C0070033

WILDCAT LOADOUT FACILITY
TECHNICAL ANALYSIS
ACT/007/033

Andalex Resources Inc.
Carbon County, Utah
May 5, 1989

UMC 785.19 Underground Coal Mining Activities on Areas or Adjacent to Areas Including Alluvial Valley Floors in the Arid or Semi-Arid Areas of Utah - (RVS)

Existing Environment and Applicant's Proposal

The Wildcat Loadout Facility is located on the Masuk member of the Upper Cretaceous Mancos Shale (page 26). A field inspection of the permit and adjacent area by technical staff identified limited unconsolidated streamlaid deposits occurring within small ephemeral drainages. Moreover, there was no evidence of flood irrigation or subirrigation. Lack of surface water or shallow ground water precludes the potential for developing flood irrigation.

Compliance

Sufficient information about unconsolidated streamlaid deposits and irrigation are available for the Division to determine, as required by UMC 785.19(c)(2),. that no alluvial valley floors exist within or in close proximity to the proposed permit area.

The applicant is in compliance with this section.

Stipulations

None.

UMC 800 Bonding - (PGL)

Wildcat Loadout Facility

Bonding

PHASE I:

Structural Removal	$ 286,000
Coal Pile Cleanup	16,000
Recontouring and Regrading	78,000
Compaction and Scarification	4,000
Topsoil Redistribution	130,705
Revegetation	17,000
Monitoring	8,100
Subtotal	$539,805

PHASE II:

Recontouring	$ 17,000	
Monitoring	2,700	
Subtotal		$ 19,700
Foreman Supervising Activities	$100,800	
		$660,305
10% Contingency		$ 66,030
Total		$726,335 (1988 dollars)

Escalated at 2.3%

1989	$743,041
1990	$760,131
1991	$777,614
1992	$795,499
1993	$813,795 ←

The amount of $813,795 was posted by the applicant on March 1, 1989 in the form of an Irrevocable Letter of Credit (#55412-IC) at the Pittsburg National Bank.

UMC 817.11 Signs and Markers - (WM)

Existing Environment and Applicant's Proposal

Entrance signs of uniform design with pertinent identification information are in place at access points to the Wildcat Loadout Facility. Topsoil and perimeter markers are in place and will be maintained until bond release occurs (page 65, PAP).

Compliance

Applicant has placed identification signs at primary and secondary road entrances. Perimeter markers have been placed around the perimeter of the disturbed area. Signs have been placed on all topsoil piles and sediment ponds.

The applicant is in compliance with this section.

Stipulations

None.

UMC 817.13-.15 Casing and Sealing of Exposed Underground Openings - (WM)

Appendix C of the PAP notes eight shallow boreholes were completed for a soil foundation study in 1982. Page 87 of the PAP indicates all holes have been sealed with cement from top to bottom.

Compliance

Applicant indicates all eight drill test holes have been sealed with cement (page 87, Appendix C). No other underground openings exist at this facility.

The applicant is in compliance with this section.

Stipulations

None.

UMC 817.22 Topsoil: Removal - (HS)

Existing Environment and Applicant's Proposal

Prior to leasing of the Wildcat Loadout Facility area by the applicant, coal loading activities occurred on a portion of the permit area west of Utah Railway's railroad tracks (page 3). The surface area disturbed by these operations was determined to be 37.19 acres. Topsoil was not salvaged from this 37.19 acres because activities began prior to Division jurisdiction on October 30, 1986. The applicant proposes to use existing fill material on site as a plant growth medium (page 76).

Topsoil was separately removed and segregated prior to construction of a new Wildcat Loadout Facility (page 52) from approximately 20 acres located east of the railroad tracks and not including the small area exemption (page 77). Scrapers removed six inches of topsoil from the surface. Removed topsoil was placed in five separate stockpiles within the permit area (Plate I).

Soil mapping unit descriptions and a map of the permit area are given in Appendix D and shown on Plate I, respectively. Chemical and physical analyses of the stockpiled soils occur in Appendix D.

Compliance

The initiation of coal loading and processing activities by the applicant occurred prior to Division jurisdiction on October 30, 1986. Chemical and physical analyses of the topsoil material were not performed prior to topsoil removal but have since taken place (Appendix D). Profile descriptions and chemical and physical data indicate no characteristics that would jeopardize reclamation success within the salvaged material.

Mass balance calculations indicate a topsoil deficiency for final reclamation. Stockpiled topsoil on site amounts to 419,823 ft ^{3} (page 78). Topsoil required to redistribute six inches of topsoil across 55 acres equals 1,197,900 ft ^{3}, leaving a deficiency equalling 778,077 ft ^{3} (page 83). Thus, the applicant has committed to identifying and testing for suitable substitute material either off the permit area or possibly within the permit area, if a suitable growth medium can be identified (page 76).

The applicant proposes to use existing fill material as a plant growth medium and has identified four locations within the permit area (Plate I) as sites for revegetation test plots.

The Division will determine, based on the physical and chemical characteristics of the substitute material and the results of revegetation efforts, whether existing fill material will be suitable topsoil material.

The applicant will be in compliance with this section when the following stipulation is met.

Stipulation UMC 817.22-(1)-(HS)

The applicant shall submit by May 31, 1989, for inclusion in the PAP, seed bed preparation and planting methods as well as vegetation monitoring methods and success standards for the revegetation test plots. The submission shall include a commitment to complete seeding of revegetation test plots by November 1, 1989.

UMC 817.23 Topsoil: Storage - (HS)

Existing Environment and Applicant's Proposal

Topsoil was removed from approximately 20 acres and placed in five separate storage areas that are located in the small area exemption (SAE) portion of the permit area (Plate I). Topsoil was not removed from the SAE area. Reseeding has already occurred. The as-built survey of the five stockpiles is shown on Plate 13.

The applicant has protected topsoil stockpiles against wind and water erosion by reseeding the surface of the piles and placing an impermeable earthern berm around the piles. If over a period of time these berms become backfilled with soil as a result of minor erosion, the applicant will remove the material and place it back on the pile to maintain the berm protection at all times (page 77).

Substitute topsoil sites (Revegetation Test Plots, Plate I), once identified, will be protected from wind and water erosion with vegetation cover (page 77).

Compliance

Removed topsoil has been placed within the permit area. Immediate redistribution of topsoil is not practical because essential facilities will remain operational through the life of the facility. The applicant has committed to promptly reclaiming disturbed areas when no longer needed for operations (page 67).

The area where topsoil has been stored (Small Area Exemption, Plate I) is relatively flat (Hernandez Family, 3 to 8 percent slope, Appendix D). The surrounding terrain does not pose any imminent danger for slope failure. Topsoil stockpiles A and E will not be moved prior to final reclamation activities. Topsoil stockpiles B, C, and D are accumulating wind-borne coal fines from the main coal storage pile. The applicant has proposed measures to alleviate this concern (see Technical Analysis UMC 817.95).

The species composition of the topsoil stockpiles presently consists of a low percentage (approximately 5 to 10 percent) of desirable species Indian ricegrass (Oryzopsis hymenoides) and wheatgrass (Agropyron spp.) and a high percentage (approximately 90 to 95 percent) of undesirable species, Kochia (Kochia scoparia), Russian thistle (Salsola kali), etc. The aforementioned undesirable species are not on Utah's Noxious Species List; however, they do constitute contaminants which may potentially lessen the capability of the stored topsoil to support adequate vegetation when redistributed (i.e., weed seed source, competition for essential limiting nutrients, etc.). In addition, the unsuccessful revegetation may be the result of unsuitable topsoil or inappropriate seeding methods. Vegetation monitoring of stockpiles has been assessed by the Division (memo to Richard V. Smith, April 25, 1989) and additional seeding will be needed.

The applicant will be in compliance with this section when the following stipulation is met.

Stipulation UMC 817.23-(1)-(HS)

The applicant shall submit by May 31, 1989 a plan to include seed bed preparation and planting methods as well as vegetation monitoring methods and success standards for the topsoil stockpiles. This plan must include a commitment to complete seeding of the topsoil stockpile.

UMC 817.24 Topsoil: Redistribution - (HS)

Existing Environment and Applicant's Proposal

The applicant has committed to uniformly redistributing six inches of topsoil over the entire disturbed area (excluding the small area exemption) of approximately 55 acres (page 79). Prior to topsoil redistribution, the applicant will remove any coal remaining in the permit area. Coal will be disposed of onsite or moved to an approved offsite disposal area (page 69).

All disturbed areas will be backfilled and graded to the approximate original contour (page 78) with the exception of the natural drainage which previously intersected the Wildcat Loadout Facility. Fill material will be compacted and scarified to assure stability (page 71).

All final grading and placement of topsoil will be conducted parallel to contours (page 78). Redistribution of topsoil will be accomplished utilizing end dump trucks to pile material and graders to spread material to a uniform thickness.

Topsoil redistribution and seeding will be completed in the fall, following grading operations. Seedbed preparation will include disking and application of chemical fertilizers and organic mulch (page 73). Straw mulch will be mechanically crimped utilizing equipment such as a small cat dozer (page 84). Where hydroseeding and hydromulching occur, a tackifier will be added to both the seed and the mulch (page 84).

Compliance

The redistribution of topsoil to a uniform depth of six inches is adequate to support the postmining land use of livestock grazing and wildlife habitat.

Published Soil Conservation Service (SCS) soil survey (Carbon-Emery County) descriptions indicate predisturbance soil conditions of slightly altered parent material (C-horizon) overlaid with an A-horizon six to nine inches deep. The depth of redistributed topsoil closely parallels predisturbance conditions.

Scarification of regraded spoils and disking of redistributed topsoil should alleviate compaction caused by machinery traffic and ensure good overburden/soil contact, thereby preventing potential slippage and create a soil profile conducive to root penetration.

The Division considers compaction to be greater than 1.6/cc for the top 12 inches and excessively loosened soil/spoil to be less than 1.0g/cc for the top 12 inches. All soil redistribution and seedbed preparation activities should be carried out when the soil is dry. Working on wet soil results in excessively compacted soil.

Regraded spoils should be left in a roughened condition to provide micro-relief to reduce runoff and maintain available water supply to the revegetation.

Crimped straw mulch and tackifying agents should ensure adequate protection from wind and water erosion by raising the wind profile above the soil surface and acting as a barrier against raindrop impact.

The applicant is in compliance with this section.

Stipulations

None.

UMC 817.25 Topsoil: Nutrients and Soil Amendments - (HS)

Existing Environment and Applicant's Proposal

The applicant has committed to sample stored topsoil and proposed topsoil-substitute material prior to final reclamation to determine any deficiencies which would affect the growth of newly revegetated areas (page 83). Any deficiencies will be corrected by adding to the soil chemical fertilizers, organic mulch or any other substances recommended by the Division.

Proposed topsoil substitute material (Revegetation Test Plots, Plate I) has been analyzed. Based on these test results, the applicant has committed to submitting a Soil Amendment Plan (page 77).

Compliance

The applicant has committed to sampling stored topsoil and proposed substitute material to determine deficiencies or toxicities which may inhibit or prevent revegetation success.

The applicant is in compliance with this section.

Stipulations

None.

UMC 817.41 Hydrologic Balance: General Requirements - (PGL/RVS)

Existing Environment and Applicant's Proposal

Ground Water - (RVS)

The applicant provides information about aquifers and springs in Chapter III (pages 16-23), Appendix C and Appendix J of the PAP. Significant ground-water resources are inferred to occur within sandstone units occurring at depths that exceed 600 feet within the permit area. Eight boreholes were drilled within the permit area to depths ranging from 20 to 60 feet (page 21). No shallow ground-water resources were encountered during drilling. Boreholes No. 4 and No. 6 were retained and monitored weekly for a period of two months to detect ground-water infiltration. Both boreholes remained dry during the monitoring period and were subsequently abandoned (Appendix J).

The applicant conducted a field reconnaissance of the permit and adjacent area and identified one spring located approximately one-half mile southwest of the permit area (Figure III-2). The spring occurs at the contact between Quarternary alluvium and the Upper Cretaceous Masuk member.

Surface Water - (PGL)

The applicant provides information about the regional surface water hydrology on page 24 of the PAP. There are no principal surface water courses found within one-quarter mile of the permit area, and no perennial streams within one mile of the permit area. A small ephemeral drainage known as Garley Canyon runs south of the permit area and eventually drains into the Price River, approximately three and one-half miles southeast of the permit area. Runoff from the permit area flows into the Garley Canyon drainage and eventually into the Price River. The drainage pattern of the area is shown on Figure III-2 and on Plate 15.

The applicant proposed to minimize changes to the prevailing hydrologic balance in the permit area and adjacent areas through the use of a combination of structures. Flow within the disturbed area is diverted to sedimentation ponds by the use of ditches and culverts. Undisturbed drainage runoff is diverted around the site by existing channels as shown on Plate 2 and Plate 15.

The ditches and culverts are temporary structures and will be removed during final reclamation of the site. The existing channels for undisturbed drainages are permanent (page 108).

Compliance

Ground Water - (RVS)

The applicant has provided data that indicate ground-water resources are located at a depth beneath and adjacent to the permit area. Accordingly, potential impacts to ground-water resources from leaching or other activities related to the Wildcat Loadout Facility are herein determined to be practically non-existent.

The applicant is in compliance with this section.

Surface Water - (PGL)

The applicant's proposed plans for drainage control of the disturbed area and for the undisturbed diversion are adequate. The applicant's proposed plan for controlling runoff from the disturbed area meets the requirements of this section.

The applicant is in compliance with this section.

Stipulations

None.

UMC 817.42 Hydrologic Balance: Water Quality, Standards and Effluent Limitations - (PGL)

Existing Environment and Applicant's Proposal

Disturbed area runoff will be routed to one of six sedimentation ponds located on the permit area. Design calculations for each pond are given on pages 88 through 107. Plate 2 shows four small areas which control sediment with silt fences, straw bales and berms.

NPDES Permit Number UT-0024147 was reissued to the applicant on November 24, 1986 (page 88).

Compliance

The treatment methods proposed for disturbed area runoff include sedimentation ponds, silt fences, straw bales and berms, as well as four alternative sediment control areas. These proposals meet the requirements of this section. The NPDES permit encompasses sediment pond discharge.

The applicant is in compliance with this section.

Stipulations

None.

UMC 817.43 Hydrologic Balance: Diversions and Conveyances of Overland Flow, Shallow Ground Water Flow, and Ephemeral Streams - (PGL)

Existing Environment and Applicant's Proposal

Discussion of the applicant's disturbed and undisturbed area drainage conveyance system, peak flow determinations and methodolgies, sediment control, channel flow design, channel lining design, and culvert design is given on pages 108 through 136 of the PAP.

Compliance

The applicant has met all the requirements regarding peak flow methodologies and determinations for diversions as well as culvert sizing, inlet and outlet protection, riprap location, riprap type and location of these diversions.

The applicant is in compliance with this section.

Stipulations

None.

UMC 817.44 Hydrologic Balance: Stream Channel Diversions - (PGL)

Existing Environment and Applicant's Proposal

Ephemeral drainage in the permit area is diverted around the permit area in UD-1 (shown on Plate 15). Reclamation of this channel is shown on Plates 8 and 9, Final Reclamation Hydrology (Phase I) and Final Reclamation Contours and Revegetation.

Compliance

The current channel diversion and postmining drainage patterns for the permit area meet the requirements of this section.

The applicant is in compliance with this section.

Stipulations

None.

UMC 817.45 Hydrologic Balance: Sediment Control Measures - (PGL)

Existing Environment and Applicant's Proposal

The applicant describes methodologies to control erosion on pages 124, 125, and 136. The applicant proposes to control erosion with straw bales, silt fences, and sedimentation ponds.

Placement of erosion protection devices is shown on Plate 2. The applicant committed to maintain these erosion controls throughout the life of the project (page 136).

Compliance

The applicant's proposals for sediment control measures for the disturbed area will result in minimizing to the extent possible additional contributions of sediment to stream flow or to runoff outside the permit area.

The applicant is in compliance with this section.

Stipulations

None.

UMC 817.46 Hydrologic Balance: Sedimentation Ponds - (PGL)

Existing Environment and Applicant's Proposal

There are six sedimentation ponds constructed at the Wildcat Loadout Facility. Pond locations are shown on Plate 2 with detailed designs on Plates 3 through 7. Additional design calculations are given on pages 89 through 105.

All ponds are constructed with embankment slopes and each is equipped with a principal and emergency spillway. Ponds are designed for a 10-year, 24-hour storm event, with the exception of Pond E which will be enlarged to contain the design event. (Note: The enlargement of Pond E will be under the direction of a qualified registered engineer.) Slopes of the dams are not steeper than 2h:1v inside and outside, with a total of the inslope and outslope not less than 5h:1v (page 90).

Appendix H, the professional engineer certification, attests that all ponds have been constructed in accordance with, and meet, the required performance standards of this section.

All sedimentation ponds will be reclaimed (page 89) and reclamation will be undertaken in two phases. Ponds B and E will be removed during Phase I, then Ponds A, C, D and F will be removed and reclaimed during Phase II.

Compliance

The design capacity for five of the six ponds is adequate. Pond E is currently inadequate and will be enlarged (page 89).

Embankment slopes of the ponds are adequate. Ponds will be inspected quarterly for safety and condition of the structure. All ponds have been certified and designed according to the design criteria required under this section.

The applicant will be in compliance when the following stipulation is met.

Stipulation UMC 817.46-(1)-(PGL)

The applicant shall complete construction of Pond E according to the specifications contained in the PAP by July 14, 1989.

UMC 817.47 Hydrologic Balance: Discharge Structures - (PGL)

Existing Environment and Applicant's Proposal

Plans for sediment pond outlet protection are given on page 121. Outlet protection includes a three-quarter-inch filter blanket to a depth of six inches, with nine inches minimum diameter riprap for a minimum of 15 feet downstream.

Compliance

The applicant's proposed discharge structures meet the requirements of this section.

The applicant is in compliance with this section.

Stipulations

None.

UMC 817.48 Hydrologic Balance: Acid- and Toxic-Forming Materials - (HS)

Existing Environment and Applicant's Proposal

The applicant will conduct annual leachate analysis of coal and rejected materials stored onsite for the following parameters: pH, electrical conductivity, sodium adsorption ratio, selenium, boron, acid-base potential, percent organic carbon and saturation percent. If toxic- or acid-forming materials occur, a plan will be developed to ensure that drainage from these materials will not be detrimental to vegetation or adversely affect surface waters (page 23).

If it is determined through testing that coal processing waste material is acid- or toxic-forming, then disposal will consist of burial on the west side of the Wildcat Loadout Facility or haulage to another approved coal processing waste disposal area (page 141).

Compliance

The applicant has committed to identify and bury where necessary, coal processing waste and/or coal which may adversely affect vegetation or water supplies.

If toxic- or acid-forming material is determined to exist on site, the applicant has committed to develop a plan to ensure drainage from these materials will not be detrimental to surface water and vegetation. Impact to groundwater is not an issue due to the lack of any groundwater resources in the immediate area.

Preliminary analyses conducted by the Division of coal material, accumulated sediments within the sediment ponds, and the coal-soil interface of the storage pads (refer to December 29, 1988 memo from Henry Sauer to John Whitehead) indicates no acid-forming potential for the above material. Further sampling has been conducted by the applicant; results will be submitted to the Division when available from the lab.

The applicant will be in compliance with this section when the following stipulation is met.

Stipulation UMC 817.48-(1)-(HS)

The applicant shall submit, by May 31, 1989, for inclusion in the PAP, an adequate plan to include burial methods and specific timetables for acid- and/or toxic-forming material disposal.

UMC 817.49 Permanent Impoundments - (PGL)

Existing Environment and Applicant's Proposal

A permanent impoundment (shown on Plate 2) was built pre-law. The BLM has air photos on file dated July 3, 1974 (WPG 2:35:21) that verify the pre-law nature of this structure. This structure has not been used by the applicant, and therefore, is not required to be in the permit area. This section is not applicable.

UMC 817.52 Surface and Ground Water Monitoring - (PGL)

Existing Environment and Applicant's Proposal

The applicant describes water monitoring on pages 126 through 130 of the PAP.

Four surface water monitoring stations are established (Plate 15). These stations will be monitored according to the constituents and frequencies listed on Table IV-10 and 11, pages 128 through 130, respectively.

Monitoring results will be submitted to the Division quarterly, within 60 days following the end of the reporting quarter.

Shallow ground-water resources do not occur within and immediately adjacent to the permit area. Accordingly, a ground-water monitoring plan has not been developed.

Compliance

The applicant's plan for water monitoring meets the requirements of this section.

The applicant is in compliance with this section.

Stipulations

None.

UMC 817.56 Hydrologic Balance: Postmining Rehabilitation of Sedimentation Ponds, Diversions, Impoundments, and Treatment Facilities - (PGL)

Existing Environment and Applicant's Proposal

The applicant describes the postmining rehabilitation of sedimentation ponds and diversions on pages 136 through 139. The six sedimentation ponds will be reclaimed and the diversions reconstructed.

Compliance

The sedimentation ponds and diversions will be rehabilitated and meet the requirements of this section.

The applicant is in compliance with this section.

Stipulations

None.

UMC 817.57 Stream Buffer Zone: - (PGL)

Existing Environment and Applicant's Proposal

There are no perennial or intermittent streams within or adjacent to the proposed permit area. Therefore, this regulation is not applicable.

UMC 817.61-.68 Use of Explosives: General Requirements - (PGL)

No explosives are used at the Wildcat Loadout Facility. This section is not applicable.

UMC 817.71-.74 Disposal of Underground Development Waste and Excess Spoil: General Requirements - (PGL)

No underground development waste is disposed at the Wildcat Loadout Facility. This section is not applicable.

UMC 817.81-.88 Coal Processing Waste Banks - (PGL)

Existing Environment and Applicant's Proposal

During processing, a small amount of "boney" material and rock is recovered from the lump coal product (pages 140 and 141). This material is hauled to a designated site on the west side of the facility (located on Plate I). All coal processing waste piles are inspected at least quarterly for potential hazards and the reports are maintained at the site. Coal processing waste will be covered with four feet of non-combustible material.

Compliance

The applicant will convey the physically-processed coal material to a disposal area within the permit area. This material will be constructed, maintained, and reclaimed according to requirements of this section.

The applicant is in compliance with this section.

Stipulations

None.

UMC 817.89 Disposal of Non-Coal Wastes - (PGL)

Existing Environment and Applicant's Proposal

All combustibles are collected in trash containers and hauled to a local landfill (page 142).

Compliance

Non-coal wastes are stored in a controlled manner and disposed of as required.

The applicant is in compliance with this section.

Stipulations

None.

UMC 817.91-.93 Coal Processing Waste: Dams and Embankments: General Requirements - (PGL)

No coal processing waste dams and embankments are located at the Wildcat Loadout Facility. This section is not applicable.

UMC 817.95 Air Resource Protection - (WM)

Existing Environment and Applicant's Proposal

The Wildcat Loadout Facility received an approval order for air controls for coal crushing, storage, and loadout from the Division of Environmental Health on July 22, 1982. This order (copy included in Appendix B of the PAP) outlines the various control measures to be utilized to maintain acceptable air quality on and around the facility. In addition, the applicant commits to specific measures to minimize wind borne coal fines on page 151 of the PAP. These measures include:

1. Coal stacker positioning to minimize free fall of coal;

2. Conveyor water sprays; and

3. Placement of supplemental straw bale dikes to filter coal fines entrained in runoff.

Compliance

Applicant complies with this section by including three mitigating measures; i.e., (1) stacker positioning to minimize coal dropping distance, (2) conveyor coal water spraying, and (3) installing straw bales to catch water-carried coal fines.

The applicant is in compliance with this section.

Stipulations

None.

UMC 817.97 Protection of Fish, Wildlife, and Related Environmental Values - (BAS)

Existing Environment and Applicant's Proposal

Wildlife resource information is based on site-specific observations by the applicant, and includes reports from the Utah Division of Wildlife Resources (DWR) and Bureau of Land Managment (BLM). Wildlife information is presented on pages 47 through 52 and in Appendix F. The Fish and Wildlife Plan is found on pages 142 through 146. Habitat enhancement work completed under an agreement with the BLM is described in Appendix E.

Compliance

Wildlife has adapted to the facility, evidenced by the permit area's colonization by prairie dogs, acceptance as nesting territory by great horned owls, and usage as a foraging area by mule deer (personal observation).

No threatened and endangered species or their habitats occur within or near the permit area. Golden eagles as well as wintering bald eagles have been observed in the Gordon Creek drainage, where road kills are scavenged on Consumers Road. Potential perches and nesting habitat are present along the cliff face, several miles to the north. Power poles under the applicant's control are raptor safe.

Wildlife impact mitigation commitments (pages 143-146) are sufficient to offset habitat losses and other man/wildlife conflicts. No natural riparian habitat or wetlands occur, although sedimentation ponds have more recently provided a water source for wildlife.

The final reclamation seed mix (page 85) was developed by Division staff in cooperation with BLM range conservationists. Species were selected based on native occurrence and known nutritional and cover values for wildlife and livestock.

The Wildcat Loadout Facility occurs within critical-valued mule deer winter range. Mitigation of potential impacts to wintering big game has been a concern for state and federal agencies. The applicant was directed to perform habitat enhancement under a lease agreement with the BLM (Appendix E).

The applicant will be in compliance with this section when the following stipulation is met.

Stipulation UMC 817.97-(1)-(BAS)

By May 31, 1989, the applicant must revise page 146 to state that Andalex Resources, Inc. commits to enhancement of 15 acres of critical-valued mule deer winter range, per Option No. 1 of the plan included as an addendum to Appendix E.

The applicant must commit to completion of enhancement work to the satisfaction of the BLM no later than December 1, 1989.

UMC 817.99 Slides and Other Damage - (PGL)

Existing Environment and Applicant's Proposal

The permit area is gently sloping and/or flat, and there is a low potential for slides (page 79). The applicant committed to notify the Division at any time a slide occurs which may have a potential adverse effect on public property, health, safety, or the environment (page 80).

Compliance

The applicant's commitment meets the requirements of this section.

Stipulations

None.

UMC 817.100 Contemporaneous Reclamation - (BAS/WM)

Existing Environment and Applicant's Proposal

The applicant has committed to revegetate, as soon as practicable, all disturbed areas which are no longer required for operations (page 67).

Compliance

No further surface disturbance is anticipated. Little interim revegetation will be undertaken, except when warranted for topsoil stabilization and erosion control. Final reclamation will commence immediately after cessation of operations (page 67).

The applicant is in compliance with this section.

Stipulations

None.

UMC 817.101 Backfilling and Grading - (PGL)

Existing Environment and Applicant's Proposal

The Wildcat Loadout Facility site will be backfilled and graded to approximate the original contour (flat or gently sloping) as shown on Plates 9 and 10. Areas to be regraded include the loadout site, stockpile sites and roads. Grading will be conducted to minimize erosion and provide a stable surface for placement of topsoil (pages 77 and 78).

Compliance

The applicant will backfill and grade to closely resemble the general surface configuration of surrounding terrain, i.e., flat or gently sloping.

The applicant is in compliance with this section.

Stipulations

None.

UMC 817.106 Regrading and Stabilizing Rills and Gullies - (PGL)

Existing Environment and Applicant's Proposal

The applicant commits to stabilize rills and gullies deeper than nine inches in areas that have been regraded or topsoiled by filling, grading, or otherwise stabilizing (page 80). Other rills and gullies will also be stabilized.

Compliance

The applicant's commitment meets the requirements of this section.

The applicant is in compliance with this section.

Stipulations

None.

UMC 817.111 Revegetation: General Requirements - (BAS)

Existing Environment and Applicant's Proposal

Following completion of topsoiling and seedbed preparation (page 79), seed may either be sown with a rangeland drill or broadcast by hydroseeding (page 84). The seed mix and rate of application are found on page 85. Grass seed will be applied at a rate of 40.9 pure live seed (PLS)/ft ^{2}, forbs at 23.2 PLS/ft ^{2}, and shrubs at 27.6 PLS/ft ^{2}. Fertilizer will be incorporated into the soil, if nutritional deficiencies are identified (page 83). Mulch will be applied at a rate of one ton per acre and will be tackified or mechanically crimped (page 84).

Compliance

Revegetation methods and timetables are expected to achieve a permanent and diverse vegetative cover and recovery of predisturbance productivity.

The applicant is in compliance with this section.

Stipulations

None.

UMC 817.112 Revegetation: Use of Introduced Species - (BAS)

Existing Environment and Applicant's Proposal

Yellow sweetclover (*Melilotus officinalis*) and alfalfa (*Medicago sativa*) are proposed for use in the final revegetation seed mix (page 85). With the exception of these two species, the seed mix consists entirely of native plants.

Compliance

Yellow sweetclover is considered valuable as a fast-growing, non-permanent, nitrogen-fixing soil stabilizer. Alfalfa was added at the request of the BLM for its high forage value and nitrogen-fixing characteristics. In a non-irrigated situation and under browsing pressure, alfalfa is not expected to outcompete native forbs in the seed mix.

Stipulations

None.

UMC 817.113 Revegetation: Timing - (BAS)

Existing Environment and Applicant's Proposal

Following regrading and topsoil distribution, seeding will commence as soon as practicable (pages 80 through 81). The months of October and November were selected as being most favorable for planting conditions (page 81).

Compliance

The applicant's proposal of fall seeding meets the requirements of this section.

The applicant is in compliance with this section.

Stipulations

None.

UMC 817.114 Revegetation: Mulching and Other Soil Stabilizing Practices - (BAS)

Existing Environment and Applicant's Proposal

The applicant has opted to choose from two types of mulch, each tailored to a specific planting method. Where planting is done by a rangeland drill, seeded areas will be covered with one ton of mechanically anchored straw mulch (page 84). Following hydroseeding, wood fiber hydromulch and tackifier will be applied at a rate of one ton/acre.

Compliance

Both mulch options, rates of application, and methods of anchoring are acceptable techniques to meet the requirements of this section.

The applicant is in compliance with this section.

Stipulations

None.

UMC 817.116 Revegetation: Standards for Success - (BAS)

Existing Environment and Applicant's Proposal

A single reference area has been established to represent the predisturbance vegetation type (Plate 1). Reference area sampling data (Appendix I) will be used as the revegetation success standard. Final reclamation monitoring will include qualitative and quantitative sampling at regular intervals (page 82). Revegetated areas which fail to stabilize soils will be reseeded until the desired cover is achieved (page 86).

Compliance

Bond liability will continue for not less than ten years. The groundcover standard is 70 percent of reference area cover with 90 percent statistical confidence. Productivity shall be 90 percent of reference area production at 90 percent statistical confidence. Woody plant stocking level will be 90 percent with 80 percent statistical confidence. Monitoring during the bond liability period will be sufficient to document progress toward realization of reclamation objectives.

The applicant is in compliance with this section.

Stipulations

None.

UMC 817.117 Revegetation: Tree and Shrub Stocking for Forest Land - (BAS)

Existing Environment and Applicant's Proposal

All land within the permit area is federally owned and managed by BLM (page 6) except the Utah Railway siding and right-of-way. No trees are included in the seed mix as sagebrush grassland was the predisturbance condition. The applicant proposes to apply shrub seed at a rate of 27.6 PLS/ft^2 (page 85).

Compliance

The rate of shrub seed application augmented by shrub invasion from surrounding areas is expected to equal or exceed 90 percent of predisturbance stocking levels.

The applicant is in compliance with this section.

Stipulations

None.

UMC 817.121-.126 Subsidence Control - (RVS)

No underground coal mining operations will occur at this site. This section is not applicable.

UMC 817.131 Cessation of Operations - Temporary - (WM)

Existing Environment and Applicant's Proposal

The applicant discusses cessation of operations on both a permanent and temporary basis on page 64 of the PAP.

Compliance

The applicant has committed to submit to the Division a notice to cease operations in accordance with UMC 817.131.

The applicant is in compliance with this section.

Stipulations

None.

UMC 817.133 Postmining Land Use - (BAS)

Existing Environment and Applicant's Proposal

Land uses are described on page 55. These include wildlife habitat, recreation, and rangeland. Postmining land use will remain the same (pages 56-57).

Compliance

The operation and reclamation plans (Chapter 4) are compatible with both current and future land uses. Reclamation will promote a higher level of use than existed prior to development.

The applicant is in compliance with this section.

Stipulations

None.

UMC 817.150-.156 Roads: Class I - (PGL)

Existing Environment and Applicant's Proposal

Class I haul roads within the permit area consist of the truck loops and access road. These roads are paved or gravel-based (distinguished on Plate I) and will be reclaimed during Phase I of reclamation (page 134).

Compliance

These roads have been certified by a registered professional engineer as meeting the Class I haul road regulations. They will be maintained and reclaimed as required by this section.

The applicant is in compliance with this section.

Stipulations

None.

UMC 817.160-.166 Roads: Class II - (PGL)

Existing Environment and Applicant's Proposal

Several gravel roads are used to interconnect facilities at the Wildcat Loadout Facility. All road embankments are placed on flat areas and, therefore, roads and grades are not excessive. These roads are surfaced with gravel and will be maintained and reclaimed (pages 148 and 149).

Compliance

The Class II roads are flat or gently-sloping and surfaced with gravel. The applicant commits to adequately maintain and reclaim these roads as required by this section.

The applicant is in compliance with this section.

Stipulations

None.

UMC 817.180 Other Transportation Facilities - (PGL)

Existing Environment and Applicant's Proposal

The Utah Railroad siding bisects the permit area (Plate I and page 149). This siding is part of a lease agreement with the BLM and a private lease agreement between the Utah Railway and the applicant (signed November 1981). In addition, a reclaim conveyor is present on this site (page 60). A description of how these transportation facilities will be maintained and reclaimed is on pages 149 and 150.

Compliance

The rail siding was operating before the Wildcat Loadout Facility began operating during April 1985. The siding and conveyor system were designed to prevent additional damage to fish, wildlife and environmental values. These facilities will be adequately maintained and reclaimed according to the requirements of this section.

The applicant is in compliance with this section.

Stipulations

None.

UMC 817.181 Support Facilities and Utility Installations - (PGL)

Existing Environment and Applicant's Proposal

Power lines and a substation are located within the permit area (page 61). The coal loading facility includes the loadout structure, reclaim conveyor, storage pile, radial stacker, crusher building, truck dump, office building, and tanks (pages 60 through 63).

Compliance

These facilities were built to prevent degradation to fish, wildlife and environmental values. These facilities will be maintained and reclaimed according to the requirements of this section.

The applicant is in compliance with this section.

Stipulations

None.

UMC 828 Prime Farmland Investigation - (HS)

Existing Environment and Applicant's Proposal

An April 27, 1988 letter from the state soils scientist indicates there are no lands identified as prime farmland within or adjacent to the proposed permit area.

Compliance

On the basis of a soil survey and field review of the lands within the permit area, there are no soil map units that have been designated prime farmland by the U.S.D.A. Soil Conservation Service.

The applicant is in compliance with this section.

Stipulations

None.

djh
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