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April 17, 2002

TO: Internal File

FROM: Gregg A. Galecki, Reclamation Specialist/Hydrologist III *AGH*

RE: Mathis Tract Incidental Boundary Change (IBC), Andalex Resources Inc. Centennial Project Mine, C/007/019-IB02A

SUMMARY:

On March 13, 2002, the Division received an application to include the 240-acre Mathis tract as an Incidental Boundary Change (IBC) to the currently approved Centennial Project Permit Area. The 240-acre Mathis tract amounts to a 4.64 percent increase in the Centennial Project permit area, lies within the current Cumulative Hydrologic Impact Assessment (CHIA) area, and does not include operations in hydrologic basins other than currently approved. The permit change qualifies as an IBC.

TECHNICAL ANALYSIS:

GENERAL CONTENTS

IDENTIFICATION OF INTERESTS

Regulatory Reference: 30 CFR 773.22; 30 CFR 778.13; R645-301-112

Analysis:

All owners and controllers of the mine operation were identified by name and address and confirmed to be current during the January permit renewal. No additional information is necessary.

TECHNICAL MEMO

Findings:

The information provided in the application is adequate to meet the minimum requirements of the Identification of Interests section of the regulations.

VIOLATION INFORMATION

Regulatory Reference: 30 CFR 773.15(b); 30 CFR 773.23; 30 CFR 778.14; R645-300-132; R645-301-113

Analysis:

Compliance information on the site is found in the MRP Appendix B, Attachment I-1. Available violation information currently in the MRP is for the 1987 – 1991 period. This section needs to be updated with a listing of all violations received within the last three years prior to the date of this application by Andalex and affiliated companies.

Findings:

The information provided should be updated with this application. Prior to approval and in accordance with:

R645-300-132 and **R645-301-113**, Please update the compliance information found in Appendix B, Attachment I-1.

RIGHT OF ENTRY

Regulatory Reference: 30 CFR 778.15; R645-301-114

Analysis:

The Right of Entry information is outlined in a document being added to the MRP named 'Memorandum of Mathis Lease to Appendix J'. As outlined, the term of the lease is January 1998 through December 2007. The details of the Mathis Tract IBC are also referenced in Section R645-301-114 of the application. The rights include both surface and subsurface leases from the Mathis Land Company in S ½ S ½, S ½ N ½ S ½, of Section 36, T12S, R10E, SLM, Utah, containing 240 acres.

Findings:

The information provided in the application is adequate to meet the minimum requirements of the Right of Entry section of the regulations.

LEGAL DESCRIPTION AND STATUS OF UNSUITABILITY CLAIMS

Regulatory Reference: 30 CFR 778.16; 30 CFR 779.12(a); 30 CFR 779.24(a)(b)(c); R645-300-121.120; R645-301-112.800; R645-300-141; R645-301-115

Analysis:

A revised Plate 29 has been submitted which outlines the existing coal lease boundary, and includes the size, sequence, and timing of the proposed mining. No additional information is necessary.

Findings:

The information provided in the application is adequate to meet the minimum requirements of the Legal Description and Status of Unsuitability Claims section of the regulations.

PERMIT TERM

Regulatory References: 30 CFR 778.17; R645-301-116

Analysis:

The mine permit was recently renewed. Current permit term is effective January 5, 2002, and expires on January 6, 2007.

Findings:

The information provided in the application is adequate to meet the minimum requirements of the Permit Term section of the regulations.

PUBLIC NOTICE AND COMMENT

Regulatory References: 30 CFR 778.21; 30 CFR 773.13; R645-300-120; R645-301-117.200.

Analysis:

A public notice and comment period was not required for the requested amendment application. No public notice was submitted.

Findings:

No additional information was required for the current application.

TECHNICAL MEMO

FILING FEE

Regulatory Reference: 30 CFR 777.17; R645-301-118.

Analysis:

No filing fee is required for an Incidental Boundary Change (IBC).

Findings:

No filing fee is required.

MAPS AND PLANS

Regulatory Reference: 30 CFR 777.14; R645-301-140.

Analysis:

The following maps have been revised and submitted as part of the application:

- Plate 1 General Location
- Plate 2 Surface Ownership
- Plate 3 Mineral Ownership
- Plate 4 Centennial Project Leases
- Plate 21 Surface Geology
- Plate 22 Geologic Cross Section and Drill Hole Reference
- Plate 25 Subsidence Monitoring Station
- Plate 29 Isopachs, Current Mining, Mining Projections, Cover, and Drill hole Location
- Plate 34 Wildlife Distribution

Plates 3 and 4 identify State ownership in Sections 29 and 30, T12S, R11E, that is open-ended. Both maps need to identify closure to these properties. Also, Figure 7 of the Mayo and Associates report, needs to identify the Mathis IBC as a 240-acre tract.

Findings:

The information provided in the application is not adequate to meet the minimum requirements of the General Contents – Maps and Plans section of the regulations. The following deficiency needs to be addressed prior to approval.

R645-301-120, Plates 3 and 4 need to be modified to accurately illustrate State ownership.

R645-301-120, Correct Figure 7 of the Mayo and Associates report to reflect the Mathis IBC to contain 240-acres.

COMPLETENESS

Regulatory Reference: 30 CFR 777.15; R645-301-150.

Findings:

The information provided in the application is adequate to meet the minimum requirements of the General Contents section of the regulations.

ENVIRONMENTAL RESOURCE INFORMATION

Regulatory Reference: Pub. L 95-87 Sections 507(b), 508(a), and 516(b); 30 CFR 783., et. al.

PERMIT AREA

Regulatory Requirements: 30 CFR 783.12; R645-301-521.

Analysis:

The amendment to add the Mathis Lease IBC to the permit does not significantly affect the permit area. The 240-acre tract increases the size of the permit area by approximately 4.6 percent. Plate 29 has been modified to illustrate the current Mining Projections.

Findings:

The information provided in the application is adequate to meet the minimum requirements of the Environmental Resource Information – Permit Area section of the regulations.

VEGETATION RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.19; R645-301-320.

Analysis:

The Vegetation Resource map currently in the MRP addresses only the vegetation in the Disturbed Area and three reference areas. This is referenced in a survey and report submitted as required for State Regulations R645-301-321. The provided information does an adequate job of classifying the vegetation in the disturbed area. A vegetation map of the entire permit area and adjacent areas on a scale of 1:6,000 or larger is not included in the MRP, nor has it been otherwise exempted by the Division.

TECHNICAL MEMO

Findings:

The information provided in the application is not adequate to meet the minimum requirements of the Vegetation Resource Information section of the regulations. The following deficiency needs to be addressed prior to approval.

R645-301-321, Provide a general vegetation map of the entire permit area and adjacent areas on a scale of 1:6,000 or larger.

FISH AND WILDLIFE RESOURCE INFORMATION

Regulatory Reference: 30 CFR 784.21; R645-301-322.

Analysis:

The existing Wildlife Distribution map has been modified and extended to include the IBC area. No additional information is necessary for the current application.

Findings:

The information provided in the application is adequate to meet the minimum requirements of the Fish and Wildlife Information section of the regulations.

SOILS RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.21; 30 CFR 817.22; 30 CFR 817.200(c); 30 CFR 823; R645-301-220; R645-301-411.

Analysis:

No additional Surface disturbance is proposed in the current application. No additional information is necessary.

Findings:

The information provided in the application is adequate to meet the minimum requirements of the Soils Resource Information section of the regulations.

LAND-USE RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.22; R645-301-411.

Analysis:

No changes have been made to the Land-use Resource Information, and none are anticipated due to the proposed addition of the Mathis IBC. The land is presently used only for grazing, wildlife habitat, and outdoor recreation. Historically, the land has also been used for coal mining.

Findings

No additional information is required due to the current application.

GEOLOGIC RESOURCE INFORMATION

Regulatory Reference: 30 CFR 784.22; R645-301-623, -301-724.

Analysis:

Plate 21 (Surface Geology) has been modified for the current application by including the IBC area boundary and changing the scale to 1:24,000. Unfortunately, the surface geology coverage does not cover the entire IBC area or extend to adjacent areas to the north.

Findings:

The information provided in the application is not adequate to meet the minimum requirements of the Geologic Resource Information section of the regulations. The following deficiency needs to be addressed prior to approval.

R645-301-620, Modify Plate 21 to include a complete description of the surface geology within the proposed permit and adjacent areas to the west and north.

HYDROLOGIC RESOURCE INFORMATION

Regulatory Reference: 30 CFR Sec. 701.5, 784.14; R645-100-200, -301-724.

Analysis:

Sampling and Analysis

Sampling and Analysis of the hydrologic regime affected by the proposed addition of the Mathis IBC has been adequately characterized. A total of four springs and two streams have been monitored since approximately 1997. Analysis includes field parameters and lab analysis of major cations, anions, Total Dissolved Solids and other trace inorganic constituents for sites with documented flow.

TECHNICAL MEMO

Baseline Information

Adequate baseline information has been collected for both groundwater and surface water characterization and is included in the March 2002 Mayo and Associates, LC, report. Data from the four springs, two streams and stock watering ponds needs to be submitted to the Division in electronic-form and incorporated into the Division Water database.

Baseline Cumulative Impact area Information

The Cumulative Hydrologic Impact Area (CHIA) in the currently approved MRP provides adequate characterization of the area. No new hydrologic basins, other than those authorized in the approved permit, are affected by the addition of the Mathis IBC.

Probable Hydrologic Consequences Determination

A detailed Probable Hydrologic Consequence Determination has been provided in the application in the form of a report conducted by Mayo and Associates, LC. The report can be found in the MRP in appendix L. The report concludes that any affect to the local hydrologic regime due to the proposed mining is highly unlikely.

Findings:

The information provided in the application is not adequate to meet the minimum requirements of the Hydrologic Resource Information section of the regulations. The following deficiency needs to be addressed prior to approval.

R645-301-724, Submit the water monitoring data from the March 2002, Mayo and Associates report into the Division Water database.

MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.24, 783.25; R645-301-323, -301-411, -301-521, -301-622, -301-722, -301-731.

Analysis:

Coal resource and Geologic Information Maps

Plate 29 has been modified to illustrate the proposed coal resource to be mined. No additional information is requested for the current IBC application.

Cultural Resource Maps

No additional surface disturbance is anticipated. No additional information is required.

Existing Structures and Facilities Maps

No modifications to the current Surface Facilities is proposed in the IBC application.

Mine Workings Maps

Modifications to the Mine Workings are illustrated on Plate 29. No additional information is required.

Monitoring Sampling Location Maps

Figure 6 of Appendix N (Groundwater / Surface water monitoring Location map) needs to be modified to include monitoring locations added to the plan due to the addition of the Mathis IBC (see Operation Plan – Hydrologic Information section of technical analysis). Also, the text portion of the MRP in Section R645-301-731.730 needs to reference the correct location of the map (Figure 6, Appendix N).

Findings:

The information provided in the application is not adequate to meet the minimum requirements of the Maps, Plans, and Cross Sections of Resource Information section of the regulations. The following deficiency needs to be addressed prior to approval.

R645-301-731, Modify Groundwater / Surface-water monitoring Location map to include new monitoring location.

R645-301-731, In text of MRP correctly reference the location of Monitoring Location map.

OPERATION PLAN

HYDROLOGIC INFORMATION

Regulatory Reference: 30 CFR Sec. 773.17, 774.13, 784.14, 784.16, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-300-140, -300-141, -300-142, -300-143, -300-144, -300-145, -300-146, -300-147, -300-147, -300-148, -301-512, -301-514, -301-521, -301-531, -301-532, -301-533, -301-536, -301-542, -301-720, -301-731, -301-732, -301-733, -301-742, -301-743, -301-750, -301-761, -301-764.

TECHNICAL MEMO

Analysis:

General

Ground-water monitoring

Included in the Mathis Lease IBC, additional groundwater monitoring was recommended in the Probable Hydrologic Consequence report (PHC) conducted by Mayo and Associates, LC. A total of four springs were monitored. The report recommends continued monitoring of Springs B352 and B361. Both springs/seeps issue from the North Horn Formation. Spring B352 has demonstrated periodic flow with four samples being collected from 5/97 through 10/01 (six No Flows were recorded during the same time interval). Spring B361 has not produced any flow during the same time interval with nine visits to the site.

The Division recommends replacing the monitoring of Spring B361 with B351. Although Spring B351 is not within the IBC, it is along strike, within the Price River Formation, has demonstrated flow four of 12 visits, and has similar water quality to Spring B352. The Division also recommends including flow and dissolved Magnesium to the operational water quality parameter list (Table 6, Mayo and Associates report).

The Division will allow operational monitoring to revert to field measurements-only after the accumulation of two years of operational solute data (assuming the Operator demonstrates adequate characterization per R645-301-731.213), as recommended in the PHC. However, the monitoring plan must outline what type of change in field parameters would require returning to collecting solute data. Outline what parameters, increased to what levels, for what frequency, would initiate collecting lab analysis. An example to consider would be to increase field-data frequency to monthly at one standard deviation, and sample when outside of two standard deviations (currently, the data set is too small for this example to work).

Surface-water monitoring

No additional surface-water monitoring sites are proposed with the addition of the Mathis Lease. None are requested.

Findings:

The information provided in the application is not adequate to meet the minimum requirements of the Operation Plan - Hydrologic Information section of the regulations. The following deficiency needs to be addressed prior to approval.

R645-301-731.200, The Division recommends replacing the proposed monitoring of Spring B361 with B351.

R645-301-731.200, The Division recommends including Flow and Dissolved Magnesium to the operational water quality parameter list.

R645-301-731.200, After reverting to field measurement-only monitoring, the monitoring plan must outline what type of change in field parameters would require returning to collecting solute data.

RECCOMENDATIONS:

The application in its current form should be denied. All the deficiencies outlined above need to be adequately addressed prior to approval.

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