



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

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April 17, 2001

TO: **Internal File**

THRU: Daron R. Haddock, Permit Supervisor *DORH*

FROM: Wayne H. Western, Senior Reclamation Specialist *WHW*

RE: Midterm Review, Andalex Resource, Inc., Centennial Mine, C/007/019- MT99-3

**SUMMARY:**

As part of the midterm review the Division evaluated the reclamation bond for the Centennial Mine. The review consisted of updating the indirect costs to standards developed in June 2000, updating concrete demolition costs and converting the spreadsheets from Quattro Pro to Excel. The Division used the existing reclamation costs in MRP.

**RECLAMATION PLAN**

**BONDING AND INSURANCE REQUIREMENTS**

Regulatory Reference: 30 CFR Sec. 800; R645-301-800, et seq.

**Analysis:**

**Determination of bond amount**

As part of the midterm review the Division examined the reclamation bond and cost estimate for the Centennial Mine. The Division revised the bond amount based on several factors included the updated indirect costs and revised concrete demolition costs. The Division also converted the spreadsheets from Quattro Pro to Excel. A revised reclamation cost summary is attached to this memo.

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TECHNICAL MEMO

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The current bond is \$1,080,839 in 1999 dollars. The Division's revised reclamation cost estimate is \$1,013,000 in 2004 dollars. The revised reclamation cost estimate is \$67,839 lower than the existing bond. The main reason for the decrease is revised vegetation costs, which the Division is required to include into the cost estimate.

*Demolition Costs:* The Division calculated the demolition costs for the Centennial Mine on information in the MRP, Means, the OSM Reclamation Cost Estimating Handbook, and common Division practices. The Division calculated the demolition costs to be \$319,118.

*Earthwork Costs:* The Division used the standard methods for earthwork calculations as outlined in the *OSM Handbook*, *The Caterpillar Handbook* and *Blue Book*. The earthwork cost is \$290,235

*Vegetation Costs:* The vegetation costs include the following:

- The approved vegetation plan calls for the soil preparation prior to seeding. On gentle slopes the soil will be disked and on steep slopes gouging/pocking will be used. The vegetation plan does not identify the exact number of acres that will be disked or pocked. The Division estimates that half the area can be disked and half will be pocked. The unit disking costs were from *Means*. The Division assumed that the amount of dirt to be moved during pocking is equal to one acre-foot per acre. The unit cost was the lowest *Means* unit cost for excavation with a trackhoe, which is the type of equipment usually used for pocking.
- The Division calculated the costs for seeds and seedling and then determined the equipment and labor costs for seeding and transplanting. The Division reviewed the seed mixture and then contacted locale suppliers for costs. The suppliers quoted the seed cost for the mine site at \$624.5/acre for seed and \$1,500 for seedling. The Division added 10% for overhead and profit. The Division estimated that 15.02 acres could be drill seeded and 19.18 acres would be hydroseeded. The Division used the equipment and labor costs and productivity calculations from *Means* for both drill seeding and hydroseeding. The transplanted costs for the seedlings came from *Means*.
- The vegetation plan calls for 32.05 acres to be hydromulched and the remaining 2.15 acres to be power mulched. The hydromulching will be done separately from hydroseeding as usually required by the Division. Vendors quoted the Division a cost of \$395/acre for hydromulch materials and \$175/acre for mulch. The Division then added 10% for profit and overhead. The equipment and labor costs were from *Means*.

A copy of the reclamation cost estimate will be sent to the permittee. The Division recommends that the permittee review the cost estimate and forward comments to the Division.

**Findings:**

The permittee has met the minimum requirements of this section.

**RECOMMENDATIONS:**

The Division should consider the current bond adequate and forward a copy of the Division reclamation cost estimate to the permittee.

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