaving the disturbed area.

Based on the June 6, 1990 inspection, the amendment to the PAP includes construction of a combined overflow from the existing impoundment and the construction of a five-foot berm and combined overflow to increase the capacity of the existing depression. The drainage intercepted by the partial extension of UD-1 will be returned to the original drainage pattern.

This memo details the information needed by the Division to finalize this amendment and approve the plans.

Analysis

To expedite the amendment review process, I have compiled the following list of items that must be addressed in subsequent submittals. Additional information may be required to complete the review. The submittal review will be based on the new rules which became effective April 12, 1990.

1. **Existing Permanent Impoundment**

   (a) Surveyed volume calculations to determine capacity of the impoundment with required freeboard.

   (b) Certified map and cross section of impoundment.

   (c) Details of a nonerodible open channel spillway capable of passing the 100-year, 6-hour storm with riprap design included.

2. **Depression Area**

   (a) Volume calculation to determine capacity of the enlarged depression with required freeboard (one foot).

   (b) Certified map and cross section of new five-foot berm.

   (c) Details of a nonerodible open channel spillway and riprap sizing.

   NOTE: The operator can use the combined capacity of the two depressions to show if the volume of the 10-year, 24-hour storm will be safely contained within the two impoundments with adequate freeboard.

3. **Upper Diversion**

The farthest reach of Diversion UD-1 intercepts a small natural drainage coming off the rim of the small canyon. To re-establish the drainage pattern, a berm must be constructed.

   (a) Details of berm must be submitted. Field discussions indicated an acceptable design would include berm with a height of four feet, a top width of two feet, a 2:1 side slopes, and the utilization of existing available riprap material on the upstream face.

(b) The plan must commit to the use of additional erosion control measures approved by the Division if erosion becomes apparent on the upstream face of the berm.

4. **Lower Diversion**

The midsection of the UD-1 extension has also blocked a natural drainage ditch. To re-establish the natural drainage pattern, the channel will have to be reconstructed through the blocked drainage ditch.

(a) Details of the channel must be submitted. Field discussions indicate an acceptable design would include a channel two feet deep, two feet wide, and a side slope of 2:1. This would achieve two purposes: (1) to repair the gully formed upstream of the fill; and (2) to prevent the drainage from meandering out of the channel and causing additional erosion.

5. **Reclamation Plans**

(a) Identify on Map Plate 15 or subsequent map which portion of UD-1 will remain as a permanent diversion following final reclamation.

(b) Immediate reclamation plans for the areas of UD-1 disturbed through reconstruction of the natural drainage.

(c) Final reclamation plans for the impoundment created in the depression area.

djh
cc: T. Munson, DOGM
AT54/3-5