



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

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TO: FILE

FROM: Randy Harden, Reclamation Engineer *JRH*

RE: Mine Permit Review, Determination of Completeness, Andalex Resources, Inc., Centennial Project, ACT/007/019, Folder #2, Carbon County, Utah

The following comments refer to the completeness and the technical deficiencies for Andalex Resources Centennial Project. Lease modifications for the site incorporate those surface facilities for the Aberdeen Mine and underground workings for all three seams. The review comments are inclusive of all of the mining facilities and the entire permit area. Specific completeness issues or technical deficiencies related only to the modification of the permit areas for underground mining operations or for those surface facilities within these areas are designated with an asterisk (*).

UMC 782.18 Personal Injury and Property Damage Insurance Information - JRH

Applicant's Proposal and Existing Conditions

Information regarding liability insurance can be found in Appendix B of the mining and reclamation plan.

Determination of Completeness

This section is considered to be complete. Insurance is provided through Old Republic Insurance Company and is presented on the new form as requested by the Division.

UMC 783.12 General Environmental Resource Information - JRH

Applicant's Proposal and Existing Conditions

Information regarding part (a) of this regulation is found on pages 22 thru 25 of Chapter III and in Appendices C, D, and L of the mining and reclamation plan.

Determination of Completeness

This section is considered to be complete. A narrative description of the mining activities, coal recovery, production, and projected the anticipated mining over the permit area for the entire life of mine is found in the mining and reclamation plan.

UMC 783.22 Land-Use Information - JRH

Applicant's Proposal and Existing Conditions

Land use information is found on pages 61 thru 65 of Chapter III of the mining and reclamation plan.

Determination of Completeness

With respect to part (b) of this section of the regulations, this section is considered to be complete. The operator has provided on Plates 29-31, the location and the extent of the previously mined underground areas.

A narrative description of past mining activities shows that numerous mines and prospects have been prevalent within or adjacent to the permit area. The Zion and Olsen Mines produced from the Gilson seam and the Sutton (Blue Flame) Mine produced from the Aberdeen seam. All of the previous mining activity was concluded in 1958. The locations of these operations are provided on the maps and the leases in which these mines occur is provided in the narrative.

UMC 783.24 Maps: General Requirements - JRH

Applicant's Proposal and Existing Conditions

Page 188-190 list sub-section by sub-section, the requirements of these sections of the regulations.

Determination of Completeness

- * Part (a) Surface and subsurface ownership of lands contiguous to the permit area are shown on plates 2 and 3. These plates need to be updated to incorporate the surface modification from the BLM when approval by the BLM is provided for the construction of the Aberdeen facilities which are currently proposed to be located outside of the permit area.
- * Part (b) The leases in which the operator has the legal right to conduct mining activities is provided on plate 4. Again this plate needs to be revised to include the Aberdeen surface facilities outside of the exiting permit area.

- * Part (c) The operator has indicated that no additional permits will be sought and detailed sequence and timing information for the five-year permit term is located on plates 29-31. all of the underground mine workings are located within the existing lease areas and within the lease areas as modified by the operator in this plan. Only those surface facilities proposed by the operator for the Aberdeen Mine are partially located outside of the permit area. The operator is in the process of obtaining approval from the BLM for the use of this area.
- Part (d) The operator has indicated that there are no buildings in or within 1,000 feet of the permit area except those to be used in conjunction with the mining operations and are shown on plates 6 and 7.
- Part (e) The operator indicates that there are no man made features within or passing through the permit area except for those utilities to be used in conjunction with the mining operations. The location and identification of these utilities is provided on plates 6 and 7 of the mining and reclamation plan.
- Part (f) Reference areas to be used are shown on plate 6 as areas R-1 through R-4 and are 100 feet square each.
- Part (g) The operator indicates that the mining operations is the only user of surface water within the hydrologic area. Intake locations for this surface water is shown on plate 6. The operator is collecting surface runoff water from disturbed areas directly into the mine for mine use. The operator further indicates that they have water rights for this use.
- Part (h) County Road 299 is considered to be a public road and terminates at the mine site. this road is used by Andales as access and haul road for the mine facilities. The county road extends to but does not pass through or go beyond the mine site. The location of the road is found on plate 1 of the mining and reclamation plan.
- Part (i) The operator has indicated that there are no public parks nor any cultural or historical sites eligible for listing in the national register in or adjacent to the mine plan area.
- Part (j) The operator indicates that there are no cemeteries or burial grounds in or within 100 feet of the permit area.

Part (k) The operator indicates that there is no land within the permit area designated as National System of Trails of the Wild and Senic Rivers System.

Refer to comments at the end of UMC 783.25 for specific deficiencies or items which require correction regarding maps and drawings.

UMC 783.25 Cross Sections, Maps, and Plans - JRH

Applicant's Proposal and Existing Conditions

Page 188-190 list sub-section by sub-section, the requirements of these sections of the regulations.

Determination of Completeness

- Part (a) The locations of boreholes are found on plates 26 through 28. Each seam is located on a separate drawing, providing collar elevation, coal depth, seam thickness, general strike and dip and coal outcrop information.
- Part (b) No monitoring stations were provided on the drawings for water quality, fish and wildlife or air quality. The operator has indicated that no stations were required for the preparation of the mining and reclamation plan.
- Part (c) Appendix E of the mining and reclamation plan contains specific borehole information including specific data on quality and chemical characteristics.
- Part (d) Refer to Part (a) above.
- Part (e) The location of the old workings within the permit area are found on plates 29 through 31.
- Part (f) The operator indicates that the only groundwater within the permit area is perched groundwater aquifers. The Aberdeen sandstone is considered to be the lowest water bearing unit within the permit area. Refer to technical comments regarding the adequacy of this section.
- Part (g) The operator indicates that there are no surface waters within the permit area. Surface topography is provided on plate 21. All constructed drainages are found on plates 6 and 7. There are no irrigation ditches within the permit area.
- Part (h) The operator has indicated there has been no previously surface-mined areas within the permit area and that this section is considered to be not applicable.

- * Part (i) The operator has located non-coal waste facilities on plate 6 of the mining and reclamation plan. However, the operator has not located the temporary and permanent locations for the storage and disposal of excess spoil and mine development waste materials as othether materials such as sediment pond waste which must be disposed of within the permit area. This part of this section of the regulations is not considered to be complete. The operator must provide plans for the temporary and permanent location for stoage and disposal of these materials. This deficiency applies to the Centennial Project, including the Aberdeen Mine.

The operator has not indicated where the topsoil from the Aberdeen Mine site was removed to or whether or not topsoil was salvaged at the time of disturbance of this area. The operator should include discussion on this as necessary.

Sediment pond impoundments are located on plates 6 and 7 and detailed on plates 12 through 13. No other water treatment or air pollution control facilities are found within the permit area.

- Part (j) The operator has indicated that there are no oil or gas wells within the permit area. Three water wells are located within the permit area as indicated on plate 6.

- * Part (k) Plate 14 shows the surface condfiguration of the area to be affected and a series of three sheet for plate 15 indicate the cross sections of the site indicatind that the operator intends on reclaiming the surface to the exact configuration as the original suraface. These section also include the surface configuration as currently constructed and as proposed. This part is considered complete, however, refer to comments under UMC 817.101 for comments regarding backfilling and grading of the site.

Although this section of the regulations is considered to be complete, the following minor deficiencies or technical problems were found on these drawings:

- * 1. Plate 14 does not include the disturbed area boundry. This should be included on the drawing for reference. Plate 14 also involves earthwork and design criteria and should bear the mark of a registered professional engineer. Reference should also be made as to the plate(s) on whih the cross sections are located.
- * 2. Plate 17, Final Reclamation, should include the disturbed area boundary included on it for reference and indicate the location and the extent of the reclamation to be accomplished during Phase II reclamation on the site.

- * 3. Plate 5 shows the surface disturbed area boundary but does not include the permit area boundary for reference to the location of the disturbed area. The permit area should be included on this drawing to ensure that the operator is conducting surface activities related to underground coal mining activities in accordance with the regulations. This drawing shall also be certified by a registered professional engineer.
- * 4. Plate 6 as well as all other plates locating and identifying surface facilities for the mining operations should include the surface disturbed area boundary for reference to the facilities and to indicate that the structures are within the affected area. Please include these boundaries as appropriate on the drawings.

UMC 784.11 Operation Plan: General Requirements - JRH

Applicant's Proposal and Existing Conditions

A narrative description of the type and method of mining methods is found in the mining and reclamation plan on pages 69, 70, 72-80, 82, 110, Chapter IV, Part A, Part B 11.4, 2-2.5, 3, 4 and 5. Three seams are to be mined within the permit area, the Aberdeen, Gilson and Lower Sunnyside. The mining method to be used is conventional room and pillar methods. Currently the production capacity for the Centennial Project is 800,000 tons per year. Upon completion of the Aberdeen Mine, the company expects to achieve 1.5 million tons per year by the year 1990 with an expected mine life of 20 to 30 years.

A narrative description explaining the construction, modification, use, maintenance and removal of the existing and proposed facilities for the mining operations is found in Chapter IV of the mining and reclamation plan. The operator has described the installation and function of those facilities to be installed or are currently existing on the site. The facilities which are not currently constructed primarily involve those at the Aberdeen Mine site which is scheduled to commence construction in June of 1988.

Determination of Completeness

This section is considered to be complete. The general description, narrative and drawings provided by the operator are considered to be sufficient for technical review. The operator has addressed the requirements of this section.

UMC 784.12 Operation Plan: Existing Structures - JRH

Applicant's Proposal and Existing Conditions

A description of the existing structures for the underground mining facilities starts on page 85 of Chapter IV. With the exception of the Aberdeen Mine facilities, all of the structures exist on Zion's fee property. Portions of the Aberdeen facilities will be on BLM land.

Construction is scheduled to begin on the Aberdeen Mine surface facilities in during the second quarter of 1988. The Aberdeen facilities will consist of approximately 2.25 acres. The proposed mine site has been previously impacted by mining activity.

Determination of Completeness

* This section is not considered to be complete. Information found in the mining and reclamation plan does not indicate when the disturbance located in the vicinity of the proposed Aberdeen facilities occurred. It is assumed that this disturbance occurred during the construction and the installation of the other mining facilities located on the site during the installation of the undisturbed area culverts. The operator must indicate the date and the nature of this disturbance, and, if this disturbance occurred within the scope of the existing permit, provide a description of the activities. The Division's Primary concern for the prior activity on this site is topsoil recovery.

* The operator has indicated that the area within and surrounding the proposed Aberdeen Mine site was previously disturbed by mining. The Maps and plans provided by the operator do not indicate the date, location or extent of these surface disturbances. The operator shall be required to delineate these areas on the drawings to indicate which areas were previously disturbed by earlier mining activities and if possible indicate the date or the approximate dates in which the disturbances occurred in accordance with the requirements of UMC 771.23(e).

* The operator should clarify those existing structures as defined in the mining and reclamation plan. The intent of the requirements of this section of the regulations is to identify and ensure that those structures which were constructed prior to August 3, 1977, be modified or reconstructed in a manner so that they will conform to the requirements of the regulations. The structures currently listed in the operator's plan were constructed under permit in 1980.

UMC 784.13 Reclamation Plan: General Requirements - JRH

Applicant's Proposal and Existing Conditions

Information regarding this section of the regulations is found in the mining and reclamation plan beginning on page 90.

The operator has provided a reclamation timetable for the site. The timetable is broken down into jobs which are to be accomplished during Phase I and Phase II reclamation work.

The operator has provided a cost estimate of the reclamation work to be accomplished on the site.

Determination of Completeness

* This section could be considered complete, however, technical deficiencies exist within the plan regarding the requirements of this section.

* The operator has indicated in the reclamation plan that the site will be returned to as near as possible the approximate original contour as the area was prior to mining. In those areas where solid rock was excavated in face up of the portals, as well as road cuts and pad development, the swell factor associated in conjunction with these excavations will not allow for total replacement of these materials to their original volume. Additionally, fill areas may not be considered stable if placed back to their original surface contour.

* In those areas where steep slopes occur (greater than 2h:1v) or in other locations on the site in which the operator does not intend to completely backfill the site to the original conditions, the operator must provide detailed sections showing the final configuration of the surface and if necessary, stability analysis to ensure long-term stability of the slopes.

* With regard to topsoil requirements, the operator has indicated that the site is to be covered with 6" of topsoil. Over the entire site (34.2 acres), this is approximately 27,600 cubic yards of material in place. The operator has indicated that the topsoil stored on the site is estimated to be 10,600 cubic yards. The construction of the Aberdeen Mine infers that an additional 5,600 cubic yards (6") of material (for the 7 acres of the Aberdeen site) will be stored there in the new topsoil stockpile for a total of 16,100 cubic yards of topsoil. This indicates a shortage of approximately 10,000 cubic yards of material in which the operator needs to fulfill the commitment to replace topsoil in the mining and reclamation plan.

* The soil and vegetation survey located in Appendix M of the mining and reclamation plan concludes on page 272 that the surface soils be placed to a minimum depth of one foot in disturbed areas, wherever possible, before starting seeding operations. If the topsoil cover requirements were at one foot, an additional 27,000 cubic yards of topsoil materials would be needed. The operator needs to rectify the conflicts found within the mining and reclamation plan and determine the amount of topsoil required for reclamation. In the event that insufficient topsoil material has been salvaged on the site, suitable substitute topsoil material must be developed with appropriate test plots or a topsoil borrow area must be located and incorporated into the permit area.

* Cut and fill calculations do not include the amount of swell or the compaction of the materials as they are relocated on the site. No adjustments in the mass balance are seen within the mining and reclamation plan.

* The bond estimate as provided by the operator does not include productivity calculations for the equipment selected. In order to determine the calculations complete, equipment sizing and productivity calculations should be included in the mining and reclamation plan.

UMC 784.14 Reclamation Plan: Protection of Hydrologic Balance - JRH

Applicant's Proposal and Existing Conditions

Information relating to part (d) of this section of the regulations is referenced to pages 110-114 of Chapter IV, Part H.

The operator indicates that the final sealing of the mine openings will be accomplished recessed concrete block seals in the mine openings with a PVC drain pipe to allow for drainage. The operator has further included a description of the activities required for temporary cessation of mining activities and for the casing and sealing of drill holes.

Determination of Completeness

This section of the regulations is considered to be complete. The operator has provided sufficient information regarding Part (d) of this section in order to allow a technical review.

UMC 784.16 Reclamation Plan: Ponds, Impoundments, Banks, Dams and Embankments - JRH

Applicant's Proposal and Existing Conditions

The operator has referenced this section of the regulations in pages 119-168, Chapter IV, Part K of the mining and reclamation plan.

The operator has provided a general description of the sedimentation ponds and embankments on the site.

Drawings were found to be certified by an engineer. Certified as-builts of the existing ponds are provided as drawings.

None of the sediment ponds meet the criteria for MSHA 30 CFR 77.216(A) and the requirements of part (a)(2) of this section is not applicable.

Determination of Completeness

- * This section of the regulations could be considered complete. However some logistical and design questions need to be addressed in the plan.
- * The operator has indicated that sediment pond E will be enlarged during Phase I reclamation construction in order to allow the reclamation of ponds B and C. Design for this pond enlargement is not included in the mining and reclamation plan. Due to the existing limitations on the site, would it be possible to construct sediment pond E to a size which could allow for the immediate removal of ponds B and C during mining operations?
- * The location of the emergency spillway for sediment pond C is directly over the embankment. This is not considered to be the most suitable configuration for a spillway. It appears that the emergency spillway could be relocated to discharge over natural materials and into the undisturbed drainage diversion adjacent to the pond.
- * The culvert discharge structure as proposed for sediment pond E does not allow for the decanting of the pond. Since the undisturbed drainage culvert passes directly beneath the pond, the operator may wish to consider the installation of a riser from the undisturbed culvert. This vertical riser would allow for the installation of a decant valve to drain the sediment pond when necessary and eliminate the additional installation of a culvert through the embankment.
- * The operator should consider the above suggestions in modifications of the sediment pond design. In any event, the operator shall be required to incorporate into the design for sediment pond E, a method for decant of the pond.
- * Other deficiencies regarding sediment pond design and structure are found in the technical deficiencies under UMC 817.46.

UMC 784.18 Relocation or Use of Public Roads - JRH

Applicant's Proposal and Existing Conditions

Within Appendix B of the mining and reclamation plan, a letter from the Carbon County Board of Commissioners indicates that the county is aware that Andalex is operating within 100 feet of a public road and has issued approval for unrestricted use of County Road 299 in conjunction with mining activity and coal hauling subject to submittal and approval prior to any "radical" changes. Prior approval for modification and use of the road was also indicated in a letter from the county dated January 16, 1988.

Determination of Completeness

This section of the regulations is considered to be complete. The operator has indicated that they had the right to conduct mining activities within 100 feet of a public road from the county in which the public road is contained. Further, public notice for the permit was made as indicated in Chapter I of the mining and reclamation plan.

UMC 784.19 Underground Development Waste - JRH

Applicant's Proposal and Existing Conditions

The operator has reference pages 174-176 and 178, Chapter III, Part B, Chapter IV, Parts O&P, and Appendix K of the mining and reclamation plan regarding the requirements of this section. The operator has indicated that there has been no development waste or excess spoil and there will be none. Andalex has further indicated that toxicity analysis of the waste materials found in the sediment pond are such that the materials can be used as backfill materials during construction of the Aberdeen site and during reclamation of the facilities.

Determination of Completeness

* This section of the regulations could be considered complete, however, refer to comments under the technical deficiencies under section UMC 817.71 of this review.

UMC 784.23 Operation Plan: Maps and Plans - JRH

Applicant's Proposal and Existing Conditions

The operator has referenced the location of the requirements of this section on page 199-193 of the mining and reclamation plan.

Determination of Completeness

This section of the regulations is considered to be complete. However, certain technical deficiencies and minor deficiencies were found within these drawings. Refer to comments in the performance standards as they apply for each specific underground mining activity.

UMC 784.24 Transportation Facilities - JRH

Applicant's Proposal and Existing Conditions

Information regarding transportation facilities is found starting on page 183 of the mining and reclamation plan. The operator has obtained authorization for the use of Carbon County Road 299. The operator further indicates that the upgrade and use of the road is in accordance with count and UDOT requirements. The operator also indicates that it is doubtful that the county road will be removed upon cessation of mining operations.

All other roads designated within the permit area are classified as Class II roads and are constructed accordingly. There are no railroad spurs within the location of the property.

Other transportation facilities include the conveyor system from the mine to the loadout facility. These facilities will be removed upon cessation of mining operations.

Determination of Completeness

This section of the regulations is considered to be complete. With respect to minor technical deficiencies, refer to comments made under the technical review section of this document.

UMC 784.25 Return of Coal Processing Waste To Underground Workings - JRH

Applicant's Proposal and Existing Conditions

The operator indicates on page 185 of the mining and reclamation plan that there are no coal processing facilities within the permit area and that no coal processing waste will be returned to underground workings.

Determination of Completeness

This section of the regulation is considered to be complete. Since no coal processing waste will be generated on the site, no coal processing waste will be returned to the underground workings. This section of the regulations is considered to be not applicable to the mining and reclamation plan.

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

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

Existing Environment and Applicant's Proposal

Information regarding the casing and sealing of underground mine openings is found on pages 110-114, Chapter IV, Part H.

The operator has proposed the use of concrete block stoppings to be used in accordance with MSHA regulations. Seals will be placed 25 to 50 feet inside of the portals.

Some of the mine openings are found to drain toward the portals and the operator has proposed the installation of a PVC drainage pipe to facilitate mine drainage. In conjunction with this drainage, the operator has committed to monitor the mine water discharge under the requirements of UMC 817.42 and treat if necessary during the liability period.

The operator has indicated that there is no way of knowing or estimating mine discharge since they currently have no discharge to compare with.

Compliance

The operator is considered to be in compliance with the requirements of this section.

With regard to anticipation of drainage of the mine portals, the operator has committed in the plan to comply with the requirements for effluent limitations for the mining operations. It is also reasonable that the operator cannot effectively determine the quality or the amount of mine discharge at this point in time. Depending upon these conditions at the time of reclamation, the operator will be required to modify if necessary the design of the portal seals.

The operator has committed to monitor any mine discharge on a quarterly basis during the liability period. This liability period may extend indefinitely depending on the quality of the water discharged and the treatments that may be required. If the quality of the water is found to be acceptable, liability of this discharge may be released. Additionally, in the event that the mine openings do discharge, the operator will be required to obtain an NPDES permit for the mine discharge at least through the liability period.

The operator's comittment to comply with the requirements of this section allow for providing detailed designs of these portal closure facilities at the time of reclamation.

UMC 817.46 Hydrologic Balance: Sedimentation Ponds - JRH

Existing Environment and Applicant's Proposal

Compliance

T/A UMC 817.59 Coal Recovery - JRH

Existing Environment and Applicant's Proposal

Information regarding the requirements of this section are found on pages 73, 76 and 77 of the mining and reclamation plan.

Andalex indicates that there is approximately 50 million tons of reserves of which, 33 million tons are considered to be recoverable. To date, Andalex has mied approximately 3.5 million tons. Coal reservses include three mineable seams, the Lower Sunnyside, the Gilson, and the Aberdeen. Portals are proposed to be driven for each of the three seams. Only the Aberdeen seam is yet to be developed. Mine facilities for the other two seams are currently in existence.

Mining will be accomplished in all three seams utilizing standard room and pillar methods. The operator has submitted for approval and/or has recieved approval for roof control, ventilation and mining sequence plans from the BLM and MSHA.

Production of the mining facilities, which requires the simultaneous mining of all three seams is expected to gradually increase to 1.5 million tons per year in 1990 and remain constant throughout the life of the mining operations. The estimated life of the mine is approximately 20 years.

Sequence and timing of the mining operation is provided by the operator on plates 29, 30 and 31. Existing and abandoned mine workings are also provided on these drawings. Details of the current mine workings and the ventilation plan pare provided on plates 32 and 33. No mining of the Aberdeen seam has yet occurred by the operator.

Compliance

This section of the regulation is considered to be complete and technically adequate. The oprator has detailed the tining and the sequence of the mining operation for the permit term and has indicated the extent of the mining are throughout the projected life of the mine.

Lease modifications have been included and incorporated into the mining and reclamation plan. These leases include SL-027304, SL-063058, and U-010581. Total lease acreage is 2,478.31 acres. The permit area also include 200 acres of fee coal, which increases the mine plan area to a total of 2,678.31 acres. The operator has indicated that the permit area is a total of 2,798 acres, a discrepancy of approximately 120 acres. It appears that the operator has not included federal lease U-52341 in the information provided on page 1 of the plan (which is 120 acres). The operator should Double check these date and correct the mining and reclamation plan if necessary.

* Prior to permit approval, the operator should check and revise the acreage figures provided on page 1 of the mining and reclamation plan to match the acreages provided for in the state, federal, and fee leases as presented in the plan.

UMC 817.61-68 Use of Explosives - JRH

Existing Environment and Applicant's Proposal

Information regarding the use of explosives is found on pages 75-76 of the plan.

The operator states that all blasting performed underground will conform to both state and federal regulations governing explosives and blasting in underground coal mines.

Most of the surface blasting in conjunction with the development of the facilities is allready complete. With the exception of the face-up for the portals at the Aberdeen Mine, all surfac blasting has been completed. Surface blasting will be accomplished in accordance with the requirements of these sections of the regulations and in accordance with applicable federal regulations.

Compliance

The operator is considered to be in compliance with the requirements of this section.

Only limited surface blasting will occur in order to face-up the portals at the Aberdeen Mine. The operator has located the powder magazines on Plate 6. The operator has committed to perform both surface and underground blasting operations in accordance with applicable regulations.

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

Existing Environment and Applicant's Proposal

The operator has addressed information regarding the requirements of this section on pages 174-176 of the mining and reclamation plan.

The operator indicates in part UMC 784.19 on page 174 of the mining and reclamation plan that there has been no development waste or excess spoil and there will be none. The operator further states that raw coal (run-of-mine coal) is the only product from the mine and that there are no coal processing waste facilities within the permit area.

The operator states that the only spoil material which will be developed at the minesite will be sediment pond waste. Waste material developed underground is anticipated to remain underground or will be placed in an area which will report to a sediment pond.

The operator has designated a non-coal waste storage location. The operator intends on utilizing the existing waste material as fill material in the construction of the Aberdeen Mine site. Once the construction of the Aberdeen site facilities are complete, the operation indicates that there will be insufficient area for the temporary as well as permanent storage of these materials and wishes to have the materials disposed of off-site.

The operator has provided analysis of the existing sediment pond material for determination as to whether or not the material is acid or toxic forming material. This information is found in Appendix O of the mining and reclamation plan.

Compliance

The operator is not considered to be in compliance with the requirements of this section.

The operator has incorrectly categorized excess spoils and mine development waste as non-coal waste.

In accordance with part (a) of this section, "Underground development waste and excess spoil not required to achieve approximate original contour within the area where overburden has been removed and which is not used as backfill shall be hauled or conveyed to and placed in designated disposal areas within a permit area."

While the operator has included methodology for handling the immediate waste situation for the site by disposal of the excess waste in the construction of the Aberdeen Mine, long-term reclamation is not apparent for the entire facilities.

The mining and reclamation plan is not clear on some of the terminology that is used in discussion of the waste materials. The operator has included excess spoil and mine development waste with the treatment of non-coal waste material.

If the non-coal waste storage area described in the plan and shown on the facilities drawing were clarified to indicate that this location is for the temporary storage of excess spoil and mine development waste material, the temporary storage requirements of this section could be considered to be complete.

With regard to permanent location for disposal of excess spoil and mine development waste, the operator must re-evaluate the location and disposition of the material. The operator has indicated that this excess material will be disposed of off-site to a landfill. Under this section of the regulations, removal of excess spoil and mine development waste cannot be removed or placed outside the permit area.

In summary of the deficiencies associated with this section of the regulations, the operator needs to incorporate the following into the plan:

1. Language referring to the description of non-coal waste, excess spoil and mine development waste, and sediment pond waste must be corrected in the plan. Excess fill from earwork and grading, sediment pond materials, underground waste rock, contaminated coal, coal waste and other such earthen materials shall be considered to be excess spoil and mine development waste and shall be treated in accordance with the requirements of this section (UMC 817.71)
2. The operator shall be required to locate on the drawings, the location(s) for both the temporary and permanent storage and disposal for these materials. The capacities for these areas should be included in the narrative description of the plan and included on the drawings. For those waste materials which are found to be non-toxic or non-acid forming, the operator may incorporate these materials into backfill areas during reclamation activities. However, a reasonable estimate of the waste materials to be accumulated on the site must be taken into consideration, and, these quantities must be factored into the mass balance for the reclamation earthwork for the site.
3. The operator needs to provide a commitment or methodology to ensure that the materials to be disposed of are non-acid or non-toxic forming and that if such materials are encountered, they will be treated accordingly.
4. It appears that the operator will most likely be able to incorporate the permanent disposal of these waste materials into the backfilling of the site in achieving approximate original contour and that a permanent waste fill facility will not have to be constructed. The material should be placed within the cuts for the highwalls from pads and portal face-ups at the time of reclamation. The major problem that the operator will encounter is the location of temporary storage area for these materials during mining operations.

UMC 817.81 Coal Processing Waste Banks: General Requirements - JRH
UMC 817.82 Coal Processing Waste Banks: Site Inspection - JRH
UMC 817.83 Coal Processing Waste Banks: Water Control Measures - JRH
UMC 817.85 Coal Processing Waste Banks: Construction Requirements - JRH
UMC 817.86 Coal Processing Waste: Burning - JRH
UMC 817.87 Coal Processing Waste: Burned Waste Utilization - JRH
UMC 817.88 Coal Processing Waste: Return to Underground Workings - JRH
UMC 817.91 Coal Processing Waste: Dams and Embankments:
General Requirements - JRH
UMC 817.92 Coal Processing Waste: Dams and Embankments: Site Preparation
- JRH
UMC 817.93 Coal Processing Waste: Dams and Embankments:
Design and Construction - JRH

Existing Environment and Applicant's Proposal

The are no coal processing waste facilities proposed within the permit area. These sections of the regulations are considered to be no applicable.

UMC 817.89 Disposal of Non-Coal Wastes - JRH

Existing Environment and Applicant's Proposal

Information regarding this section of the regulations if found on pages 174-176 of Part O of the mining and reclamation plan.

The operator has stated that non-coal waste materials

Compliance

The operator is not considered to be in compliance with the requirements of this section.

The operator has misinterpreted the requirements for non-coal waste materials by including excess spoils an mine development waste materials into the discussion of non-coal waste. Non-coal waste materials as defined in the regulations include but are not limited to grease, lubricants, paints, flammable liquids, garbage, abandoned mine machinery, timber and other combustibles generated during underground coal mining activities.

Earthen materials including excess spoil, mine development waste, coal waste, waste rock, excess fill materials, sediment pond waste and soil are not considered to be non-coal waste materials.

Information found under part 3.1 Combustible Materials, is more appropriate for the requirements of this section and the plan should be revised to indicate that non-coal waste materials as defined by the regulations will be collected in trash containers and hauled to an approved landfill for the type of materials to be disposed of.

The operator also needs to indicate that specific materials such as oil and grease or other waste which is subject to other specific local, state and federal requirements will be disposed of in accordance with those regulations.

Refer to UMC 817.71 for discussion of excess spoil and mine development waste materials as described by the operator under non-coal waste.

UMC 817.99 Slides and Other Damage - JRH

Existing Environment and Applicant's Proposal

Information regarding the requirements of this section are found on page 71 of Chapter IV of the mining and reclamation plan. The operator has indicated that Andalex will notify the Division in the event of any slides or other damages.

Compliance

This section is considered to be complete and technically adequate.

UMC 817.101 Backfilling and Grading: General Requirements - JRH

Existing Environment and Applicant's Proposal

Information regarding backfilling and grading is found on pages 101-103 of the mining and reclamation plan. A mass balance survey is included in the plan on pages 97 through 99, with section of the facilities taken from plate 14 and 15.

The operator has indicated that backfilling and grading of the site will be in accordance with the general requirements of this section.

In conjunction with the construction of the exiting facilities, a pad was developed which exceeded the 2h:1v slope criteria as outline in the regulations and the operator has conducted a stability analysis for that which is included in the mining and reclamation plan.

Compliance

The operator is not considered to be in compliance with the requirements of this section.

Cut and fill calculations do not account for swell or recompaction factors. Pads and portal areas which were cut in rock may not prove to be stable if reclaimed to the preexisting slopes for those areas.

In order to achieve approximate original contour, the operator will need to indicate where excess fill materials will be located. In referencing those comments made in section UMC 817.71, the operator should also incorporate the volumes of materials which will be developed from the cleaning of sediment ponds, surface cleanup of coal spills, and such waste materials which may not be returned to underground workings.

UMC 817.106 Regrading of Stabilizing Rills and Gullies - JRH

Existing Environment and Applicant's Proposal

The operator has indicated on page 71 of the mining and reclamation plan that Andalex will fill and regrade and stabilize rills and gullies over 9 inches in depth. Andalex has further agreed to interim stabilization controls throughout the disturbed areas where reasonable.

Compliance

The operator is considered to be in compliance with the requirements of this section.

UMC 817.150-.156 Class I Roads - JRH

UMC 817.160-.166 Class II Roads - JRH

UMC 817.170-.176 Class III Roads - JRH

Existing Environment and Applicant's Proposal

Information regarding roads is found in the mining and reclamation plan on pages 182 through 185.

Class I roads on the site consist of a previously existing secondary hard surface road. The operator indicates that this is a county road upgraded to the requirements for use as a coal haulage road. Paving of this road as well as other paved roads within the area have been accomplished in accordance with UDOT specifications.

All other roads located within the permit area are classified as Class II roads. The operator indicates that these roads are regularly maintained and were constructed in accordance with all Class II road performance standards.

The operator has indicated that there are no Class III roads located within the permit area.

Compliance

The operator has indicated that it is doubtful that the county road will be removed upon cessation of mining operations. The operator must indicate which roads within the permit area are to remain as part of the post mining land use. In the event that the operator does wish to leave some of the roads as part of the post mining land use, the operator must obtain approval from the landowner accepting the roads to be left as part of the post mining land use and the landowner's acceptance for liability of the road.

Listed under Part 3. Other Transportation Facilities on page 185, the operator addresses reclamation of roads by stating that alccclass II and I roads are to be removed upon cessation of mining by simple regrading and reestablishment of contours. These comments should be moved to the section of the plan which addresses roads.

The bonding calculation associate some costs with the reclamation of roads but do not indicate the removal of such materials as the pavement.

Drainage and erosion control is not addressed under the section identified by the operator as roads. This information is found under diversions in the hydrology section of the poan. refer to comments made under that section regarding diversions.

UMC 817.180 Other Transportation Facilities - JRH

Existing Environment and Applicant's Proposal

Other transportation facilities associated with mining within the disturbed area are noted in the plan on page 185.

Conveyor structures at the minesite are used to carry coal from the mines to the loadout facilities for eah respective mine area.

Compliance

This section of the regulations is considered to be technically adequate. The transportation facilities shown on the drawings are located within the disturbed area boundaries and runoff from these facilities reports to the sediment ponds. These structures are to be removed upon cessation of mining operations.

UMC 817.181 Support Facilities and Utility Installations - JRH

Existing Environment and Applicant's Proposal

Support facilities are described on pages 82-90 of the mining and reclamation plan.

Support facilities described in the plan include a description of all of the buildings to be used in conjunction with the mining operations. These Structures are located on Plates 6 and 7. All of these facilities are to be demolished and removed from the site upon reclamation of the operations.

Compliance

This section of the regulations is considered to be technically adequate.

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