0005

007/019#3

STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

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October 30, 1987

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

Dear Mr. Glasson:

Re: Approval of PAP Amendment, Culvert Installation for Culvert Installation, Andalex Resources, Inc., Pinnacle Mine, ACT/007/019-87B, Folder #3, Carbon County, Utah

The Division has completed its review of Andalex Resources request to install additional drainage culverts to handle mine yard area runoff at the Pinnacle Mine. Division hydrologist, Kent Wheeler has reviewed the proposal and recent information submitted as part of the 5-year permit renewal package. He has prepared a technical memorandum recommending approval of this amendment. Please refer to the attached memorandum to file for an explanation of the review. The extra copies of the original mine yard surface facilities area drawings will be forwarded to pertinent state and federal regulatory agencies to update copies of the approved mining and reclamation plan for the Pinnacle Mine.

Thank you for your cooperation in completing this permitting action. Please contact me or Susan Linner, Permit Supervisor, should you have any questions concerning the approval of this permit amendment.

Sincerely,

D. Wayne Hedberg

D. Wayne Hedberg
Data Management Coordinator

djh
Attachment
cc: P. Rutledge
R. Hagen
S. Linner
K. Wheeler
P.F.O.
8992R-22

October 23, 1987

TO: File

FROM: Kent Wheeler, Reclamation Hydrologist

RE: Technical Review of Drainage Modifications at Andalex Resources, Pinnacle Mine, (received Aug. 28,1987), PRO/007/019, Carbon County, Utah

SUMMARY

The above referenced applicant installed two 18 inch culverts to improve drainage around the substation area. The original maps submitted with this proposal were of insufficient detail to determine the peak flows from the watershed area. Since that time new maps were submitted with the MRP; from these maps the drainage area and slopes were calculated.

ANALYSIS

The expected peak flows from the drainage area is 1.15 cfs. The 18 inch culverts can easily pass this flow with the available headwater (see enclosed calculations).

RECOMMENDATIONS

The proposed drainage modification is acceptable and should be approved.

cc: S. Linner
W. Hedberg
R. Summers
D. Darby
1239R-73

Technical Review of Drainage Modification
(Addition of 2-18" culverts at substation area

Area - Average calculated using length x width of a rectangular drainage area. Drainage area is outlined in Red on Plate 6 (Recieved Oct 8, 1987) 10% was added to area because of poor definition of W.S. boundaries

$$250' \times 160' = \frac{44{,}000\ ft^2}{43560\ \frac{ft^2}{Acre}} = 1\ Acre$$

Slope - uniform

$$\frac{Rise}{Run} \quad \frac{50\ ft}{60\ ft} = 83\%$$

Hy Length = 200 ft

CN = 93 wieghted to take substation roof into consideration

Precip 100 yr - 24 hr 1.82 in

Q_p = 1.15 cfs → Fig 4-28 P-189 Handbook of Steel Drainage & Hiway Const. Prod. shows Less than 9 in of HW required

∴ This Culvert is sufficiently sized to pass the expected peak flows