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June 15, 1988

Mr. Jack Blonquist  
Summit Coal Company  
P.O. Box 752  
Coalville, Utah 84017

Dear Mr. Blonquist:

RE: Vegetation Cover Studies, Boyer Mine, ACT/043/008, Folder #2,  
Summit County, Utah.

The Division has completed its review of the vegetation cover study conducted within the vegetation reference area at the Boyer Mine during August of 1987. The review has revealed several problems with the study, and for the reasons stated below, the Division cannot accept the validity or conclusions of the study.

1. Cover is abnormally low (11.6%) for the vegetation type and is incorrectly reported (from the data sheets, the Division calculated cover as 10.95%). On October 30, 1987, the Division inspected the site and determined cover to be closer to 40% (see attached memo).
2. Sample adequacy was calculated incorrectly. A t-value for a two-tailed t-test (vs. one-tailed test) should be used. Sample size, as per the methods discussion, is equal to 40; as per the data sheets, is equal to 20 and as per sample adequacy calculations, is equal to 400.
3. The methodology section describes a ten-pin frame sample taken every 5 meters (16.5ft.) along a 50 meter (165ft.) transect, with ten frames (100 points) per sample. Transect length, as measured on the reference area transect map, ranges from 34.4ft. (10.4M) to 87.5 ft. (26.5M). Which is correct?. Also, the shape of the reference area as depicted on this map is incorrect.
4. Transect placement was biased and not randomly located as claimed, in that all transects that left the reference area or that crossed previously sampled transects were eliminated.

Page 2

Mr. Jack Blonquist

ACT/043/008

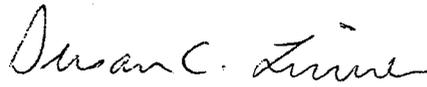
June 15, 1988

5. The Name, address, etc. of person(s) responsible for data collection as per UMC 771.23(c)(1) were not included.
6. Pages were not numbered, making insertion into the MRP a guessing game.

In summary, it will be necessary for Summit Coal Company to resample the vegetation cover of the reference area using a qualified biologist and approved sampling methods. This sampling must be conducted during July of 1988, with an adequate report which can be inserted into the MRP being submitted to the Division for approval by September 2, 1988.

Should you have any questions regarding this letter, please don't hesitate to call myself or Lynn Kunzler.

Sincerely,



Susan C. Linner  
Reclamation Biologist/  
Permit Supervisor

lmk

cc: L. Kunzler

R. Summers

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