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State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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November 16, 2001

TO: Internal File
THRU: Karl R. Houskeeper, Reclamation Specialist, Team Lead
FROM: Priscilla W. Burton, Sr. Reclamation Specialist, Soils
RE: Mid-Term Review, West Ridge Resources, Inc., West Ridge Mine, C/007/041-MT01

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SUMMARY:

On October 4, 2001, the Division initiated a Midterm Review of the West Ridge Mine operation. The review team visited the site on November 8, 2001. The pertinent soils issue under review is compliance with the requirements of the permit for experimental practices. The April 3, 1999 Permit to conduct coal mining has a Special Condition in Attachment A that requires both the Division and West Ridge to evaluate annually the effectiveness of the experimental practice. The Division is charged with conducting "annual reviews of the practice to ensure that it fully protects the environment and the public health and safety."

In last year's (2000) annual evaluation of the experimental practice (AM00F), the Division expressed concern about the potential for acid leachate adversely affecting soils buried under the pad. As a result, West Ridge Resources, Inc. developed an annual monitoring plan to detect the potential for acid formation and added this plan as an Addendum to Appendix 2-6. If acid conditions are detected on the surface, further investigations and sampling will be done to determine if the acid leachate is permeating the fills and if any measures need to be taken to protect the soils.

TECHNICAL ANALYSIS:

OPERATION PLAN

TOPSOIL AND SUBSOIL

TECHNICAL MEMO

Analysis:**Removal and Storage**

During construction and excavation of cut slopes in the RO/RL areas, the Permittee salvaged colluvial growth/surface material (CGM) from the truck loop area and the west side of the left fork coal storage area according to the plan and as shown on Map 5-10, Construction /Reclamation Area-Types. The CGM was stored within the coal stockpile pad area and in the core and outslope of the two embankments of the two sediment ponds, and in the office pad as identified on Maps 5-5 and 7-4. These sediment ponds embankments were seeded with an interim mix. Signs identifying the embankments as topsoil storage areas were not noted during the onsite site inspection.

Findings:

R645-301-521.270, The Permittee must ensure that signs are placed on the embankments of the two sediment ponds due to the fact that colluvial growth/surface material has been segregated and stored within the embankments.

SPOIL AND WASTE MATERIALS

Regulatory Reference: 30 CFR Sec. 701.5, 784.19, 784.25, 817.71, 817.72, 817.73, 817.74, 817.81, 817.83, 817.84, 817.87, 817.89; R645-100-200, -301-210, -301-211, -301-212, -301-412, -301-512, -301-513, -301-514, -301-521, -301-526, -301-528, -301-535, -301-536, -301-542, -301-553, -301-745, -301-746, -301-747.

Analysis:**Coal mine waste**

In the Mining and Reclamation Plan, Section R645-301-528.321 Handling and Disposal of Coal, Overburden Excess Spoil and Coal Mine Waste indicates that there will be no long term disposal of coal mine waste. All waste will be taken underground. The two short-term storage locations shown on Map 5-5 are limited to the storage of approximately 12 cubic yards (one truck load) for a maximum of six months on the surface.

No coal mine waste was noted on the surface at the time of the site visit.

Laboratory analyses of the roof and floor and coal seam from the Left Fork outcrop were viewed during the site visit. These 1997 analyses indicated that the coal seam is acidic (pH 3.4) with no buffering capacity (Neutralization Potential of -16.3t/1000t). The roof of the coal seam has more buffering capacity than the floor (163t/1000t versus 4.47 t/1000t). The pH of the roof was 7.8 and the pH of the floor was 7.3. The texture of the roof was sandy loam (62% sand, 24% silt, 14% clay). The texture of the floor was almost pure sand (92%) as was the coal (90%).

In the Division's March 9, 1999 Technical Analysis (pg 53), the point was made that

- *"The face-up of the four portals at the lower Sunnyside outcrop will probably generate some non-saleable product. This will be placed in the surface facilities pad as part of the fill. The applicant commits to meeting all requirements of the R645 rules mentioned under 528.340. Map 5-10, Construction/Reclamation Area-Types, shows the placement location of the face-up development waste in the facilities pad. If the material tests positive for acid and/or toxic forming, then it will be disposed at State permitted disposal site, such as ECDC. ECDC is not a DOGM permitted site. This may present a problem."*

Analytical reports for the Right Fork roof and floor and coal were not found at the site, in the 2000 Annual Report, or in the MRP. The only information on the roof/floor/coal was from a 1997 laboratory analysis. Current information on chemical qualities of the roof and floor and coal must be made available to the Division.

Findings:

R645-302-210, West Ridge Resources Inc., must provide information on the sampling of the Right Fork face-up material, which was buried in the pad as shown on Map 5-10.

REQUIREMENTS FOR PERMITS FOR SPECIAL CATEGORIES OF MINING

EXPERIMENTAL PRACTICES MINING

Regulatory Reference: 30 CFR Sec. 785.13; R645-302-210, -302-211, -302-212, -302-213, -302-214, -302-215, -302-216, -302-217, -302-218.

Analysis:

As a result of the Division's concern that acid-producing materials could contaminate soils buried under the fill, the soil-sampling program was modified to include the following commitment in the 2000 Addendum to Appendix 2-6 of the Mining and Reclamation Plan,

"West Ridge Resources Inc. will establish an annual soils monitoring program, starting in the year 2000, to sample and determine if the mine pad areas affected by the coal are being acidified. The monitoring will be conducted as follows:

1. *Samples will be taken from approximately 3" below the surface to a depth of approximately 6" at location T-1, T-2 and T-3, shown on Plate 2-2;*

TECHNICAL MEMO

2. *Samples will be analyzed for acid/toxic-forming potential per Division guidelines; however, if the roof and floor samples in the right fork near the portals do not indicate any toxicity problems, the soils will only be tested for acid/base potential;*
3. *Sample results will be reported with the Annual Report for the mine;*
4. *In the event acid conditions are detected on the surface, then further investigations and sampling will be conducted to determine if the acid leachate is permeating the fills. If such a condition is found, West Ridge Resources, Inc. will take corrective measures to protect the buried soil resources from additional acid leachate. Such measures will be discussed with the Division prior to implementation."*

The Division received notification from Patrick Collins of Mt. Nebo Scientific that samples were taken at locations T-1, T-2 and T-3 during the fall season of 2001 and will be submitted with the 2001 Annual Report. The Division agreed that a simple test of EC and pH could be done of the soils at T-1, T-2 and T-3 to gather acidity information.

Current information on the chemical characteristics of the roof and floor material and coal is of interest to the Division and has a bearing upon what analyses will be conducted in the future at sites T-1, T-2 and T-3.

Findings:

R645-302-210, West Ridge Resources must provide the Division with any information obtained since 1997 on the chemical characteristics of the coal being stored on the surface and the roof and floor material gobbled underground.

RECOMMENDATIONS:

Further information is requested of the Permittee with regard to the chemical characteristics of material buried in the pad and of the roof/floor and coal that is stored on the pad over the Colluvial Growth/Surface Material (CGM) and the in-place topsoil.