



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

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January 21, 1987

CERTIFIED RETURN RECEIPT REQUESTED
P402-459-483

Mr. Sam Quigley
Andalex Resources, Inc.
P. O. Box 902
Price, Utah 84501

Dear Mr. Quigley:

Re: Determination of Completeness Review, Centennial Project,
ACT/007/019, Folder No. 2, Carbon County, Utah

The Division has reviewed the Mining and Reclamation Plan (MRP) for the Centennial Project, which was resubmitted December 23, 1986, in response to the Division's December 4, 1986 Initial Completeness Review. The plan has been determined to still be incomplete, as outlined in the attached review.

The Division and the Office of Surface Mining have determined that a five year permit can be issued to the Centennial Project, with the provision that the application be made accurate and updated by 60 days from the date of your receipt of this review letter. If this condition is not satisfactorily addressed within that time frame enforcement action will be taken. It is therefore urged that a response to this review document be submitted as early as possible to allow time for Division review and incorporation of any additional required information.

Page 2
Mr. Sam Quigley
ACT/007/019
January 21, 1987

A permit renewal will not be issued until the Secretary of the Interior in Washington, D. C. has reviewed and signed the Decision Document. Please contact myself or Susan Linner should you have questions.

Sincerely,

L. P. Braxton

L. P. Braxton
Administrator
Mineral Resource Development
and Reclamation Program

SCL:jvb
Attachment
cc: R. Holbrook
M. Glasson
B Team
0028R-69

Determination of Completeness Review

Permit Renewal
Andalex Resources Inc.
Centennial Project
ACT/007/019
Carbon County, Utah

January 21, 1987

UMC 770.12 Coordination with Requirements Under Other Laws - HWS

- (a) Nothing in the permit was found which addresses the requirements of the Toxic Substances and Control Act, 15 U.S.C.. 2605, 2607 and 2611. These sections have to do specifically with PCB containing equipment, storage, and elimination.
- (a)(2) The language on page 44 of the permit, Chapter II, last line needs to be changed from "under 30 CFR 817.95," to "under UMC 817.95." The federal regulations have been remanded.
- (a)(3) Nothing in the permit was found which addressed the Resource Conservation and Recovery Act, 42 U.S.C. Section 3251 et seq., specifically storage of petroleum products on the site.

UMC 776.23 Permit Applications - General Requirements for Format and Contents - SCL

- (b) The application still contains much outdated and conflicting information. Exhibits, Appendices and drawings must be relabelled as appropriate. All references in the text should be checked for accuracy. The regulation by regulation cross-reference must be updated and resubmitted. A copy of this review document, noting where each paragraph is addressed must also be provided upon resubmittal of the Mining and Reclamation Plan (MRP).

UMC 782.13 Identification of Interests - SCL

- (a)(1) The applicant is still listed as Tower Resources.
- (a)(5) The operator is still listed as Tower Resources.
- (a)(6) No phone number for the resident agent is given.

- (e) No address for Sun Oil Company is given. An incorrect address for the Division of State Lands is given. Plate 3 shows AEP as an adjacent mineral owner, but the text says Franklin Real Estate Co is the owner. This must be clarified.
- (g) This appears to be an erroneous legal description since the land described is not contiguous to the permit area.

UMC 782.14 Compliance Information - SCL

- (c) The listing of violations is not current; violations received for the last three years must be listed.

UMC 782.19 Identification of Other Licenses and Permits - SCL

This section is not complete. The addresses are out of date, no renewal dates are given. Should reference Appendix A, Exhibit II-A (Chapter VIII) for approval letters.

UMC 782.21 Newspaper Advertisement and Proof of Publication - SCL

The publication notice has not been made a part of the application.

UMC 783.12 General Environmental Resources Information - SCL

The application must contain signoff(s) from the State Historical Preservation Officer for the mine disturbance and Emergency Lease.

UMC 783.14 Geology Description - DC

The operator must include a description of the geology within the proposed mine plan area, down to and including the first aquifer to be affected below the lowest coal seam to be mined. As part of this description the operator must identify the first aquifer below the lowest coal seam to be mined.

UMC 783.16 Surface Water Information - DC

The operator must submit a summary of all water quality data that has been collected to date. This summary must include when flows occurred and any seasonal variation of total dissolved solids, total suspended solids, acidity, pH, total and dissolved iron, and total manganese. The operator must include a summary of the amount and quality of water that has been discharged from the mine into the surface water system.

UMC 783.17 Alternative Water Supply Information - DC

The operator discusses water rights in the 1981 Hydrologic Inventory located in Chapter IX. However, the operator should update the water rights discussion to include information current up to the submittal date.

UMC 783.19 Vegetation Information - LK

A demonstration that the data were collected during a year of normal or better precipitation must be made (see DOGM Vegetation Information Guidelines for the Range Site Method). Page 90 refers to Table IV-7 for a list of important vegetation species. Table IV-10 on page 91 appears to be the referenced material. Please correct.

The acreage of disturbance for each range site needs to be provided as well as the total acreage disturbed. The current plan identifies seven acres (page III-25 & IV-92), 24.25 acres (page 12, immediately preceding page IV-94 which will be referred as page 93a hereafter), and 20.66 acres (Page 1 of Vegetation study) of disturbance. DOGM staff planimetered Map 34 and found 33.9 acres. Please clarify. The page 93a refers to plates 1,2,12 and 13 for proposed disturbed areas. None of these maps provide the referenced material.

UMC 783.20 Fish & Wildlife Information - LK

Page 93a refers to map 14 as the wildlife distribution map. This reference should be map 34.

UMC 783.21 Soil Resources Information - JSL

The applicant has submitted the soil survey by Earth Environmental Consultants Inc. However the soil survey and map conducted by the SCS, May 27, 1980 was not submitted. The May 27, 1980 survey is found in the previously permitted MRP as exhibit IV-C, and the corresponding soils map as plate XIII. This survey and map corresponds to that portion of the disturbance area that was not mapped by Earth Environmental Consultants Inc. The SCS soil survey and map must be incorporated into the MRP. Plate 18 must be updated to reflect the previously surveyed area by the SCS. This can be accomplished by identifying the previously surveyed area on plate 18 with a reference to the SCS map.

The applicant must update the acreage of each soil series disturbed (page 3, Earth Environmental Consultants Inc. soil survey). The acreages given for each specific soil series is incorrect. The total acreage of disturbance does not equal 20.66 acres. DOGM staff planimetered the area and found the total disturbance acreage of Map 20 to be approximately 33.8 acres.

UMC 783.22 Land Use Information - LK

Grazing lands and wildlife habitat are considered renewable resources lands. Impacts to these resources will require mitigation. Statements contrary to this on page 42 must be corrected.

UMC 783.22 Land-Use Information - JRH

The MRP contains outdated production projections. Actual production information should be included through 1986 and the Operator should project production for the next five year permit term and for the life of the mine as required.

UMC 783.24 Maps: General Requirements - JRH

- (d) Those maps referenced do not indicate any buildings in and within 1000 feet of the proposed permit area. The Operator shall revise the drawings to provide the location and identification of all structures found within that area in order to complete the requirements of this section.

UMC 783.24 Maps: General Requirements - SCL

- (b) The applicant must submit a map which correctly delineates the permit area as excluding the three lease modifications. These areas have not been permitted by OSM or DOGM.

UMC 783.25 Maps: Cross Sections, Maps, and Plans - JRH

- (1) Appropriate maps and drawings must bear the number and mark of a registered professional engineer or land surveyor as appropriate. Many of the drawings found in the MRP do not have such identification on them.

UMC 783.27 Prime Farmland Investigation - JSL

The MRP does not contain a negative determination of Prime Farmland from the Soil Conservation Service (SCS) as stated within the MRP (pg. 45, part D, section 8, ch. 3 and ch. 7, cross reference). The SCS determination of Prime Farmland must be provided within the MRP.

UMC 784.11 Operation Plan: General Requirements - JRH

- (a) Insufficient information is found in the operation plan regarding mine planning, production and projection of annual and total tonnages. This section should include a recap of the production of the mining operations for the last five years and an updated version of the annual and total production expected for the operation in light of the additional lease areas incorporated into the mining and reclamation plan.
- (b) Changes, modifications, revisions and amendments to the mine plan since the original application must be incorporated into the text of the operation and reclamation plan. Information such as the affected area acreage, the location and identification of specific reclamation treatment areas and other such information that is required in the MRP is not found on the drawings or within the text or conflicts with other outdated information within the text of the MRP. This information must be clarified and presented to the Division in a manner such that the information can be located in the MRP and that the plan is coherent throughout.

UMC 784.13 Reclamation Plan: General Requirements - JRH

The reclamation plan as provided in the MRP is not coherent and it cannot be determined complete. Several of the sections found do not correspond to existing or proposed site conditions. Information pertaining to the reclamation of the site is not clear and does not completely describe the required reclamation activities which must be accomplished on the site.

In order to determine the reclamation plan complete, the Operator shall be required to revise and consolidate the information into a comprehensive and complete plan. All information in the plan must be updated to reflect the existing or proposed conditions of the site at the time of reclamation. The Operator shall provide a detailed and logical sequence and description of the reclamation activities to occur on the site. This information can be presented in a format that could also be used to determine the reclamation cost estimate.

The reclamation plan must consider the quantities of the reclamation activities involved in order to determine a cost estimate for bonding and in order to prove the reclaimability of the site. Mass balance calculations must be provided by the Operator to show treatment of excess mine development waste, regrading requirements to achieve approximate original contour, topsoil distribution, and design and stability of the final reclamation contours.

The reclamation plan must also indicate the timing and sequence of the reclamation work to be accomplished. In addition to the logical requirements for the revegetation plan, the Operator must also include specific plans for sediment control and water diversion for Phase I reclamation. Phase I reclamation is accomplished when initial regrading and revegetation treatments have been achieved, but sediment control and measures to protect the site from erosion are used to maintain effluent requirements on the site until vegetation requirements have been established. Phase I reclamation requires that sediment control structures such as sediment ponds and diversion ditches remain until such time as vegetative cover has been established. The Operator should include in the plan and the reclamation cost estimate, specific plans and costs for the removal of these structures.

No reclamation plans or designs have been provided for the reestablishment of the natural drainages upon the reclamation of the site. The Operator must include specific channel sizing criteria, riprap sizing, and quantity estimates for this work.

UMC 784.13 Reclamation Plan: General Requirements - LK

- (b)(5) Submission of DOGM's Draft Revegetation Guidelines does not constitute a revegetation plan. A specific plan must be supplied.

Section 5.1, Schedule of Revegetation (page IV-92) must be revised to show seeding will occur late fall (after October 1) and that tree and shrub transplants will be planted the following spring.

There are several seed mixes within the plan that appear to have been replaced by subsequent submittals, revisions, etc. to the original plan. Only the proposed plan is to be included to reduce the confusion which exists. It is assumed that the seed mixes dated 12/10/86 are the ones that will be used. If this is the case, then the seed mix on page IV-93 under part 5.3 should be replaced with a reference to these seed mixes. Also, the seed mixes on tables 1 & 2 (pages 6-11 that precede page IV-94) need to be deleted. Map 20 shows where these seed mixes will be used, not maps 1, 2 and 10 as referenced on page 93a.

While the applicant plans mulch (page IV-93), the type(s) of mulch, the areas to be mulched and the rate of application must be identified.

The applicant must provide specific details on the revegetation monitoring plan, i.e. what parameters will be measured, frequency & timing of samples for each parameter, etc. and at what level will reclamation be determined to be progressing in a satisfactory manner during early monitoring.

UMC 784.14 Reclamation Plan: Protection of Hydrologic Balance - DC

The operator must reorganize Chapter 4, Section B to include up to date information regarding the surface and ground water monitoring program, the status of the water wells, discharge of water from the mine and a summary of all ground and surface water monitoring. There is conflicting information concerning the hydrology of the area between Chapter 4, the 1981 Hydrologic Inventory, and Exhibit III-C. All of the information from the above sections and from the Emergency Lease submittal must be reorganized and compiled into a complete and coherent discussion of the hydrology of the area.

UMC 784.14 Reclamation Plan: Protection of Hydrologic Balance - JRH

- (d) Information regarding the closure of underground mine openings is found on page 47 of the MRP. Insufficient information is provided by the operator in order to determine this section complete. The Operator must provide specific plans for closure of all mine openings and with regard to this section, what measures will be taken to minimize the impacts on surface and groundwater upon closure. The Operator shall provide a specific plan for closure of the mine openings, including hydrologic seals as required in order to protect inflow or outflow of surface and groundwater at the mine opening. This information was previously requested by the Division but cannot be found in the revised MRP.

See also comments made under UMC 817.13-.15.

UMC 784.18 Relocation or Use of Public Roads - JRH

The Operator must include in the mining and reclamation plan, the most recent approvals for road use permits, right-of-entry permits and evidence of approval for any relocation or other use of public roads. This information is not found in the plan or is not properly referenced so as to locate this information in the MRP.

UMC 784.19 Underground Development Waste - JRH

The Operator has indicated that no underground development waste will be brought to the surface. Please note however, that waste material is and has been generated in and around the mine facilities, loading area and through cleanout of the sediment ponds. The Operator shall submit a plan for both the temporary and permanent storage of these materials in order to determine this section complete. This information was previously requested by the Division but was not found in the revised MRP.

UMC 784.21 Fish and Wildlife Plan - LK

Contrary to statements on page 44, a specific fish and wildlife plan must be included in the permit application. 33.9 acres of disturbance (as digitized from map 34 by DOGM staff) is a significant impact on deer winter range and needs to be mitigated. Please provide plans to do so. The operator needs to document how compliance with special stipulation #7 has been achieved. What is the posted speed limit on unpaved sections of the road? Are swareflex reflectors being used? Other appropriate wildlife mitigation/enhancement that should be included in the fish and wildlife plan include: an employee education/awareness training program, design/construction of powerlines in accordance with raptor protection technology, and restoration/enhancement of wildlife habitat features.

UMC 784.23 Operation Plan: Maps and Plans - JRH

Surface facilities maps and plans have been submitted by the operator and are included in the plan. Some conflicts in the drawings regarding the proposed location of the new office building and the proposed vs. existing configurations of the sediment ponds is found in the drawings. The Operator shall be required to submit current as-built drawings of the facilities and clearly indicate what facilities are to remain as proposed and the sequence and timing of their construction. Although some of this information has been revised on the drawings, it does not correspond completely with the descriptions and the plans found in the text of the plan. Specific references to drawings in the text of the MRP do not correspond to the drawings. This information must be revised in order to determine this section complete.

UMC 784.24 Transportation Facilities - JRH

Some of the information regarding the requirements of this section are found in the MRP. However, due to the organization of the plan, it is not apparent that all of the information required for this section is contained in the MRP. The operator shall reorganize the plan such that this information can be readily located and such that only the current information is referred to in the plan. These revisions were previously requested but are not evident in the revised MRP.

TECHNICAL DEFICIENCIES

UMC 800 Bonding - JRH

A copy of the bond for the operations is found in Chapter II of the MRP. The bond amount determined is estimated for 1986 dollars and is in the amount of \$381,839.00.

Cost estimate information for reclamation found in the MRP was developed in 1981 and needs to be revised and updated to incorporate all those changes and modifications to the surface facilities. Calculations must be resubmitted in order to determine the updated amount of bond required for the operation.

In providing the revised cost estimate, the Operator shall be required to determine the quantities required for each reclamation construction activity, the equipment selected to accomplish the reclamation work, productivity calculations for the equipment based on site criteria, and determination of unit costs and total costs for each reclamation activity. The Division uses Caterpillar Handbook for determination of equipment and productivity, Blue Book Rental Rate Guide for equipment costs, and Means Cost Data to determine labor costs, miscellaneous construction activities and escalation factors to be used in determining the estimated costs for the site.

The Operator shall include with the cost estimate a reference of the sources used in order to determine those costs. Planimetric or cross sectional information shall be provided along with calculations in order to determine mass balances for the earthwork required. The Operator shall also provide a map of the surface facilities area delineating the specific reclamation treatments for each area as they apply. Suitable maps and sections are found in the MRP which can be utilized to accomplish these requirements, however specific technical information must be included on the drawings in order to determine the bond amount. Maps should include such information as the total affected area, permit area boundaries, identification and location of topsoil piles and waste piles, the acreage and depth of topsoil to be used in reclamation, and the acreage and respective seed mix to be used in revegetation for each respective area. Cross sections should include cut and fill areas and reference earthwork calculations if not included on the drawing. The map shall also indicate the timing and the sequence for the reclamation work to be accomplished, primarily Phase I and Phase II reclamation work. Phase I reclamation consists of the majority of the reclamation work to be accomplished, but sediment control facilities are to remain until vegetation and sediment control standards are met. Phase II reclamation will involve the removal of the sediment control facilities once vegetative cover is established (sediment ponds, diversion ditches, etc.).

The Division shall utilize the estimate provided by the Operator in order to determine the amount of bond required.

UMC 817.13 Casing and Sealing of Exposed Underground Openings:
General Requirements - JRH

UMC 817.14 Casing and Sealing of Exposed Underground Openings:
Temporary - JRH

- (a) The Operator must include in the MRP, specific plans addressing the temporary closure of mine openings during temporary suspension or inactive periods of mining operations. These commitments shall be similar to those required under 30 CFR 1711 requirements made by MSHA. This information must be included in the plan in order to determine this section technically adequate.
- (b) The Operator must provide in the MRP, specific information regarding the closure of all drill holes, wells and shafts. The measures taken by the operator to temporarily seal these openings must be included in the mining and reclamation plan.

UMC 817.15 Casing and Sealing of Exposed Underground Openings:
Permanent - JRH

The Operator must provide specific plans for reclamation of the mine openings. Division guidelines for the closure of mine portals requires that a concrete block stopping designed in accordance with 30 CFR regulations be installed and a minimum of 25 feet of non-combustible material be backfilled into the mine opening. Plans for the final closure of mine openings must also address the protection of the hydrologic balance. Hydrologic seals will have to be installed in the event of potential discharge of water from the mine openings. This determination must be made by the Operator and approved by the Division in order to determine this section complete.

Any monitoring or water wells that are to remain as a post mining land use must have the approval from the Division of Water Rights and a well transfer form completed and approved if the operator wishes to transfer any such wells to the landowner. Otherwise, the Operator shall include specific information for the permanent closure of these wells.

UMC 817.22 Topsoil: Removal - JSL

A topsoil mass balance table must be incorporated into the MRP. This table must include the acreage of proposed future disturbance and present disturbance; volume of stockpiled topsoil; and the proposed depth of topsoil redistribution. The applicant must also include the specific depths of topsoil removal for all future disturbances. Include the methodology to verify that the appropriate depth of soil is being removed (flagging, islands etc.).

UMC 817.23 Topsoil: Storage - JSL

Plate 7 must be resubmitted. Plate 7 must identify the temporary topsoil stockpile.

UMC 817.24 Topsoil: Redistribution - JSL

The applicant must submit the following information:

- A) The soil redistribution plan must include specific methodology to minimize soil slippage. The Division recommends ripping the subsurface material to a depth of six inches prior to topsoil redistribution;
- B) Plans to alleviate topsoil compaction after redistribution must be specified within the MRP. The Division recommends tilling in one ton of alfalfa per acre at a six inch depth (or other organic material with a C:N ratio of 20:1). This amendment would enhance aeration, water holding capacity, microbiological communities and stabilize a favorable nutrient cycle within the topsoil;
- C) The minimum depth of topsoil redistribution must be explicitly defined for the disturbance area; and,
- D) The third paragraph of page 46, chapter 3, part E, No. 2 must be updated. The wording "was revegetated" must be changed to will be revegetated.

UMC 817.25 Topsoil: Nutrients and Amendments - JSL

The following must be committed to within the MRP:

- A) Sample and test all redistributed topsoil and subsoils for the following parameters: organic matter, available phosphorus, potassium, pH, electrical conductivity and texture. Sampling rate must be equal to a minimum of one sample for each five acres of disturbance. Each site must be sampled at the following depths: 0-6 inches, 6-12 inches, and 12-24 inches. The specific sample sites must be identified and presented on the soil survey map 90 days prior to final reclamation; and,
- B) Redistribute and incorporate one ton of alfalfa (or other organic material with a C:N ratio of 20:1) into the redistributed topsoil.

UMC 817.43 Hydrologic Balance: Diversions and Conveyance of
Overland Flow - DC

The operator has included several sections on diversion design in the MRP. The discussion of diversions should be limited to only what is present on the ground currently. All sections in the MRP that have been revised or changed should be taken out of the submittal. The discussion of the diversions should include the following components for review. The following comments apply to both undisturbed diversions around or under the mine site and disturbed diversions that report to treatment facilities.

The operator must submit a map(s) of the area draining to each diversion. The map(s) must depict the controls that delineate the areas (i.e., berms, topographic, etc.), disturbed versus undisturbed areas, and location and label of each diversion. The map(s) should be of a topographic scale that is sufficient to determine elevation change and hydraulic length. The operator must submit a cross section for each diversion and each section of diversion that varies in configuration. A peak flow for the design event for each diversion must be submitted. All input assumptions and calculations must be included. From the design discharge for each diversion the operator must calculate and present the design velocity and diversion capacity. All diversions that will experience erodible velocities, in the diversion or at the outlet, must be reinforced and protected to prevent erosion.

UMC 817.44 Stream Channel Diversions - DC

The operator has submitted information on culvert sizes needed in the Sedimentation and Drainage Control Plan and the revised Sedimentation and Drainage Control Plan. The discussion of stream channel diversions should be limited to only what is on the ground currently. All sections in the MRP that have been revised or changed should be taken out of the submittal. Additionally, the discussion must include the following components for review.

A map of the area draining to each culvert must be submitted. The map must depict the controls that delineate the areas, the location and a label of each culvert. Designs for each culvert must be submitted. Specifically, a peak flow for the design event with all input assumptions and calculations for each culvert must be submitted. The operator must demonstrate that each culvert is capable of passing the design event. From the design discharge the operator must calculate an exit velocity from the main culvert. If the exit velocity is erodible, designs must be submitted for an energy dissipator at the culvert outlet.

This regulation also requires that the operator submit complete reclamation plans for the channels after removal of the culverts. This plan must include a demonstration that the reclaimed channels will be capable of safely passing the 100-year, 24-hour precipitation event runoff. This demonstration must include a peak flow for the design event. From the design discharge for each channel the operator must calculate and present the design velocity and channel capacity. All channels that will experience erodible velocities must be lined and protected to prevent erosion. All channel lining designs must be submitted for review. These designs must include all input assumptions (i.e., Manning's n, area, slope, etc.) and subsequent calculations for a stable channel lining. The operator must also include cross-sections for each reclaimed channel.

UMC 817.46 Hydrologic Balance: Sedimentation Ponds - JRH

The Operator does not include detailed sections or information regarding the sediment pond in order to determine whether or not the ponds comply with parts (i) through (u) of this section. The Operator must clearly show that the design and the construction of the sediment ponds are in accordance with the requirements of this section. In particular, the combined inslope and outslope of the embankments shall not exceed 5h:1v and the minimum embankment width shall not be less than the height of the embankment plus 35, divided by 5 as the height is measured from the upstream toe of the embankment. The Operator shall submit the information as required in order to determine this section technically adequate.

Revised maps of the sediment pond were provided with the revised MRP, however insufficient information is provided on the drawings in order to determine this section technically adequate. The sediment pond drawings must show the location and the elevations of the inlet and outlet control structures, and the elevation of the pond when passing the peak event as required in the regulations. Sections or plans of the sediment ponds must clearly show that the ponds meet the criteria of this section. The drawings do not show that the combined inslope and outslope of each embankment equal a total of 1v:5h or greater as required. The drawings do not show that the minimum width of the embankment meets the requirements of the regulations.

Contour information provided on the drawings must be expanded to incorporate the pond embankment and any other cuts or embankments which may affect the overall stability of the sediment pond embankments. In the event that these structure do not meet the criteria of this section, the Operator must develop and provide designs for reconstruction of the ponds in order to meet these criteria, or, provide designs and analysis which prove that the existing ponds are sound and in a stable condition within the criteria set for the stability of these embankments.

UMC 817.46 Hydrologic Balance: Sedimentation Ponds - DC

The operator has included several sections and maps in the MRP discussing sedimentation ponds. The material included is contradictory and unclear as to what ponds have actually been constructed at the mine site and which ponds are proposed. The operator must reorganize all discussions of sedimentation ponds at the site and clearly present what is currently on the ground and what is still being proposed. All text and maps should be coordinated to reflect what has been constructed and what is proposed. If any of the ponds have been constructed differently from the original designs, as-built drawings must be submitted. Technical review of the sedimentation ponds cannot be performed until the operator has reorganized all sections and presented the material in a concise and coherent manner. As a reminder of the technical review performed by the Division, the operator must address all subsections of this regulation. All input assumptions and calculations must be presented in the MRP.

UMC 817.47 Hydrologic Balance: Discharge Structures - DC

The operator must include a discussion of discharge structures from the sedimentation ponds. This section cannot be reviewed until the comments made under UMC 817.46 have been addressed.

UMC 817.48 Hydrologic Balance: Acid-Forming and Toxic-Forming Materials - JSL

The applicant contends that there are no acid- or toxic-forming materials. However the acid base potential (ABP) of the roof, floor, and midseam was not submitted (ie. appendix IVF was not submitted). This information must be presented within the MRP. If the analysis finds an ABP of negative five (-5) or less (tons $\text{CaCO}_3/1000$ tons material) the applicant shall:

- A) Determine the ABP of the spoil material contained within the sediment pond; and,
- B) Develop a plan to handle all acid- or toxic- forming materials in compliance with this regulation and UMC 817.103.

UMC 817.49 Hydrologic Balance: Permanent and Temporary Impoundments - DC

The operator has not specifically stated whether the sedimentation ponds will be reclaimed. A commitment to reclaim the pond must be made in accordance with UMC 817.46(u) or this regulation must be addressed.

UMC 817.52 Hydrologic Balance: Surface and Groundwater
Monitoring - DC

The operator must submit and summarize all water quality data that has been collected to date. The Division has established guidelines for surface and ground water monitoring since the operator received approval for their water monitoring plan. The Division will review the data and the summary submitted by the operator and make a determination if the monitoring plan needs to be modified in order to comply with the established guidelines.

UMC 817.53 Hydrologic Balance: Transfer of Wells - DC

This section has not been addressed. The operator must discuss what will happen to the existing water wells after cessation of mining.

UMC 817.59 Coal Recovery - JRH

Coal production and coal recovery information provided on page 25 of the mining and reclamation plan does not reflect the production or the recovery of the operations over the past five years nor does it indicate whether or not any changes in the annual or gross production of the operation have been made due to changes in the mining and operation plan. This section must be modified to indicate such changes and to incorporate additional leases added to the operations plus any additional lease areas which may be proposed to be incorporated into the mining operations over the life of the mine. Specific production information on an annual basis should also be provided for the five year permit term. This section is not considered to be technically adequate.

UMC 817.71-74 Disposal of Excess Spoil and Underground Development
Waste: General Requirements - JRH

The Operator indicates that there will be no excess spoil and underground development waste brought to the surface or developed on the site. The Division has determined that materials to be cleaned out of sediment ponds on the site contain sufficient coal and coal waste such that this material falls into this category. Materials to be cleaned out of sediment ponds shall be treated in accordance with this section of the regulations and other sections as they apply.

The Operator must determine and locate both temporary and permanent storage locations for the sediment pond waste material. Note that this material may be returned to underground workings only upon approval by MSHA to do so. Temporary storage facilities should be accounted for in the MRP such that the material may be dried out so that saturated or slurry type material is not permanently

impounded during disposal. In the event that the operator can demonstrate to the Division that the material is suitable for other uses such as substitute topsoil material or fill material, such other uses may be approved for the disposal of sediment pond waste. The Division will not approve the disposal of the material off-site to a landfill or other facility. This material shall be disposed of within the permit area as required under this section.

Additionally, the Operator may wish to provide at least a temporary storage area for mine spoils and mine development waste in the event that material has to be brought out of the mine under requirements of MSHA regulations pertaining to the limit of coal contained in loose material in the mine. In the event that such materials would be brought to the surface, the operator could commit to include this material as backfill during the reclamation of the operation if the mass balance of the earthwork involved in the reclamation would allow.

This information was previously requested by the Division but no response was found in the revised MRP.

UMC 817.89 Disposal of Non-Coal Wastes - JRH

The regulation cross reference indicates that this section is not applicable. The Operator shall reference the requirements of this section accordingly.

The Operator must provide specific plans for the temporary and permanent disposal of all non-coal wastes as outlined in this section including, but not limited to, oil and grease, flammable liquids, garbage, abandoned equipment, timber and other combustible materials and other such wastes that are or may be generated on the site.

The Operator must develop specific plans for the treatment and disposal of these materials and must identify any toxic or hazardous waste materials that are generated on the site. Materials to be disposed of off site shall be to a designated sanitary landfill as approved by the State Department of Health. Operations of the disposal site shall be conducted in accordance with all local, State, and Federal requirements.

The Division requires that the Operator commit to the requirements of this section regarding the storage and disposal of solid waste materials under part (c) of this section.

Although some of the above information required is found in a letter from Carbon County in Appendix M, the Operator shall be required to incorporate the information and the requirements into the text of the mining and reclamation plan. This section is not considered to be technically adequate.

The above information was previously requested by the Division but could not be readily located in the MRP. The revised MRP does not have sufficient or technically accurate references to this information if it is found within the text of the MRP.

UMC 817.95 Air Resources Protection - SCL

Chapter III p. 40 shows production levels of 1,200,000 tons per year, which would be in violation of the Air Quality Approval Order (AQAO). Andalex must make application for a new AQAO if this tonnage will be mined or update projected mine production.

UMC 817.99 Slides and Other Damage - JRH

The commitment to notify the Division in the event of any slides or other damages is not referenced in the plan and could not be found in the plan. The Operator shall provide a commitment in the plan regarding this section and reference it in the regulation cross reference. This section is not considered to be technically adequate.

This information could not be located in the revised MRP.

UMC 817.101 Backfilling and Grading: General Requirements - JRH

Backfilling and grading requirements of this section are not completely addressed in the mining and reclamation plan. Information referenced could not be found within the plan regarding backfilling and grading requirements other than a slope stability analysis as found in Appendix E. The Operator shall be required to provide to the Division, a mass balance of the materials to be regraded and backfilled during reclamation of the operation and determination of the location and disposition of and excess spoil and mine development waste. Maps and plans submitted should show in detail, the post mining and the post reclamation contours or cross section in order to determine the mass balance for earthwork on the site.

This information was previously requested by the Division but was not addressed in the revised MRP. This section is still considered inadequate.

UMC 187.103 Backfilling and Grading: Covering Coal and Acid- and Toxic- Forming Materials - JRH

Although the Operator has indicated that there are no acid- or toxic-forming materials there must be a commitment in the mining and reclamation plan indicating that the Operator shall act in accordance with the requirements of this section in the event that such materials are encountered and will submit a plan to the Division for the location and disposal of materials if and when they are encountered.

UMC 817.106 Regrading or Stabilizing Rills and Gullies - JSL

The applicant must commit to fill, regrade, stabilize and reseed all rills and gullies prior to an eroded depth of nine inches.

UMC 817.131 Cessation of Operations: Temporary - SCL

The applicant must commit to the requirements of this section in the application.

UMC 817.150-.156 Class I Roads - JRH

UMC 817.160-.166 Class II Roads - JRH

UMC 817.170-.176 Class III Roads - JRH

It is not clear in the mining and reclamation plan that all of the requirements of this section have been addressed. The Operator shall reorganize and further reference the requirements of these sections to determine these sections technically adequate.

The Operator has indicated that there are no Class II or III roads within the permit area. All access, service and utility roads within the permit area must be classified and the Operator must provide design, construction, maintenance and reclamation plans for each road in accordance with the regulations.

The above clarification and indication of the description of the roads was not found within the revised MRP. This section is still considered to be inadequate.

UMC 817.151 - .156 Roads: Class I - DC/HWS

The operator has not addressed these regulations. All regulations and subsections of these regulations must be addressed.

The operator has recently upgraded the mine's haul road from a sand gravel base to asphalt. The MRP should reflect this change and address the appropriate requirements of this section.

UMC 817.180 Other Transportation Facilities - JRH

More specific information regarding the conveyor structures and other transportation facilities must be provided by the operator. The Operator shall be required to furnish sufficient design, operation and removal plans for the facilities in order to determine this section technically adequate. The Operator must also quantify these facilities in a manner that can be used in determining the reclamation cost estimate for the mine site.

The Operator also has not specifically addressed what measures will be taken in the design and operation of these transportation facilities so as to protect the environment and public safety as outlined under this section. This section is not considered to be technically adequate.

UMC 817.181 Support Facilities and Utility Installations - JRH

Comments regarding support facilities are similar to those under other transportation facilities. The Operator must account for these facilities in all phases of the mining operation from design through reclamation of the site. Measures to prevent or reduce damage to the environment or to property to the extent as possible using the best technology currently available must be outlined. The Operator shall provide in the mining and reclamation plan a detailed description of such facilities located or proposed on the site and indicate what measures have been taken in order comply with the provisions required in this section.

All utilities and other services passing on or through the mine permit area shall be shown or indicated on the drawings as required and the operator shall provide appropriate information regarding the measures taken to protect these utilities and other facilities. This section of the mining and reclamation plan is not considered to be technically adequate.

GENERAL - JRH

Engineering guidelines and bonding guidelines have been provided with this review in order to assist the operator in meeting the requirements of those particular sections. It is strongly recommended that the Operator review these guidelines in order to determine whether or not the requirements of these regulations have been met with regard to engineering and bonding considerations.

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