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State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
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Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

October 10, 2019

Rick Parkins
Bronco Utah Operations, LLC
P.O. Box 527
Emery Utah 84522

Subject: Midterm Completion Response, Bronco Utah Operations, LLC, Emery Deep Mine, C/015/0015, Task #5987

Dear Mr. Parkins:

The Division has reviewed your application. The Division has identified deficiencies that must be addressed before final approval can be granted. The deficiencies are listed as an attachment to this letter.

The deficiencies authors are identified so that your staff can communicate directly with that individual should questions arise. The plans as submitted are denied. Please resubmit the entire application by no later than November 15, 2019.

If you have any questions, please call me at (801) 538-5350.

Sincerely,

Steve Christensen
Permit Supervisor

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Technical Analysis and Findings

Utah Coal Regulatory Program

PID: C0150015
TaskID: 5987
Mine Name: EMERY DEEP MINE
Title: MIDTERM COMPLETION RESPONSE

Environmental Resource Information

Soils Resource Information

Analysis:

The application meets the State of Utah R645 requirements for Soil Survey, Chap VII.C.1, (p. 80 lists all soil surveys completed at the site. Soil map Plate VII-1 shows all the disturbed areas.

Table III-2 outlines 10.1 acres of disturbance at Emery 2 and 85.7 acres total disturbed acres (Ch. III, p. 2).

The 4th East portal soil survey is found in Appendix VII-3. The Emery 2 box cut soil survey information found in App. VII-5 and App VII-6.

Prior to disturbing new area, soils will be surveyed and samples analyzed according to the field parameters outlined in Table 2 and the laboratory parameters outlined in Table 3 of The Division's 2008 Guidelines for Management of Topsoil and Overburden (Chap VII.C.4 (p. 83).

pburton

Operation Plan

Topsoil and Subsoil

Analysis:

The application does not meet the requirements of R645-301-230 Operation Plan, because the as-built volumes of each stockpiled topsoil and subsoil could not be found in the MRP.

Topsoil storage is generally described in Chap VII.C.6. The volume of stockpile T2 and the 4th East portal stockpile are stated in Chap II. Plate II-1 shows stockpile T2 and stockpiles T1 and S1 for which there is no information on volume in the MRP or on the plate. In addition there are subsoil and topsoil stockpiles at pond 6 and at pond 1 locations that are not shown on a map or described in the narrative.

Chap II, page 17 lists the 4th East portal stockpile volume as 10,440 CY. Topsoil berms around the excavated material hold an additional 1,400 CY topsoil. In situ topsoil lies beneath the 4th E portal excavated material stockpile. Stockpiles at the 4th East portal are shown on Plate IV-3band Figure IV-15 (which is located on e-pg 486 of the MRP).

Chap II, page 17i provides a volume of 18,500 CY for the Emery II soil stockpile. Soil stockpiles T1, T2 and S1 near the main mine facilities are shown on Plate II-1.

As-built volumes some stockpiles are included in the bonding calculations Earthwork costs (App IV-9-B) as follows:

- 4th East Portal topsoil stockpile = 10,440 CY.
- 4th East portal in-place topsoil (beneath excavated material) = the area of storage as stated in Table IV-1 on Chap IV, p. 8b as 108,900 sq ft or 2.5 acres. Estimated in Earthwork calculations as 12,100 CY (App IV-9-B, p. 17 of 21.
- Topsoil pile T2 (Emery 2 Boxcut and main facilities topsoil) = 18,500 CY.

Deficiencies Details:

The application does not meet the R645-301-230 Soil Operation Plans. The following deficiency must be addressed prior to final approval:

R645-301-231.400,

The MRP must be updated with all topsoil and subsoil stockpile volumes, including those not connected with the 4th East Portal and Emery 2 construction (i.e. S1, T1, Pond 6 and Pond 1 stockpiles).

pburton

Spoil Waste Coal Mine Waste

Analysis:

The application does not meet the requirements of R645-301-528, handling of coal overburden, excess spoil, and coal mine waste, because Chap IV still requires an updated Table of contents. The 4th East portal as-builts are found after Ch IV, App IV-10 (e-pg 481-486), but are not identified in the Table of Contents. The 4th East Portal Figure IV-15 is located on e-pg 486 of the MRP. Appendix IV-10 is titled "Existing Coal Mine Waste Disposal Site Slope Stability and Chemical Analysis Report" which give no indication of a place to look for the 4th East as-built. There is no title page for the 4th East portal as builts.

There is 108,800 CY of excess box cut material stored at the waste disposal site (Chap II p. 17i, Chap III, p. 15g and Chapter IV, p. 8f). Of that volume, 84,900 CY will be used as back fill (Ch IV p. 8f). Therefore, at final reclamation, there will be 19,000 CY of waste remaining at the waste rock site. Chapter IV.C.4 describes the reclamation of up to 37,000 CY of waste rock.

Excess boxcut materials have been graded. They will be seeded, if necessary (cover letter Task 5864 2202019), in accordance with Section VIII.C.6. and Chap II , p. 17, to meet the requirements of R645-301-234.230, protection of stockpiled materials from erosion.

The as-built volume of excavated material at the 4th E portal is stated as 113,711 CY (Chap II, p. 17 and Earthwork App IV-9-B, p. 17 of 21). The location of the 4th East portal as-builts should be included in the Chap IV table of contents.

If acid/toxic forming material is encountered, it will be disposed of within 30 days at the waste rock site (Chap IV-A, pg 6).

Deficiencies Details:

The application does not meet the R645-301-528, handling of coal overburden, excess spoil, and coal mine waste. The following deficiency must be addressed prior to final approval:

R645-301-528 and R645-301-121.200,

Please update the Chap IV table of contents to locate the 4th East portal as-builts which are found after Ch IV, App IV-10 (e-pg 481-486), and add a title page to the 4th East portal as-builts.

pburton

Hydrologic Diversion General

Analysis:

The MRP meets the State of Utah R645 requirements for Diversions.

As part of the mid-term review the Division evaluated the applicable portions of the permit to ensure that the MRP contains commitments for utilizing the best technology currently available (BTCA) to prevent additional contributions of suspended solids to stream flow outside of the permit area. A field inspection was performed on May 30th, 2018 and again on April 25th, 2019 to verify the submitted as-built drawings. The storm water runoff system was inspected (culverts, diversions, sediment ponds etc.) during both inspections.

The purpose of the field inspection conducted on April 25th, 2019 was to verify the as-built drawings provided by the Permittee. Upon comparing the provided as-built drawings with the conditions observed in the field, there were several areas identified where additional information is required in order for the Division to approve the as-built drawings and a deviation from the previously approved Emery No. 2 designs.

All diversions are depicted on Surface Drainage Control Maps Plates VI-10, VI-10A, VI-10B, VI-10C, VI-10D and VI-10E. Table VI-18 provides a summary of the operational diversion ditches and culverts at the mine site. The table provides design criteria utilized in the sizing of the ditches including: bottom width, side slopes, design flow depth and the design storm event. Detailed design calculations and drawings are presented in Appendix VI-6 and VI-21 of the MRP. Table VI-18, Summary of Operational Diversion Ditches and Culverts has been revised to reflect the as-built configuration/construction of the mine site.

Additional information was requested for the inlet to disturbed culvert DC-1 (Task #5864). The previously approved design for the inlet to DC-1 (Task #5362) identified a a flared end detail on Plate VI-11B, Emery 2 Drainage Details. Upon inspecting the as-built condition of the inlet to DC-1, a flared end detail was not constructed; rather an at-grade catch basin structure was installed. The Permittee provided additional information for the inlet structure to disturbed culvert DC-1. The design detail for the catch basin inlet structure was provided on Plate VI-11B

Plate VI-11B, Emery 2 Drainage Details, provides detailed design drawings for the various hydrologic structures/diversions constructed at the mine site. Profile and plan view drawings are provided for the diversion berms, inlet and outlet details for culverts and the constructed rop structure .

The previously approved drainage design for the Emery No. 2 facility provided a drawing detail for the undisturbed berms located above the box cut (i.e. UB-1 and UB-2). Plate VI-11B depicted a riprap detail for all three undisturbed berms. A D50 of 3" was to be constructed for UB-1 and UB-. The previously approved information for the undisturbed berms indicated that the riprap was to provide additional flood protection by preventing the overlying undisturbed drainage from flowing into the box cut. During the field inspection on April 25th, 2019, the undisturbed berms were found not to be riprapped as previously approved. The Permittee was also directed to provide a justification/narrative as to why the undisturbed berms (UB-1 and UB-2) were not rirapped as previously designed and approved. In Table 2 of Appendix VI-21, Emery 2 Surface Facility As-Built Hydrology Design Report, a footnote has been provided that discusses that velocities below 5 feet per second (fts) do not require rock lining per U.S. DOT Hydraulic Engineering Circular No. 11.

During the field inspection, the outlet to undisturbed culvert UC-2 was observed. Per the previously approved drainage design (Task #5362), the outlet to UC-2 was to have a flared end detail constructed. A flared end details is not on the outlet to UC-2. The outlet of UC-2 terminates directly adjacent to Christiansen Wash. Christiansen Wash is heavily armored from natural deposition of large boulders. As such, the potential for excessive erosion or gullying from the discharge conveyed to Christiansen Wash from UC-2 is minimal.

The MRP meets the requirements for Diversions as required in R645-301-732.300, 742.100, 742.200, 742.300, 742.320 and 742.330. The drainage ditch designs consist of a narrative description, design parameters, flow calculations, flow line profiles and cross-sections for each ditch. The Permittee incorporated design parameters including: drainage area calculations, design storm information, curve numbers and channel dimensions. The storm water runoff conveyance system utilizes a series of diversion ditches, culverts and berms to ensure the routing of water to sedimentation ponds prior to discharging from the site.

Appendix VI-21, Emery 2 Surface Facility Hydrologic Design Calculations provides the design calculations and supporting narrative as to how the Emery 2 mine expansion safely conveys storm water runoff and prevent additional contributions of suspended solids to adjacent drainages. Based on the design information and supporting calculations provided in Appendix VI-21, all diversions have been designed comply with R645-301-742.323. The disturbed berms (DB-1 thru DB-3), disturbed culvert (DC-1), disturbed drainage ditches (DD-1 thru DD-5) have been designed to safely convey the storm water runoff generated from a 10-year, 6-hour event.

Appendix VI-22, Baseline Investigation of Unnamed Ephemeral Wash Affected by Emery 2 Surface Facilities

characterizes the unnamed drainage that lies within the proposed mine expansion area as ephemeral and draining an area less than one mile. However; the culverts that will route undisturbed drainage around the mine expansion (UC-1 and UC-2) have been designed to safely convey the runoff generated from a 100-year, 6-hour event, which exceeds the required design storm standard. Additionally, undisturbed berms have been designed to safely convey a 100-year, 6-hour precipitation event. In both instances, the required performance standard for these types of diversions has been exceeded.

The design storms used for the diversion ditches in the remainder of the Emery Deep Mine property were a 10-year/24-hour event for temporary ditches (not associated with refuse disposal areas) and a 100-year/24-hour event for permanent stream diversions, waste disposal site diversion and ditches associated refuse disposal areas. The ditches have been designed to maintain flow velocities during design storm event peak flows under 4.0 feet per second (fps) in earthen channels and less than 12 fps in rock lined channels. The Permittee has committed to utilizing rock checks and/or other stabilizing structures in earthen channels where gradient slopes result in peak velocities exceeding 4.0 fps.

schriste