

April 14, 1987

TO: File

FROM: James Leatherwood, Reclamation Soils Specialist 

Re: Topsoil Substitute Suitability Determination, Centennial Project, ACT/007/019-87A, Folder No. 2, Carbon County, Utah

Pursuant to comments outlined in my previous memo, March 24, 1987 and discussion with Mike Glassen, telephone conversation March 24, 1987, the April 6, 1987 submittal has been reviewed. On July 20, 1982, Andalex Resources requested a minor modification to include the removal of Pond A for the creation of a new pad on which administrative offices were to be built. The Division approved the sediment Pond modification September 20, 1982. To date the operator has not developed the area for surface facilities. It is now the operators intent to maintain the dike as a topsoil substitute stockpile. All drainage from sediment pond A will be diverted to sediment pond C as outlined in the Sept. 20, 1982 request. The operator must update the surface facilities map, Plate 6. This map must delineate the drainage that historically went to Sediment Pond A to Sediment Pond C.

The soil analysis provided in the submittal indicates that the previous magnesium concern is no longer warranted. Magnesium levels are significantly lower than the previous analysis had shown. Nevertheless, several deficiencies exist. The proposed substitute topsoil must be further analyzed for phosphorus and potassium. Details of this determination and extent of sampling is described herein. The operator must address topsoil protection measures in further detail.

Concerns

UMC 817.22 Topsoil: Removal - JSL

As requested the operator has submitted the surface facilities map which depict the sample point locations. The operator has also sufficiently addressed the previous magnesium concerns. As represented by the April 6, 1987 data, sample point 1's high magnesium content relative to sample points A and B appears to be atypical. The average magnesium content in points A and B are 6.94 and 2.67 meq/l respectively, whereas point 1's average magnesium content is 18.04 meq/l.

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A deficiency does exist relative to UMC 817.22(e)(1)(i). Analysis of phosphorus and potassium is required to make a determinable topsoil substitute suitability finding. Potassium levels are usually highly available due to the inherent climate and geology. Soil phosphorus levels are generally low in the geologic parent materials in the Book Cliff region. This low availability is due primarily from a high calcium carbonate soil environment.

In rare instances high available phosphorus levels are noted in this region in areas of high pH and sodium. This is not the case at Andalex. The soils at Andalex are derived primarily from calcium carbonate sandstone and shale. As reported in the "Soil Survey and Vegetation Inventory of the Proposed Sunnyside Mine Site and Extension of the Pinnacle Mine Site", page 12 through 16, the phosphorus availability is low, but adequate, ranging from 2.1 to 7.4 ppm. Phosphorus fertilizer application is recommended at the time of final reclamation.

Therefore the extent of sampling required for phosphorus and potassium availability within the substitute topsoil is minimal. As stated through telephone conversation with Mike Glassen April 7, 1987 five samples, preferably from the soil previously excavated for prior analysis would adequately describe the potassium and phosphorus ambience within the soil. The Division will make a suitability determination of the requested materials for substitute topsoil when the phosphorus and potassium data has been submitted to the Division.

UMC 817.23 Topsoil: Storage - JSL

The applicants proposal to berm the stockpile with straw bales is acceptable to the Division. However, further discussion as to snow disposal and the disposal of previously settled out sediments within pond A must be elaborated on. Snow cannot be disposed in any such manner that may directly effect the soil stockpile. Therefore snow will no longer be allowed to be disposed of within the decommissioned sediment pond. A area for snow disposal must be identified. The operator must commit to isolate all settled sediment within pond A from said solicited substitute topsoil materials and dispose of as described within the Mining and Reclamation Plan.

jvb
cc: D. Darby
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