

PERMIT CHANGE TRACKING FORM

DATE RECEIVED	3/14/94	PERMIT NUMBER	ACT/007/019
Title of Proposal:	Aberdeen - Modification	PERMIT CHANGE #	94B
Description:	Adding a seam lease UTO-69600	PERMITTEE	Ardalex Resources
		MINE NAME	Centennial

<input type="checkbox"/> 15 DAY INITIAL RESPONSE TO PERMIT CHANGE APPLICATION <input type="checkbox"/> Notice of Review Status of proposed permit change sent to the Permittee. <input type="checkbox"/> Request additional review copies prior to Division/Other Agency review. <input type="checkbox"/> Notice of Approval of Publication. (If change is a Significant Revision.) <input type="checkbox"/> Notice of request to modify proposed permit change prior to approval.	DATE DUE	DATE DONE	RESULT	
			3/5/94	<input type="checkbox"/> ACCEPTED
			Permit Change Classification	
			<input checked="" type="checkbox"/> Significant Permit Revision	
			<input type="checkbox"/> Permit Amendment	
			<input type="checkbox"/> Incidental Boundary Change	

REVIEW TRACKING	INITIAL REVIEW		MODIFIED REVIEW		FINAL REVIEW AND FINDINGS	
DOG M REVIEWER	DUE	DONE	DUE	DONE	DUE	DONE
<input checked="" type="checkbox"/> Administrative <u>DRH</u>						
<input type="checkbox"/> Biology						
<input checked="" type="checkbox"/> Engineering <u>WW</u>	4/1					
<input checked="" type="checkbox"/> Geology <u>Jim</u>	4/20					
<input type="checkbox"/> Soils						
<input type="checkbox"/> Hydrology						
<input type="checkbox"/> Bonding						
<input checked="" type="checkbox"/> AVS Check <u>Joe</u>	4/20					

COORDINATED REVIEWS	DUE	DONE	DUE	DONE	DUE	DONE
<input checked="" type="checkbox"/> OSMRE						
<input type="checkbox"/> US Forest Service						
<input checked="" type="checkbox"/> Bureau of Land Management	4/20					
<input checked="" type="checkbox"/> US Fish and Wildlife Service <u>letter</u>	4/20					
<input type="checkbox"/> US National Parks Service						
<input type="checkbox"/> UT Environmental Quality						
<input type="checkbox"/> UT Water Resources						
<input type="checkbox"/> UT Water Rights						
<input type="checkbox"/> UT Wildlife Resources						
<input checked="" type="checkbox"/> UT State History <u>letter</u>	4/20					
<input type="checkbox"/> Other						

<input type="checkbox"/> Public Notice/Comment/Hearing Complete (If the permit change is a Significant Revision) <input type="checkbox"/> Copies of permit change marked and ready for MRP. <input type="checkbox"/> Special Conditions/Stipulations written for approval. <input type="checkbox"/> TA and CHIA modified as required. <input type="checkbox"/> Permit Change Approval Form ready for approval.	<input type="checkbox"/> Permit Change Approval Form signed and approved effective as of this date. <input type="checkbox"/> Permit Change Denied. <input type="checkbox"/> Notice of <input type="checkbox"/> Approval <input type="checkbox"/> Denial to Permittee. <input type="checkbox"/> Copy of Approved Permit Change to File. <input type="checkbox"/> Copy of Approved Permit Change to Permittee. <input type="checkbox"/> Copies to Other Agencies and Price Field Office.
--	--

SIGNIFICANT PERMIT REVISION APPROVAL

Title:	PERMIT NUMBER:
Description:	PERMIT CHANGE #: 94B
	MINE:
	PERMITTEE:

WRITTEN FINDINGS FOR PERMIT APPLICATION APPROVAL

YES, NO or N/A

1. The application is complete and accurate and the applicant has complied with all the requirements of the State Program.	
2. The proposed permit area is not within an area under study or administrative proceedings under a petition, filed pursuant to R645-103-400 or 30 CFR 769, to have an area designated as unsuitable for coal mining and reclamation operations, unless:	
A. The applicant has demonstrated that before January 4, 1977, substantial legal and financial commitments were made in relation to the operation covered by the permit application, or	
B. The applicant has demonstrated that the proposed permit area is not within an area designated as unsuitable for mining pursuant to R645-103-300 and R645-103-400 or 30 CFR 769 or subject to the prohibitions or limitations of R645-103-230.	
3. For coal mining and reclamation operations where the private mineral estate to be mined has been severed from the private surface estate, the applicant has submitted to the Division the documentation required under R645-301-114.200.	
4. The Division has made an assessment of the probable cumulative impacts of all anticipated coal mining and reclamation operations on the hydrologic balance in the cumulative impact area and has determined that the proposed operation has been designed to prevent material damage to the hydrologic balance outside the permit area.	
5. The operation would not affect the continued existence of endangered or threatened species or result in destruction or adverse modification of their critical habitats, as determined under the Endangered Species Act of 1973 (16 U.S.C. 1531 et.seq.).	
6. The Division has taken into account the effect of the proposed permitting action on properties listed on and eligible for listing on the National Register of Historic Places. This finding may be supported in part by inclusion of appropriate permit conditions or changes in the operation plan protecting historic resources, or a documented decision that the Division has determined that no additional protection measures are necessary.	
7. The Applicant has demonstrated that reclamation as required by the State Program can be accomplished according to information given in the permit application.	
8. The Applicant has demonstrated that any existing structure will comply with the applicable performance standards of R645-301 and R645-302.	
9. The Applicant has paid all reclamation fees from previous and existing coal mining and reclamation operations as required by 30 CFR Part 870.	
10. The Applicant has satisfied the applicable requirements of R645-302.	
11. The Applicant has, if applicable, satisfied the requirements for approval of a long-term, intensive agricultural postmining land use, in accordance with the requirements of R645-301-353.400.	
12. Public notice, comment period, and any subsequent hearings or appeals prior to approval of the proposed permit change have been completed with no adverse decision regarding this Significant Permit Revision.	

SPECIAL CONDITIONS OR STIPULATIONS TO THE SIGNIFICANT PERMIT REVISION APPROVAL

YES NO

1. Are there any variances associated with this significant permit revision approval? If yes, attach.			
2. Are there any special conditions associated with this significant permit revision approval? If yes, attach.			
3. Are there any stipulations associated with this significant permit revision approval? If yes, attach.			

The Division hereby grants approval for a Significant Permit Revision to the Existing Permit by incorporation of the proposed changes described herein and effective the date signed below. All other terms and conditions of the Existing Permit shall be maintained and in effect except as superseded by this Significant Permit Revision.

Signed _____

Director, Division of Oil, Gas and Mining

EFFECTIVE DATE _____

**Technical Review
Remote Fan Installation**

**Andalex Resources, Inc.
Centennial Project
ACT/007/019**

December 5, 1994

Patricia Binder

OVERVIEW OF PROJECT

On September 12, 1994, the Division received a proposal from Andalex Resources to develop a fan portal in the Left Fork of Deadman Canyon. Additional information was received October 24 and 31, and November 10, 1994. The proposal includes a copy of the BLM right-of-way, a general description of vegetation in the area, and the results of an archaeological survey. The current mining and reclamation plan already includes wildlife information.

The Operator proposes upgrading part of an existing dirt road and constructing a new road for access to the Left-Hand Fork fan installation. The existing road begins at Carbon County Road 299 and will be upgraded for maintenance and emergency access. The new road will be a single lane dirt road approximately 15 feet wide and 4000 feet long. There will be at least three widened sections to allow passing. The grade ranges from 0% to 15%.

The pad is approximately 320 feet long, 170 feet wide and 50 feet high. Three portals and a fan will be installed on the pad. The pad consists of a cut section where the portals and fan will be installed and a fill section. Fill will be placed in the drainage below the portals. A 42" culvert will be placed in the drainage before the fill being placed.

Topsoil from the pad and road will be placed in a storage area west of the pad. A short ancillary road will be constructed from the existing road to the topsoil storage area.

ANALYSIS

R645-301-200

Soils

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

Findings:

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

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

R645-301-114 Right of Entry

Analysis:

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

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

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

Based on the information in the mining and reclamation plan and in this submittal, Andalex has secured necessary right of entry to use the portions of the road in the Left Fork of Deadman Canyon on Bureau of Land Management lands and to construct the fan portal and associated pad and topsoil pile. Page 3 of the revised mining and reclamation plan references this agreement.

A small portion of the access road at the intersection with the County road crosses State lands. The State owns the SW $\frac{1}{4}$ of Section 18, Township 13 S., Range 11 E. Interestingly, the Bureau of Land Management right-of-way includes the NE $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 18 even though the land is apparently not under their control. Andalex needs to obtain right-of-entry for the portion of the road in Section 18 that is on State land.

Also in Section 18, Gladys Artman owns the SE $\frac{1}{4}$ NW $\frac{1}{4}$. The amendment includes no right-of-entry information for the portion of the road that crosses this land.

Requirements:

1. Andalex needs to obtain right-of-entry for the portion of the road in Section 18, Township 13 S., Range 11 E., that is on State and private land.

R645-301-115

Unsuitability Criteria

Analysis:

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

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

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

Findings:

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

R645-301-320

Vegetation and Wildlife Information

Analysis:

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

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

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

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

The Book Cliffs provide habitat for a candidate threatened or endangered species, canyon sweetvetch (*Hedysarum occidentale* var. *canone*). Although this species has no legal protection except under Bureau of Land Management regulations, it should be avoided if possible. It is understood that Andalex hired a person to survey for this plant and that it was not found, but this information needs to be in the mining and reclamation plan. Also needed with the report would be other information required by R645-301-130 for technical reporting.

Requirements:

1. The plan needs to include information about whether canyon sweetvetch (*Hedysarum occidentale* var. *canone*) occurs in the area of the proposed disturbance.

R645-301-330

Operation Plan

Analysis:

In this section, the proposal includes a statement that the road through the Left and Right Forks of Deadman Canyon will be left permanently after reclamation.

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

The Bureau of Land Management right-of-way contains stipulations that are more specific and in line with current recommendations. Andalex should commit to follow the requirements of these stipulations. They are:

1. Andalex needs to commit to no construction activities within one-half mile of

the golden eagle nest during the nesting season, February 15 to July 15. In places that are both within line-of-sight and one-half mile of the nest, there should also be no new road construction.

2. There should be no construction activities from December 1 to April 15 to minimize disturbance to wintering elk and deer. If it is necessary to do construction during this period, some flexibility may be allowed but would need to be coordinated with the Bureau of Land Management, the State Division of Wildlife Resources, and the Division.
3. Except for snow removal, all routine maintenance should be done from within the mine from December 1 to July 1.

Bill Bates of the Division of Wildlife Resources said in a telephone conversation October 31, 1994, that most deer have already moved to lower elevations this year. Therefore, although Andalex must not disturb the site after December 1, deer and elk may already be in the area. It is important that construction be completed as soon as possible and that employees not harass any animals.

Assuming that canyon sweetvetch was not found in the survey discussed above, the commitments discussed above and those already in the plan should be adequate to protect important biological resources.

The current mining and reclamation plan does not include an interim revegetation plan. Every reference to revegetation under R645-301-330 appears to apply to final reclamation. The plan needs to show how vegetation will be established for interim stabilization of disturbed areas to minimize surface erosion. This may include all or part of the plan for final reclamation.

It is recommended that Andalex use the final reclamation seed mixture shown on page 80 and the planting mixture shown on page 76 of the mining and reclamation plan for interim revegetation. The fan portal will not be visited regularly from the surface; therefore, any revegetated area will provide wildlife habitat while the fan is in place.

Requirements:

Andalex needs to make the following commitments:

1. Andalex needs to commit to no construction activities within one-half mile of the golden eagle nest during the nesting season, February 15 to July 15. In places that are both within line-of-sight and one-half mile of the nest, there

should also be no new road construction.

2. There should be no construction activities from December 1 to April 15 to minimize disturbance to wintering elk and deer. If it is necessary to do construction during this period, some flexibility may be allowed but would need to be coordinated with the Bureau of Land Management, the State Division of Wildlife Resources, and the Division.
3. Except for snow removal, all routine maintenance should be done from within the mine from December 1 to July 1.

Even if construction is completed before December 1, it is important that employees not harass any deer or elk that have already moved into winter range.

The mining and reclamation plan needs to contain a plan for interim revegetation.

R645-301-340

Reclamation Plan

Analysis:

The proposal includes no new plans under this regulation.

The current mining and reclamation plan (new-reformatted) shows two seeding/planting mixtures. Either of these could be used for the fan portal area, but the plan needs to specify which will be used and what transplants will be planted. It is recommended that Andalex use the seed/planting mixture on page 80 with the transplants only used within about twenty feet of the drainage.

In 1994, Andalex attempted to transplant several shrubs on the topsoil pile near the Apex Mine. Vegetation is already established on this topsoil pile, but there are few shrubs. Most or all of the transplants died. Rather than trying to transplant more shrubs onto the Apex Mine topsoil pile, Andalex should try to show that shrubs can be successfully established by planting them on the fan portal topsoil pile. The pile should be left in a roughened condition and seeded with the seed mixture on page 80 this fall. In the spring, Andalex should plant shrubs from the list shown on page 74. These species would not be used in final reclamation at the fan portal if Andalex uses the recommendations given above, but using them on the topsoil pile would give some indication as to whether they can be successfully transplanted at the main mine site.

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

Requirements:

1. The plan needs to specify which seed/planting mixtures will be used for revegetation of the fan portal area. Andalex needs to try planting a shrub mixture on the fan portal topsoil pile as a field trial to see if shrubs can be successfully reestablished.

R645-301-411

Land Use Environmental Description

Analysis:

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

Premining land uses include wildlife, limited grazing, and recreation

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

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

Because the road was present prior to any mining, Andalex should be allowed to leave it after mining operations have ended. Keeping with the commitment in the plan, the terrain along the road will need to be reestablished to as nearly the original as practical.

Findings:

Andalex has supplied information and included commitments in the mining and reclamation plan adequate to satisfy the requirements of this regulation. The Division needs

to obtain a clearance from the State Historic Preservation Officer. There is no reason to believe the clearance will not be given.

R645-301-500 Engineering

Reclamation costs for the project area estimated by the Operator to be \$7,540. The current reclamation bond is for \$1,080,000.

R645-301-534.130 says that all roads must have, at a minimum, a static safety factor of 1.3 for all embankments. The Operator says that all road embankments will have safety factors of 1.3 or greater. There are no stability studies in the PAP nor reference to the MRP that shows the slopes are stable.

The Operator has failed to mention what the safety factor for the pad will be. Nor does he describe how the fill will be placed. At a minimum the slopes of the pad must have a static safety factor of 1.3 and the lifts should be 4 feet thick or less.

The Operator did not address how reclamation of the pad will be accomplished, nor did he provide any maps that showed the reclaimed area. (R645-301-540 through R645-301-542.)

Requirements:

1. The Operator must demonstrate that all road embankments have a minimum static safety factor of 1.3.
2. The Operator must describe how the pad will be constructed. That description must include how the lifts will be placed and their maximum thickness. Static safety factor for both the cut and fill slopes must be shown to be at a minimum 1.3.
3. The Operator must supply a reclamation plan for how the pad area will be reclaimed. The reclamation plan must include maps showing the reclaimed surfaces.

HYDROLOGIC INFORMATION

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

Analysis:

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

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

Findings:

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

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

around the pad area but no designs or mention for sediment control on the pad.

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

Requirements:

1. Andalex must address activity within the stream buffer zone and reclamation. They must commit to do work within the stream buffer zone only in periods of no flow. Andalex should submit reclamation plans in accordance with R645-301-542-600, 742.313, and 764. They must submit sufficient information and designs on miscellaneous diversions and berms on the pad and top soil pile. Andalex must submit these design and pages, or revised pages, to be inserted into the text of the MRP addressing the proposed activity.

REMOTFAN.AND



ANDALEX
RESOURCES, INC.

Tower Division

P.O. BOX 902
PRICE, UTAH 84501
PHONE (801) 637-5385
TELECOPIER (801) 637-8860

Samuel C. Quigley
General Manager of Western Operations

June 21, 1994

State of Utah
Department of Natural Resources
Division of Oil, Gas & Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Attn: Daron Haddock, Permit Supervisor

Re: ACT 007/019, 94B, AEP Lease (Aberdeem Seam)

Dear Mr. Haddock:

#2

Copy Working File

Enclosed please find Andalex Resources response to your letter received June 13, regarding additional raptor information. I understand from speaking with Wayne Western of your staff that information regarding resource recovery and conservation is already adequate.

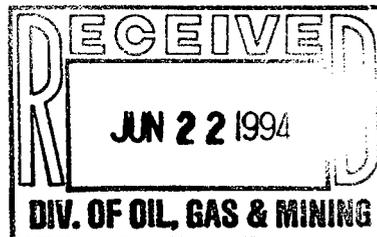
I am confident that the enclosed will allow us to make our submittal to OSM by month's end.

Thank you very much.

Sincerely,

Michael W. Glasson
Senior Geologist

cc: Paul Baker, UDOGM
mwg/ha



The requested term of this permit is five years. Andalex will then apply for five year extensions over the life of the mine.

UMC 782.18 Personal Injury and Property Damage Information

Appendix B contains certificates of liability insurance covering personal injury and property damage resulting from this operation. Andalex commits to mitigate all subsidence related damage to renewable resources, including, but not limited to water, grazing, and wildlife habitat including raptor nests.

UMC 782.19 Identification of Other Licenses and Permits

The following is a list of all other licenses and permits under applicable state and federal land-use, air and water quality, water rights and health and safety laws and regulations held by Andalex in order to conduct underground coal mining activities.

All permits listed are up to date and current. The NPDES Permit for the Centennial Project has been renewed in the form of a General permit (UTG 040008).

State:

- 1) State of Utah
Department of Natural Resources
Division of Oil, Gas and Mining
355 West North Temple, Suite 350, 3 Triad Center
Salt Lake City, Utah 84116
 - Mining and Reclamation Plan for Andalex Resources' Centennial Project
Permit I.D. Number ACT/007/019
Approved January 4, 1982
Permit Renewed March 2, 1987, January 1992
- 2) State of Utah
Department of Health
Division of Environmental Health
150 West North Temple
P.O. Box 2500
Salt Lake City, Utah 84110
 - Air Quality Construction and Operation Permit
Approved June 13, 1980
Reapplied June 2, 1988 (modification)
Approved June 23, 1989
 - Water Quality - Sediment and Drainage
Approved May 14, 1980

Revised 06/21/94

4.2 Birds

4.2-1 Raptors

The turkey vulture and red-tailed hawk frequent the area. A variety of other raptors breed in the Price area; however there is a poor density of raptors throughout the mine plan area. A raptor survey performed for Andalex Resources of the proposed permit area by Clayton M. White of Brigham Young University is attached as Appendix D. Please see Plate 34. This Plate now includes information from the raptor survey performed in May, 1994, by the Utah DWR and the Utah DOGM. Also refer to letter from USFWS found in Appendix J indicating clearance for our powerline distribution regarding raptors.

4.2-2 Other

Sage grouse inhabit the sagebrush flats at the foot of the cliffs. Blue and ruffed grouse may occasionally be found in the vegetated canyons of the area. Chukars can be found around the cliffs. Mourning doves are generally distributed throughout the area, however, the lack of perennial water limits dove nesting habitat in the area. Other representative birds include the magpie, bluebird, robin, and several species of sparrow.

4.3 Reptiles and Amphibians

The most prominent species of reptiles include the rattlesnake and sagebrush lizard. No aquatic fauna are present in the area.

4.4 Fish

There are no active fisheries as there are no permanent bodies of water or perennial streams in the area. No aquatic fauna are found.

4.5 Threatened or Endangered Species

There have been no known threatened or endangered species on or near the lease area according to a survey conducted by the Utah Division of Wildlife Resources (Boner 1977).

IV. Part UMC 784 - Requirements for Reclamation and Operation Plan

UMC 784.11 Operation Plan: General Requirements

Andalex Resources, Inc. has added 802 acres in the AEP lease #UTU 69600 to its currently approved Centennial Project. The lease contains 3.0 million tons of recoverable coal in the Centennial and Aberdeen Seams. All reserves will be mined simply as an underground extension of the existing, approved, and currently operating Pinnacle and Aberdeen Mines. As such, no additional surface facilities are required. Access to and handling and extraction of all coal will be through the existing Pinnacle and Aberdeen Mines.

All necessary surface and support facilities have been constructed, approved, and are currently in operation for the Pinnacle, Apex and Aberdeen Mines. There will be no change in the currently approved Environmental Protection Plan.

A. Overview of Project

1. Type of Mine

The initial underground mining operation known as the Pinnacle Mine, located on the Zion's fee property, began production on October 3, 1980. It consisted of a single unit's production with an output projected to be approximately 200,000 tons per year and with 20 employees. The mine moved onto the federal leases and with the addition of the Apex Mine in 1982, the Centennial Project now has a production capacity of 1,200,000 tons per year. As there are four minable seams present, the Aberdeen, Gilson, Centennial, and Lower Sunnyside, in ascending order, mining plans call for simultaneous operation of a mine in each seam. The existing operations are in all four seams. The Centennial Seam has been accessed via rock tunnels from the existing Pinnacle Mines (Gilson Seam).

Mining will consist of the underground method of coal extraction using continuous miners and longwall. Room and pillar longwall panel development will be employed with final overall extraction estimated to be about 80 percent of the reserve.

Coal is presently being loaded into 40 ton

Revised 04/22/94, 06/21/94

3. Non-Coal Waste

Non-coal waste consists of lubricants, paints garbage, timber, and other waste generated during mining. Please refer to Plate 6 for the location of non-coal waste disposal (dumpsters).

3.1 Combustible Materials

No special measures are required. All combustibles (paper, etc.), are collected in trash containers and hauled to local city and land fill areas. Andalex currently operates under an SPCC Plan approved by a registered professional engineer. All materials such as oil and grease will be disposed of according to specific local requirements. All used motor oil is collected in 55 gallon drums and is recycled by local oil distributors. All used oils are recycled.

3.2 Contingency Plans to Prevent Sustained Combustion

All which could burn would be small in quantity and consist of mine trash. The trash facility is segregated and if ignited accidentally, could be extinguished using either water or fire extinguishers.

UMC 784.20 Subsidence Control Plan

P. Subsidence

1. Survey of Structures and Renewable Resource Lands

There are no structures present other than those constructed for mining operations, on the permit area. The land is presently used for grazing and wildlife habitat which constitutes a renewable resource area. See Part 5. It should be noted that geographic areas above Andalex's 5 year mine plan do not include any area suitable for grazing, nor do they contribute significantly to the long-range productivity of water, food or fiber products. Andalex commits to mitigate all subsidence related damage to renewable resources including, but not limited to water, grazing, and wildlife habitat including raptor nests.

Revised 01/22/91, 02/28/92, 01/07/94, 06/21/94

has been thoroughly checked by both the Utah DWR and the U.S. Fish and Wildlife Service. Both agencies are pleased with the design and the as-built facilities. Andalex is willing to adhere to reasonable and practical recommendations given by any agency and has for the most part taken the advice of the DWR on most all occasions as outlined in the Wildlife Resources, Appendix A. Special condition #7 was answered by posting 40 mph speed limits, year round.

To the extent possible, Andalex will commit to prevent, control, and suppress range, forest, and coal fires within the permit area. The control of range and forest fires may very well be out of Andalex's hands and it may only be possible for Andalex to report these incidences to organizations such as the BLM who are equipped to handle these situations.

Andalex has committed to continuing wildlife education as part of its employee training. This will be coordinated with the local office of UDWR through the use of videos and possibly guest speakers. All new employees will review our wildlife education tape.

Andalex, through raptor surveys conducted, has identified Golden Eagle nests which could be impacted by subsidence. Andalex is committed to acquiring necessary take permits prior to longwall mining under these sites. Andalex is also committed to additional mitigation which might include measures to prevent nesting on those nests which could be affected by subsidence or removal of nests for scientific study. Please refer to Plate 34 for the most current raptor nesting information including the raptor survey conducted in May, 1994, with the Utah Division of Wildlife Resources and the Utah Division of Oil, Gas and Mining. Three nests have been identified as being located within potential subsidence impact zones. They are identified on Plate 34 and a take permit application for these nests is on file with the U.S. Fish and Wildlife Service. The longwall panel affecting these nests will not be removed prior to the acquisition of this permit.

Andalex has committed to compensation for livestock lost as a result of subsidence which in turn is a direct result of underground mining activities. Also, major cracks caused by subsidence which are demonstrated to be a direct result of underground mining will be repaired.

Revised 06/21/94

UMC 784.22 Diversions

- R. Please refer to UMC 784.16 re Ponds, Impoundments, Banks, Dams, and Embankments, Part K.

There will be no additional surface disturbance required on the newly acquired AEP Lease. All diversions associated with existing surface facilities have been constructed.

Also, see revised Plate 8 showing contour details of the disturbed area.

Diversions designs are detailed in, "Diversions Design". Erosion protection is discussed in, "Erosion Protection".

Revised 12/31/91, 01/07/94, 06/21/94

The requested term of this permit is five years. Andalex will then apply for five year extensions over the life of the mine.

UMC 782.18 Personal Injury and Property Damage Information

Appendix B contains certificates of liability insurance covering personal injury and property damage resulting from this operation. Andalex commits to mitigate all subsidence related damage to renewable resources, including, but not limited to water, grazing, and wildlife habitat including raptor nests.

UMC 782.19 Identification of Other Licenses and Permits

The following is a list of all other licenses and permits under applicable state and federal land-use, air and water quality, water rights and health and safety laws and regulations held by Andalex in order to conduct underground coal mining activities.

All permits listed are up to date and current. The NPDES Permit for the Centennial Project has been renewed in the form of a General permit (UTG 040008).

State:

- 1) State of Utah
Department of Natural Resources
Division of Oil, Gas and Mining
355 West North Temple, Suite 350, 3 Triad Center
Salt Lake City, Utah 84116
 - Mining and Reclamation Plan for Andalex Resources' Centennial Project
Permit I.D. Number ACT/007/019
Approved January 4, 1982
Permit Renewed March 2, 1987, January 1992

- 2) State of Utah
Department of Health
Division of Environmental Health
150 West North Temple
P.O. Box 2500
Salt Lake City, Utah 84110
 - Air Quality Construction and Operation Permit
Approved June 13, 1980
Reapplied June 2, 1988 (modification)
Approved June 23, 1989

 - Water Quality - Sediment and Drainage
Approved May 14, 1980

Revised 06/21/94

4.2 Birds

4.2-1 Raptors

The turkey vulture and red-tailed hawk frequent the area. A variety of other raptors breed in the Price area; however there is a poor density of raptors throughout the mine plan area. A raptor survey performed for Andalex Resources of the proposed permit area by Clayton M. White of Brigham Young University is attached as Appendix D. Please see Plate 34. This Plate now includes information from the raptor survey performed in May, 1994, by the Utah DWR and the Utah DOGM. Also refer to letter from USFWS found in Appendix J indicating clearance for our powerline distribution regarding raptors.

4.2-2 Other

Sage grouse inhabit the sagebrush flats at the foot of the cliffs. Blue and ruffed grouse may occasionally be found in the vegetated canyons of the area. Chukars can be found around the cliffs. Mourning doves are generally distributed throughout the area, however, the lack of perennial water limits dove nesting habitat in the area. Other representative birds include the magpie, bluebird, robin, and several species of sparrow.

4.3 Reptiles and Amphibians

The most prominent species of reptiles include the rattlesnake and sagebrush lizard. No aquatic fauna are present in the area.

4.4 Fish

There are no active fisheries as there are no permanent bodies of water or perennial streams in the area. No aquatic fauna are found.

4.5 Threatened or Endangered Species

There have been no known threatened or endangered species on or near the lease area according to a survey conducted by the Utah Division of Wildlife Resources (Boner 1977).

IV. Part UMC 784 - Requirements for Reclamation and Operation Plan

UMC 784.11 Operation Plan: General Requirements

Andalex Resources, Inc. has added 802 acres in the AEP lease #UTU 69600 to its currently approved Centennial Project. The lease contains 3.0 million tons of recoverable coal in the Centennial and Aberdeen Seams. All reserves will be mined simply as an underground extension of the existing, approved, and currently operating Pinnacle and Aberdeen Mines. As such, no additional surface facilities are required. Access to and handling and extraction of all coal will be through the existing Pinnacle and Aberdeen Mines.

All necessary surface and support facilities have been constructed, approved, and are currently in operation for the Pinnacle, Apex and Aberdeen Mines. There will be no change in the currently approved Environmental Protection Plan.

A. Overview of Project

1. Type of Mine

The initial underground mining operation known as the Pinnacle Mine, located on the Zion's fee property, began production on October 3, 1980. It consisted of a single unit's production with an output projected to be approximately 200,000 tons per year and with 20 employees. The mine moved onto the federal leases and with the addition of the Apex Mine in 1982, the Centennial Project now has a production capacity of 1,200,000 tons per year. As there are four minable seams present, the Aberdeen, Gilson, Centennial, and Lower Sunnyside, in ascending order, mining plans call for simultaneous operation of a mine in each seam. The existing operations are in all four seams. The Centennial Seam has been accessed via rock tunnels from the existing Pinnacle Mines (Gilson Seam).

Mining will consist of the underground method of coal extraction using continuous miners and longwall. Room and pillar longwall panel development will be employed with final overall extraction estimated to be about 80 percent of the reserve.

Coal is presently being loaded into 40 ton

Revised 04/22/94, 06/21/94

3. Non-Coal Waste

Non-coal waste consists of lubricants, paints garbage, timber, and other waste generated during mining. Please refer to Plate 6 for the location of non-coal waste disposal (dumpsters).

3.1 Combustible Materials

No special measures are required. All combustibles (paper, etc.), are collected in trash containers and hauled to local city and land fill areas. Andalex currently operates under an SPCC Plan approved by a registered professional engineer. All materials such as oil and grease will be disposed of according to specific local requirements. All used motor oil is collected in 55 gallon drums and is recycled by local oil distributors. All used oils are recycled.

3.2 Contingency Plans to Prevent Sustained Combustion

All which could burn would be small in quantity and consist of mine trash. The trash facility is segregated and if ignited accidentally, could be extinguished using either water or fire extinguishers.

UMC 784.20 Subsidence Control Plan

P. Subsidence

1. Survey of Structures and Renewable Resource Lands

There are no structures present other than those constructed for mining operations, on the permit area. The land is presently used for grazing and wildlife habitat which constitutes a renewable resource area. See Part 5. It should be noted that geographic areas above Andalex's 5 year mine plan do not include any area suitable for grazing, nor do they contribute significantly to the long-range productivity of water, food or fiber products. Andalex commits to mitigate all subsidence related damage to renewable resources including, but not limited to water, grazing, and wildlife habitat including raptor nests.

Revised 01/22/91, 02/28/92, 01/07/94, 06/21/94

has been thoroughly checked by both the Utah DWR and the U.S. Fish and Wildlife Service. Both agencies are pleased with the design and the as-built facilities. Andalex is willing to adhere to reasonable and practical recommendations given by any agency and has for the most part taken the advice of the DWR on most all occasions as outlined in the Wildlife Resources, Appendix A. Special condition #7 was answered by posting 40 mph speed limits, year round.

To the extent possible, Andalex will commit to prevent, control, and suppress range, forest, and coal fires within the permit area. The control of range and forest fires may very well be out of Andalex's hands and it may only be possible for Andalex to report these incidences to organizations such as the BLM who are equipped to handle these situations.

Andalex has committed to continuing wildlife education as part of its employee training. This will be coordinated with the local office of UDWR through the use of videos and possibly guest speakers. All new employees will review our wildlife education tape.

Andalex, through raptor surveys conducted, has identified Golden Eagle nests which could be impacted by subsidence. Andalex is committed to acquiring necessary take permits prior to longwall mining under these sites. Andalex is also committed to additional mitigation which might include measures to prevent nesting on those nests which could be affected by subsidence or removal of nests for scientific study. Please refer to Plate 34 for the most current raptor nesting information including the raptor survey conducted in May, 1994, with the Utah Division of Wildlife Resources and the Utah Division of Oil, Gas and Mining. Three nests have been identified as being located within potential subsidence impact zones. They are identified on Plate 34 and a take permit application for these nests is on file with the U.S. Fish and Wildlife Service. The longwall panel affecting these nests will not be removed prior to the acquisition of this permit.

Andalex has committed to compensation for livestock lost as a result of subsidence which in turn is a direct result of underground mining activities. Also, major cracks caused by subsidence which are demonstrated to be a direct result of underground mining will be repaired.

Revised 06/21/94

UMC 784.22 Diversions

- R. Please refer to UMC 784.16 re Ponds, Impoundments, Banks, Dams, and Embankments, Part K.

There will be no additional surface disturbance required on the newly acquired AEP Lease. All diversions associated with existing surface facilities have been constructed.

Also, see revised Plate 8 showing contour details of the disturbed area.

Diversion designs are detailed in, "Diversion Design". Erosion protection is discussed in, "Erosion Protection".

Revised 12/31/91, 01/07/94, 06/21/94



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

Michael O. Leavitt
Governor

Ted Stewart
Executive Director

James W. Carter
Division Director

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340
801-359-3940 (Fax)
801-538-5319 (TDD)

March 15, 1994

Mr. Robert D. Williams, Assistant Field Supervisor
U.S. Fish and Wildlife Services
Ecological Services
2060 Administration Building
1745 West 1700 South
Salt Lake City, UT 84104-5110

Re: Addition of Aberdeen Seam to Lease UTU-69600, Centennial
Mine, Andalex Resources, Inc., ACT/007/019-94B, Folder #2,
Carbon County, Utah

Dear Mr. Williams:

The Division has received an application to add the Aberdeen Seam to Lease UTU-69600, see enclosed map. Last year, the "Centennial" Seam was approved to be mined as part of this lease. There is no addition to the lease area, only the addition of the Aberdeen Seam to mine.

Please send your comments and/or concurrence by April 15, 1994. If you have any questions, please call me.

Sincerely,

A handwritten signature in cursive script, reading "Pamela Grubaugh-Littig".

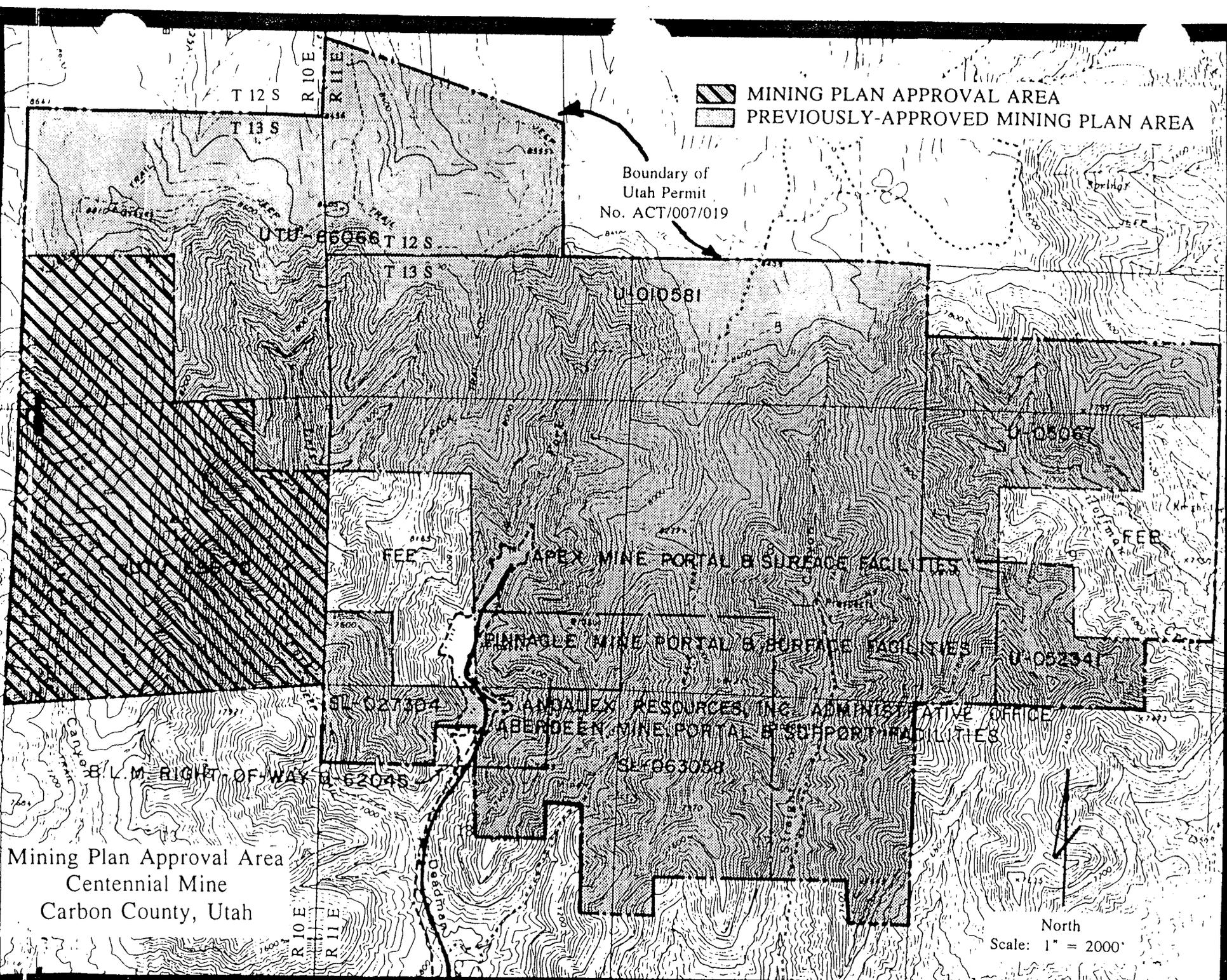
Pamela Grubaugh-Littig
Permit Supervisor

Enclosure



 MINING PLAN APPROVAL AREA
 PREVIOUSLY-APPROVED MINING PLAN AREA

Boundary of
 Utah Permit
 No. ACT/007/019



Mining Plan Approval Area
 Centennial Mine
 Carbon County, Utah

North
 Scale: 1" = 2000'



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

Michael O. Leavitt
Governor
Ted Stewart
Executive Director
James W. Carter
Division Director

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340
801-359-3940 (Fax)
801-538-5319 (TDD)

March 14, 1994

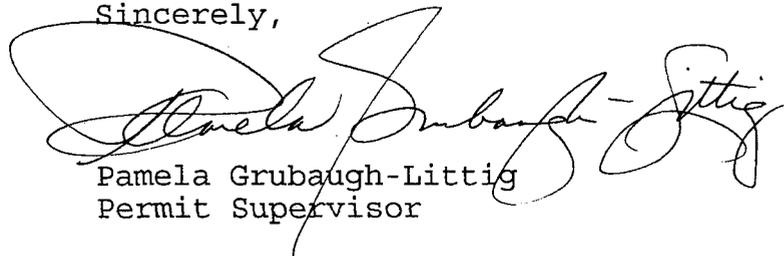
Mr. Richard E. Dawes, Chief
Division of Federal Programs
Office of Surface Mining
Brooks Towers
1020 15th Street
Denver, Colorado 80202

Re: Addition of Aberdeen Seam Reserve to Lease UTU-69600,
Centennial Mine, Andalex Resources, Inc., ACT/007/019,
Folder #2, Carbon County, Utah

Dear Mr. Dawes:

Enclosed please find the application for the addition of the Aberdeen Seam to Lease UTU-69600. If you have any comments, please notify the Division by April 20, 1994.

Sincerely,



Pamela Grubaugh-Littig
Permit Supervisor

Enclosure
cc/enc:

George Tetrault, BLM, Price





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

Michael O. Leavitt
Governor

Ted Stewart
Executive Director

James W. Carter
Division Director

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340
801-359-3940 (Fax)
801-538-5319 (TDD)

March 15, 1994

Mr. Mike Glasson
Andalex Resources, Inc.
P.O. Box 902
Price, UT 84501

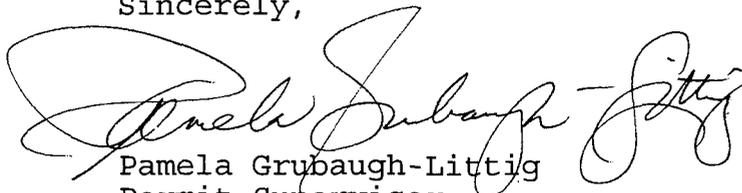
Re: Addition of Aberdeen Seam to Lease UTU-69600, (Supercedes letter dated March 14, 1994), Centennial Mine, Andalex Resources, ACT/007/019-94B, Folder #2, Carbon County, Utah

Dear Mr. Glasson:

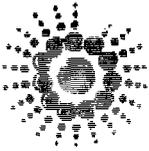
The addition of the Aberdeen Seam to Lease UTU-69600 will be processed as a significant revision to the Centennial Mine plan. The application received March 4, 1994 is considered initially complete and the review of this application will commence.

Please send two more copies of the proposal for review.
Thank you.

Sincerely,


Pamela Grubaugh-Littig
Permit Supervisor





ANDALEX
RESOURCES, INC.
Tower Division

P.O. BOX 902
PRICE, UTAH 84501
PHONE (801) 637-5385
TELECOPIER (801) 637-8860

FACSIMILE TRANSMITTAL SHEET

PLEASE DELIVER THE FOLLOWING PAGES TO:

NAME: Pamela Gombault-LittigCOMPANY: UNOEMFACSIMILE NUMBER: 1-359-3940FROM: M. GlassonTOTAL NUMBER OF PAGES (INCLUDING COVER SHEET): 2DATE: 3/7/94

IF YOU SHOULD HAVE TROUBLE RECEIVING ALL THE PAGES, PLEASE CALL US
AS SOON AS POSSIBLE (801) 637-5385.

THANK YOU.

Pam, Here is the letter I
described to you Friday. I
will forward the hard copy
when we receive it.

Regards,
Mike



Cyprus Western Coal Company

Cyprus file ACT/007/019

#2

6100 East Mineral Circle
Post Office Box 3299
Englewood, Colorado 80155
303-643-5000

PAM will keep for

March 4, 1984

To Whom This May Concern:

This will confirm that Cyprus Western Coal Company ("Cyprus") and Andalex Resources, Inc. ("Andalex") have reached an oral understanding regarding certain coal reserves in Carbon County, Utah. We expect to finalize documentation whereby Andalex (or an affiliate) will acquire the right to permit and mine the Aberdeen Seam (a/k/a the Castlegate A-Seam) on a portion of Federal Coal Lease SL-048442-050115. The land involved is that portion of said Federal Coal Lease located in Township 13 South, Range 10 East, SLB&M - Section 1 and Section 12. As sublessee of record, Cyprus has no objection to Andalex proceeding with permitting.

Sincerely,

J. Mark Cook
President

APPLICATION FOR PERM

BLM
USFWS
History
OSM-1

Title of Change:

Addition of Aberdeen Seam Reserve to Lease UTU-6 (formerly contained only "Centennial" Seam Reser

Description, include reason for change and timing required to implement:

The Aberdeen Seam has been acquired from Cyprus immediately in order to maximize economic recove

- | | | |
|-------------------------------------|--|--|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 1. Change in the size of the Permit Area? _____ |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> No | 2. Change in the size of the Disturbed Area? _____ |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> No | 3. Will permit change include operations outside the Cumul _____ |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> No | 4. Will permit change include operations in hydrologic basins other than currently approved? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> No | 5. Does permit change result from cancellation, reduction or increase of insurance or reclamation bond? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> No | 6. Does permit change require or include public notice publication? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> No | 7. Permit change as a result of a Violation? Violation # _____ |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> No | 8. Permit change as a result of a Division Order? D.O.# _____ |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> No | 9. Permit change as a result of other laws or regulations? Explain: _____ |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> No | 10. Does permit change require or include ownership, control, right-of-entry, or compliance information? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> No | 11. Does the permit change affect the surface landowner or change the post mining land use? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> No | 12. Does permit change require or include collection and reporting of any baseline information? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> No | 13. Could the permit change have any effect on wildlife or vegetation outside the current disturbed area? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> No | 14. Does permit change require or include soil removal, storage or placement? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> No | 15. Does permit change require or include vegetation monitoring, removal or revegetation activities? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> No | 16. Does permit change require or include construction, modification, or removal of surface facilities? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> No | 17. Does permit change require or include water monitoring, sediment or drainage control measures? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> No | 18. Does permit change require or include certified designs, maps, or calculations? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> No | 19. Does permit change require or include underground design or mine sequence and timing? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> No | 20. Does permit change require or include subsidence control or monitoring? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> No | 21. Have reclamation costs for bonding been provided or revised for any change in the reclamation plan? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> No | 22. Is permit change within 100 feet of a public road or perennial stream or 500 feet of an occupied dwelling? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> No | 23. Is this permit change coal exploration activity <input type="checkbox"/> inside <input type="checkbox"/> outside of the permit area? |

Attach 3 complete copies of proposed permit change as it would be incorporated into the Mining and Reclamation Plan.

I hereby certify that I am a responsible official of the applicant and that the information contained in this application is true and correct to the best of my information and belief in all respects with the laws of Utah in reference to commitments, undertakings, and obligations, herein.

Michael Williams Sr. Geologist 3/6/94
Signed - Name - Position - Date

Subscribed and sworn to before me this 3rd day of March, 1994
Jana K. O'Hearon
Notary Public
My Commission Expires: July 22, 1997
Attest: STATE OF _____ COUNTY OF _____

Notary Public
JANA K. O'HEARON
625 North 100 East
Pine, Utah 84501
My Commission Expires
July 22, 1997
State of Utah

RECEIVED

MAR 4 1994

DIV. OF OIL, GAS & MINING

ASSIGNED PERMIT CHANGE NUMBER

APPLICATION FOR PERMIT CHANGE

Title of Change:

Addition of Aberdeen Seam Reserve to Lease UTU-69600 (formerly contained only "Centennial" Seam Reserves).

Permit Number: ACT / 007 / 019

Mine: Centennial

Permittee: Andalex Resources

Description, include reason for change and timing required to implement:

The Aberdeen Seam has been acquired from Cyprus and must be added to the existing MRP immediately in order to maximize economic recovery of the coal.

- Yes No 1. Change in the size of the Permit Area? _____ acres increase decrease.
- Yes No 2. Change in the size of the Disturbed Area? _____ acres increase decrease.
- Yes No 3. Will permit change include operations outside the Cumulative Hydrologic Impact Area?
- Yes No 4. Will permit change include operations in hydrologic basins other than currently approved?
- Yes No 5. Does permit change result from cancellation, reduction or increase of insurance or reclamation bond?
- Yes No 6. Does permit change require or include public notice publication?
- Yes No 7. Permit change as a result of a Violation? Violation # _____
- Yes No 8. Permit change as a result of a Division Order? D.O.# _____
- Yes No 9. Permit change as a result of other laws or regulations? Explain: _____
- Yes No 10. Does permit change require or include ownership, control, right-of-entry, or compliance information?
- Yes No 11. Does the permit change affect the surface landowner or change the post mining land use?
- Yes No 12. Does permit change require or include collection and reporting of any baseline information?
- Yes No 13. Could the permit change have any effect on wildlife or vegetation outside the current disturbed area?
- Yes No 14. Does permit change require or include soil removal, storage or placement?
- Yes No 15. Does permit change require or include vegetation monitoring, removal or revegetation activities?
- Yes No 16. Does permit change require or include construction, modification, or removal of surface facilities?
- Yes No 17. Does permit change require or include water monitoring, sediment or drainage control measures?
- Yes No 18. Does permit change require or include certified designs, maps, or calculations?
- Yes No 19. Does permit change require or include underground design or mine sequence and timing?
- Yes No 20. Does permit change require or include subsidence control or monitoring?
- Yes No 21. Have reclamation costs for bonding been provided or revised for any change in the reclamation plan?
- Yes No 22. Is permit change within 100 feet of a public road or perennial stream or 500 feet of an occupied dwelling?
- Yes No 23. Is this permit change coal exploration activity inside outside of the permit area?

Attach 3 complete copies of proposed permit change as it would be incorporated into the Mining and Reclamation Plan.

I hereby certify that I am a responsible official of the applicant and that the information contained in this application is true and correct to the best of my information and belief in all respects with the laws of Utah in reference to commitments, undertakings, and obligations herein.

Michael W. Haman Sr. Geologist 3/6/94
Signed - Name - Position - Date

Subscribed and sworn to before me this 3rd day of March, 1994
Jana K. O'Hearon
Notary Public
My Commission Expires: July 22, 1997
Attest: STATE OF _____ COUNTY OF _____

Notary Public
JANA K. O'HEARON
825 North 100 East
Preston, Utah 84501
My Commission Expires
July 22, 1997
State of Utah

RECEIVED
MAR 4 1994
DIV. OF OIL, GAS & MINING
ASSIGNED PERMIT CHANGE NUMBER

PERMIT AMENDMENT APPROVAL

Title: Addition of Aberdeen Seam Reserve to Lease UTU-6960	PERMIT NUMBER: ACT / 007 / 019
Description: The Aberdeen Seam has been acquired from Cyprus and must be added to the existing MRP immediately in order to maximize economic recovery of the coal.	PERMIT CHANGE #:
	MINE: Centennial
	PERMITTEE: Andalex Resources

WRITTEN FINDINGS FOR PERMIT APPLICATION APPROVAL		YES, NO or N/A
1.	The application is complete and accurate and the applicant has complied with all the requirements of the State Program.	
2.	The proposed permit area is not within an area under study or administrative proceedings under a petition, filed pursuant to R645-103-400 or 30 CFR 769, to have an area designated as unsuitable for coal mining and reclamation operations, unless: <ul style="list-style-type: none"> A. The applicant has demonstrated that before January 4, 1977, substantial legal and financial commitments were made in relation to the operation covered by the permit application, or B. The applicant has demonstrated that the proposed permit area is not within an area designated as unsuitable for mining pursuant to R645-103-300 and R645-103-400 or 30 CFR 769 or subject to the prohibitions or limitations of R645-103-230. 	
3.	For coal mining and reclamation operations where the private mineral estate to be mined has been severed from the private surface estate, the applicant has submitted to the Division the documentation required under R645-301-114.200.	
4.	The Division has made an assessment of the probable cumulative impacts of all anticipated coal mining and reclamation operations on the hydrologic balance in the cumulative impact area and has determined that the proposed operation has been designed to prevent material damage to the hydrologic balance outside the permit area.	
5.	The operation would not affect the continued existence of endangered or threatened species or result in destruction or adverse modification of their critical habitats, as determined under the Endangered Species Act of 1973 (16 U.S.C. 1531 et.seq.).	
6.	The Division has taken into account the effect of the proposed permitting action on properties listed on and eligible for listing on the National Register of Historic Places. This finding may be supported in part by inclusion of appropriate permit conditions or changes in the operation plan protecting historic resources, or a documented decision that the Division has determined that no additional protection measures are necessary.	
7.	The Applicant has demonstrated that reclamation as required by the State Program can be accomplished according to information given in the permit application.	
8.	The Applicant has demonstrated that any existing structure will comply with the applicable performance standards of R645-301 and R645-302.	
9.	The Applicant has paid all reclamation fees from previous and existing coal mining and reclamation operations as required by 30 CFR Part 870.	
10.	The Applicant has satisfied the applicable requirements of R645-302.	
11.	The Applicant has, if applicable, satisfied the requirements for approval of a long-term, intensive agricultural postmining land use, in accordance with the requirements of R645-301-353.400.	

SPECIAL CONDITIONS OR STIPULATIONS TO THE PERMIT AMENDMENT APPROVAL		YES	NO
1.	Are there any variances associated with this permit amendment approval? If yes, attach.		
2.	Are there any special conditions associated with this permit amendment approval? If yes, attach.		
3.	Are there any stipulations associated with this permit amendment approval? If yes, attach.		

The Division hereby grants approval for Permit Amendment to the Existing Permit by incorporation of the proposed changes described herein and effective the date signed below. All other terms and conditions of the Existing Permit shall be maintained and in effect except as superseded by this Permit Amendment.

Signed _____
 Director, Division of Oil, Gas and Mining

_____ EFFECTIVE DATE

I. Introduction and Overview of Project and Permit Application

A. Introduction

This underground mining permit application is being submitted for renewal and modification by Andalex Resources, Inc. Andalex added three new leases consisting of 320 acres federal lease (#U-05067 Sunedco); 903 acres federal lease (#UTU-66060 Graves); 240 acres fee to its' existing approved Centennial Project. The leases contain approximately 8.75 million tons of recoverable coal. Andalex now proposes to add federal coal lease UTU-69600 (AEP) containing 802 acres and 3.0 million tons of recoverable coal. All reserves will be mined simply as an underground extension of the existing, approved, and currently operating Pinnacle Mine. As such, no additional surface facilities are required nor will there be any additional surface disturbances of any kind. Access to and handling and extraction of all coal will be through existing Pinnacle Mine facilities.

Andalex Resources, a corporation organized and existing under the laws of Delaware and qualified to do business in Utah, has opened two underground mines known as the Pinnacle and Apex Mines. Mining commenced in the Aberdeen Mine in mid-1988. These mines are located on fee and federal lands in Carbon County, Utah. Andalex, the designated operator, along with AMCA Coal Leasing, Inc., its land acquisition and development branch, control all federal and fee mining leases within the proposed mine plan area. This underground mining permit application has been prepared by Andalex Resources and is being submitted for review and approval by the appropriate regulatory authorities.

B. Overview and Summary of Project

Mining operations at the Pinnacle Mine began on October 3, 1980, according to the Mining and Reclamation Plan approved by the State of Utah, Department of Natural Resources, Division of Oil, Gas, and Mining. The mining began on the Zion's fee lease and extended onto Andalex's federal leases according to federal approval granted in 1982. Andalex also opened the Apex Mine late in 1982. Current mining activity is occurring in the Gilson Seam and Lower Sunnyside Seam. Mining commenced in the Aberdeen Seam in mid 1988. Mining commenced in the Centennial Seam in 1990. The coal is classified as High Volatile B bituminous in the Lower Sunnyside, Gilson and Centennial Seams and as High-volatile A bituminous in the Aberdeen Seam.

The proposed mine plan area is located approximately 10 miles north-northeast of Price, Utah in Carbon County in T13S and R11E (See Figure I-1 and Plate 1). With the addition of the Sunedco Lease the Graves Lease, and the AEP lease, the coal property contains approximately 5,063 acres. Two hundred acres are fee surface and coal leased from the Zion Security Corporation. Two hundred forty acres are fee surface and coal and are leased from the Sunedco Coal Company. The remaining 4,623 acres are federal leases consisting of SL-027304 (236 acres), SL063058 (400 acres), U-010581 (1,842 acres), U-05067320 (acres), U-52341(120 acres), UTU-66060 (903 acres), and UTU 69600 (802 acres), and which includes lease modifications acquired in 1981. Please see Plate 4.

This property is located in the Book Cliffs coal field and includes Alrad Canyon, Deadman Canyon, Starpoint Canyon, Straight Canyon, and Hoffman Creek Canyon areas with coal outcropping along the cliffs between 7,000 feet and 7,700 feet elevations. The topography is very rugged, the Book Cliffs being dissected by box canyons created by ephemeral streams. Large sandstone boulders eroded from the cliffs are scattered along the sides of the canyons. The land is undeveloped, used primarily for grazing, and there are no areas of national importance in the region. Mountain-Brush vegetative type covers most of the area.

There are no perennial streams or bodies of water on the property. Ground water recharge is from precipitation in the vicinity. Water supply for mine development and culinary usage is supplied by wells that have been drilled.

Historically, coal mining has been the only industry in the permit area and there are several abandoned mines located on the property. No oil or gas wells exist in the area.

Access to the mine plan area is by an existing paved county road which has been upgraded and is maintained by Carbon County. It is used as an access road as well as a haul road. All surface and support facilities necessary for present operations have been completed and are located on the Zion's fee or on rights-of-way granted by the Bureau of Land Management. This is also a small private easement granted to Andalex from Gladys M. Artman for a small portion of pond E. All proposed facilities are indicated in this application. Andalex has acquired all applicable state and federal licenses, permits, and rights-of-way necessary to conduct mining activities on the Zion's fee property and contiguous federal leases.

R. and E. Nelson
583 Sundial Drive
Moab, Utah 84532

D. Mathis
Sunnyside Star Route
Price, Utah 84501

J & S Critchlow
144 South 1650 East
Price, Utah 84501

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

Zion Security Corporation
10 East South Temple
Salt Lake City, Utah 84111

m) Mine Name and MSHA Identification

The Centennial Project includes the development of three separate mines. All are currently in operation. The names and M.S.H.A. I.D. numbers for existing mines and all sections are as follow:

Pinnacle Mine - M.S.H.A. I.D. #42-01474
Apex Mine - M.S.H.A. I.D. #42-01750
Aberdeen Mine - M.S.H.A. I.D. #42-02028

All coal from the newly acquired AEP Lease will be mined simply as an underground extension of the existing Pinnacle and Aberdeen Mines.

n) Interests in Contiguous Lands

The Uintah-Southwest Utah Federal Coal Leasing Program has been dropped by the U.S. Department of Interior; therefore, previous expressions of interests by this company are no longer valid. However, existing unleased federally owned coal resources remain of interest to Andalex at such time as currently controlled reserves have been exhausted.

Revised 12/31/91

UMC 782.14 Compliance Information

a) Suspension and Revocation

3. Geologic Description of the Mine Plan and Adjacent Areas

3.1 General Description (Plate 21)

3.1-1 Stratigraphy

The coal seams in the Blackhawk formation are listed stratigraphically:

Upper Sunnyside Bed
Lower Sunnyside Bed
Centennial Bed
Rock Canyon Bed
Fishcreek Bed
Gilson Bed
Kenilworth Bed
Castlegate "B" Bed
Castlegate "A" Bed (Aberdeen)

Only the Lower Sunnyside, Centennial, Gilson, and Castlegate "A" beds are formed in commercial thickness on the Centennial Property. Andalex has discovered a new coal seam which is referred to as the Centennial Seam. This coal was originally thought to have been in the Lower Sunnyside Seam. This coal has been accessed through rock tunnels from the existing Pinnacle Mine. Waste from these rock tunnels was disposed of in the Pinnacle Mine. The Mine in the Centennial Seam as well as the Mine in the Aberdeen Seam will both progress onto the Graves Lease. Andalex is applying for approval for the new AEP Lease in the Centennial and Aberdeen Seams only.

Stratigraphic sections of the coal beds are shown in Figures III-1, III-2, and III-3. Seam thicknesses are shown on Plates 26, 27, 28, and 29.

In October and November, 1977, a seven-hole drilling program was conducted by Andalex in order to better define the coal reserves for mine planning on the Zion's fee. Pertinent information on these drill holes is presented in Table III-2. Complete lithologic logs of each drill hole are included in Appendix E. Locations are indicated on Plates 26, 27, and 28. Andalex drilled six holes underground and one on the surface in the summer of 1989. These holes were primarily to substantiate the existence of the new Centennial Seam.

Andalex has also acquired lithologic logs of two drill holes completed by North American Coal Corp., in 1948 and one by Pacific Gas & Electric in 1980. Although these holes are not located within the permit area, but to the west and east of its boundary, the information has been utilized in estimating reserves. Pertinent information is given in Table III-3. Complete lithologic logs are included in Appendix E and their location is indicated on Plates 26, 27, 28, and 29.

Mine which is in the Gilson Seam. It is accessed via rock tunnels which are approximately 500' in length. Refer to Chapter IV, sections 1.1 and 2.1-1 for additional detail regarding the mining of the Centennial Seam. The Centennial and Aberdeen Seams on the AEP Lease will be accessed through an extension of existing underground workings.

The Aberdeen sandstone in our vicinity is 80 to 100 feet thick. Its' lateral extent is from Castlegate to well east of the Centennial property. It is a very well known geologic marker in the Book Cliffs coal field. It is a medium grained, tightly cemented, cross bedded sandstone which contains very little or no water. It has been drilled into in every exploration hole in our leases. All other aquifers or water tables within our leases are perched.

3.3-1.2 Structure

Structure contours are aligned basically east-west. The coal beds dip northward at approximately six degrees. No faults are known to exist in the mine plan area. Overburden ranges from 0 to 2,700 feet.

3.3-1.3 Hydrologic Aspects

All groundwater exists as perched aquifers in the mine plan area. Due to the lenticular nature of the geology in the area, any groundwater is isolated and very limited. Refer to Part C of this Chapter re Hydrology. Please see Water Quality Data in Appendix L. Also, please note that the Sunedco property recently acquired by Andalex was included in the Vaughn Hansen/Andalex Hydrologic Inventory prepared for the original PAP and the emergency lease (please see Appendix L). Also included in Appendix L are the Graves and AEP PHC's.

The occurrence the Division has referred to where Andalex intercepted groundwater was actually not groundwater per se but water which had accumulated in old mine workings over a number of years (45 to 50 years). This was a one time occurrence. Water accumulates

Mine which is in the Gilson Seam. It is accessed via rock tunnels which are approximately 500' in length. Refer to Chapter IV, sections 1.1 and 2.1-1 for additional detail regarding the mining of the Centennial Seam. The Centennial and Aberdeen Seams on the AEP Lease will be accessed through an extension of existing underground workings.

The Aberdeen sandstone in our vicinity is 80 to 100 feet thick. Its lateral extent is from Castlegate to well east of the Centennial property. It is a very well known geologic marker in the Book Cliffs coal field. It is a medium grained, tightly cemented, cross bedded sandstone which contains very little or no water. It has been drilled into in every exploration hole in our leases. All other aquifers or water tables within our leases are perched.

3.3-1.2 Structure

Structure contours are aligned basically east-west. The coal beds dip northward at approximately six degrees. No faults are known to exist in the mine plan area. Overburden ranges from 0 to 2,700 feet.

3.3-1.3 Hydrologic Aspects

All groundwater exists as perched aquifers in the mine plan area. Due to the lenticular nature of the geology in the area, any groundwater is isolated and very limited. Refer to Part C of this Chapter re Hydrology. Please see Water Quality Data in Appendix L. Also, please note that the Sunedco property recently acquired by Andalex was included in the Vaughn Hansen/Andalex Hydrologic Inventory prepared for the original PAP and the emergency lease (please see Appendix L). Also included in Appendix L are the Graves and AEP PHC's.

The occurrence the Division has referred to where Andalex intercepted groundwater was actually not groundwater per se but water which had accumulated in old mine workings over a number of years (45 to 50 years). This was a one time occurrence. Water accumulates

IV. Part UMC 784 - Requirements for Reclamation and Operation Plan

UMC 784.11 Operation Plan: General Requirements

Andalex Resources, Inc. has added 802 acres in the AEP lease #UTU 69600 to its currently approved Centennial Project. The lease contains 3.0 million tons of recoverable coal in the Centennial Seam only. All reserves will be mined simply as an underground extension of the existing, approved, and currently operating Pinnacle Mine. As such, no additional surface facilities are required nor will there be any additional surface disturbances of any kind. Access to and handling and extraction of all coal will be through the existing Pinnacle Mine.

All necessary surface and support facilities have been constructed, approved, and are currently in operation for the Pinnacle, Apex and Aberdeen Mines. There will be no change in the currently approved Environmental Protection Plan.

A. Overview of Project

1. Type of Mine

The initial underground mining operation known as the Pinnacle Mine, located on the Zion's fee property, began production on October 3, 1980. It consisted of a single unit's production with an output projected to be approximately 200,000 tons per year and with 20 employees. The mine moved onto the federal leases and with the addition of the Apex Mine in 1982, the Centennial Project now has a production capacity of 1,200,000 tons per year. As there are four minable seams present, the Aberdeen, Gilson, Centennial, and Lower Sunnyside, in ascending order, mining plans call for simultaneous operation of a mine in each seam. The existing operations are in all four seams. The Centennial Seam has been accessed via rock tunnels from the existing Pinnacle Mines (Gilson Seam).

Mining will consist of the underground method of coal extraction using continuous miners, shuttle cars, and conveyor haulage. Room and pillar development will be employed with final extraction estimated to be about 65 percent of the reserve, after pillar extraction.

Coal is presently being loaded into 40 ton coal trucks and hauled to Wildcat Jct. near Helper. All seams will be mined using

D. Removal of Surface Structures

Upon completion of mining activities, all surface facilities will be removed. The coal pile area will be filled, the slope contoured, compacted, topsoil replaced, regraded, and revegetated. In the materials storage and building areas, all structures and foundations including the shop, office building, bathhouse, substation, and water storage tanks, will be removed, recontoured, compacted, topsoil replaced and graded, and revegetated according to revegetation procedures described in this chapter, Part F, Section 5, re Revegetation Plan.

UMC 784.12 Operation Plan: Existing Structures

E. Construction and Design of Surface Facilities

1. Existing Structures

All existing structures are situated on the Zion's fee land, on federal lease SL-027304, or on right-of-way UTU-62045 and are shown on Plate 6. There are no structures existing as part as Andalex's facility which were constructed prior to 1980. Originally it was anticipated that all buildings and structures were to be completed during the first five year permit term. Obviously this is not the case since the Aberdeen Mine has only recently been completely finished to this date. Plate 6 depicts the Aberdeen Mine with the surface facilities completed in early 1990. No new structures on the surface will be required to mine the Centennial and Aberdeen Seams on any lease including the new AEP Lease. Underground rock tunnels access the Centennial Seam. See 1.1, 2.1-1, 2.1-4. Existing structures include the following:

Bathhouse (3)	14' x 60'
Mine Water Storage Tanks (3)	12' x 16'
Warehouse (1)	14' x 60'
Lamphouse (2)	40' x 40'
Main Substation	60' x 100'
Office Building	28' x 60'
Mine Fans (3)	88"
Portals (15)	6' x 20'
Culinary Water Tanks (3)	12' x 10'
Shop	80' x 120'

2. Mining Method

Mining will consist of the underground method of coal extraction using the longwall method, continuous miners on fringe areas, and conveyor haulage. Continuous miners will be employed for longwall development with longwall extraction completing the operation. For more information on the mining method, please see Part B, Section 2.

3. Geologic Factors

The Pinnacle Mine is located within the Blackhawk formation of the upper Cretaceous Meseverde Group. As is the case with all the active mines in the Book Cliffs coal field, the Pinnacle Mine drifts in from the outcrop and immediately the cover drastically increases as there are very steep sided canyons. Naturally, the same factors are present in the Lower Sunnyside, Aberdeen and the Centennial Seams. There are small areas of multiple seam extraction where a total thickness of up to 16 feet of coal could be removed. From a geologic standpoint, the following conclusion can be drawn: as mining progresses and the longwall panels are pulled the roof will cave in behind the shields as they advance. This is the normal scheme in this type of mining. In our longwall mining sequence, average cover over the coal seams is 1,500 feet or more. Use of longwall mining on the Andalex property will minimize the surface disturbance while enhancing safety underground.

Subsidence has not been detected at any monitoring location currently in place at Andalex, including two pillar extraction sections in close proximity to our initial longwall panel in the Gilson Seam (see Plate 25, S-5, S-7 and App. T). These pillar sections extracted 90% of the coal which is similar to longwall extraction. This fact, in combination with research performed by the Bureau of Mines will justify Andalex using a maximum angle of draw on this property of 20°. The Bureau of Mines performed extensive research at Price River Coal Co. (AEP) in the early 1980's at the #5 and #3 Mines where longwall mining was taking place.

Revised 01/07/94

That mining property is in the Book Cliffs Coal field as is Andalex's and is within seven miles. The Bureau's data showed a maximum draw angle over longwall extraction of (+) 15.2° and a minimum of (-) 7.4°. (See App. T.) The massive sandstones and geologic conditions above the Price River Coal mine are the same as those found above the Andalex permit area. Therefore, similar subsidence results will occur.

4. Preventive Measures

Subsidence due to mining on the Andalex property will not occur outside of the approved permit area. Stations have been set up as required for constant monitoring of subsidence movements. (See 6., Monitoring.) The only absolute preventive measure possible is to leave coal in place. This is in direct contrast to maximum economic coal recovery.

Resources on the lands above Andalex's mining plan consist only of wildlife habitat with very limited grazing access.

Subsidence monitoring stations will be established as necessary along the first proposed longwall mining. (See 6., Monitoring and Plate 28.) The results of this monitoring program will define monitoring and permitting needs in the future.

5. Mitigative Measures

If minor subsidence would occur, there would be no material damage or diminution of valuable or foreseeable use of lands including wildlife habitat. It should be noted that subsidence has been occurring in the Book Cliffs coal field for decades with no diminution of resources. The Bureau of Mines Subsidence Study over the #3 Mine longwall panels has substantiated this. (See App. T.) There are no man-made structures or hydrologic concerns located within the affected area of Andalex's mining plan. It has been demonstrated that broad areas of subsidence over longwall panels do not represent adverse impact, if they are even noticeable. Smaller cracks, should they occur, heal themselves quickly and thoroughly.

The one spring located in Hoffman Creek is located stratigraphically well below the lowest coal to be mined. Springs above the seams outside the permit area will not be

affected due to their distance from mining activity. Andalex has committed to replacing water should it be proven that mining has disrupted water flow at any location.

6. Monitoring

There are no structures or surface features which could be affected adversely by subsidence. Monitoring stations, however, have been set up at the locations shown on Plate 25. Locations over the first longwall mining are also shown on Plate 28.

The purpose of the detailed monitoring program over the initial longwall mining is to establish baseline information which is useful in the long-term operation of the Andalex mines. This program will consist of surveyable monuments (nail, rebar, etc.) established on 100-foot centers (where possible) over the lines designated on Plate 28. Where 100-foot spacing is not possible due to topographic or other obstacles, spacing will be as near 100-foot as possible, particularly along potential tension areas above the panel. Distances between points within the compression area of the longwall panel may be increased up to 500-foot depending on accessibility. Also, Andalex will conduct visual inspections over the first panel prior to and subsequent to mining the panel.

In addition, Andalex is committed to establishing subsidence monitoring programs over successive longwall panels which will consist of up to two monuments per panel and will also include visual inspections annually on active panels.

UMC 784.21 Fish and Wildlife Plan

- Q. There will be no additional surface disturbance required on any new coal leases. Consequently, there will be no additional disturbance or adverse impacts on fish and wildlife or related environmental values. Please refer to Plate 34, Revised Wildlife Distribution Map included with this submittal.

Andalex will make every possible effort to minimize disturbances to wildlife habitat in the area and where possible enhance that habitat during reclamation. Refer to Chapter III, Part H, and Appendix A re Fish and Wildlife Resources and Plan. It should be noted that there is no aquatic life in the permit area as these canyons are dry except as a result of direct

precipitation (ephemeral streams). Please note that the Hoffman Creek drainage is also ephemeral. Straight and Alrad Canyons are also ephemeral drainages. Andalex has performed numerous mitigative measures including extensive revegetation. Andalex has performed all mitigative measures outlined in the Fish and Wildlife Plan (Appendix A) with the exception of the use of swareflex reflectors.

Andalex has advised and encouraged employees to avoid unnecessary disturbances to all wildlife regardless of the season, but especially the depleted winter season or the breeding season. Hunting and all wildlife regulations are adhered to.

The largest part of Andalex's road is screened from view by vegetative cover. During revegetation, Andalex will use seed mixtures which are favorable for wildlife enhancement.

To date, Andalex has had no use for poisons for rodent control or any other use.

Andalex has maintained small islands of natural vegetation within the site, but upon final reclamation, we do not intend to remove natural revegetation from other sites and transplant it. Andalex does not intend to encapsulate seed and fertilizer for release over several years. All disturbed slopes have been revegetated.

Snake dens will be reported to the DWR.

Berry producing shrubs have naturally re-occurred within the disturbed area for avifauna species. No avifauna will be disturbed within Andalex's minesite and in particular, raptors and their nests. Andalex's powerline was constructed under the guidance of the Utah DWR.

Lodges, nests, and dens for all mammals will be protected from disturbance. Andalex has reduced speed limits posted within the minesite and the entire length of the haulroad year-round (20 mph and 40 mph). Swareflex reflectors will not be implemented.

Please refer to 783.22. There are no unpaved sections of the haul road and swareflex reflectors are not being used. Andalex has demonstrated mitigation of impacted habitat through revegetation efforts on areas in and outside the permit area. We have had employee wildlife education sessions in the past and may perhaps in the future. A description of the values of wildlife as well as methods for avoiding impacts to wildlife could be written into a form which could be passed out during annual employee training. The Division of Wildlife Resources may be able to assist Andalex with this idea. The powerline was constructed under strict guidelines and

Revised 01/07/94

has been thoroughly checked by both the Utah DWR and the U.S. Fish and Wildlife Service. Both agencies are pleased with the design and the as-built facilities. Andalex is willing to adhere to reasonable and practical recommendations given by any agency and has for the most part taken the advice of the DWR on most all occasions as outlined in the Wildlife Resources, Appendix A. Special condition #7 was answered by posting 40 mph speed limits, year round.

To the extent possible, Andalex will commit to prevent, control, and suppress range, forest, and coal fires within the permit area. The control of range and forest fires may very well be out of Andalex's hands and it may only be possible for Andalex to report these incidences to organizations such as the BLM who are equipped to handle these situations.

Andalex has committed to continuing wildlife education as part of its employee training. This will be coordinated with the local office of UDWR through the use of videos and possibly guest speakers. All new employees will review our wildlife education tape.

Andalex, through raptor surveys previously conducted, will not cause subsidence to occur at or near any raptor nesting sites. Identified nest sites will not be second mined until advised by the Utah DWR as to protection.

Andalex has committed to compensation for livestock lost as a result of subsidence which in turn is a direct result of underground mining activities. Also, major cracks caused by subsidence which are demonstrated to be a direct result of underground mining will be repaired.

UMC 784.22 Diversions

- R. Please refer to UMC 784.16 re Ponds, Impoundments, Banks, Dams, and Embankments, Part K.

There will be no additional surface disturbance required on the newly acquired AEP Lease. All diversions associated with existing surface facilities have been constructed.

Also, see revised Plate 8 showing contour details of the disturbed area.

Diversion designs are detailed in, "Diversion Design". Erosion protection is discussed in, "Erosion Protection".

Revised 12/31/91, Revised 01/07/94