

T. 13 S., R.11 E. SLM, Carbon County, Utah
Sec. 9, SE $\frac{1}{4}$ NW $\frac{1}{4}$
S $\frac{1}{2}$ NE $\frac{1}{4}$
NE $\frac{1}{4}$ NE $\frac{1}{4}$
N $\frac{1}{2}$ SE $\frac{1}{4}$ containing 240 acres, more or less.

The name and address of the lessor is Sunedco Coal Company, 7401 West Mansfield Avenue, Suite 418, P.O. Box 35-B, Lakewood, Colorado 80235. AMCA Coal Leasing, Inc. acquired the lease in June, 1988.

UTU-69600

T.13S., R10E. SLM, Carbon County, 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 $\frac{1}{4}$ containing
802 acres, more or less

The name and address of the lessor is American Electric Power Service Corporation, Fuel Supply Department, P.O. Box 700, Lancaster, Ohio 43130. This agreement was executed on May 1, 1992.

BLM Right-of-Way U-62045

T.13S., R.11E., SLM, Carbon County, Utah
Sec. 18: SE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ containing 10 acres, more or less.

BLM Right-of-Way UTU-64158 (Left Fork Fan)

T.13S., R.10E., SLM, Carbon County, Utah
Sec. 13: Lot 1 (portions of)

T.13S., R.11E., SLM, Carbon County, Utah
Sec. 18: Lot 2, NE $\frac{1}{4}$ SW $\frac{1}{4}$ (portions of) containing 1.45 acres, more or less.

The lessor is the Department of the Interior, Bureau of Land Management, 324 South State Street, Salt Lake City, Utah 84111.

Private Land Easement

T.13S., R.11E., SLM, Carbon County, Utah
Sec. 18: A portion of NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ containing 1.5 acres, more or less.

This easement has been granted by Mrs. Gladys Artman whose address is P.O. Box 22, Mountain City, Georgia 30562.

Permit Area

The following is a description of the Permit Area as shown on Plate 1-A, with descriptions for Federal and State Leases, Fee Leases and Private Land Easements:

Federal Leases

T.13S., R.11E., SLM, Carbon County, Utah (SL-027304)

Sec. 7: S $\frac{1}{2}$ SE $\frac{1}{4}$, Lot 4

Sec. 18: NW $\frac{1}{4}$ NE $\frac{1}{4}$, Lot 1, N $\frac{1}{2}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$

T.13S., R.11E., SLM, Carbon County, Utah (SL-063058)

Sec. 8: S $\frac{1}{2}$ SW $\frac{1}{4}$

Sec. 17: N $\frac{1}{2}$ NW $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$ NW $\frac{1}{4}$, NE $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$, W $\frac{1}{2}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$

Sec. 18: NE $\frac{1}{4}$ NE $\frac{1}{4}$, E $\frac{1}{2}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$, NW $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$, SW $\frac{1}{4}$ NE $\frac{1}{4}$, E $\frac{1}{2}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$

T.13S., R.11E., SLM, Carbon County, Utah (U-010581)

Sec. 5: All

Sec. 6: All

Sec. 7: Lot 1, NE $\frac{1}{4}$, NE $\frac{1}{4}$ NW $\frac{1}{4}$, N $\frac{1}{2}$ SE $\frac{1}{4}$

Sec. 8: N $\frac{1}{2}$, N $\frac{1}{2}$ S $\frac{1}{2}$, S $\frac{1}{2}$ SE $\frac{1}{4}$

Sec. 9: W $\frac{1}{2}$ SW $\frac{1}{4}$

Sec. 17: N $\frac{1}{2}$ NE $\frac{1}{4}$, S $\frac{1}{2}$ NE $\frac{1}{4}$, N $\frac{1}{2}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$, NE $\frac{1}{4}$ SE $\frac{1}{4}$, N $\frac{1}{2}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$

T.13S., R.11E., SLM, Carbon County, Utah (U-52341)

Sec. 9: NE $\frac{1}{4}$ SW $\frac{1}{4}$

T.13S., R.11E., SLM, Carbon County, Utah (U-05067)

Sec. 4: S $\frac{1}{2}$

Sec. 9: NW $\frac{1}{4}$ NE $\frac{1}{4}$, W $\frac{1}{2}$ NW $\frac{1}{4}$, NE $\frac{1}{4}$ NW $\frac{1}{4}$

T.13S., R.10E., SLM, Carbon County, Utah (UTU-66060)

Sec. 1: Lots 1-4, S $\frac{1}{2}$ N $\frac{1}{2}$, SE $\frac{1}{4}$

Sec. 12: Lot 1

T.12S., R.11E., SLM, Carbon County, Utah

Sec. 31: Lots 3-6, 12-22, Lot 12

Sec. 32: W $\frac{1}{2}$ SW $\frac{1}{4}$, SW $\frac{1}{4}$ NW $\frac{1}{4}$

*T.12S., R.11E., SLM, Carbon County, Utah (UTU-79975)

Sec. 29: SW $\frac{1}{4}$ SW $\frac{1}{4}$, SW $\frac{1}{4}$ SE $\frac{1}{4}$

Sec. 30: Lots 4, 12, 14, 15, 16

Sec. 31: Lots 1, 2, 7-11

Sec. 32: N $\frac{1}{2}$ NW $\frac{1}{4}$, W $\frac{1}{2}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$

*State - LBA

T.12S., R.11E., SLM, Carbon County, Utah (State LBA)
Sec. 29: NW $\frac{1}{4}$ SW $\frac{1}{4}$
Sec. 30: Lot 11

Fee Leases

T.12S., R.10E., SLM, Carbon County, Utah (Zion Sec. Mathis)
Sec. 36: S $\frac{1}{2}$ S $\frac{1}{2}$, S $\frac{1}{2}$ N $\frac{1}{2}$ S $\frac{1}{2}$

*T.12S., R.10E., SLM, Carbon County, Utah (Zion Sec. Mathis)
Sec. 36: N $\frac{1}{2}$ N $\frac{1}{2}$ S $\frac{1}{2}$, N $\frac{1}{2}$

T.13S., R.11E., SLM, Carbon County, Utah (Zion Sec.)
Sec. 7: S $\frac{1}{2}$ NW $\frac{1}{4}$, N $\frac{1}{2}$ SW $\frac{1}{4}$, SE $\frac{1}{4}$ SW $\frac{1}{4}$

T.13S., R.11E., SLM, Carbon County, Utah (Sunedco)
Sec. 9: SE $\frac{1}{4}$ NW $\frac{1}{4}$, S $\frac{1}{2}$ NE $\frac{1}{4}$, NE $\frac{1}{4}$ NE $\frac{1}{4}$, N $\frac{1}{2}$ SE $\frac{1}{4}$

T.13S., R.10E., SLM, Carbon County, Utah (A.E.P. UTU-69600)
Sec. 1: SW $\frac{1}{4}$
Sec. 12: Lots 2-11, W $\frac{1}{2}$ W $\frac{1}{2}$, NE $\frac{1}{4}$ SW $\frac{1}{4}$

BLM RIGHT-OF-WAY

T.13S., R.11E., SLM, Carbon County, Utah (U-62045)
Sec. 18: SE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$

BLM RIGHT OF WAY

T.13S., R.10E., SLM, Carbon County, Utah (UTU-64158)
Sec. 13: Lot 1 (Portion of)

T.13S., R.11E., SLM, Carbon County, Utah
Sec. 18: Lot 2, NE $\frac{1}{4}$ SW $\frac{1}{4}$ (Portions of)

Private Land Easements

T.13S., R.11E., SLM, Carbon County, Utah (Gladys Artman)
Sec. 18: NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ (Portion of)

* Proposed Permit Expansion

Existing Permit Area	-	5507.32 acres
Proposed Permit Area	-	1090.21 acres
Total Permit Area	-	<u>6597.53 acres</u>

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.

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.

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.

In the event mining related subsidence should cause material damage to the land, Andalex Resources, Inc. will take appropriate steps to mitigate or repair such damage. Such repairs or mitigation may consist of one or more of the following steps:

- (1) Filling of hazardous subsidence cracks;
- (2) Leveling or regrading of subsidence damaged areas;
- (3) Reseeding of repaired areas;
- (4) Purchase of damaged site.

In the event mining related subsidence should be shown to adversely

affect State-appropriated water supplies, Andalex Resource, Inc. will attempt to repair and restore the affected supply; however, in the event, the supply cannot be restored, the loss may be mitigated by replacement of equivalent water rights from the 19 shares of primary water owned by Andalex Resources, Inc.

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

R645-301-731.700. CROSS SECTIONS AND MAPS

Plate 6.

R645-301-731.710. WATER SUPPLY INTAKES

N/A

**R645-301-731.720. WATER HANDLING AND STORAGE
FACILITIES**

Water is trucked from Price for culinary use and is stored in one of four 12,000-gallon tanks on the property. Each mine is equipped with a 12,000-gallon surface tank. All other mine water storage is underground.

R645-301-731.730. MONITORING LOCATIONS

Figure IV-11

R645-301-731.740. MAPS

See Volume II, R645-301-510.

R645-301-731.750. CROSS SECTIONS

See Volume II, R645-301-510.

R645-301-731.760. OTHER RELEVANT DRAWINGS

Figure IV-2 through IV-12

R645-301-731.800. WATER RIGHTS AND REPLACEMENT

See Appendix L and R645-301-525.

R645-301-732. SEDIMENT CONTROL MEASURES

See R645-301-512.240.

R645-301-732.100. SILTATION STRUCTURES

See R645-301-512.240.

R645-301-732.200. SEDIMENTATION PONDS

See R645-301-512.240.