

March 21, 2003

TO: Internal File

THRU: Karl R. Houskeeper, Environmental Scientist III, Team Lead

FROM: Peter Hess, Environmental Scientist III, Engineer

RE: Division Order on Roads/Classification of Roads, West Ridge Resources, Inc.,
West Ridge Mine, C/007/041-DO02C

SUMMARY:

An inspection conducted by the Division on November 15 and 19, 2002 resulted in a Division Order (DO02C) issued to the permittee for failure to classify and properly permit the roads associated with the mine facilities disturbed area. This included the graveled road that extends from the paved Carbon County road to the bathhouse, the portals, and the warehouse and storage yards, as well as three other roads within the disturbance.

The permittee responded to the Division Order on February 18, 2003, with a revision to that information received on March 20, 2003. This technical memorandum addresses the adequacy of the response with respect to compliance with R645-301-527, Transportation Facilities.

TECHNICAL ANALYSIS:

OPERATION PLAN

TRANSPORTATION FACILITIES

Regulatory Reference: 30 CFR Sec. 701.5, 784.24, 817.150, 817.151; R645-100-200, -301-513, -301-521, -301-527, -301-534, -301-537, -301-732.

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Analysis:

The inspection that was conducted by the Division in November of 2002 brought to light the fact that the mining and reclamation plan had failed to adequately classify several roads within the mine site disturbance that are used on a regular basis. Although the inspection specifically addressed the main canyon access road which leads from a tangent with the coal truck loading loop to the storage yard located at the top of the right hand fork of the mine site, the Division Order specifically required the permittee to address all roads within the disturbed area boundary.

The permittee has provided a new map that has been designated as **MAP 5-15, Roads**. The map is signed and dated by Mr. Dan Guy, a Utah registered professional engineer. Map 5-15 includes a plan view of most of the disturbed area of the mine site. The areas of disturbance that have not been included are a section of the Carbon County road from the gate to the Office pad access (about 300 feet of disturbance are not shown). The other section of disturbance not shown lies in the upper end of the right hand fork above the topsoil storage pile. This is an alternate sediment control area (ASCA X) and includes the test plot area. There are no roads in this area.

The area where all mining related activities occur encompasses four roads, all of which are depicted in the plan view shown on Map 5-15. Eight engineering cross sections are depicted on this Map. A horizontal and a vertical scale of one-inch equals twenty-five feet are utilized. Each cross section will be evaluated with respect to the road to which it pertains.

Primary Roads

The Carbon County or "C" Canyon road above the access gate is depicted by cross sections A-A' and B-B'. **The County road terminates at the junction where the two legs of the truck-loading loop come together**, as indicated on page 5-33 of the submittal received on 02/18/2003. This portion of the County road has always been classified as a primary road and was not a road to be classified within the Division Order. As noted, however, two cross sections have been provided relative to the length of County road within the disturbed area boundary.

Cross section C-C' includes a road section for both the inbound and outbound lanes of the truck loading loop. The permittee has classified this road as a **primary** road, based upon R645-301-527.121, (used for transporting coal), and -301-527.122, (frequently used for other purposes for a period in excess of six months). Cross section C-C' depicts a road way width of twenty feet for the inbound lane and a roadway width of 21.25 feet for the outbound lane, (where the trucks are loaded). Although both of the sections appear to be horizontal on Map 5-15, an examination of FIGURE 5-3, Typical Section, "C" Canyon road, West Ridge Mine site reveals that the road surface (asphalted concrete) has a 2% slope in both directions from the center of the haul road. Designed ditches exist on the NW side of the inbound lane (ditch **DD-12**), and on the

SE side of the outbound lane (ditch **DD-13**). A shallow depression exists between the inbound and outbound lanes, with the collected runoff from the area reporting to a grate on the inlet of culvert **DC-11**. This flow then combines with the flow collected by DD-13, reporting it through culvert DC-13 into the upper cell (Cell A) of the sediment pond. Adequate drainages have been incorporated to complement the road design to prevent water/ice build-up on the road surface, minimizing vehicle control problems and road surface degradation.

Figure 5-3, Typical Section, "C" Canyon road, West Ridge Mine site depicts the layers of road surfacing materials and other specifications to which the "C" Canyon County road, as well as that portion of the County road within the mine's disturbance and the truck loading loop have been constructed. The load-bearing surface of all segments of this primary coal haul transportation facility contains three layers of material. The first layer or top surface consists of six inches of asphalted concrete, with a material gradation having a maximum size of $\frac{3}{4}$ inch. Immediately below the top surface, six inches of untreated road base, course, having a maximum size of $\frac{3}{4}$ of an inch to one inch was required and implemented. The bottom layer of the road surface design incorporates granular borrow material, placed and compacted to a depth of twelve inches. Width and grade specifications for the transportation lane, road shoulders, out slopes and other critical information relative to the road design are also depicted in Figure 5-3. Figure 5-3 is stamped, signed, and dated by a Utah registered professional engineer. This design has already been approved by the Division and has been described here to meet the requirement of the Division Order to address the cross sections and design portion of R645-301-527.200 and -527.210. The designs for ditches DD-12 and DD-13 are included in the approved version of Appendix 7-4, Sedimentation and Drainage Control Plan (As Constructed), **incorporated February 6, 2003**. See Table 13, Disturbed Ditch Design Summary, page 33 of Appendix 7-4 for design criteria relative to peak flows, flow velocities, required cross sections for ditch maintenance, and flow depths for the aforementioned ditches. All down gradient flow control devices have similar design information in this appendix and are similarly, already approved.

The remainder of the mine site disturbed area is accessed by three roads. As indicated on the revised page 5-42 of the submittal received February 18, 2003, the two other roads which have now been classified as primary are the road which starts at the tangent with the truck loading loop and terminates at the warehouse pad (**this will be referred to as the Main Canyon Access**), and the ramp from this same road up to the coal storage yard in the left hand fork of "C" Canyon.

The Main Canyon Access is classed as a primary road as indicated on Page 5-42 of the submittal received 02/18/2003. Cross sections **D-D'** and **E-E'**, as shown on MAP 5-15, Roads, depict the constructed area where frequent vehicular traffic occurs. D-D' is located approximately 865 feet NE of the junction where the Main Canyon Access intercepts the truck loading loop. A road width of 27.5 feet is depicted, with a concrete Jersey barrier on the east shoulder; the west edge of D-D' depicts a flow path, which is relative to disturbed area ditch **DD-6**, as depicted on the approved Map 7-2, Mine Site Drainage Map.

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Cross section E-E' is located 650 feet farther up the Canyon, NE of D-D', just down slope from the junction with the largest of the material storage pads. A thirty-foot road way width is depicted, with a flow path on the western edge, congruent with disturbed area ditch **DD-4**. The Main Canyon Access road is surfaced with two inch minus crushed white sandstone.

The remaining primary road in the mine site disturbance is only about 240 feet in length, and is the ramp from the Main Canyon Access to the coal storage pad located in the left fork of "C" Canyon. Its cross-section is depicted as **H-H'**, as shown on Map 5-15. This road is depicted as "primary" on the aforementioned drawing, as well as within the text of page 5-42, under section -534.300, Primary Roads. A road way width of 22.5 feet is depicted by the section, with ditch **DD-8** on the western edge and a berm on the eastern edge (crest of the out slope).

Ancillary Roads

The only road remaining to be classified inside the mine's disturbed area is the road from the pad NE of the main fan installation to the area referred to as the "nose" by the permittee. The "nose" is the location of the belt drive for the primary run-of-mine coal-carrying conveyor. The permittee has also located a flagpole and a memorial to Mary Jean Mitchell Green in this area. Page 5-33 and Map 5-15 (received 3/20/2003) both classify the access road to the "nose" area as ancillary.

Cross sections **F-F'** and **G-G'** as shown on Map 5-15 depict the ancillary road to the nose. This road does not see the volume of traffic, nor the same types of vehicle weights that are seen by primary roads such as the Main Canyon Access.

Cross section F-F' depicts a roadway width of twelve feet, with an average grade of 4.63 percent. The slope toward the disturbed area ditch designated as **DD-3** is 8.3 percent.

Cross section G-G' depicts a road way width of 17.5 feet, with a slope of 2.8 percent reporting the drainage to ditch DD-3. Both cross sections depict berms at the crest of the outslope which are two feet in height. Berm heights are only regulated by the Division with respect to the prevention of flows over outslopes, and are generally considered to be under the jurisdiction of the Mine Safety and Health Administration as they relate to axle heights and loss of control of machinery.

The ancillary road to the "nose" is surfaced with the same material that has been used for the Main Canyon Access.

Map 5-15, ROADS, as received on March 20, 2003 contains a table that classifies each of the roads described above and includes the average longitudinal grade for each. The type of surfacing material utilized on each road is also described.

Findings:

The submitted information received on February 18, and March 20, 2003 adequately address the permit deficiency described in Division Order DO02C issued on November 22, 2002.

RECOMMENDATIONS:

The submittal should be approved as received, and the Division Order should be terminated.