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DIVISION OF OIL, GAS AND MINING

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June 13, 2002

TO: Internal File

THRU: Karl R. Houskeeper, Reclamation Specialist, Team Lead

FROM: Priscilla W. Burton, Sr. Reclamation Specialist/Soils PB

RE: Midterm Review, West Ridge Resources Inc., West Ridge Mine, C/007/041-MT01-2

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. Sampling of the soils was conducted in September 2001.

West Ridge Resources, through their Environmental Coordinator, Mike Glasson, have committed to sample the face of the Right Fork for chemical characteristics in the spring of 2002. This sampling should include all parameters in Table 6 of the Divisions Topsoil and Overburden Handling Guidelines, 1988. Results of this sampling have not been received by the Division.

Mr. Glasson also indicated in a memo dated December 19, 2001 that the protection and storage of Colluvial Growth Material (CGM) did not follow the MRP due to a limited Travesilla resource. This submittal (received May 28, 2002) revises some but not all of the references to

the CGM material storage in the MRP. The revised pages do not fit into the narrative of the MRP.

The submittal is not recommended for approval.

TECHNICAL ANAYLSIS:

OPERATION PLAN

TOPSOIL AND SUBSOIL

Regulatory Reference: 30 CFR Sec. 817.22; R645-301-230.

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 on November 8, 2001.

In a memo to the Division dated December 19, 2001, Mr. Michael Glasson, Environmental Coordinator for West Ridge Resources, explained, "A sign was in place at the site of the CGM storage during the inspection. Only sufficient material was available for CGM storage in the upper dam. The lower dam was constructed of other material. Map 5-10 shows only the upper dam as storage."

Map 5-10 is Construction/Reclamation Area-Type map. Map 5-10 indicates three CGM storage areas, but revision #2 of Plate 5-10 (received July 14, 2001, not yet approved) shows only a single location of storage.

Throughout the MRP mention is made of the CGM material and its salvage and storage in sediment pond embankments and the office pad (Chapter 2, pp 2-6, 2-7, 2-17; Appendix 5-5 Part I Construction Plan, Item 8i, pp27-28 and Part II Reclamation Plan, Item 4d, pp43 and 44). Approximately 3,000 cubic yards of CGM were anticipated. A soils specialist, Pat Johnston, was on site during the construction. Her notes should be part of the record at the mine site and should be consulted during revision of the MRP.

This submittal (dated May 28, 2002) changes the information on pages 7 and 17 of

Chapter 2 and on page 27 of Appendix 5-5 to reflect actual placement of CGM material in the "upper cell embankment of the sediment pond." The text on the revised pages 2-7 and Appendix 5-5 page 27 does not begin with a completion of the last sentence on the previous page and so the revised pages cannot be inserted into the MRP. The revised page 2-17 does fit directly into the MRP and can be accepted.

The May 28, 2002 submittal does not completely update the information on CGM material on page 27 of Appendix 5-5, nor does it update information in Part II of Appendix 5-5, pages 43-44.

Findings:

The information provided is not adequate to track the location of substitute topsoil. Prior to approval and in accordance with:

R645-301-230 and 121.100 and 121.200, The text on the revised pages 2-7 and Appendix 5-5 page 27 does not begin with a completion of the last sentence on the previous page, so the revised pages cannot be inserted into the MRP and the submittal does not completely update the information on CGM material on pages 27 and 43 of Appendix 5-5

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 a 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 on November 8, 2001, in the 2000 Annual Report, or in the MRP. In a memo to the Division dated December 19, 2001, Mr. Michael Glasson, Environmental Coordinator for the West Ridge Mine indicates, "The Right Fork face up material sampling information cannot be found. In spring of 2002, samples of the roof and floor at the face up area will be taken and analyzed."

The Spring 2002 sampling of the Right Fork face-up material will shed light on the chemical character of the spoil from the Right Fork face, which was buried in the pad as shown on Map 5-10.

Findings:

West Ridge Resources, through their Environmental Coordinator, Mike Glasson, have committed to sample the face of the Right Fork for chemical characteristics in the spring of 2002. This sampling should include all parameters in Table 6 of the Divisions Topsoil and Overburden Handling Guidelines, 1988. Sampling to be conducted in the spring of 2002 will satisfy the requirements of the Regulations.

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;*

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."*

Samples were taken from a depth of 3 – 6 inches near locations T-1, T-2, and T-3 (as described in the report). Locations T-1, T-2, and T-3 are shown on Map 2-2. Samples were taken September 2001 by Patrick Collins of Mt. Nebo Scientific. Brigham Young University Soil and Plant Analysis Laboratory analyzed the samples for pH, Electrical Conductivity, SAR, and CaCO3. (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.) The information supplied indicates that pH of the surface fill has not been adversely affected by coal. Values reported for pH, EC, and SAR reflect the quality of the imported fill.

Appendix 5-5, page 28 indicates that the Colluvial Growth Material stored in the coal pad was covered with a 4 – 6 inch cap layer of road base. The chemical qualities of the road base are reported in Chapter 2, Appendix B of Appendix 2-5, of the MRP.

Next year's sampling should extend deeper into the fill, to sample the CGM below the road base cap.

The C1/C2 form indicates that the "Annual Soil Monitoring at the West Ridge Mine, Utah 2001" report is to be filed with Appendix 2-6 of the MRP, rather than with the 2001 Annual Report.

Findings:

The supplied information brings West Ridge into compliance with this requirement of the Mining and Reclamation Plan.

RECOMMENDATIONS:

Before approval:

- The narrative of the MRP should be corrected to reflect actual locations of Colluvial Growth Material storage.

West Ridge Resources through their Environmental Coordinator, Mike Glasson, have committed to sample the face of the Right Fork for chemical characteristics in the spring of 2002. This sampling should include all parameters in Table 6 of the Divisions Topsoil and Overburden Handling Guidelines, 1988.

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