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Technical Analysis and Findings

Utah Coal Regulatory Program

June 15, 2016

PID: C0150015
TaskID: 5198
Mine Name: EMERY DEEP MINE
Title: EXPANSION WITHIN BOUNDARY

Summary

On June 3rd, 2016, the Division of Oil, Gas and Mining (the Division) received an application from Bronco Utah Operations, LLC (the Permittee) to revise the Emery Deep Mine mining and reclamation plan (MRP). The application proposes the construction of additional coal conveyor systems, a new substation, a new screening and crushing facility and a truck load-out. The construction is needed in order to facilitate the development of the 'Emery 2' mine.

The proposed construction is located within the currently approved disturbed area. It's the Division's understanding that following this minor MRP amendment, the Permittee will submit the next phase of construction which will include the box-cut that will be developed in order to access the coal seam within the Emery 2 mine.

Deficiencies Details:

schriste

Environmental Resource Information

Historic and Archeological Resource Information

Analysis:

R645-301-411.140 - R645-301-411.144: The Permittee has met the requirements for Cultural and Historic Resources Information.

jmontcalm

Operation Plan

Existing Structures

Analysis:

The amendment does not meet the State of Utah R645 requirements for Existing Structures.

The amendment does not meet the requirements of R645-301-526.100 through -526.112 by not providing updated information to include the discussion of the condition of any existing buildings detailed on Plate II-1. The Permittee needs to

add a clarifying statement at the beginning of Chapter II to broadly cover the conditions or required rehabilitation of the existing structure for the current operations to meet the R645-301-526 regulations pertinent to existing structures.

The amendment does not meet the requirements of R645-301-526.100 through -526.112 by showing extensive proposed facilities that do not exist and do not have all the required R645 supporting details to be shown on a single surface operational drawing. The proposed facilities shown on Plate II-1 need to be removed from Plate II-1 and detailed on a separate drawing such as Plate II-1a. Showing proposed plans on a single operational surface facility will require all drawings shown on said drawing to meet all R645 requirements. Plate II-1 should only depict existing approved structures and structures being constructed at the time of the particular amendment.

Deficiencies Details:

R645-301-526.112: The Permittee will update Plate II-1 to show only existing structures and proposed structures relevant to pending application. Blue proposed structures shall be moved to a similar new plate, i.e. Plate II-1a. The Permittee will also add a clarifying statement at the beginning of Chapter II to broadly cover the conditions or required rehabilitation of the existing structure for the current operations, i.e. reference to a photo log.

cparker

Topsoil and Subsoil

Analysis:

Analysis:
The application meets the requirements of R645-301-230, Soils Operation Plan, because the land is shown as previously disturbed on Plate VII-1, Soils Map. The Mining and Reclamation Plan Chapter VII.C.5 states that for all areas affected prior to August 3, 1977, "in-place graded surface material will be used in lieu of topsoil." The plan also describes testing and analysis of these areas and cover with four feet of material, where testing reveals acid/toxic forming soils would limit vegetation establishment. However, since this disturbance is post-1977, there is a bit of nuance in interpretation. For additional disturbances, the plan describes topsoil thickness evaluation and sampling before disturbance (VII.C.4).

Past uses of the disturbed area proposed for expansion have been"Mine Yard Roads" (Existing Facility #36), "Coal Stockpile Area"(Facility 31), "Scrap Yard" (Facility 26), and Explosives Storage" (Facility 29), as shown on Plate II-1, Structures and Facilities Main Portal Area. The reclaim tunnel development will re-affect this area with a coal stockpile, reclaim tunnel, conveyor and radial stacker. The Division assumes that the prior uses of this disturbed area took place without topsoil removal.

Therefore, the Division recommends that prior to expansion and construction, the coal fines are scraped aside and a six inch layer of "substitute" topsoil is recovered, sampled and stockpiled in accordance with MRP VII.C.4 and R645-301-232.300 and R645-301-232.500. In so doing, the Permittee could recover approximately 2,420 CY from this 3 acre area for use as substitute topsoil. It is recommended that the plan be revised in Chap VII.C.5 accordingly and an as-built of the volumes recovered and stockpiled be provided within six months of salvage.

pburton

Road System Plans and Drawings

Analysis:

The amendment does not meet the State of Utah R645 requirements for Transportation Plans and Drawings.

The amendment does not meet the requirements of R645-301-534.100 by not submitting plans and drawing for each road to be maintained within the permit area. The amendment does include detailed narrative additions to Chapter II to detail the truck load out shown in red on the revised Plate II-1, however, the narratives does not include enough details to show if the truck turn around will be paved and how drainage off the road will be minimized. The narrative need to be clear if the road is new construction or utilizing existing road ways with existing design drawings. If the road is new construction then the narrative and drawings must meet all applicable primary haul road R645 regulations.

The amendment does not include detailed drawings of the truck loadout area or reference to existing drawings if the roadway is existing. The plans and drawings, and design specifications are required to demonstrate that the design utilizes best technology currently available to minimize additional contributions of suspended solids and disturbed the smallest practicable area

Deficiencies Details:

R645-301-534.100-534.200, R645-301-521.170, R645-301-521.180 and R645-301-526 through -526.222 : The Permittee shall supply detailed design specification drawings of each of the called out facilities pertinent to this application, i.e. New facilities listed in red on Plate II-1 or reference existing roadway designs if the roadway is not new construction.

cparker

Road System Other Transportation Facilities

Analysis:

The amendment does not meet the State of Utah R645 requirements for Other Transportation Facilities.

The amendment does not meet the requirements of R645-301-521.170 by not submitting detailed specification plans and drawing for each road, conveyor, and rail system to be used within the proposed permit area.

The amendment does include detailed narrative additions to Chapter II to detail the four conveyors, reclaim tunnel, radial stacker, screening and crusher, and truck load out. The amendment also includes Plate II-1 to show the plan view of the proposed features.

The amendment does not include detailed drawings of the four stated conveyor systems, reclaim tunnel, and truck loadout area. The plans and drawings, and design specifications are required to demonstrate that the design utilizes best technology currently available to minimize additional contributions of suspended solids and disturbed the smallest practicable area. Existing roadways and structures should be shown as black on Plate II-1 to match the legend nomenclature.

Deficiencies Details:

R645-301-534.100-534.200, R645-301-521.170, R645-301-521.180 and R645-301-526 through -526.222 : The Permittee shall supply detailed design specification drawings of each of the called out facilities pertinent to this application, i.e. New facilities listed in red on Plate II-1.

cparker

Hydrologic General

Analysis:

The application meets the State of Utah R645 requirements for hydrology.

On June 3rd, 2016, the Division of Oil, Gas and Mining (the Division) received an application from Bronco Utah Operations, LLC (the Permittee) to revise the Emery Deep Mine mining and reclamation plan (MRP). The application proposes the construction of additional coal conveyor systems, a new substation, a new screening and crushing facility and a truck load-out. The construction is needed in order to facilitate the development of the 'Emery 2' mine.

The proposed construction is located within the currently approved disturbed area. It's the Division's understanding that following this minor MRP amendment, the Permittee will submit the next phase of construction which will include the box-cut that will be developed in order to access the coal seam within the Emery 2 mine.

The construction proposed within the application is located within the currently approved disturbed area. The application does not propose any alteration(s) to the existing surface drainage system or to any of the reporting watersheds. Sediment control for the proposed construction will be achieved with existing impoundments. Drainage from the proposed construction area will report to existing ponds No. 2 and No 3.

schriste

Support Facilites and Utility Installations

Analysis:

The amendment does not meet the State of Utah R645 requirements for Support Facilities and Utility Installations.

The amendment does not meet the requirements of R645-301-521.180 and -526 the require the description, plans, and drawing for each support facility to be constructed, used, or maintained within the proposed permit area.

The amendment does include detailed narrative additions to Chapter II to detail the four conveyors, reclaim tunnel, radial stacker, screening and crusher, and truck load out. The amendment also includes Plate II-1 to show the plan view of the proposed features. The additional mine substation will consist of an electric substation mount on a 75 CY concrete pad adjoined to the existing substation pad. The truck load area does not include enough details to show if the truck turn around will be paved. The narrative for the loadout does detail a 48 inch conveyor, Conveyor 6, from the screen/Crusher building to the Truck loadout area. The conveyor is 217 linear feet supported by the two concrete pads (33 CY) for the elevated section. The screening and crushing equipment is a metal structure (40x22x55 Ft) mounted to a 143 CY concrete pad. The screening facility receives coal from Conveyor 5 and discharged into Conveyor 6. Conveyor 5 consists of a 54 inch conveyor partially elevated, at grade and supported through the reclaim tunnel. The elevated section is supported by four concrete pads for a cumulative 259 CY of concrete. Conveyor 5 receives coal from feeders beneath the radial stacker and discharged to the screening/crushing facility. The reclaim tunnel is a 12 foot diameter corrugated 320 foot long tunnel to reduce spill potential into the stream buffer area. Approximately 141 CY of concrete forms a floor support for the structure. A 120 foot escape tunnel is also included in the structure. The radial stacker is a 48 inch metal frame anchored to a concrete pad. Conveyor 4 receives coal from the drop chute of Conveyor 2 and discharged to a stockpile. Conveyor 2 is a 60 inch 260 foot long conveyor support on by two concrete pads for a cumulative concrete support structure of (186 CY+ 39 CY= 225 CY).

The amendment does not meet the R645-301-521.180 and -526 as the application does not include plans, and drawings for each support facility to be constructed. The plans and drawings, and design specifications are required to demonstrate that the design utilizes best technology currently available to minimize additional contributions of suspended solids and disturbed the smallest practicable area. The truck load area narrative need to include enough details to describe if the turnaround will be paved and include relevant design drawings to meet R645-301-526.220-526.222. The reclaim tunnel portion must be more detailed in the volume of cut/fill for reclamation of the tunnel and what earthwork will be required to reclaim. The narrative of the reclaim tunnel must be specific about any reclamation grading that will be required at final reclamation of the site.

Deficiencies Details:

R645-301-534.100-534.200, R645-301-521.170, R645-301-521.180 and R645-301-526 through -526.222 :The Permittee shall supply detailed design specification drawings of each of the called out new facilities and references to existing facilities.

R645-301-521.180 and R645-301-526 through -526.222 :The Permittee shall add narrative to the truck loadout area detailed that presumably no pavement will be associated with the turnaround and also include a detail of the grading and drainage controls associated with the roadway. The Permittee shall add narrative to the reclaim tunnel to explain construction only relevant to the existing amendment and volumes of earthwork required for reclamation. All narratives should reference specific designs of each segment of the facility described, either new or existing drawings.

cparker

Maps Affected Area

Analysis:

The amendment meets the State of Utah R645-301-521.100 requirements for Affected Area Maps.

The amendment meets the requirements of R645-301-521.100 through-521.130 by updating Plate II-1 to detail the new associated support facilities. All disturbances are located within already disturbed areas and will not increase the current disturbance boundary.

cparker

Maps Facilities

Analysis:

The amendment does not meet the State of Utah R645 requirements Mining Facilities Maps.

The amendment meets the requirements of R645-301-521.120 through-521.125 which require maps to clearly show existing surface and subsurface facilities. The amendment includes an update to Plate II-1 which details the main surface facilities associated with the underground mine. The updated plate details the new mine substation, truck loadout, screening and

crushing facility at the new location, radial stack, a reclaim tunnel, and four sections of conveyor.

The amendment does not meet the requirements of R645-301-521.180 and R645-301-526 through -526.222.

The application does not include plans, and drawings for each support facilities detailed in the amendment to be constructed. The plans and drawings, and design specifications are required to demonstrate that the design utilizes best technology currently available to minimize additional contributions of suspended solids and disturbed the smallest practicable area. The truck load area narrative need to include enough details to describe if the turnaround will be paved and include relevant design drawings to meet R645-301-526.220-526.222.

Deficiencies Details:

R645-301-534.100-534.200, R645-301-521.170, R645-301-521.180 and R645-301-526 through -526.222 : The Permittee shall supply detailed design specification drawings of each of the called out facilities pertinent to this application, i.e. New facilities listed in red on Plate II-1.

cparker

Maps Certification Requirements

Analysis:

The amendment meets the State of Utah R645-301-512 Certification Requirements.

R645-301-512 requirements are met as all mine drawings and plates are stamped by a Utah certified professional engineer, Richard White, who has experience in underground mining operations.

cparker

Reclamation Plan

General Requirements

Analysis:

The amendment meets the State of Utah R645 requirements for Reclamation Activities.

The requirements of R645-301-540 are met within the amendment as there is no change to the existing MRP reclamation details in Chapter III detailing the removal of all structures and grading to match Plate III-8.

cparker

Maps Bonded Area

Analysis:

The amendment meets the State of Utah R645 requirements for Bonded Area.

The requirements of R645-301-800 are meet within the amendment as the disturbance proposed within this amendment falls within previously approved and disturbed areas that will be reclaimed as detailed in Plate II-1 and Plate III-8 to AOC. The current bond is applicable to the disturbed area.

cparker

Maps Reclamation Final Surface Configuration

Analysis:

The amendment meets the State of Utah R645 requirements for Final Surface Configuration Maps.

The requirements of R645-301-542 are met within the amendment as there is no change to the existing MRP plan of the estimated final surface configuration back to AOC as detailed on Plate III-8.

cparker

Bonding Determination of Amount

Analysis:

The Amendment does not meet the State of Utah R645 requirements for Determination of Bond Amount.

The amendment does not meet the minimum requirements of R645-301-830.140 due to missing information the Permittee submitted with the bond information. Specifically due to missing references for third party costs utilized in the estimate, use of 2012 instead of 2013 escalation factor, and unit and quantity cost don't correlate-unit cost and quantity cost must be consistent (example: Concrete Demo, if measurements are in SY then they also have to cost in SY but if they are in CY then they need to reflect the CY cost).

In accordance with R645-301-830.410, Division Technical Directive 007, and Office of Surface Mining Handbook for Calculation of Reclamation Bond Amounts the Permittee may utilize third party contractors for cost references when a general cost references does not adequately describe the required reclamation task. In the event the Permittee utilizes local third party contractors cost estimates additional reference information must be submitted with the application. Additional reference information includes a minimum of three individual quotes for the work. Reference information may include items such as a letter or email transcript that includes all relevant contact information from the contractor. The contact information must be readily available so that the Division may contact said contractor to verify unit cost is valid in the event the Division was the hiring personal. References must be submitted at the time the reclamation bond amount is submitted to the Division. In the event less than three quotes can be gathered the Permittee will submitted detailed justification of measure taken in attempts to garner three quotes including contact information of representatives attempted and documentation of attempts of contact.

There was an error in the 2013 escalation cost; it should have been $335,882. This escalated cost is rounded to the nearest $ 1,000 to determine the amount of required bond which must be posted with the Division by the Permittee. The Permittee must resubmit reclamation cost using the 2016 R. S. Means Heavy Construction Cost Data catalog.

The Total Direct Cost to reclaim all disturbed areas associated with the Emery Deep Mine cannot be accurately determined at this point due to a lack of information provided by the Permittee. These numbers are not finalized until the Permittee submits 3 quotes and corrects and includes other items as discussed in a Bond issues email sent to Permittee on June 7th.

Deficiencies Details:

R645-303-211, R645-301-830.100 through -830.140, R645-301-830.410: The Permittee must submit detail cost quotes from a minimum of three parties to utilize a cost reference outside of published construction related cost reference manuals, e.g. R.S. Mean Heavy Construction.

bwiser