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

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May 28, 1993

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

Dear Mr. Dawes:

Re: State Final Findings and Supporting Documentation, AEP Lease Addition, Andalex Resources Inc., Centennial Project, ACT/007/019-93-1, Folder No. 2, Carbon County, Utah

Enclosed please find Utah's Final Findings and Supporting Decision Documentation for Andalex Resources' addition of the AEP lease to the Centennial mine permit. This document has been reviewed by the technical/supervisory staff and the Associate Director of Mining and is considered complete and accurate.

The Division is satisfied that the Mining and Reclamation Plan (MRP) submitted by Andalex Resources for the lease is adequate to receive Federal Mine Plan Approval and subsequently Final Permit Approval.

Please contact me or Daron R. Haddock of my staff if there are any questions.

Very truly yours,

A handwritten signature in black ink, appearing to read 'James W. Carter', written over a large, stylized loop.

James W. Carter  
Director

drh

Enclosures

cc: M. Glasson, Andalex Resources  
R. Hagen, OSM  
P. Baker  
L. Braxton  
D. Haddock  
J. Helfrich

DECIDOCU.AEP



UTAH DIVISION OF OIL, GAS AND MINING  
STATE DECISION DOCUMENT

Andalex Resources, Inc.  
Centennial Project  
AEP Lease Addition  
ACT/007/019  
Carbon County, Utah

May 28, 1993

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- \* Location Map
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- \* Division Order
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  - Bureau of Land Management, March 12, 1993
  - Soil Conservation Service, March 26, 1993
  - U. S. Fish and Wildlife Service, April 6, 1993
  - Utah Division of Wildlife Resources, April 7, 1993
  - Division of State History, March 5, 1993
  - Water Rights, March 24, 1993
  - Memo from James D. Smith, CHIA, April 20, 1993
  - Affidavit of Publication, March 23, 1993
  - Memo from Joseph C. Helfrich -- Section 510(c) finding

## ADMINISTRATIVE OVERVIEW

Andalex Resources, Inc.  
Centennial Project  
AEP Lease Addition  
ACT/007/019  
Carbon County, Utah

May 28, 1993

### PROPOSAL

Andalex Resources, Inc. (ARI) has proposed to add Federal Lease UTU-69600, which comprises 801.48 acres, to the current permit area. Mining would take place in the Centennial seam only and would be done as an extension of current underground mining operations at the Centennial Mines.

### BACKGROUND

The Mining and Reclamation Plan (MRP) for the Centennial Project was approved by the Office of Surface Mining in November of 1981 and by the Division of Oil, Gas and Mining (DOG M) in January of 1982. The originally approved MRP consisted of 2,240 acres of private and federal coal leases. On May 20, 1986, ARI was issued a permit by DOGM for a 120-acre federal emergency lease. On March 2, 1987, a new five-year permanent program permit was issued incorporating the emergency lease, for a total permitted acreage of 2,360 acres.

In October of 1981, Federal lease numbers U-010581, SL-063058 and SL-027304 were modified by the Bureau of Land Management to include an additional 436 acres. In March of 1988, ARI requested that these three lease modifications be incorporated into the permitted area. In August of 1988, ARI requested that one additional 320 acre federal lease (U-05067) and one 240 acre fee lease be added to the permitted area. The permit was revised to include these leases on May 4, 1989, which brought the total permitted acreage to 3,358 acres. Again on April 8, 1991, a permit revision was approved which incorporated Federal Lease UTU-66060 also known as the Graves Lease into the permit area. The addition of this 933 acre lease brought the total lease holdings to 4,291 acres. This total combined with a 10 acre BLM right-of-way brought the total permit acreage to 4,301. This Decision Document addresses the addition of the AEP lease to the permitted area, which consists of 801.48 acres. Total permitted acreage as a result of this change would be 5102.48 acres.

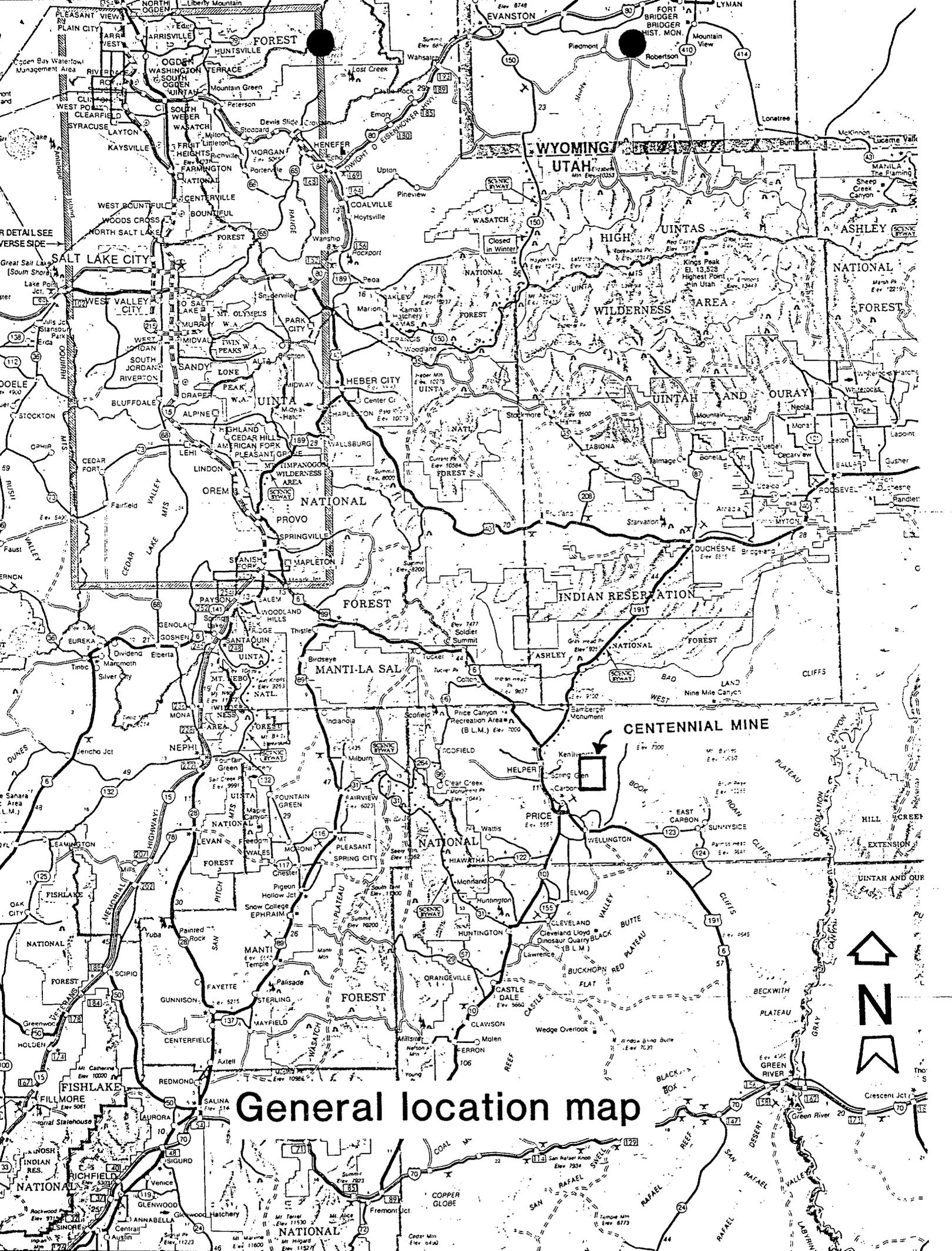
Currently ARI operates three mines, the Pinnacle, Apex and Aberdeen, in the Gilson, Lower Sunnyside and Aberdeen seams respectively. A fourth seam, the Centennial, is accessed through the Pinnacle Mine by driving rock slopes from the Gilson seam. The proposed addition of the AEP lease involves further development of the Centennial seam.

### ANALYSIS

No additional surface disturbance is proposed in relation to the addition of the AEP lease. All mining will be done as an extension of current underground mining in the Centennial seam. Therefore, it is DOGM's opinion that the mining and reclamation practices and procedures which were approved in the five-year permit renewal are adequate to address any effects related to the underground mining of the AEP lease. An Environmental Assessment has been prepared which indicates that mining in the AEP lease will have no significant impact to the environment or the public.

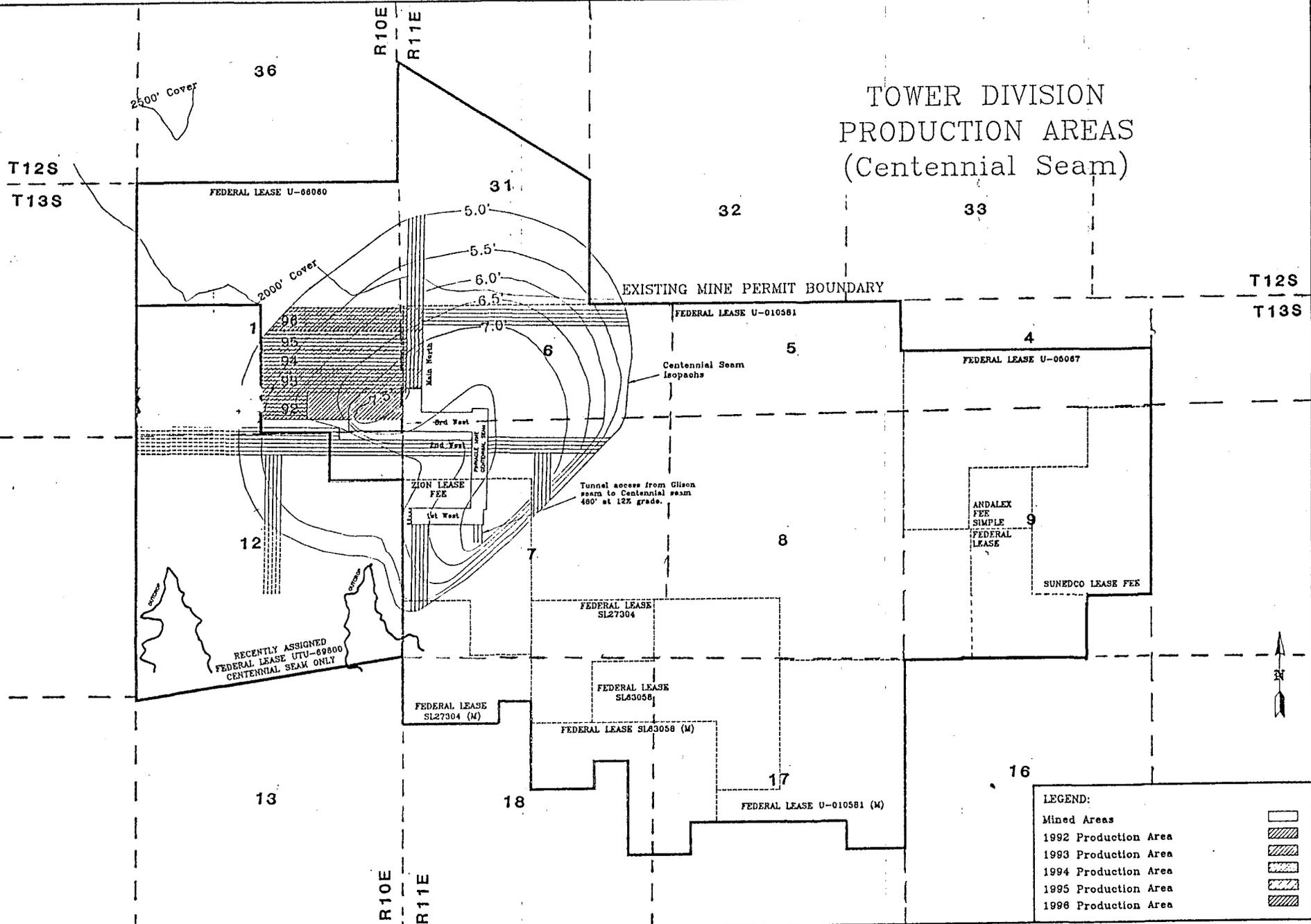
### RECOMMENDATION

ARI has demonstrated that mining of the AEP lease can be done in conformance with the Surface Mining Control and Reclamation Act, and the corresponding Utah Act and performance standards. The Bureau of Land Management has approved the AEP federal lease and concurs with the decision to allow mining at this time. It is therefore recommended that approval be given for the addition of the AEP lease to the permitted area and to the currently approved five year permanent program mining permit.



General location map

# TOWER DIVISION PRODUCTION AREAS (Centennial Seam)



SCALE:  
500' 0" 1000' 2000'

**Pinnacle Mine**  
P.O. Box 902

**LEGEND:**

Mined Areas	[White Box]
1992 Production Area	[Diagonal Lines /]
1993 Production Area	[Diagonal Lines \]
1994 Production Area	[Horizontal Lines]
1995 Production Area	[Vertical Lines]
1996 Production Area	[Cross-hatch]

## PERMITTING CHRONOLOGY

Andalex Resources, Inc.  
Centennial Project  
AEP Lease Addition  
ACT/007/019  
Carbon County, Utah

- 2/2/93 ARI submits plans for including Federal Lease UTU-69600, the AEP lease, into the permit for the Centennial mine.
- 3/4/93 DOGM determines ARI's Application package to be administratively complete. Copies of the application are distributed to other reviewing agencies.
- 3/4/93 to 3/23/93 ARI publishes notice of intent to add the AEP lease to the permit area in the Price Sun Advocate once a week for four consecutive weeks.
- 4/27/93 DOGM completes technical review of AEP application.
- 5/11/93 ARI submits additional information to correct deficiencies determined in DOGM's technical review of plan.
- 5/28/93 DOGM forwards State Decision Document to Office of Surface Mining Reclamation and Enforcement for concurrence and Secretarial signature.

MINE PLAN INFORMATION

Mine Name: Centennial Project State ID: ACT/007/019  
 Operator: Andalex Resources, Inc. County: Carbon

Contact Person(s): Mike Glasson Position: Senior Geologist  
 Telephone: (801) 637-5383

New/Existing: Both Mining Method: Room and Pillar  
 New Federal Lease No(s): UTU-69600  
 Legal Description(s): T. 13S., R. 10 E., SLM  
Section 1: SW1/4  
Section 12: lots 2-11, W1/2W1/2, NE1/4SW1/4

Current Permit Area Legal Description:

**T. 13S., R. 11 E., SLBM**  
Section 4: S1/2  
Section 5: All  
Section 6: All  
Section 7: All  
Section 8: All  
Section 9: All but SE 1/4 SE 1/4  
Section 17: N 1/2, NE 1/4 SE 1/4, N 1/2 NW 1/4 SE 1/4,  
N 1/2 NE 1/4 SW 1/4, NE 1/4 NW 1/4 SW 1/4,  
W 1/2 NW 1/4 SW 1/4  
Section 18: N 1/2 N 1/2, SW 1/4 NE 1/4, NW 1/4 SE 1/4 E 1/4,  
E 1/2 SE 1/4 NE 1/4, E 1/2 NE 1/4 SE 1/4

**T. 13S., R. 10 E., SLM, Utah**  
Section 1: lots 1-8, S1/2 N1/2  
Section 12: lot 1.

**T. 12S., R. 11 E., SLM, Utah**  
Section 31: lots 3-6, and 13-22.

Ownership Data:

<u>Surface Resources (acres)</u>	<u>Existing Permit Area</u>	<u>Proposed Permit Area</u>	<u>Total Life Of Mine Area</u>
Federal	<u>3861</u>	<u>801.48</u>	<u>4662.48</u>
State			
Private	<u>440</u>		<u>440</u>
Other			
<b>TOTAL</b>	<u>4301</u>	<u>801.48</u>	<u>5102.48</u>

Coal Ownership (acres):

Federal	<u>3851</u>	<u>801.48</u>	<u>3652.48</u>
State			
Private	<u>440</u>		<u>440</u>
Other			
<b>TOTAL</b>	<u>4291</u>	<u>801.48</u>	<u>5092.48</u>

<u>Coal Resource Data</u>	<u>Total Reserves</u>	<u>Total Recoverable Reserves</u>
Federal	_____	_____
State	_____	_____
Private	_____	_____
Other	_____	_____
TOTAL	<u>52.5 Million Tons</u>	<u>33 Million Tons</u>

<u>Recoverable Reserve Data</u>	<u>Name</u>	<u>Thickness</u>	<u>Depth</u>
Seam	<u>Lower Sunnyside</u>	<u>4-6 ft.</u>	<u>0-1800 ft.</u>
Seam	<u>Centennial</u>	<u>5-7 ft.</u>	<u>800-2000 ft.</u>
Seam	<u>Gilson</u>	<u>4-8 ft.</u>	<u>0-2000 ft.</u>
Seam	<u>Aberdeen</u>	<u>4-13 ft.</u>	<u>0-2400 ft.</u>
Seam	_____	_____	_____
Seam	_____	_____	_____

Mine Life: 28 years

Average Annual Production: 1.2 increasing to 1.5 Million      Percent Recovery: 68%

Date Projected Annual Rate Reached: 1995 to reach 1.5 million

Date Production Begins: 1980      Date Production Ends: 2008

Reserves Recoverable By: (1) Surface Mining: \_\_\_\_\_  
(2) Underground Mining: X

Reserves Lost Through Management Decisions: Unknown

Coal Market: Unknown

## FINDINGS

Andalex Resources, Inc.  
Centennial Mines Project  
Federal Lease UTU-69600  
Centennial Seam-AEP Lease  
ACT/007/019  
Carbon County, Utah

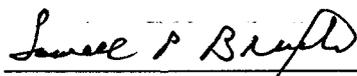
May 28, 1993

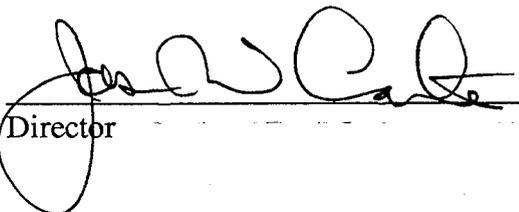
1. The revised plan and the permit application are accurate and complete and all requirements of the Surface Mining Control and Reclamation Act, and the approved Utah State Program (the "Act") have been complied with (R645-300-133.100). A Division Order has been issued to Andalex Resources, Inc., requiring the correction of a few minor discrepancies in the plan, none of which are considered reason for not issuing a permit.
2. No additional surface reclamation is required since the additional permit area will be mined as an underground extension of the existing mine. There will be no new surface facilities (R645-300-133.710).
3. The assessment of the probable cumulative impacts of all anticipated coal mining and reclamation activities in the general area on the hydrologic balance has been conducted by the regulatory authority and no significant impacts were identified. The Mining and Reclamation Plan (MRP) proposed under the application has been designed to prevent damage to the hydrologic balance in the permit area and in associated off-site areas (R645-300-133.400 and UCA 40-10-11 {2}{c}) (See December 4, 1990 Cumulative Hydrologic Impact Analysis [CHIA] and April 20, 1993 supplemental report to CHIA by James D. Smith).
4. The proposed lands to be included within the permit area are:
  - a. not included within an area designated unsuitable for underground coal mining operations (R645-300-133.220) ;
  - b. not within an area under study for designated lands unsuitable for underground coal mining operations (R645-300-133.210) ;
  - c. not on any lands subject to the prohibitions or limitations of 30 CFR 761.11 {a} (national parks, etc.), 761.11 {f} (public buildings, etc.) and 761.11 {g} (cemeteries);

- d. not within 100 feet of the outside right-of-way of a public road (R645-300-133.220);
  - e. not within 300 feet of any occupied dwelling (R645-300-133-220).
5. The regulatory authority's issuance of a permit is in compliance with the National Historic Preservation Act and implementing regulations (36 CFR 800) (R645-300-133.600). See attached letter from State Historic Preservation Officer (SHPO) dated September 18, 1992 and March 5, 1993.
  6. The applicant has the legal right to enter and complete mining activities through a federal coal lease issued by the Bureau of Land Management (See attached lease UTU-69600 effective May 1, 1992) (R645-300-133.300).
  7. A 510(c) report has been run on the Applicant Violator System (AVS), which shows that: prior violations of applicable laws and regulations have been corrected; neither Andalex Resources Inc., or any affiliated company, are delinquent in payment of fees for the Abandoned Mine Reclamation Fund; and the applicant does not control and has not controlled mining operations with demonstrated pattern of willful violations of the Act of such nature, duration, and with such resulting irreparable damage to the environment as to indicate an intent not to comply with the provisions of the Act (R645-300-133.730).
  8. Underground mining operations to be performed under the permit will not be inconsistent with other operations anticipated to be performed in areas adjacent to the proposed permit area. The closest operating mine is the Soldier Canyon Mine.
  9. The applicant has posted a surety bond for the Centennial Mines Complex in the amount of \$1,080,839.00. No additional surety will be required, since there is no additional surface disturbance proposed (R645-300-134).
  10. No lands designated as prime farmlands or alluvial valley floors occur on the permit area (R645-302-313.100) (R645-302-321.100).
  11. The proposed postmining land-use of the permit area is the same as the pre-mining land use and has been approved by the regulatory authority and the surface land management agency

12. The regulatory authority has made all specific approvals required by the Act, the Cooperative Agreement, and the Federal Lands Program.
13. The proposed operation will not affect the continued existence of any threatened or endangered species or result in the destruction or adverse modification of their critical habitats (R645-300-133.500). (See April 6, 1993 letter from U. S. Fish and Wildlife Service).
14. All procedures for public participation required by the Act, and the approved Utah State Program have been complied with (R645-300-120).
15. No existing structures will be used in conjunction with mining of the underground lease addition other than those constructed in compliance with the performance standards of R645-301 and R645-302 (R645-300-133.720).

  
\_\_\_\_\_  
Permit Supervisor

  
\_\_\_\_\_  
Associate Director, Mining

  
\_\_\_\_\_  
Director

STATE OF UTAH  
DIVISION OF OIL, GAS AND MINING

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PERMITTEE

Mike Glasson, Senior Geologist  
Andalex Resources Inc.  
Centennial Mine  
P. O. Box 902  
Price, Utah 84501

ORDER & FINDINGS  
of  
PERMIT DEFICIENCY

PERMIT NUMBER ACT/.007/019  
DIVISION ORDER # 93A

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PURSUANT to R645-303-212, the DIVISION ORDERS the PERMITTEE, Andalex Resources Inc., to make the permit changes enumerated in the findings of permit deficiency in order to be in compliance with the State Coal Program. These findings of permit deficiency are to be remedied in accordance with R645-303-220.

FINDINGS OF PERMIT DEFICIENCY

The Division finds the permit deficient as outlined below:

- 1) Appendices Q, R, and S are not listed on page XVII of the Table of Contents.
- 2) Andalex Resources, Inc., is not listed as a coal owner on pages 8-9, but is shown as a fee owner of minerals on Plate 3.
- 3) The prefix "dis" is missing from the word that should read "discontinued" in the last sentence of Section 3.1-1.1.
- 4) In the second paragraph on page 192-A, the location of the SPCC is given as Appendix B rather than Appendix S.
- 5) The numbers "16" and "17" have been switched in the descriptions of Plates 16 and 17 in the 3rd and 4th paragraphs on page 199.
- 6) The word "waste" is missing after "development" in the first sentence in paragraph i) on page 209.
- 7) BLM stockwatering rights in the Left and Right Forks of Deadman Creek, identified as 91-4655 and 91-4720 are not located on Figure 5, Appendix 2.

Regulation Cited: R645-301-121.200

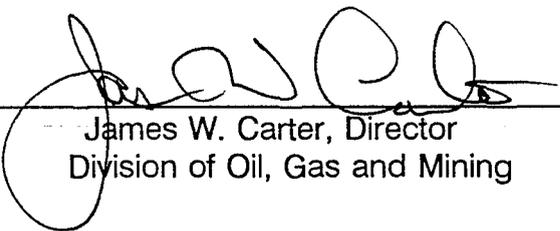
Requirements

In order to comply with this regulation, the permittee must correct the discrepancies listed above by supplying amended submittals to the Division.

ORDER

Andalex Resources, Inc. is ordered to make the requisite permit changes in accordance with R645-303-220 and to submit a complete application for permit change to address the findings of permit deficiency within 30 days of date of the Order. Approval by the Division must be obtained within 60 days of date of this Order. All approvals not obtained within 60 days may result in a hindrance violation.

Ordered this 28th day of May, 1993, by the Division of Oil, Gas, and Mining.

  
James W. Carter, Director  
Division of Oil, Gas and Mining

AEPDO.AND

**ENVIRONMENTAL ASSESSMENT**

**Centennial Mine  
Mining Plan Approval for Lease UTU-69600  
Carbon County, Utah  
May 1993**

**Jointly Prepared  
by  
Utah Division of Oil, Gas, and Mining  
and  
United States Department of the Interior  
Office of Surface Mining Reclamation and Enforcement  
Western Support Center**

**In Cooperation With  
United States Department of the Interior  
Bureau of Land Management  
Price Coal Office**

## CHAPTER I INTRODUCTION

### A. Purpose and Need for a Federal Action

The Utah Division of Oil, Gas and Mining (DOGGM) received a Permit Application Package (PAP) for the mining of leased federal coal within Lease UTU-69600 known as the AEP lease tract at the Andalex Resource's Centennial Mine on February 2, 1993. The application is for adding approximately 802 acres of Federally leased coal to the current permit area of the Centennial Mine.

Pursuant to the Mineral Leasing Act of 1920, as amended, Section 523 of the Surface Mining Control and Reclamation Act of 1977 (SMCRA), and 30 CFR 746.14, the Assistant Secretary, Land and Minerals Management must approve, disapprove, or conditionally approve the Mining Plan for the AEP lease. This document assesses the effects the proposed mining and reclamation operations would have on the human environment.

In addition, the Authorized Officer for the Bureau of Land Management, as the mineral management agency, must determine if the proposal achieves "Maximum Economic Recovery" of the Federal coal resource and must make a recommendation on the Mining Plan Action.

### B. Project Background/General Information

The Centennial underground coal mine project is located in Carbon County, Utah, approximately 10 miles north-northeast of Price, Utah. The Mining and Reclamation Plan (MRP) for the existing Centennial Mine was approved by the Office of Surface Mining in November of 1981 and by the Division of Oil, Gas and Mining (DOGGM) in January of 1982.

Andalex Resources Incorporated (ARI) operates three mines within the Centennial Project; the Pinnacle which mines the Gilson coal seam, the Apex which mines the Lower Sunnyside coal seam, and the Aberdeen which mines the Aberdeen coal seam. A fourth seam, the Centennial was approved for mining on April 8, 1991. It is accessed through the Pinnacle mine by rock slopes driven from the Gilson seam. Leases comprise approximately 4,291 acres. About two hundred acres are fee surface and coal leased from the Zion Security Corporation. Another 240 acres are fee surface and coal and are leased from the Sunedco Coal Company. The remaining 3,851 acres within the permit area are Federal leases consisting of SL-027304 (236

acres), SL-063058 (400 acres), U-010581 (1,842 acres), U-05067 (320 acres), U-53241 (120 acres), and UTU-66060 (933 acres).

The mining method being employed is pillar development utilizing continuous miners with final pillar extraction being conducted when lease boundaries are encountered. Longwall mining is not anticipated. The leases contain approximately 50 million tons of coal reserves with an estimated 30 million tons recoverable.

The mine currently produces approximately 1.2 million tons of coal per year and is expected to increase production to 1.5 million tons of coal per year by 1995. Production would then continue at that rate for the remaining 12-15 year life of the mine.

Currently, Andalex Resources Incorporated employs 116 persons of which 102 are full time employees and 14 are part time employees. Approximately 90% of the employees live in Carbon County, with 8% and 2% living in Emery and Utah counties respectively.

Existing surface facilities are accessed by an existing paved county road which is also used for transporting coal from the mine by truck. Facilities at the site consist of mine offices and shop buildings, bath houses, storage areas for mining equipment and coal, conveyors and truck loading equipment. The total disturbed surface area is about 32 acres.

D. Previous Environmental Studies

Environmental studies prepared for the Centennial Mine and surrounding general area include:

1990, BLM, Environmental Assessment, Centennial Project Mine, Federal Lease UTU-66060.

1990, Utah DOGM, State Decision Document and Cumulative Hydrologic Impact Assessment, Graves Lease, Centennial Project Mine.

1983, BLM, Environmental Assessment, Federal Lease U-52341.

1981, BLM, Environmental Assessment, Federal Lease Nos. SL-27304, SL-063058, and U-010581.

## CHAPTER II DESCRIPTION OF THE ALTERNATIVES

### A. Primary Alternatives Under Analysis

#### 1. Approval of the Proposed Mining Plan Without Special Federal Conditions.

Under this alternative the Assistant Secretary would approve the mining plan for the AEP lease at the Centennial Mine in accordance with the recommendation of DOGM. This is the preferred alternative.

#### Description of the Current Proposal

Andalex Resources Incorporated (ARI) has proposed to add Federal lease UTU-69600 to the permit area for the underground Centennial Mine. The lease, consisting of 802 acres, would be mined as an extension of the mine's current room and pillar operations. Only the Centennial seam would be mined by extending the existing mine workings to the west within the AEP lease as long as the seam is economically minable (greater than 5 feet thick). It is unknown at this time exactly how far to the west the seam may be mined. The seam may pinch out before reaching the lease boundary, however, it is estimated that the lease contains approximately 250,000 tons of recoverable coal. Under the proposal, the annual projected production would not be altered from the current rate of 1.2 million tons per year increasing to 1.5 million tons per year by 1995. The life of mine would be extended an additional 4-5 months. The legal description of the lease is as follows:

T. 13 S., R. 10 E., SLM, Utah

Sec. 1: SW1/4;

Sec. 12: Lots 2-11, W1/2W1/2, NE1/4SW1/4.

Only the coal in the Centennial seam is included in this lease.

No additional surface construction or facilities are planned with this proposal. There would be no change in employment anticipated with this lease addition. Coal reserves, as a result of adding this lease, would be increased by approximately 250,000 tons. See Exhibits A and B for the project location.

#### 2. Disapproval

The Assistant Secretary may disapprove the mining plan which would have the same effect as taking no action.

B. Alternatives Considered but not Analyzed Further

1. No Action

Under 30 CFR 746.14, mining plans must be approved, approved with conditions, or disapproved by the Assistant Secretary. The Assistant Secretary must act on the proposed mining plan; therefore, the No Action alternative is not discussed further in this document. However, taking no action would have the same effect as disapproval.

2. Approval with Special Federal Conditions

The Assistant Secretary may approve the mining plan with special Federal conditions in addition to any attached to Utah Permit ACT/007/019 by DOGM. The analysis of Alternative 1, Approval Without Special Federal Conditions, did not result in the identification of any impacts that could or should be mitigated beyond that mitigation proposed in the application. Therefore, this alternative is not analyzed further.

3. Alternative uses of the Available Resources

The proposed project does not involve any unresolved conflicts concerning alternative uses of the available resources. Therefore, consideration of alternative pursuant to Section 102(2) (E) of the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. 4332(2), is not required.

### CHAPTER III THE AFFECTED ENVIRONMENT

A. General Setting

The Centennial Project is located within the Book Cliffs coal field approximately 10 miles north-northeast of Price, Utah. The Book Cliffs form a rugged, southerly facing escarpment that delineates the Uintah Basin to the North from the San Rafael Swell to the south. Elevations along the Book Cliffs range from 5,000 ft. to 9,000 ft.

Outcropping rocks of the Book Cliffs range from Upper Cretaceous to Quaternary in age. The rock record reflects an overall fluctuating regressive

sequence from marine (Mancos Shale) through littoral and lagoonal (Blackhawk Formation) to fluvial (Castlegate Sandstone, Price River and North Horn Formations) and lacustrine (Flagstaff Formation) depositional environments. Oscillating depositional environments within the overall regressive trend are represented by members of the Blackhawk Formation. The major coal bearing unit within the Book Cliffs coal field is the Blackhawk Formation.

The Centennial coal seam, which would be the coal seam to be mined in the proposed AEP Lease addition, occurs as the uppermost minable coal seam in the area of the lease. The Lower Sunnyside seam has been pinched out in this area and other coal seams within the lease are not proposed for mining as the lease for them is not owned by Andalex Resources. Overburden in the area of the lease ranges from a few hundred feet to over 2000 feet.

Precipitation varies from 20 inches at higher elevations to 5 inches at lower elevations. The Book Cliffs area may be classified as mid latitude steppe to desert.

## B. Critical Elements

### 1. Cultural, paleontological, or historic resource values

Southeastern Utah and particularly the Book Cliffs area contains numerous sites of importance with respect to the Fremont and Anazasi Indian cultures. The majority of those located in the Book Cliffs are east of the proposed permit area. No sites within the AEP lease were identified by the State Historic Preservation office.

### 2. Water quality/supply values

The ground water regime is dependent upon geologic and climatic parameters that establish systems of recharge, movement and discharge.

Snowmelt at higher elevations provides most of the ground water recharge. Vertical migration of ground water occurs based on permeability and fracturing of the rock strata. Lateral migration may occur when ground water encounters impermeable layers. Based on information from existing mine workings it is anticipated that the regional water table lies at some elevation deeper than the coal seams being mined. Very little water has been encountered during the mining process, usually minor drippers or some seepage, however an occasional exception to this rule has occurred when the mine has encountered old workings. In 1981, the mine cut into some old works releasing a surge of water that had to be discharged from the mine. Again in 1983 the mine encountered groundwater in an area of burned coal. These instances indicate that water may accumulate in areas of high permeability, but these areas are

generally highly localized and have limited storage capacity.

Very little water has been encountered in the Pinnacle Mine. Water that has been encountered has been in the form of small roof leaks that dry up within a few days or weeks after mining progresses downdrift.

The entire Centennial Project area is drained by ephemeral drainages primarily heading in a southerly direction and are tributary to the Price River. The proposed lease addition area is located in drainage which would only flow in direct response to snowmelt or direct precipitation. An inventory of seeps and springs conducted by Andalex personnel in May 1992, indicated that there are no surface water sources on the AEP lease.

Surface runoff from the Book Cliffs area flows into the Price River drainage basin of east-central Utah. The Price River originates near Scofield Reservoir and flows southeasterly into the Green River, north of the community of Green River, Utah. Water quality is good in the mountainous headwater tributaries, but deteriorates rapidly as flow traverses the Mancos Shale. The shale lithology typically has low permeability, is easily eroded and contains large quantities of soluble salts that are a major contributor to poor water quality. Depending upon the duration of contact, water quality degrades downstream to where total dissolved solids (TDS) levels of 3,000 milligrams per liter are common. The predominant ion leached from the Mancos Shale is sulfate ( $\text{SO}_4$ ) with values over 1,000 mg/l common in the lower reaches of the Price River.

Seeps or springs in the area of the lease were not found during a recent inventory of the area. No water rights or surface facilities indicating water use were identified during the recent survey.

### 3. Wetland values

The AEP lease is located on high mountain desert terrain. No surface water sources were identified in a recent seep and spring survey.

### 4. Floodplain/unstable geology concerns

Rock overlaying the Centennial seam is anticipated to be over 500 feet thick. Based on past history of subsidence effects at mines in the Wasatch coal field and Book Cliffs coal fields, including the Centennial Mine itself, there is little likelihood of surface expression as a result of mining this lease. The BLM has completed a R2P2 for this lease and determined that maximum economic recovery can be achieved without non-coal resources being impacted.

5. Threatened or endangered plant/ animal species

Vegetation varies from the sagebrush/grass community type at lower elevations to the Douglas fir/aspen community at higher elevations. Other vegetative communities include mountain brush pinyon-juniper, pinyon-juniper/sagebrush and riparian. These communities are primarily used for wildlife habitat and livestock grazing.

The proposed permit area consists of a variety of habitat types and wildlife. Economically important and high interest species include elk, mule deer, black bear, coyote, mountain lion, mountain cottontail, and several furbearing species. Bird species of interest that may be present in the area include the golden eagle, blue grouse, ruffed grouse, western bluebird, and Grace's warbler.

No Threatened or Endangered (T&E) plant or animal species have been found to inhabit the proposed lease area, although certain raptors may migrate through the area. No fisheries exist within the Centennial Mine project area.

6. Migratory birds of high Federal interest

Although golden eagles frequent this area, an inventory conducted in conjunction with the Utah Division of Wildlife Resources failed to identify any active raptor nests on the lease area.

7. Renewable resource/ unique agricultural values

Grazing and hunting are both done within the lease area. There are also stands of Pinyon and Juniper which have some value as firewood or fencing material. No other use or resource has been identified. There are no prime farmlands present.

8. Recreational resource values

The land comprising the lease area has been historically used for deer hunting. Other recreational uses for the permit area could include hiking, cross-country skiing, four wheeling, camping, and snowmobiling. There are no existing or proposed wilderness areas or areas of environmental concern or wild and scenic rivers.

9. Social and economic values

Coal mining is one of the major industries in the Carbon County area. The economy of the area is reflected in the viability of the mines.

10. Conformance with Federal, State, Regional, and/or local land use plans, programs, and policies

County zoning regulations (1974) indicate all lands involved in the lease application area are within zone M and G1 which is for mining and grazing. Current land use consists of grazing and deer hunting.

**CHARTER IV  
IMPACT ANALYSIS**

Impacts of Alternative 1, Approval without special federal conditions.

Mining operations within the proposed AEP lease would not encompass additional surface disturbance. Thus, only mining-induced subsidence would potentially impact surface resources.

1. Cultural, paleontological, or historic resource values

No surface disturbance is planned, therefore no cultural or historic sites would be affected.

2. Water quality/supply values

Mining in the lease area may produce subsidence which may result in the extension and expansion of the existing fracture system and the upward propagation of new fractures. Ground water may be intercepted by these new fractures. Dewatering of localized aquifers is possible during the life of mine operations.

Currently the Centennial Mine discharges approximately 100,000 gallons of water per day from mine inflow. This volume is not anticipated to increase since previous mining in the AEP lease found conditions to be completely dry.

Mining operations in the lease would not encompass additional surface disturbance and therefore would not impact surface waters.

All surface drainages in the area of the AEP lease are ephemeral in nature, responding only to rain or snowfall events. Effects of subsidence, if any, should be limited to shallow surface cracks in surface tensile zones that would quickly fill with sediments during runoff events and produce no impact to ephemeral stream flow.

3. Wetland values

No wetlands were identified in the proposed lease area. Mining would be an extension of underground operations with no additional surface disturbance.

4. Floodplain/unstable geology concerns

Additional surface disturbance would not occur as a result of the lease addition. Surface expression of subsidence could be possible, but not likely. No surface impacts are anticipated.

5. Threatened or endangered plant/animal species

No T&E species would be affected by the addition of the AEP lease.

6. Migratory birds of high Federal Interest

The lease will be mined from existing underground workings. No surface impacts are anticipated.

7. Renewable resource/unique agricultural values

No surface impacts are anticipated.

8. Recreational resource values

The ability of the lease area to support the recreational activities presently conducted will not change.

9. Social and economic values

No changes in employment are anticipated as a result of the proposed lease addition.

Effects to coal reserves as a result of the lease addition would be a net increase of approximately 250,000 tons of recoverable coal.

10. Conformance with Federal, State, regional, and/or local land use plans, programs, and policies

No changes in the land use for this area would occur as a result of the lease addition.

Impacts of Alternative 2, Disapproval

If the mining plan for the AEP lease addition is disapproved, the impacts described for Alternative 1, Approval Without Special Federal Conditions, would not occur on the AEP acreage. The impacts identified in Alternative 1 would continue on surrounding lands. The Centennial Mine would continue to operate under the terms and conditions of the currently approved mining plan. Coal reserves in the Centennial seam would remain unmined and maximum economic recovery would not be achieved.

Since coal in the Centennial seam is an isolated pod, if mining in the AEP lease is not done at this time there would be the probability that the Centennial seam in this lease would never be recovered.

Cumulative Impacts

None identified.

**CHAPTER V  
CONSULTATION AND COORDINATION**

A. Preparer:

This Environmental Assessment was prepared by:

Daron R. Haddock, Permit Supervisor, Utah Division of Oil, Gas and Mining  
Richard Holbrook, Senior Project Manager, OSM  
Floyd McMullen, Environmental Project Manager OSM

B. Consultation:

The following individuals were consulted in the preparation of this EA:

Steve Falk, BLM  
Barry Grosely, Engineer, BLM  
Ken Phippen, UDWR  
Sue Linner, USFWS  
Paul Baker, UDOGM  
James Smith, UDOGM

Page 12  
Centennial Mine  
Environmental Assessment  
ACT/007/019  
May 1993

**CHAPTER VI  
APPENDIX**

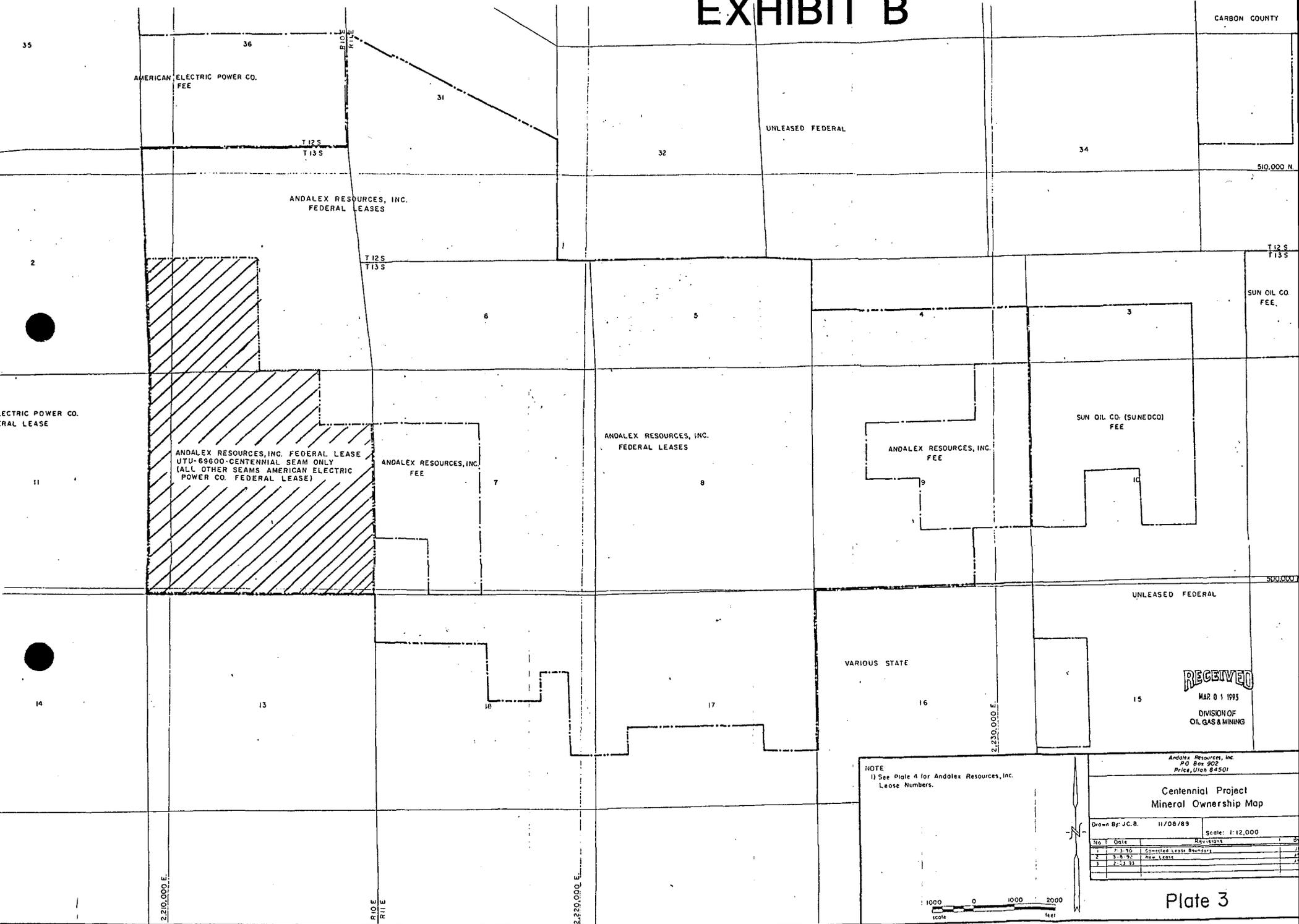
Exhibit A	Area Map
Exhibit B	Lease Map
Exhibit C	BLM recommendation for approval
Exhibit D	SCS Negative Prime farmland determination
Exhibit E	SHPO correspondence
Exhibit F	USFWS correspondence

AEPLEAS.EA



# EXHIBIT B

CARBON COUNTY



NOTE  
1) See Plate 4 for Andalex Resources, Inc. Lease Numbers.

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

Centennial Project  
Mineral Ownership Map

Drawn By: J.C.B. 11/08/89 Scale: 1:12,000

No.	Date	Revisions
1	7-1-90	Complete Lease Numbers
2	3-8-92	Rep. Lease
3	2-23-93	



Plate 3



# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Moab District  
P. O. Box 970  
Moab, Utah 84532



IN REPLY REFER TO:

3482  
U-69600  
SL-027304  
(UT-065)

**RECEIVED**

MAR 15 1993

MAR 12 1993

**DIVISION OF  
OIL GAS & MINING**

Mr. Daron R. Haddock  
Permit Supervisor  
State of Utah  
Division of Oil, Gas and Mining  
355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203

Re: AEP Lease Addition, Andalex Resources, Inc., Centennial Mine, ACT/007/019-92E

Dear Mr. Haddock:

We have received from your office a copy of the subject mining plan that adds Federal coal lease U-69600 to Andalex's mine permit. We were asked to give our recommendations regarding approval of the resource recovery and protection plan (R2P2) associated with this new lease. Additionally, as the surface managing agency for portions of the new lease, we were to review the plan for protection of non-coal resources and post-mining land uses of the area proposed for mining.

The R2P2 for the new lease details the mining layout to extract all minable coal of the Centennial seam from existing mine workings. The plan calls for successive sets of development entries to be driven west off the present North Mains entries to the limits of the minable coal in the Centennial seam. Upon reaching the west limits of mining where the seam thins, retreat mining will commence. These sets of panels will continue to the north until all coal is mined out. The R2P2 is a logical extension of the established Centennial seam mine workings and uses standard industry room and pillar mining practices.

The lease area will be mined from existing underground mine workings, and no surface facilities will be built. We anticipate no surface impacts to occur due to subsidence since in adjacent areas, where Andalex has mined full extraction room and pillar panels, there has been no surface disturbance. Therefore, non-coal resources will not be impacted by this mining plan.

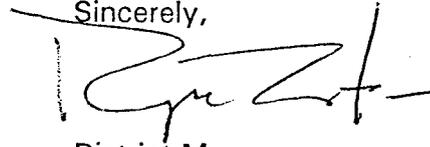
We have determined that the R2P2 for this lease area is complete and technically adequate. The plan is in compliance with the Mineral Leasing Act of 1920, as amended, the regulations at 43 CFR 3480, Federal lease terms and conditions, and will achieve maximum economic

**EXHIBIT C**

recovery of the Federal coal. The area to be mined will not result in any surface impacts and has been designated suitable for underground mining in the current land use plan. Therefore, we recommend approval of the R2P2 and inclusion of Federal coal lease U-69600 to the Centennial Project Mining and Reclamation Plan.

If you have any questions, please contact Stephen Falk in our Price Coal Office at (801) 637-4584.

Sincerely,

A handwritten signature in black ink, appearing to read "Stephen Falk", written over a horizontal line.

District Manager

cc: UT-065c, Chief, Price Coal Office  
UT-921, State Director, Utah  
Office of Surface Mining  
Reclamation and Enforcement  
1020 15th Street  
Denver, Colorado 80202  
Andalex Resources Inc.  
P. O. Box 902  
Price, Utah 84501



United States  
Department of  
Agriculture

Soil  
Conservation  
Service

P.O. Box 11350  
Salt Lake City, Utah 84147

March 26, 1993

Michael W. Glasson  
Senior Geologist  
ANDALEX Resources Inc.  
P.O. Box 902  
Price, Utah 84501

Dear Mr. Glasson:

In response to your letter of February 24, 1993, we are furnishing you information concerning Important Farmlands in the area marked on the map furnished by your office. This area covers the SW1/4 Section 1 and all of Section 12, T.13S., R.10E., Carbon County, Utah.

There are no Important Farmlands in the designated site. The reasons are as follows:

- (1) Slope K (Erodibility Factor) X percent slope is greater than 2.
- (2) Rock Fragments coarser than 3 inches cover more than 10 percent of the soil surface.
- (3) Much of the area has a mean summer temperature less than 59 degrees F.
- (4) Irrigation water is not available.

The completed Form AD-1006 is enclosed. If we can be of further assistance, please call on us.

Sincerely,

FERRIS P. ALLGOOD  
State Soil Scientist

Enclosure

EXHIBIT D



## U.S. Department of Agriculture

## FARMLAND CONVERSION IMPACT RATING

<b>PART I (To be completed by Federal Agency)</b>		Date Of Land Evaluation Request		3/24/93	
Name Of Project		Federal Coal Lease UTU-69600			
Proposed Land Use		County And State Carbon County, Utah			
<b>PART II (To be completed by SCS)</b>		Date Request Received By SCS			
Does the site contain prime, unique, statewide or local important farmland? (If no, the FPPA does not apply - do not complete additional parts of this form).		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Acres Irrigated	Average Farm Size
Major Crops		Farmable Land In Govt. Jurisdiction Acres: %		Amount Of Farmland As Defined in FPPA Acres: %	
Name Of Land Evaluation System Used		Name Of Local Site Assessment System		Date Land Evaluation Returned By SCS	
Soil Survey					
<b>PART III (To be completed by Federal Agency)</b>		Alternative Site Rating			
		Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly					
B. Total Acres To Be Converted Indirectly					
C. Total Acres In Site					
<b>PART IV (To be completed by SCS) Land Evaluation Information</b>					
A. Total Acres Prime And Unique Farmland					
B. Total Acres Statewide And Local Important Farmland					
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted					
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value					
<b>PART V (To be completed by SCS) Land Evaluation Criterion</b>					
Relative Value Of Farmland To Be Converted (Scale of 0 to 100 Points)					
<b>PART VI (To be completed by Federal Agency)</b>		Maximum Points			
Site Assessment Criteria (These criteria are explained in 7 CFR 658.5(b))					
1. Area In Nonurban Use					
2. Perimeter In Nonurban Use					
3. Percent Of Site Being Farmed					
4. Protection Provided By State And Local Government					
5. Distance From Urban Builtup Area					
6. Distance To Urban Support Services					
7. Size Of Present Farm Unit Compared To Average					
8. Creation Of Nonfarmable Farmland					
9. Availability Of Farm Support Services					
10. On-Farm Investments					
11. Effects Of Conversion On Farm Support Services					
12. Compatibility With Existing Agricultural Use					
TOTAL SITE ASSESSMENT POINTS		160			
<b>PART VII (To be completed by Federal Agency)</b>					
Relative Value Of Farmland (From Part V)		100			
Total Site Assessment (From Part VI above or a local site assessment)		160			
TOTAL POINTS (Total of above 2 lines)		260			
Site Selected:		Date Of Selection		Was A Local Site Assessment Used? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Reason For Selection:					



Department of Community & Economic Development  
 Division of State History  
 Utah State Historical Society

Michael O. Leavitt  
 Governor  
 Max J. Evans  
 Director

300 Rio Grande  
 Salt Lake City, Utah 84101-1182  
 (801) 533-3500  
 FAX: (801) 533-3503

March 5, 1993

Michael W. Glasson  
 Senior Geologist  
 Andalex Resources, Inc.  
 Tower Division  
 P. O. Box 902  
 Price, Utah 84501

RE: Andalex's Federal Coal Lease UTU-69600

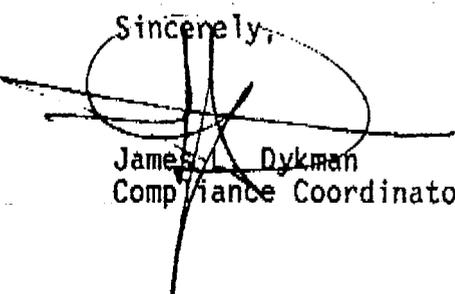
In Reply Please Refer to Case No. K439

Dear Mr. Glasson:

The Utah State Historic Preservation Office received the above referenced letter on February 26, 1993. Our review of the Andalex project covered the whole lease area, I am sorry for any delay that my review caused.

This information is provided on request to assist Andalex with its Section 106 responsibilities as specified in 36CFR800. If you have questions, please contact me at (801) 533-3555.

Sincerely,

  
 James A. Dykman  
 Compliance Coordinator

JLD:K439 OSM

EXHIBIT E



Department of Community & Economic Development  
Division of State History  
Utah State Historical Society

Norman H. Bangertter  
Governor  
Mux J. Evans  
Director

300 Ho Grande  
Salt Lake City, Utah 84101-1182  
(801) 533-5755  
FAX: (801) 364-6436

September 18, 1992

Michael W. Glasson  
Senior Geologist  
Andalex Resources, Inc.  
P. O. Box 902  
Price, Utah 84501

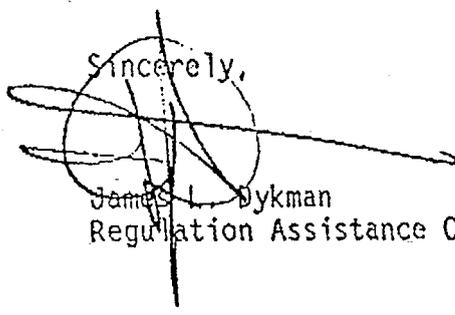
RE: Incidental Boundary Change, T13S, R10E, Section 1

In Reply Please Refer to Case No. K439

Dear Mr. Glasson:

The Utah State Historic Preservation Office received the above referenced letter and map on September 9, 1992. It appears that most of the area that you are interested in has been surveyed with no sites located. Our office would recommend that the possibility of locating sites in the new project area is limited.

If you have questions or need additional assistance, please contact me at (801) 533-7039.

Sincerely,  
  
James L. Dykman  
Regulation Assistance Coordinator

JLD:K439 OR



FISH AND WILDLIFE SERVICE  
FISH AND WILDLIFE ENHANCEMENT  
UTAH STATE OFFICE  
2078 ADMINISTRATION BUILDING  
1745 WEST 1700 SOUTH  
SALT LAKE CITY, UTAH 84104-5110



In Reply Refer To

April 6, 1993

Lowell P. Braxton, Acting Director, Mining  
State of Utah  
Division of Oil, Gas and Mining  
355 W. North Temple  
3 Triad Center, Suite 350  
Salt Lake City, UT 84180-1203

Post-It™ brand fax transmittal memo 7671		# of pages ▶	1
To	Paul Baker	From	Susan Linner
Co.	Utah DOGM	Co.	USFWS
Dept.		Phone #	975-3630
Fax #	359-3940	Fax #	975-3626

Dear Mr. Braxton:

The Fish and Wildlife Service (Service) has reviewed the Determination of Completeness Notices received for the Castle Valley Ridge Lease addition to the Star Point Mine (received March 3, 1993) and for the AEP Lease addition to the Centennial Mine (received March 12, 1993).

The Service has no comment on these projects at this time. We assume that DOGM, in coordination with the Office of Surface Mining, will consider potential effects of the projects on listed threatened and endangered species, including water depletion effects on Colorado River fish species, during the technical review process.

If we can provide any assistance in making a determination, please contact Susan Linner, Fish and Wildlife Biologist, at (801) 975-3630.

Sincerely,

Susan C. Linner

For Robert D. Williams  
State Supervisor

cc: Chief, Federal Lands Branch, Office of Surface Mining, Brooks Tower, 1020 15th Street, Denver, CO 80202

bcc: Project File  
Reading File

SLC/jm:4/6/93

c:\wp51\OSM\CVRAEP.DOC

EXHIBIT F



United States Department of the Interior



BUREAU OF LAND MANAGEMENT  
Utah State Office  
324 South State, Suite 301  
Salt Lake City, Utah 84111-2303

IN REPLY REFER TO:

3453  
SL-048442-050115  
UTU-69600  
(UT-942)  
MAY 01 1992

CERTIFIED MAIL--Return Receipt Requested

AMCA Coal Leasing, Inc.  
c/o Andalex Resources, Inc.  
P. O. Box 902  
Price, Utah 84501

DECISION

:  
:  
Coal Lease  
:  
SL-048442-050115  
:  
:

RECEIVED

AUG 21 1992

Partial Assignment Approved  
Bond Accepted

DIVISION OF  
OIL GAS & MINING

On January 13, 1992, a partial assignment of coal lease SL-048442-050115 as to the Centennial coal seam only, entered into on December 9, 1991, between AMCA Coal Leasing, Inc., as assignee, and Blackhawk Coal Company, as assignor, was filed in this office.

Satisfactory evidence of the qualifications and holdings of AMCA Coal Leasing, Inc. has been filed. The lease account appears to be in good standing inasmuch as the lease is not shown on the Minerals Management Service (MMS) list of leases with unpaid assessments. The assignee has agreed by letter dated January 9, 1992 to be liable for any delinquent rent/royalty payments discovered through an MMS audit. Therefore, the assignment appears to meet the requirements of the regulations and is hereby approved effective May 1, 1992. Approval of this assignment does not constitute approval of any of the terms therein which may be in violation of the lease terms.

In accordance with the regulations in 43 CFR 3453.2-5, the partial assignment of coal lease SL-048442-050115 as to the Centennial coal seam only creates a new lease which has been assigned Serial No. UTU-69600. Therefore, coal leases SL-048442-050115 and UTU-69600 are described as follows:

Lands remaining in coal lease SL-048442-050115:

T. 13 S., R. 10 E., SLM, Utah

- \*Sec. 1, SW $\frac{1}{4}$ ;
- Sec. 3, S $\frac{1}{2}$ N $\frac{1}{2}$ , S $\frac{1}{2}$ ;
- Sec. 4, lots 1-4, S $\frac{1}{2}$ N $\frac{1}{2}$ , N $\frac{1}{2}$ S $\frac{1}{2}$ ;
- Sec. 10, N $\frac{1}{2}$ , NW $\frac{1}{4}$ SW $\frac{1}{4}$ ;
- Sec. 11, E $\frac{1}{2}$ , NW $\frac{1}{4}$ ;
- \*Sec. 12, lots 2-11, W $\frac{1}{2}$ W $\frac{1}{2}$ , NE $\frac{1}{4}$ SW $\frac{1}{4}$ .

\*Except for coal in the Centennial Coal Seam

Containing 2,604.36 acres; Carbon County, Utah

Lands assigned and given Serial No. UTU-69600:

T. 13 S., R. 10 E., SIM, Utah  
Sec. 1, SW $\frac{1}{4}$ ;  
Sec. 12, lots 2-11, W $\frac{1}{2}$ W $\frac{1}{2}$ , NE $\frac{1}{4}$ SW $\frac{1}{4}$ .

**As to all coal in the Centennial Coal Seam only**

Containing 801.48 acres; Carbon County, Utah

On April 22, 1992, coal lease bond SU1515581 in the amount of \$5,000, with AMCA Coal Leasing, Inc., as principal, and Utica Mutual Insurance Company, as surety, was filed in this office to provide bond coverage for coal lease UTU-69600. The bond has been examined, found to be satisfactory, and is hereby accepted.

*for Bert Lodge*  
James M. Parker  
State Director

Enclosure  
Assignment

cc: Blackhawk Coal Company  
Box 700  
Lancaster, OH 43130

AMCA Coal Leasing, Inc.  
9300 Shelbyville Road, Suite 1201  
Louisville, KY 40222

RECORDED  
JUN 13 1930  
AMCA COAL LEASING, INC.

ASSIGNMENT AFFECTING RECORD TITLE

TO UNITED STATES COAL LEASE

Serial Number SL-048442-050115

For good and valuable consideration, BLACKHAWK COAL COMPANY, a Utah corporation (hereinafter referred to as the "Assignor"), as owner of record title in that certain coal lease issued by the United States of America, as lessor, bearing Serial Number SL-048442-050115, dated November 21, 1930 (hereinafter referred to as the "Lease"), hereby assigns to AMCA Coal Leasing, Inc., a Delaware corporation, whose address is c/o Andalex Resources, Inc., P. O. Box 902, Price, Utah 84501 (hereinafter referred to as the "Assignee"), a one hundred percent (100%) record title leasehold interest in the Centennial Seam only, as said Seam is included in a portion of the Lease, giving and granting to said Assignee rights and privileges as lessee in the Lease and in and to the lands embraced therein, as described below, situated in Carbon County, State of Utah, to the extent indicated below and subject to the reservation of overriding royalties as herein noted.

1. Lands and coal seam affected by this Assignment:

The lands affected by this Assignment and the description of the Centennial Seam being transferred by this Assignment are more particularly described in Exhibit A attached hereto and by this reference made a part hereof.

2. Interest held by the Assignor prior to this Assignment: One hundred percent (100%).

3. Extent of such interest conveyed to the Assignee: One hundred percent (100%).

4. Overriding royalties reserved herein to the Assignor: There is hereby reserved to the Assignor, its successors and assigns, an overriding royalty of forty (40) cents (\$0.40) per ton for each ton of run-of-mine coal extracted by Assignee from the Lease, in excess of 250,000 tons, based upon volumetric surveys by a registered land surveyor, as reported by Assignee to and accepted by the Bureau of Land Management, United States Department of the Interior, under applicable regulations. Said royalty shall be paid by Assignee to Assignor semi-annually, and Assignee shall keep accurate and complete records, in accordance with good industry standards, of the coal extracted from the Lease, which records shall be subject to Assignor's inspection and audit upon reasonable notice.

At any time and from time to time, in the event the previously reserved overriding royalty interests, if any, existing with relation to the Lease as of the date hereof, when combined with the overriding royalties reserved to the Assignor pursuant to this Assignment exceed the legal limit on overriding royalty interests which may be granted or reserved in federal coal leases, then as to the Lease, the overriding royalty interest herein reserved to the Assignor shall be automatically reduced for the period of such limitation to an amount equal to the difference between the legal limit on overriding royalty interests payable on federal coal leases and the sum of all overriding royalty interests in the Lease, if any, reserved or granted prior to the date hereof.

IN WITNESS WHEREOF, the Assignor has caused this Assignment to be executed and delivered as of the 9th day of December, 1991.

*[Handwritten initials]*

BLACKHAWK COAL COMPANY,  
a Utah corporation

By: *J. E. Katlic*  
J. E. Katlic  
President

ATTEST:

*W. E. Olson*

W. E. Olson  
Assistant Secretary

STATE OF Ohio )  
COUNTY OF Fairfield ) : ss.

9th The foregoing Agreement was acknowledged before me this day of December, 1991, by J. E. Katlic of Blackhawk Coal Company, a Utah corporation.

*Carmen M. Doomy*  
NOTARY PUBLIC  
Residing at: Fairfield County  
State of Ohio

My Commission Expires:  
October 1, 1993

ACCEPTANCE OF ASSIGNMENT

Now comes AMCA COAL LEASING, INC., a Delaware corporation, whose address is c/o Andalex Resources, Inc., P. O. Box 902, Price, Utah 84501, and hereby accepts the foregoing assignment from BLACKHAWK COAL COMPANY, a Utah corporation, of a portion of that certain coal lease issued by the United States of America, as lessor, bearing Serial Number SL-048442-050115, dated November 21, 1930, and assumes all of the covenants and obligations of the portion of said Lease assigned as described in the foregoing Assignment.

IN WITNESS WHEREOF, said Assignee has executed this Acceptance of Assignment as of the 14 day of October, 1991.

AMCA COAL LEASING, INC.  
a Delaware corporation

By: [Signature]  
Title: President

ATTEST:

[Signature]  
Title: [Signature]



EXHIBIT A

EXHIBIT A TO ASSIGNMENT OF LEASEHOLD DATED AS OF  
December 9, 1991, BETWEEN BLACKHAWK COAL COMPANY  
AS "GRANTOR," AND ANDALEX RESOURCES, INC. AS "GRANTEE."

This Exhibit A contains the specific description of the leasehold interest, situated in Carbon County, State of Utah, referred to in the attached Agreement for Assignment of Leasehold Interest as being more particularly described in Exhibit A.

All of the Grantor's right, title, interest and estate in and to the Centennial Seam of coal only under approximately 800 acres contained within that certain Coal Lease, issued by the United States of America, as lessor, bearing the serial number indicated below and covering the following described lands:

United States Coal Lease Serial No. SL-048442-050115 dated November 21, 1930, insofar as said Lease covers the following lands:

TOWNSHIP 13 SOUTH, RANGE 10 EAST, SLB&M

Section 1:	SW $\frac{1}{4}$	160 acres
Section 12:	Lots 2 through 11	441.48 acres
	W $\frac{1}{2}$ W $\frac{1}{2}$	160.00 acres
	NE $\frac{1}{4}$ SW $\frac{1}{4}$	<u>40.00 acres</u>
	Total	<u>801.48 acres</u>

The Centennial Seam is that certain deposit of coal shown in the log of McCulloch drill hole 191-78 completed on June 8, 1978 as lying between depth 183.5 feet and 189.34 feet. A copy of said drill log is attached to this Exhibit A.

T. Seavick

DRILL HOLE LOG

McCULLOCH DRILL HOLE # 191-78

LOCATION: SE $\frac{1}{4}$ , NE $\frac{1}{4}$ , Sec. 12, T. 13 S., R. 10 E., Deadman Canyon  
Carbon County, Utah

LATITUDE:	503,594.472
DEPARTURE:	2,214,512.653
COLLAR ELEVATION:	7,282.91
TOTAL DEPTH:	887'
INCLINATION:	90°

DRILLED BY: Jack Withers, Longyear Company

LOGGED BY: Don A. Stephens and Mark Bunnell/American Electric Power  
Service Corporation

DATE STARTED: 5/29/78

DATE FINISHED: 6/8/78

	HQ 0 - 279.9	NQ 279.9 - 887			
	Rock Bit		--	0	17
Sandstone	Yellowish gray (5Y8/1) to very light gray (N8) fine-medium grained with siltstone cross bedding in places		18.2	17	35.2
Siltstone	Light gray (N7) to medium dark gray (N4) slightly sandy to very sandy in places including some carbonaceous material with shale interbeds as follows: 1.7 @ 40.1 with sandstone interbeds as follows 1.1 @ 44.3, 1.5 @ 56, .8 @ 62.8		31.8	35.2	67.0
Sandstone	White (N9) to very light gray (N8) fine-medium grained with siltstone cross bedding in places with siltstone interbeds as follows: .4 @ 69.9, 1.5 @ 76.4		23.6	67.0	90.6
Siltstone	Medium light gray (N6) to brownish gray (5YR4/1) sandy in places with coal seams as follows: Top of coal 90.9 coal 0.52, Top of coal 96.5 coal/very silty 0.13, Top of coal 97.0 coal 1.0 siltstone/coal stringers 0.2 Top of coal 100.2 coal/siltstone stringer 0.2, Top of coal 103.7 coal 1.0		14.1	90.6	104.7
Sandstone	Very light gray (N8) to white (N9) fine to medium grained with siltstone cross bedding in places with siltstone interbeds as follows: 1.6 @ 129.1		58.7	104.7	163.4
Siltstone	Light gray (N7) to brownish gray (5YR4/1) slightly sandy to very sandy in places with siltstone/coal stringers as follows: .6 @ 179.5		20.1	163.4	183.5
Coal	0.95 Coal, bright, hard		5.84 Seam	183.5	189.3
	0.10 siltstone/coal stringers				
	4.65 coal, bright hard, with resin				
	0.09 siltstone/coal stringers				
	0.15 coal, bright, hard				

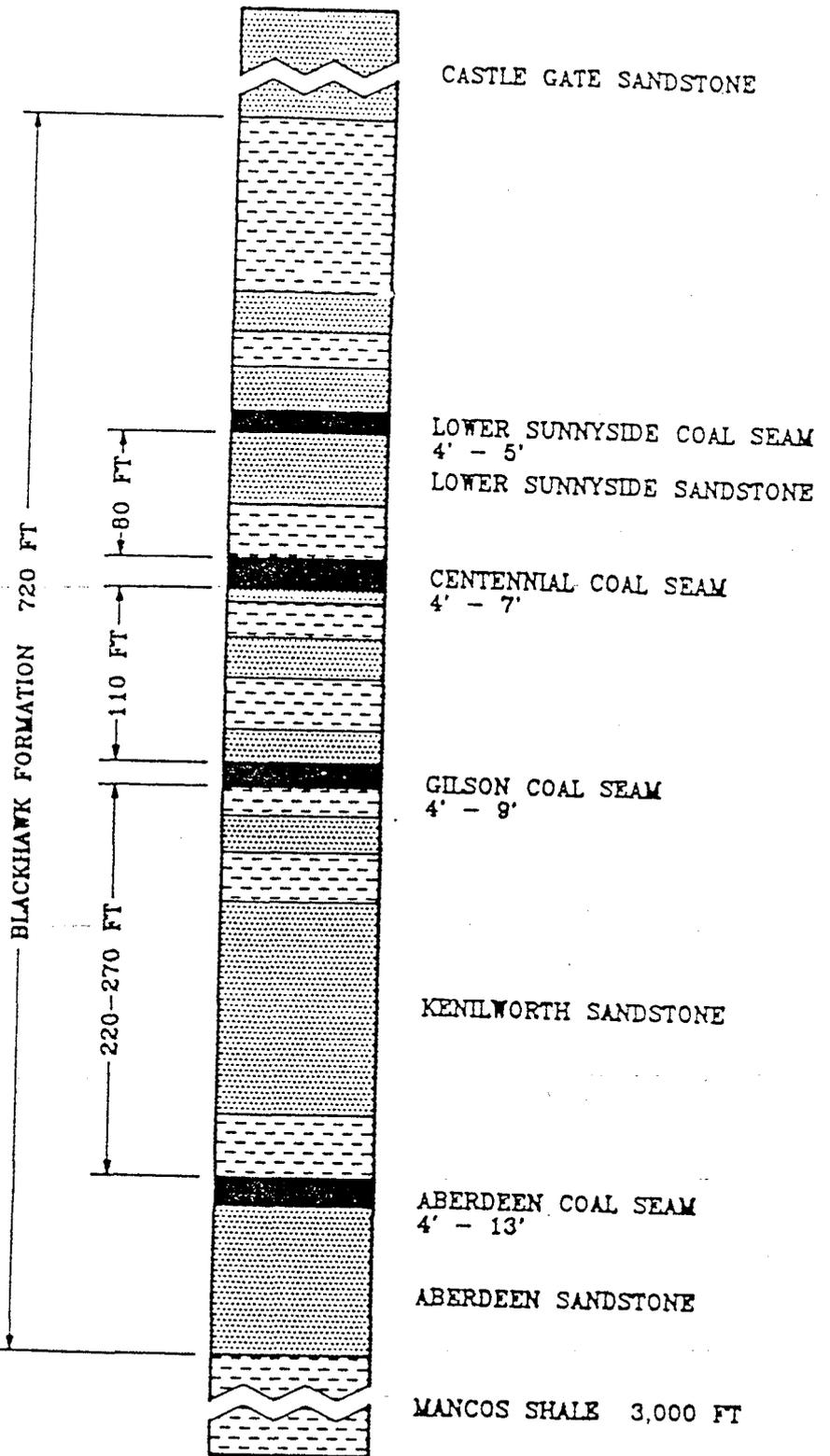
LITHOLOGY	DESCRIPTION	RECOVERED	FROM	TO
Sandstone	Light gray (N7) to very light gray (N8) fine to medium grained, carbonaceous with siltstone cross bedding in places, with siltstone/coal stringers interbeds as follows: 2.2 @ 189.34 with siltstone interbeds as follows: .5 @ 191.5	12.76	189.34	202.1
Siltstone	Medium gray (N5) to light gray (N7) to dark gray (N3) slightly sandy to very sandy in places, with sandstone interbeds as follows: 4.1 @ 228.1, with coal seams as follows: Top of coal 213.95 coal/slightly silty 1.6 coal/siltstone stringers .8, Top of coal 216.5 coal .6 coal/siltstone stringers .5, with siltstone/coal stringers interbedding as follows: 1.7 @ 205.8, .4 @ 217.6, .9 @ 220.9, 1.3 @ 226.4	32.6	202.1	234.7
Sandstone	Very light gray (N8) mottled, siltstone cross bedding in places carbonaceous in places, with coal seams as follows: Top of coal 243.3 coal 1.8 coal/siltstone stringers .4 with siltstone/coal stringers as follows: 1.2 @ 245.8	26.5	234.7	261.2
Siltstone	Dark gray (N3) to light gray (N7) sandy to very sandy in places, carbonaceous with siltstone/coal stringers as follows: .2 @ 262.2, 1 @ 265.3, .3 @ 276.7, .3 @ 297.9, .6 @ 315.4, .5 @ 317.5, .3 @ 320.5, 1.9 @ 327.7, with coal seams as follows: Top of coal 261.2 coal/siltstone stringers 1.1, Top of coal <del>276.4 coal/siltstone stringers .3, Top of coal 297.15 coal .65,</del> Top of coal 318.05 coal 2.2 coal/siltstone stringers .3 with sandstone interbeds as follows: 3.9 @ 311.6	70.3	261.2	331.2

LITHOLOGY	DESCRIPTION	RECOVERED	FROM	TO
Sandstone	Very light gray (N8) fine to medium grained, mottled with siltstone cross bedding, with fossiliferous siltstone interbeds as follows: .4 @ 363.6 with coal seams as follows: Top of coal 364.0 coal/siltstone stringers .2 coal .65 coal/siltstone stringers .2, Top of coal 365.75 coal/siltstone stringers .25, Top of coal 382.15 coal 2.0 with siltstone/coal stringer interbeds as follows: .7 @ 365.1, .4 @ 365.95, .25 @ 381.9 with siltstone interbeds as follows: .9 @ 366.3	52.65	331.5	384.
Siltstone	Medium gray (N5) to medium dark gray (N4) slightly sandy in places with fossils as follows: 2.7 @ 390.8, 9.9 @ 399.9 with sandstone interbeds as follows: 4.8 @ 394.5 with coal seams as follows: Top of coal 409.3 coal .13, Top of coal 409.6 coal/siltstone stringers .75, with siltstone/coal stringers .2 @ 410.4	34.65	384.15	418
Sandstone	Very light gray (N8) to light gray (N7) fine to medium grained with siltstone cross bedding in places	79.1	418.8	497
Siltstone	Light gray (N7) to medium gray (N5) very sandy in places with sandstone lamina, carbonaceous	18.25	497.9	516
Coal	2.8 Coal, bright, hard, resinous	2.8	516.15	518
Siltstone	Medium gray (N5) to light gray (N7) slightly to very sandy with sandstone lamina, carboniferous	26.0	518.95	545
Sandstone	Very light gray (N8) to light gray (N7) fine to medium grained, carboniferous with siltstone cross bedding	13.75	545.0	558
Coal	0.2 Coal, bright, hard, resinous	3.77	558.75	562
	0.22 Coal/siltstone stringers	3.77 Seam		
	3.3 Coal, bright, hard, resinous			

Coal (Cont.)	0.02 Siltstone			
	0.03 Coal, bright, hard, resinous			
Siltstone	Medium dark gray (N4) slightly sandy	3.05	562.52	565.1
Coal	2.4 Coal, bright, hard, resinous	9.85 Seam	565.57	575.1
	1.35 Coal, taken for gas test			
	6.1 Coal, bright, hard, resinous			
Sandstone	Very light gray (N8) to light gray (N7) fine to medium grained with some siltstone cross bedding with some carboniferous partings with siltstone interbeds as follows: .4 @ 575.42, 1.6 @ 592.8	19.01	575.42	594.1
Coal	2.42 Coal, hard, black, resinous	2.46 Seam	594.43	596.1
	.04 Coal/siltstone stringers			
Sandstone	Very light gray (N8) fine to medium grained with some siltstone cross bedding slightly carbonaceous in places with carbonaceous partings, some pyrite with siltstone interbeds as follows: 2.9 @ 596.89 with fractures as follows: 4.8 @ 659.7	68.51	596.89	665.1
Siltstone	Light gray (N7) to medium light gray (N6) very sandy to slightly sandy, slightly carbonaceous with sandstone interbeds as follows: 1.1 @ 673.4	20.9	665.4	686.1
Sandstone	Very light gray (N8) to light gray (N7) very fine to medium grained with siltstone cross bedding, carbonaceous in places, with siltstone interbeds as follows: .6 @ 710.9	46.3	686.3	732.1
Siltstone	Light gray (N7) to medium gray (N5) slightly sandy to very sandy in places with sandstone lamina	64.6	732.6	797.1



CENTENNIAL PROJECT  
DEADMAN CANYON



GENERALIZED SECTION, BLACKHAWK FORMATION

NOT TO SCALE



Underwriters Safety & Claims, Inc.  
 P.O. Box 23790 Louisville, Kentucky 40223  
 (502) 244-1343 Fax (502) 244-1411

**BOND TRANSMITTAL**



Richard Waddle  
 Andalex Resources, Inc.

DATE 4/13/92s1o
--------------------

PRINCIPAL AMCA Coal Leasing, Inc.	BOND NUMBER SU 1515581	AMOUNT OF BOND \$5000.00
OBLIGEE: U.S. Department of the Interior		

In accordance with your request we are attaching above bond.

Very Truly Yours,  
**BOND DEPARTMENT**  
 Underwriters Safety & Claims, Inc.

POWER OF ATTORNEY

Know all men by these Presents, the UTICA MUTUAL INSURANCE COMPANY, a New York Corporation, having its principal office in the Town of New Hartford, County of Oneida, State of New York, does hereby make, constitute and appoint Bruce L. Ferguson, Bruce W. Ferguson, Scott C. Ferguson, Patricia S. Lee, Susan L. Osborne Louisville, Kentucky

its true and lawful Attorney(s)-in-fact in their separate capacity if more than one is named above to make, execute, sign, seal and deliver for and on its behalf as surety and as its act and deed (without power of redelegation) any and all bonds and undertakings and other writings obligatory in the nature thereof (except bonds guaranteeing the payment of principal and interest of notes, mortgage bonds and mortgages) provided the amount of no one bond or undertaking exceeds Five hundred thousand & 00/100 Dollars (\$ 500,000.00).

The execution of such bonds and undertakings shall be as binding upon said UTICA MUTUAL INSURANCE COMPANY as fully and to all intents and purposes as if the same had been duly executed and acknowledged by its regularly elected officers at its Home Office in New Hartford, New York.

This Power of Attorney is granted under and by authority of the following resolution adopted by the Directors of the UTICA MUTUAL INSURANCE COMPANY on the 27th day of November, 1961.

"Resolved, that the President or any Vice-President, in conjunction with the Secretary or any Assistant Secretary, be and they are hereby authorized and empowered to appoint Attorneys-in-fact of the Company, in its name and as its acts, to execute and acknowledge for and on its behalf as Surety any and all bonds, recognizances, contracts of indemnity and all other writings obligatory in the nature thereof, with power to attach thereto the seal of the Company. Any such writings so executed by such Attorneys-in-fact shall be as binding upon the Company as if they had been duly acknowledged by the regularly elected Officers of the Company in their own proper persons.

"Now Therefore, the signatures of such officers and the seal of the Company may be affixed to any such Power of Attorney by a facsimile, and any such Power of Attorney bearing such facsimile signatures or seal shall be valid and binding upon the Company."

In Witness Whereof, the UTICA MUTUAL INSURANCE COMPANY has caused these presents to be signed by its Authorized Officers, this 21st day of January, 19 92.

UTICA MUTUAL INSURANCE COMPANY

George P. Wardley  
Secretary



Wallace H. Watkins  
President

STATE OF NEW YORK }  
COUNTY OF ONEIDA } ss:

On this 21st day of January, 19 92, before me, a Notary Public in and for the State of New York, personally came WALLACE H. WATKINS and JOHN P. SULLIVAN to me known, who acknowledged execution of the preceding instrument and, being by me duly sworn, do depose and say, that they are President and Secretary respectively of UTICA MUTUAL INSURANCE COMPANY; and that the seal affixed to said instrument is the corporate seal of UTICA MUTUAL INSURANCE COMPANY; and that said corporate seal is affixed and their signatures subscribed to said instrument by authority and order of the Board of Directors of said Corporation.

In Testimony Whereof, I have hereunto set my hand at New Hartford, New York, the day and year first above written.

STATE OF NEW YORK }  
COUNTY OF ONEIDA } ss:



Rosemary Wadae  
Notary Public

I, Stephen J. Lorenz Assistant Secretary of the UTICA MUTUAL INSURANCE COMPANY do hereby certify that the foregoing is a true and correct copy of a Power of Attorney, executed by said UTICA MUTUAL INSURANCE COMPANY, which is still in full force and effect.

In Witness Whereof, I have hereunto set my hand and affixed the Seal of the said Corporation at New Hartford, New York, this 13th day of April, 19 92.

Stephen J. Lorenz  
Assistant Secretary



State of Utah  
 DEPARTMENT OF NATURAL RESOURCES  
 DIVISION OF WILDLIFE RESOURCES

Michael O. Leavitt  
 Governor  
 Ted Stewart  
 Executive Director  
 Timothy H. Provan  
 Division Director

1596 West North Temple  
 Salt Lake City, Utah 84116-3195  
 801-538-4700  
 801-538-4709 (Fax)

007/019 #2  
 VLK 21 212  
 4/15/93

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APR 13 1993

DIVISION OF  
 OIL GAS & MINING

*Daron fyi  
 re: t job*

April 7, 1993

Mr. James Carter  
 Director  
 Division of Oil, Gas and Mining  
 355 West North Temple  
 3 Triad Center, Suite 350  
 Salt Lake City, Utah 84180-1203

Subject: AEP Lease Addition, Andalex Resources, Inc., Centennial Mine, ACT/007/019-92E

Dear Mr. Carter:

The Division of Wildlife Resources has reviewed this proposed lease addition by Andalex Resources, Inc., and has the following comments.

Based on the Bureau of Land Management's conclusions that there would be no surface disturbance, the DWR recommends this lease addition be approved. Past mining activities in this area have not impacted surface resources and this proposed plan should not impact wildlife resources.

Thank you for the opportunity to comment. If there are any questions, contact Ken Phippen, Regional Habitat Manager, at 637-3310.

Sincerely,

*Timothy H. Provan*  
 Timothy H. Provan  
 Director



State of Utah  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF WATER RIGHTS

Michael O. Leavitt  
Governor  
Ted Stewart  
Executive Director  
Robert L. Morgan  
State Engineer

Southeastern Area  
453 South Carbon Avenue  
P.O. Box 718  
Price, Utah 84501-0718  
801-637-1303

March 24, 1993

Division of Oil, Gas & Mining  
Attn: Daron Haddock, Permit Supervisor  
355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203

Re: Andalex Resources, Inc.  
AEP Lease Addition

Dear Daron:

The above referenced revision for the Centennial Mine has been reviewed. At this time, there are not any permitting requirements from this office. However, it should be noted that the BLM has stockwatering rights in the Left and Right Forks of Deadman Creek, identified as 91-4655 and 91-4720, respectively. These rights were not found on Figure 5, Appendix 2.

I appreciate the opportunity to review this submittal. Should you have any questions, please feel free to contact me.

Sincerely,

*William A. Warmack*

William A. Warmack  
Assistant Regional Engineer

cc: Andalex Resources, Inc.  
Attn: Mike Glasson, Senior Geologist  
P.O. Box 902  
Price, Utah 84501

WAW/mjk

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MAR 29 1993

DIVISION OF  
OIL GAS & MINING



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)

April 20, 1993

**TO:** File

**THROUGH:** Daron Haddock, Permit Supervisor

**FROM:** James D. Smith, Reclamation Specialist 

**RE:** Cumulative Hydrologic Impact Assessment (CHIA)  
AEP Lease ( UTU 69600 ) Addition  
Centennial Project - Andalex Resources  
ACT/007/019, Folder #2, Carbon County, Utah

The CHIA for the Centennial Project was updated on December 4, 1990 when the "Graves" lease ( UTU 66066 ) was added to the permit. The Cumulative Impact Area (CIA) determined for that CHIA incorporated the area of the "AEP" lease ( UTU 69600 ) now being added to the permit, even though the "AEP" lease was not discussed explicitly. I feel that this current CHIA adequately covers the addition of the "AEP" lease to the permit.

There are only ephemeral surface drainages and no known springs or seeps within the "AEP" lease. A surface water monitoring point (12-1) has been added at the mouth of Alrad Canyon. This new station and the existing one on the left fork of Deadman Canyon (18-3) will be used to monitor flow from the "AEP" lease and adjacent areas when it occurs.

The only probable hydrologic consequence of mining coal in this lease is interception of perched water in the Blackhawk Formation. When a perched aquifer is encountered in the Centennial Project mines, water flow rapidly diminishes and often ceases soon after the water bearing zone is breached. Water intercepted in this manner is collected in sumps and used for in-mine operations, with excess water discharged into Deadman Canyon at UPDES point 002. Recently the mine has been discharging roughly 50% of the time at rates of up to 100,000 gallons per day. No appreciable change in the amount of water intercepted or discharged should be expected from addition of the "AEP" lease to the mine operation.

cntnnlc.hia



AFFIDAVIT OF PUBLICATION

STATE OF UTAH)  
ss.  
County of Carbon,)

I, Dan Stockburger, on oath, say that I am the Publisher of the Sun Advocate, a twice-weekly newspaper of general circulation, published at Price, State and County aforesaid, and that a certain notice, a true copy of which is hereto attached, was published in the full issue of such newspaper for Four (4) consecutive issues, and that the first publication was on the

4th day of March, 1993

and that the last publication of such notice was in the issue of such newspaper dated the

23rd day of March, 1993

*Dan Stockburger*  
.....  
Notary Public

Subscribed and sworn to before me this  
23rd day of March, 1993

*Lynda M. [Signature]*  
.....  
Notary Public

My Commission expires January 10, 1995

Residing at Price, Utah

Publication fee, \$ 76.80

**PUBLIC NOTICE**

Notice is hereby given that Andalex Resources, Inc., P.O. Box 90, Price, Utah 84510 has submitted a complete application for a revision of its existing, approved Mining and Reclamation Plan, ACT 007/019. The existing plan is approved under the permanent program of the Utah Department of Natural Resources, Division of Oil, Gas and Mining. This revision involves the extension of existing underground workings, with no surface disturbance onto a new lease UT U-69600 which is described as:  
T.13S., R.10E., SLM, Utah  
Sec 1: SW¼  
Sec 12: lots 2-11, W½ W½ NE¼ SW¼  
As to all coal in the Centennial Seam only.  
Containing 801.48 acres.  
The surface over this lease is owned by the Bureau of Land Management (United States). Copies of this revision are available for inspection at: Carbon County, Records Office, 120 East Main, County Courthouse Building, Price, UT 84501, and Utah Division of Oil, Gas & Mining, 350 West North Temple, 3 Triad Center, Suite 350, Salt Lake City, UT 84180-1203.  
Comments should be addressed to the Utah Division of Oil, Gas & Mining, at the address above.  
Published in the Sun Advocate March 4, 11, 16 and 23, 1993.



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

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)

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

May 28, 1993

TO: Daron R. Haddock, Permit Supervisor *DRH*  
FROM: Joseph C. Helfrich, Regulatory Program Coordinator *JCH*  
RE: Compliance Review for Section 510(c) Findings, Andalex Resources, Inc.,  
Centennial Project, ACT/007/019, Folder #5, Carbon County, Utah

As of the writing of this letter, there are no NOV's or CO's which are not corrected or in the process of being corrected. Any NOV's or CO's that are outstanding are in the process of administrative or judicial review. There are no finalized Civil Penalties which are outstanding and overdue in the name of Andalex Resources, Inc.

Finally, they do not have a demonstrated pattern of willful violations, nor have they been subject to any bond forfeitures for any operation in the state of Utah.

jbe  
A:\510(C)



DATE: 19 MAY 93

APPLICANT VIOLATOR SYSTEM  
APPLICATION EVALUATION REPORT

TIME: 18:34:29

STATE: UT

APPNO: ACT007019

SEQNO: 0

PAGE: 1

APPLICANT'S ENTITY ID: 123355

APPLICANT'S NAME : ANDALEX RESOURCES INC / TOWER DIVISION

SYSTEM RECOMMENDATION IS BASED ON ENTITY OFT

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* SYSTEM RECOMMENDATION           :           ISSUE           *
* PREVIOUS SYSTEM RECOMMENDATION:           ISSUE(920917)      *
* OSMRE RECOMMENDATION            :           ISSUE(920918)      *
*
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F2/PROCEED F3/QUIT F4/MAIN F6/REPORT F9/V.VIOL F10/V.OFT