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

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April 13, 1993

TO: Pamela Grubaugh-Littig, Permit Supervisor

FROM: Henry Sauer, Senior Reclamation Soils Specialist 

RE: Review of NOV N92-32-6-1 and N92-35-6-1 Abatement Proposal, Western States Minerals Corporation, J.B. King Mine, ACT/015/002, Emery County, Utah

#2

SYNOPSIS

The response to the Division's letter dated December 7, 1992, received January 21, 1993, regarding the abatement of Notice of Violation N91-32-6-1 and N91-35-6-1 has been reviewed. The technical review is based on the permittee's proposal as it relates to fulfilling the performance standards of the applicable R645 Rules.

The permittee's proposal, in general, discontinues site maintenance, except as deemed necessary by the permittee and permits rill, gully and channel erosion to proceed unabated. The permittee contends that a "geomorphologic" stability will ensue and attain an equilibrium with the surrounding drainage basin.

The permittee's proposal predicts the exposure of coal refuse and asserts that this will have no adverse effect on plant growth or water quality and meeting the post mining land use. The permittee has not adequately demonstrated this contention and employs questionable assumptions and field and laboratory methods (see technical findings generated in response to WSMC's September 15, 1992 submittal in my November 10, 1992 memo to Pamela Grubaugh-Littig).

The permittee's proposal is in direct contravention with the R645 Rules as they relate to disposal of refuse and acid and toxic forming materials. The proposal is not acceptable and requires a complete reevaluation of the abatement plans for NOV N91-32-6-1 and N91-35-6-1.

ANALYSIS

Western State Minerals Corporation's (WSMC) current proposal has not substantively changed since its initial NOV response dated September 15, 1992. WSCM's proposal to permit the removal of topsoil material from the surface of the refuse pile by erosion and therefore allowing the eventual exposure of coal refuse does not meet the following performance standards under R645-301-242, R645-301-553.250 & 300, R645-301-731.121, R645-301-731.300 et. seq., R645-301-745.113:

242. Soil Redistribution.

242.100. Topsoil materials removed under R645-301-232.100, R645-301-232.200, and R645-301-232.300 and stored under R645-301-234 will be redistributed in a manner that:

242.110. Achieves an approximately uniform, stable thickness consistent with the approved postmining land use, contours, and surface-water drainage systems;

242.120. Prevents excess compaction of the materials; and

242.130. Protects the materials from wind and water erosion before and after seeding and planting.

553.250. Refuse Piles.

553.252. Following final grading of the refuse pile, the coal mine waste will be covered with a minimum of four feet of the best available, nontoxic and noncombustible material, in a manner that does not impede drainage from the underdrains. The Division may allow less than four feet of cover material based on physical and chemical analyses which show that the requirements of R645-

301-244.200 and R645-301-353
through R645-301-357.

553.300.

Exposed coal seams, acid- and
toxic-forming materials, and
combustible materials exposed,
used, or produced during mining
will be adequately covered with
nontoxic and noncombustible
materials, or treated, to
control the impact on surface and
ground water in accordance with
R645-301-731.100 through R645-
301-731.522 and R645-301-731.800,
to prevent sustained combustion,
and to minimize adverse effects
on plant growth and the approved
postmining land use.

731.121.

Surface-water quality will be
protected by handling earth
materials, ground-water
discharges and runoff in a manner
that minimizes the formation of
acidic or toxic drainage;
prevents, to the extent possible
using the best technology
currently available, additional
contributions of suspended solids
to streamflow outside the permit
area; and, otherwise prevent
water pollution. If drainage
control, restabilization and
revegetation of disturbed areas,
diversion of runoff, mulching or
other reclamation and remedial
practices are not adequate to
meet the requirements of R645-
301-731.100 through R645-301-
731.522, R645-301-731.800 and
R645-301-751, the operator will
use and maintain the necessary
water treatment facilities or
water quality controls; and

731.300.

Acid- and Toxic-Forming
Materials.

731.310.

Drainage from acid- and toxic-forming materials and underground development waste into surface water and ground water will be avoided by:

731.311.

Identifying and burying and/or treating, when necessary, materials which may adversely affect water quality, or be detrimental to vegetation or to public health and safety if not buried and/or treated; and

731.312.

Storing materials in a manner that will protect surface water and ground water by preventing erosion, the formation of polluted runoff and the infiltration of polluted water. Storage will be limited to the period until burial and/or treatment first become feasible, and so long as storage will not result in any risk of water pollution or other environmental damage.

731.320.

Storage, burial or treatment practices will be consistent with other material handling and disposal provisions of R645 Rules.

745.113.

Adequately cover or treat excess spoil that is acid- and toxic-forming with nonacid nontoxic material to control the impact on surface and ground water in accordance with R645-301-731.300 and to minimize adverse effects on plant growth and the approved postmining land use.

WSMC's has not adequately demonstrated that less than four feet of cover over the refuse is adequate to meet the following performance standards:

353. Revegetation: General Requirements. The permittee will establish on regraded areas and on all other disturbed areas, except water areas and surface areas of roads that are approved as part of the postmining land use, a vegetative cover that is in accordance with the approved permit and reclamation plan.
- 353.100. The vegetative cover will be:
- 353.110. Diverse, effective, and permanent;
- 353.120. Comprised of species native to the area, or of introduced species where desirable and necessary to achieve the approved postmining land use and approved by the Division;
- 353.130. At least equal in extent of cover to the natural vegetation of the area; and
- 353.140. Capable of stabilizing the soil surface from erosion.
- 353.200. The reestablished plant species will:
- 353.210. Be compatible with the approved postmining land use;
- 353.220. Have the same seasonal characteristics of growth as the original vegetation;
- 353.230. Be capable of self-regeneration and plant succession;
- 353.240. Be compatible with the plant and animal species of the area; and
- 353.250. Meet the requirements of applicable Utah and federal seed, poisonous and noxious plant; and introduced species laws or regulations.



353.300.

The Division may grant exception to the requirements of R645-301-353.220 and R645-301-353.230 when the species are necessary to achieve a quick-growing, temporary, stabilizing cover, and measures to establish permanent vegetation are included in the approved permit and reclamation plan.

353.400.

When the approved postmining land use is cropland, the Division may grant exceptions to the requirements of R645-301-353.110, R645-301-353.130, R645-301-353.220 and R645-301-353.230. The requirements of R645-302-317 apply to areas identified as prime farmland.

The permittee has not substantiated their claim that the refuse material within the backfill at the J.B. King Mine is "mildly acid and nontoxic" forming and has not adequately demonstrated their claim that the potential for adverse impacts upon plant growth and surface water quality is "negligible". Based on the poor vegetative cover on the refuse pile as compared to the remainder of the mine site (Bamberg, August 1992), the physiochemical refuse data provided in my November 10, 1992 memo, the laboratory results of refuse presented in the PAP and the findings by Leatherwood and Kunzler 1990, with regards to vegetation response to soil cover on the coal refuse tests plots, this writer must categorize the refuse material at the J.B. King Mine as acid and toxic forming which has (test plots) and will have a detrimental effect on plant growth if uncovered or placed within the root zone.