



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Dianne R. Nielson, Ph.D., Division Director

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

July 27, 1984

TO: D. Wayne Hedberg, Permit Supervisor/Reclamation Hydrologist
FROM: Thomas L. Portle, Reclamation Soils Specialist ^{1/2 P}
RE: Draft TA for Unit Train Loadout Modification - Plateau Mining Company - ACT/007/006, Folder No. 3

There are no new mine workings associated with this modification. The geologic and topographic descriptions of the area are probably best characterized by references to soils data given in volume I of the modification plan. The fairly steep-sloped, badlands-type soils which make up the majority of the new area to be permitted are slightly alkaline and rock derived from the weathered Mancos Shale Formation. Differentiation can be made further that a distinctive break occurs between the Masuk Shale Member and the Emery Sandstone Member, however, physical processes have mixed the weathered material from each Table 13 of Volume I gives a physical and chemical analysis of this major soil rock mixture which will make up the fill used in the modification.

The soil resources of the Unit-Train project area are described in Volume 1 of the Minor Modification to Mining and Reclamation Plan (MRP) on Pages 783-21 to 783-24.

Soils found in previously undisturbed areas are of the Badland Rubble Complex comprising approximately 75% of the area to be disturbed area and are derived from geologic materials chiefly from the Masuk member of the Mancos Shale which features interbedded sandstones. Soils in this area may be influenced by sandstone from the overlying Star Point sandstone. Slopes vary from 18% to 52% Vegetation which occurs on these materials is often salt tolerant with grasses such as Salina wildrye and bottlebrush squirreltail although less tolerant species such as birchleaf mountain mahogany, serviceberry and pinyon pine are found on this material. Soil analysis for this complex is presented in table 13 of volume 1. Runoff is high with high sediment production potential.

The other soil type found in the project area is the Featherlegs stony loam which comprises approximately 25% of the area to be affected. This material is comprised of glacial outwash and alluvium from shale and sandstone and is found on fans and terraces. Vegetation associated with these soils is primarily of the pinyon-juniper type. Soil depths for this area were determined

Page 2

D. Wayne Hedberg
July 27, 1984

using 3 depth points (See Map 10, 2 of 2) and a rerepresentative pedon discription (page 783.23). Soils data for the Featherlegs complex are presented in supplement #2 to the approved MRP section 5, page 16.

The plans for topsoil removal are found in pp 784-13 to 784.14. All removal will be accomplished using dozers, front end loaders or scrapers. While safety considerations preclude salvage of soil materials on steep slopes topsoil will be obtained to greater depths in suitable areas. In the Badland Rubble1 complex enough material will be salvaged to equal a twelve inch removal yielding approximately 5.180 BCY of topsoil (see page 18 of the July 5, 1984 response). In the Featherlegs type 5.3 inches of topsoil and 7.0 inches of B horizon material will be salvaged to yield approximately 871 BCY of soil material. There are no plans for segregation of the A and B horizons due to the SCS description which indicates little or no horizon development.

Soil storage and protection will be in accord with previously approved plans (see Star Point MRP, Vol. 1, Ch. 3 pp 108-109). Plateau Mining Company has proposed utilization of the existing stockpile (see Map 10 sheet 1).

Soil from the Featherlegs as well as topsoil from the refuse test plots(to be disrupted by the conveyor corridor) will be stored with the existing topsoil stockpile while topsoil removed from the refuse test plots will be hauled to the refuse expansion subsoil stockpile (see map May 28, 1982 Minor Modification Plate 1 1982).

Topsoil will be redistributed to a depth of twelve (12) inches (see July 5, 1984 response page 18) and seeded the first growing season following regrading and redistribution (minor modifcaiton to MRP pp. 784-15). Methods of topsoil protection during and after redistribution, prevention of slippage surfaces and enhancement of root penetration are found in the approved MRP (Vol. 1, Ch 3 pp 3-108 to 3-109). Additionally, 1.5 tons per acre of straw mulch will be crimped into the redistributed topsoil immediately following redistribution (see July 23 1984 response pp 784-20 and 784-20a). All reclaimed areas which are too steep to be thus treated will be hydromulched with a tactifying agent (see July 23, 1984 response p 784-18).

Following redistribution of topsoil composite samples will be obtained of both the redistributed topsoil as well as the corresponding native soils for nitrogen and phosphorous using

Page 3

D. Wayne Hedberg

July 27, 1984

approved methods. Data will be reviewed to ascertain if nutrient levels in topsoil differs from the native soils. PMC in consultation with the regulatory authority will determine the application rates of fertilizers as necessary (see July 23, 1984 response pp 84-20 and 784-20a).

Compliance

The applicant is in compliance with this section.

TLP/jvb
88240-5