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State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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March 20, 1995

Mike Glasson, Sr. Geologist
Andalex Resources, Inc.
P. O. Box 902
Price, Utah 84501

Re: Remote Fan Installation, Andalex Resources, Inc., Centennial Mine, ACT/007/019-94G, Folder #3, Carbon County, Utah

Dear Mr. Glasson:

The Division has reviewed the latest of your proposed plans for installation of a new fan at the Centennial Mine. A copy of the Technical Analysis (TA) is enclosed. While Andalex has adequately addressed a large share of the regulatory requirements for this installation there still remain a few items that have not been addressed. These are discussed in the TA and are summarized on Pages 11 and 12. Please review the TA and provide a response to the deficiencies by no later than April 20, 1995.

If you have any questions, please call.

Sincerely,

A handwritten signature in black ink that reads "Daron R. Haddock".

Daron R. Haddock
Permit Supervisor

enclosure

cc: P. Grubaugh-Littig
P. Baker
S. Johnson
W. Western

fancover.cen



TECHNICAL ANALYSIS
IBC, REMOTE FAN INSTALLATION
ANDALEX RESOURCES INC.

Centennial Mine
ACT/007/019-94G
March 17, 1995

ADMINISTRATIVE INFORMATION

RIGHT OF ENTRY INFORMATION

Regulatory Reference: R645-301-114

Analysis:

The proposed amendment includes a copy of a right-of-way grant/temporary use permit from the Bureau of Land Management (BLM). The right-of-way is for an access road 16 feet wide and 3000 feet long, a pad site 70 feet wide and 250 feet long, and two coal tunnels.

Andalex proposes to place its topsoil pile within the current permit area. The fan portal itself would also be in the current permit area; only two entries would be in the right-of-way.

The present mining and reclamation plan quotes the federal leases as saying, "The lessor. . . grants and leases to the lessee. . . the right to construct all works, buildings, structures, equipment, and appliances which may be necessary for the mining and preparation of the coal for market. . .". Therefore, Andalex has the right to construct facilities within its current permit area.

Part of the proposed access road would be on State and private lands. Andalex has submitted right of entry information for these portions of the road. The approvals are to be inserted in Appendix J of the mining and reclamation plan. The State of Utah, Division of School and Institutional Trust Lands Administration, issued easement 302 on December 16, 1994. Gladys Artman, the owner of the private land, granted an easement across the southwestern corner of her property.

Findings:

Andalex has complied with the requirements of this regulation.

Page 2
Fan IBC Analysis
ACT/007/019
March 17, 1995

UNSUITABILITY CRITERIA

Regulatory Reference: R645-301-115

Analysis:

The material received in the submittal does not address this issue.

According to information from the BLM, the existing road is not considered a public road in either the county or BLM transportation plan, and the BLM does not spend money to maintain it. Therefore, the facilities proposed to be permitted are not within 100 feet of a public road.

Andalex is proposing that the access road be permitted as an ancillary road. The intersection of a permitted road with a public road is not considered mining and reclamation operations for which the Division needs to provide an opportunity for a public hearing. However, Andalex needs to discuss their proposed activities with Carbon County officials because there are potential safety and other factors that the County might want to consider. These issues are not within the scope of this regulation.

Findings:

Andalex does not need to include additional information in this section of the mining and reclamation plan to comply with this regulation.

ENVIRONMENTAL RESOURCE INFORMATION

SOILS

Regulatory Reference: R645-301-200

The Division received supplemental information on November 10, 1994 to the soil survey and topsoil salvage plan. With this additional information the plan is considered adequate with regard to topsoil salvage and protection.

Findings:

The commitment for the removal and segregation of topsoil from the surface

Page 3
Fan IBC Analysis
ACT/007/019
March 17, 1995

disturbance associated with the installation of the Left Fork Fan, as revised, is adequate to meet the minimum regulatory requirement for topsoil salvage.

VEGETATION AND WILDLIFE RESOURCE INFORMATION

Regulatory Reference: R645-301-320

Analysis:

The submittal includes a soil survey report that includes general descriptions of the vegetation. Vegetation descriptions are correlated with range site categories. Range sites in the area include Upland Stony Loam (Pinyon-Juniper) of the Cabba family soils and the Datino soils, and Mountain Stony Loam (Oak) of the Brycan soils. Predominant species include Gambel oak, salina wild rye, big sage, low gray sage, Utah juniper, and pinyon. Vegetation in the Brycan soils areas is almost exclusively Gambel oak.

The soils and vegetation in this area are very similar to those in the main mine area. Because less than one acre will be disturbed and because the vegetation is similar to that in the Right Fork of Deadman Canyon, it is not necessary to establish a new reference area, and more detailed general vegetation information is not needed.

The current plan also includes wildlife information about this area. A golden eagle nest is in the cliffs above the proposed fan portal. This nest has been very productive in the past although it was not active in 1994.

The lower part of the access road is within critical deer winter range, and part of the proposed disturbance is in high priority elk winter range.

The Book Cliffs provide habitat for a candidate threatened or endangered species, canyon sweetvetch (*Hedysarum occidentale* var. *canone*). Although this species has no legal protection except under BLM regulations, it should be avoided if possible. Bob Thompson of the U. S. Forest Service searched the area for this plant and did not find it or suitable habitat. This information is in a letter to be inserted in Appendix M of the mining and reclamation plan.

Findings:

Andalex has complied with the requirements of this regulation.

Page 4
Fan IBC Analysis
ACT/007/019
March 17, 1995

LAND USE RESOURCE INFORMATION AND HISTORIC AND ARCHÆOLOGICAL RESOURCES

Regulatory Reference: UCA R645-301-411.100; R645-301-411.200, R645-301-411.140

Analysis:

The proposal includes the findings of an archæological survey performed on September 21, 1994. The investigators only checked the proposed pad and new access road areas, but the existing access road was checked in a 1986 survey by Senco-Phoenix. No sites were found in either survey. The Division should recommend a cultural clearance to the State Historic Preservation Officer.

Premining land uses include wildlife, limited grazing, and recreation

Findings:

Andalex has supplied information and included commitments in the mining and reclamation plan adequate to satisfy the requirements of this regulation. The Division should recommend that the State Historic Preservation Officer give a clearance for this project.

OPERATION PLAN

INTERIM STABILIZATION

Regulatory Reference: R645-301-331

Analysis:

Andalex has included a footnote to one of its seed mixes indicating this seed mixture and shrub list will be used for interim reclamation in the left hand fork fan installation and on the new topsoil pile. The seed/planting mixture was developed primarily for establishing vegetation in the proximity of a non-perennial stream channel. The area Andalex is proposing to disturb is partly along a stream channel and partly an upland area, but the upland area is relatively mesic. Both the seed and planting mixtures are appropriate. Narrowleaf cottonwood trees would probably only survive near the channel, but Andalex can adjust precise planting locations.

Findings:

Andalex has complied with the requirements of this regulation.

FISH AND WILDLIFE PROTECTION

Regulatory Reference: R645-301-333

Analysis:

The current mining and reclamation plan contains a wildlife report from the Division of Wildlife Resources including some wildlife protection recommendations. Among these are statements that deer and elk winter ranges need to be protected from man's disturbance when the animals are present. The report also says active golden eagle nests are extremely sensitive to man's disturbance within a one-half kilometer radius between April 15 and July 15.

The BLM right-of-way contains stipulations that are more specific and in line with current recommendations. Andalex has included these stipulations as commitments in the mining and reclamation plan. They are:

1. No construction activities will occur within one-half mile of the golden eagle nest in the Left Hand Fork during the nesting season, February 15 through July 15, if it is determined that the nest is active.
2. There will be no construction activities from December 1 to April 15 to minimize disturbance to wintering elk and deer.
3. Except for snow removal, all routine maintenance should be done from within the mine.

The commitments discussed above and those already in the plan should be adequate to protect important biological resources.

Findings:

Andalex has complied with the requirements of this regulation.

Page 6
Fan IBC Analysis
ACT/007/019
March 17, 1995

ROAD SYSTEMS AND OTHER TRANSPORTATION FACILITIES

Regulatory Reference: 30 CFR Sec. 784.24, 817.150, 817.151; R645-301-521, -301-527, -301-534, -301-732.

Analysis:

The Operator states in the PAP entitled IBC Remote Fan Installation dated February 21, 1995 that:

Upon completion of construction of the left hand fork installation, Andalex will preform a slope stability study to ensure that all road embankments of a minimum static safety factor of 1.3. This study will also determine that the cut and fill slopes of the pad have a minimum static safety factor of 1.3. It should be noted that the construction of the pad will be consistent with common construction practices including limiting the thickness of lifts to a maximum of four (4) feet.

In the technical review dated December 5, 1994 the Division said that:

The Operator must prove that all road embankments have a minimum static safety factor of 1.3.

Before the permit is issued, the Operator must show his ability to meet the minimum static safety requirements for the road embankments.

In a telephone conversation between Mike Glasson and Wayne Western on March 16, 1995 they discussed the need for a slope stability study. Mr. Glasson agreed to have a consultant (Dan Guy) conduct a slope stability analysis on the road embankment and pad. Mr. Western offered to allow the Operator or his consultant accepts to the Division's slope stability program.

The Operator has agreed to limit the lift high off the pad and all roads to a maximum of four feet. The maximum height of the lifts may have to be reduced depending on the slope stability study. If the soil needs to have a high cohesion to meet the minimum static safety factor then the lift height must be reduced.

Findings:

The Operator did not demonstrate that the road embankments meet the minimum static safety requirement. In a telephone conversation, Andalex agreed to have a consultant conduct the stability analysis.

HYDROLOGIC INFORMATION

Regulatory Reference: R645-301-722.500, 731.100, 731.600, 732.400, 742, 742.110, 742.300, 742.313, 742.320, 742.400, 751, 752, 760, 762

Analysis:

Construction of the fan portal and pad area in Left-Hand Fork of Deadman Canyon will require road improvements to an existing trail. The Bureau of Land Management (BLM) right of way application shows that the road will be graded from the existing county road to the fan portal pad. The purpose of the right-of-way is construction and maintenance access to the fan facility. Andalex has included two culverts into the design of the road and a series of water bars to rout water off of the road. The first culvert, located in the main canyon, is near the junction of the new road and the county road. The second is located below the pad fill, and is called the Upper Canyon Culvert. Andalex has included calculations and designs for the culverts. Portions of the road and the pad, and the entire topsoil pile are shown to be located within 100 feet of the stream channel.

Sediment control is shown on a Plate LF-1, Aberdeen Mine Left-Hand Fork Fan Installation Sedimentation/Drainage Control, as silt fence and/or straw dike along the base of the pad fill. Berms and a ditch will route flow from the upper portions of the pad to the sediment control measure. Top soil will be placed up canyon from the pad and will be encompassed by a berm.

Andalex proposes to build a road and pad within 100 feet of the Left-Hand Fork stream channel. The drainage area for this reach is greater than one square mile, so, by regulation, this is an intermittent stream. No stream alteration permit is required by the Utah Division of Water Rights because it is not by their definition a an intermittent or perennial stream. However, by the Utah coal mining rules it is an intermittent stream so all regulation regarding that definition, including stream buffer zones should be addressed to comply with R645-301-731.600, 732.400, and 742.320.

The use of alternate sediment control measures is allowable by the regulations. A diversion is shown on the map to help route flow to the sediment control, but there were no designs included for this diversion. Miscellaneous diversions should be designed to convey the 2-year, 10-hour storm event for miscellaneous flows (R645-301-742.333). Andalex has not included plans for sediment control in the construction stages of the pad and road and in the reclamation stages of these facilities. It is assumed that sediment control on the topsoil pile is a retention berm, but no design for such berm was included. The map shows a berm around the pad area but no designs or mention for sediment control on the pad.

Drainage control for the road includes two culverts which route the main channel under the road. Andalex has designed water bars to route the smaller drainages across the road. There is no reclamation times schedule or reclamation sediment control plans for the pad area, road, and culverts. Andalex should submit these plans in accordance with R645-301-542-600, 742.313, and 764.

Findings:

Andalex's amendment addressing the construction of the Left-Hand Fork Fan portal is not complete and should not be approved. The following items must be addressed prior to approval:

- 1) Andalex has not properly addressed activity within the stream buffer zone respecting the 48-inch culvert at the lower road/stream crossing and in places where the road will be improved within the stream buffer zone. (R645-301-731.600.)
- 2) Andalex should commit to do work within the stream buffer zone only in periods of no flow. (R645-301-731.600.)
- 3) Andalex has not submitted sufficient information and designs on miscellaneous diversions on the pad and top soil pile. (R645-301-742.330.) Diversions and any berm acting as a diversion should be designed by showing that the channels size is sufficient to convey the 10-year, 6-hour storm event. This made be completed by using any number of modeling method such as the computer models Storm and SedCad.

RECLAMATION PLAN

GENERAL REQUIREMENTS

Regulatory Reference: PL 95-87 Sec. 515 and 516; 30 CFR Sec. 784.13, 784.14, 784.15, 784.16, 784.17, 784.18, 784.19, 784.20, 784.21, 784.22, 784.23, 784.24, 784.25, 784.26; R645-301-231, -301-233, -301-322, -301-323, -301-331, -301-333, -301-341, -301-342, -301-411, -301-412, -301-422, -301-512, -301-513, -301-521, -301-522, -301-525, -301-526, -301-527, -301-528, -301-529, -301-531, -301-533, -301-534, -301-536, -301-537, -301-542, -301-623, -301-624, -301-625, -301-626, -301-631, -301-632, -301-731, -301-723, -301-724, -301-725, -301-726, -301-728, -301-729, -301-731, -301-732, -301-733, -301-746, -301-764, -301-830.

Page 9
Fan IBC Analysis
ACT/007/019
March 17, 1995

Analysis:

The Operator states that:

Reclamation of the pad, which is shown on the Cut Fill Cross section Plates, will occur immediately after cessation of mining. Reclamation will consist of culvert removal with appropriate drainage protection, and regrading and backfilling to the original contour. This will be followed by replacement of topsoil and appropriate sediment control such as straw dikes and silt fences will be employed to prevent additional sediment contributions to the drainage system.

The Division requested a contour map of the site after reclamation. The Division needs a contour map of the site in order to determine whether the reclamation requirements can be met. The Operator did not include a map showing the post-mining land configuration.

Findings:

The Operator did not supply the Division with a contour map showing the post-mining surface of the fan portal area and road as stipulated in the December 5, 1994 technical review.

REVEGETATION

Regulatory Reference: R645-301-341

Analysis:

The proposal includes no new plans for final reclamation under this regulation.

Section R645-301-341.210 of the proposed amendment has two seed/planting mixtures. There is a footnote under the second mixture saying it will be used for interim revegetation. The plan does not specify what seed mixture will be used for final reclamation. Either mixture could be used, but the one on page 80 has more species adapted to drainage areas and is probably more appropriate.

In 1994, Andalex attempted to transplant several shrubs on the topsoil pile near the Apex Mine. Vegetation is already established on this topsoil pile, but there are few shrubs.

Most or all of the transplants died. Rather than trying to transplant more shrubs onto the Apex Mine topsoil pile, Andalex should try shrub establishment techniques by planting them on the fan portal topsoil pile. The pile should be left in a roughened condition and seeded with the seed mixture on page 80. In the spring, Andalex should plant shrubs from the list shown on page 74. These species would not be used in final reclamation at the fan portal if Andalex uses the recommendations given above, but using them on the topsoil pile would give some indication as to whether they can be successfully transplanted at the main mine site and what methods will be needed. The shrubs may need irrigation and protection from wildlife.

The amendment says on page 61, section R645-301-310, that the drainage area reference area is the most adaptable to the left fork fan installation. This reference area is appropriate for judging revegetation success for the fan portal area.

Findings:

The plan needs to specify which seed/planting mixtures will be used for revegetation of the fan portal area. Andalex needs to try transplanting shrubs on the fan portal topsoil pile as a field trial.

POSTMINING LAND USES

Regulatory Reference: UCA R645-301-412

Analysis:

No new postmining land use information is presented for the fan portal area. The mining and reclamation plan says postmining land uses will be the same as premining uses.

According to Section R645-301-330, the road in the Left Fork of Deadman Canyon will be left permanently after reclamation. The mining and reclamation plan says Andalex will reestablish the terrain to as nearly the original as practical.

Although the road was present prior to any mining, it may have been an illegal road according to the Division of School and Institutional Trust Lands Administration. The easement from the State says Andalex must surrender the lands in the original land contour and that rehabilitation shall be done with the approval and to the specifications of the State. The second stipulation in the easement says, "GRANTEE shall have sixty (60) days after the expiration of the terms of this easement to remove said access road." This indicates the portion of the access road on State property should be entirely reclaimed.

Road reclamation was discussed with Gary Bagley of the Division of School and Institutional Trust Lands Administration. He felt, in accordance with the easement requirements, Andalex should commit to complete reclamation of the road. However, at the time of final reclamation, the State may decide it would rather have the road remain.

The mining and reclamation plan contains no comments from the person owning the private land, Gladys Artman. Also, the information submitted with this amendment contains no indication of reclamation requirements for the private land.

The plan contains comments on the postmining land use from the BLM, but they do not address the road issue. The right-of-way says all improvements need to be removed, implying the road only needs to be partially reclaimed. However, if the portion of the road on State land is fully reclaimed, the parts on private and BLM land would be unusable.

For the present, Andalex should commit to complete reclamation of the road. Before reclamation commences, however, they should obtain official comments from the State, Gladys Artman, and the Bureau of Land Management concerning their desires for the final disposition of the road. Reclaiming the road would be compatible with the approved postmining land use. If Andalex decides to try to only partially reclaim the road, the mining and reclamation plan would need to give some justification for leaving it as part of the approved postmining land use. If this is not possible, Andalex would need to seek a change in the postmining land use for this area.

Findings:

Andalex needs to commit to completely reclaim the road. Prior to final reclamation, and preferably sooner, Andalex should obtain official comments from the State, Gladys Artman, and the Bureau of Land Management concerning their desires for the final disposition of the road. Depending on these comments, Andalex will either need to completely reclaim the road or to justify leaving it for the postmining land use.

SUMMARY OF OUTSTANDING DEFICIENCIES

- 1) Andalex needs to specify which seed/planting mixture will be used for final reclamation. Andalex needs to try transplanting shrubs on the fan portal topsoil pile as a field trial.

- 2) Andalex has not properly addressed activity within the stream buffer zone respecting the 48-inch culvert at the lower road/stream crossing and in places where the road will be improved within the stream buffer zone. (R645-301-731.600.)
- 3) Andalex should commit to do work within the stream buffer zone only in periods of no flow. (R645-301-731.600.)
- 4) Andalex has not submitted sufficient information and designs on miscellaneous diversions on the pad and top soil pile. (R645-301-742.330.) Diversions and any berm acting as a diversion should be designed by showing that the channels size is sufficient to convey the 10-year, 6-hour storm event. This may be completed by using any number of modeling method such as the computer models Storm and SedCad.
- 5) The Operator must supply the Division with a map that shows the post-mining contours at the remote fan installation.
- 6) The Operator must demonstrate that the road embankments meet the minimum static safety factor.
- 7) Andalex needs to commit to completely reclaim the road. Prior to final reclamation, and preferably sooner, Andalex should obtain official comments from the State, Gladys Artman, and the Bureau of Land Management concerning their desires for the final disposition of the road. Depending on these comments, Andalex will either need to completely reclaim the road or to justify leaving it for the postmining land use.