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April 2, 1993

TO: Pamela Grubaugh -Littig, Permit Supervisor

FROM: Henry Sauer, Senior Reclamation Soils Specialist

RE: Waste Rock Sampling Amendment, PacifiCorp Electric Operations, Cottonwood/Wilberg Mine, ACT/015/019-93B, Emery County, Utah #2

SYNOPSIS

The permittee has requested (received March 17, 1993) an amendment to the PAP. The amendment encompasses the bi-annual acid-and-toxic forming monitoring of the leveled waste rock, the quarterly Coal:Rock ratio sampling and a request for a waiver from the Coal:Rock ratio sampling requirements during the 1st quarter of 1993.

The requested waiver is granted for the 1st quarter of 1993. The permittees proposal to sample the Coal:Rock ratio on an annual basis for material which has not been previously sampled is acceptable and may be approved. The remaining portion of the amendment must be revised prior to approval.

ANALYSIS

The permittee considers the bi-annual sampling of the leveled waste rock to be redundant and therefore should be discontinued until the facility is near completion. Quite often the same waste rock lift is sampled twice because of an inadequate amount of waste produce at the mine to make additional lifts. This writer concurs with the assessment of redundancy encountered in the bi-annual monitoring requirements and suggests that sampling be based on a verifiable procedure which would require sampling when each two-foot lift is completed and leveled. This may be tied to the quarterly engineering report or some other inspectable document.

A complete discontinuance of monitoring is not warranted. The Division is concerned with regards to the potential for salt loading within the pile. This is based on the review of the physiochemical analyses of waste rock cells # 1-7. Various salt species may eventually rise up through the waste rock and into the rhizosphere, adversely affecting the plants ability to extract water from the surrounding soil/spoil material. Therefore the Division suggest analyzing each sample (i.e. 2 grab samples/acre/lift) for the following constituents: pH; electrical conductivity; sodium adsorption ratio. One of the two sample per acre must be analyzed for hot water extractable selenium and boron.

RECOMMENDATION

Approve the waiver for Coal:Rock ratio monitoring requirements for the 1st quarter of 1993.

Approve the permit revision to conduct Coal:Rock ratio monitoring on an annual basis.

Disapprove acid-and-toxic forming monitoring proposal. The permittee must submit aditional information and revise the sampling plan prior to approval of this section of Amendment ACT/015/019-93B.