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State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

June 20, 2018

CERTIFIED MAIL RETURN RECEIPT
9590 9402 1618 6053 11297 10

Kit Pappas
Bronco Utah Operations, LLC
P.O. Box 527
Emery, Utah 84522

Subject: Midterm Permit Review, Bronco Utah Operations, LLC, C/015/0015, Task #5670

Dear Mr. Pappas:

On May 2, 2018, Bronco Utah Operations, LLC was informed that the Division of Oil, Gas and Mining had commenced a midterm permit review for the Emery Deep Mine.

The midterm review has now been completed and will now be closed; however the Division has identified deficiencies that must be addressed. The deficiencies have been included with this letter (see attached). The name of the author for each of the respective deficiencies has been provided. Please provide the responses to the deficiencies by August 21, 2018.

As discussed during the field inspection on May 30, 2018, as-built drawings are needed following the completion of construction of the No. 2 mine. Historically, 60 days has been the time-frame in which as-built drawings are provided to DOGM following the end of construction activity at a mine site. In an effort to work with you and provide some additional time to produce these revisions, DOGM is requiring as-built drawings be provided within 90 days of receipt of this letter.

During the review it was noticed that the Emery plan is somewhat dated and still has references to the Utah Interim program rules (UMCS). Updates to your plan to the current R645 rules is something that should be done before the next midterm review.

If you have any questions, please call me at (801) 538-5325.

Sincerely,

Daron R. Haddock
Coal Program Manager

DRH/sqs

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State of Utah

DEPARTMENT OF NATURAL RESOURCES

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Technical Analysis and Findings

Utah Coal Regulatory Program

PID: C0150015
TaskID: 5670
Mine Name: EMERY DEEP MINE
Title: MIDTERM PERMIT REVIEW

Summary

Bronco Utah Operations LLC (the Permittee) owns and operates the Emery Deep Mine located approximately 4 miles south of the town of Emery in Emery County, UT. On May 2nd, 2018 the Division of Oil, Gas and Mining (the Division) notified the Permittee that the mid-term review had commenced and that the following items were being reviewed: A. Review of the Plan to ensure that the requirements of all permit conditions, division orders, notice of violations, abatement plans, and permittee-initiated Plan changes approved subsequent to permit approval or renewal (whichever is the most recent) are appropriately incorporated into the Plan document. B. Ensure that the Plan has been updated to reflect changes in the Utah Coal Regulatory Program which have occurred subsequent to permit approval or renewal. C. Review applicable portions of the permit to ensure that the Plan contains commitments for application of the best technology currently available (BTCA) to prevent additional contributions of suspended solids to stream flows outside of the permit area. D. Evaluate the compliance status of the permit to ensure that all unabated enforcement actions comport with current regulations for abatement; verify the status of all finalized penalties levied subsequent to permit issuance or permit renewal, and verify that there are no demonstrated patterns of violation (POV). This will include an AVS check to ensure that Ownership and Control information is current and correct. E. Evaluate the reclamation bond to ensure that coverage adequately addresses permit changes approved subsequent to permit approval or renewal, and to ensure that the bond amount is appropriately escalated in current-year dollars. F. Evaluate the permit for compliance with variances or special permit conditions. G. Conduct a technical site visit in conjunction with the assigned compliance inspector to document the status and effectiveness for operational, reclamation, and contemporaneous reclamation practices undertaken on predetermined portions of the disturbed area to minimize, to the extent practicable, the contribution of acid or toxic materials to surface or groundwater, and to otherwise prevent water pollution. H. Review and inspect the currently approved Vegetative Reference Areas pursuant to R645-301-356. The review will ensure reference areas continue to represent the success standards of revegetation. The following technical review will evaluate the hydrologic portions of the approved mining and reclamation plan (MRP) including, but not limited to, commitments/permit conditions relative to hydrology and the application of the best technology currently available (BTCA) to prevent additional contributions of suspended solids to stream flows outside of the permit area. A field inspection was conducted by Division staff on May 30th, 2018.

schriste

The Division approved the transfer of the Emery Mine from Consol Energy to Bronco Utah Operations on April 6, 2016 (Outgoing 04062016.5058), at which time a new permit was issued. The mid-term review began May 2nd and is task 5670 (Outgoing 05022018.5670). New portal construction for the Emery 2 Mine was completed in 2017. The 4th East Portal was placed in Temporary Cessation 7 years ago (Incoming document 3082011) and remains inactive.

pburton

General Contents

Identification of Interest

Analysis:

The Mining and Reclamation Plan (MRP) does not meet the State of Utah R645 requirements for Identification of Interests.

On May 22nd, 2018, the Division of Oil, Gas and Mining (the Division) received an amendment for the Hidden Valley Mine (Task ID #5681) that revised the ownership and control information. The amendment identifies changes in the control structure for the Hidden Valley Mine property including a new acting chief executive officer (CEO) as well as a new Treasurer/Secretary. As the organizational/ownership structure for Hidden Valley is the same as for the Emery Deep Mine, the revised information must be incorporated into the Emery Deep MRP.

The Division has completed its review of the revised ownership and control information for the Hidden Valley Mine and found that it meets the State of Utah R645 requirements (conditionally approved on June 5th, 2018). The same information can now be submitted for review and incorporation into the Emery Deep MRP.

Deficiencies Details:

The MRP does not meet the State of Utah R645 requirements for Identification of Interests. The following deficiency must be addressed.

R645-301-112: The Permittee must provide revisions to the ownership and control information in Chapter 1 of the Emery Deep Mine Mining and Reclamation Plan (MRP) to reflect changes its officers and directors.

schriste

Violation Information

Analysis:

The MRP does not meet the Violation Information requirements of the State of Utah R645-Coal Mining Rules.

The violation information sections of the R645 rules cannot be found compliant at this time. On May 22nd, 2018, the Division of Oil, Gas and Mining (the Division) received an amendment for the Hidden Valley Mine (Task ID #5681) that revised the ownership and control information. The amendment identifies changes in the control structure for the Hidden Valley Mine property including a new acting chief executive officer (CEO) as well as a new Treasurer/Secretary. The amendment was conditionally approved on June 5th, 2018. As the ownership and control is the same for both the Hidden Valley Mine and the Emery Deep Mine, the newly approved information for the Hidden Valley Mine (Task ID #5681) must be submitted for review and incorporation into the Emery Deep MRP. Once that information has been provided, the Violation Information portions of the Emery Deep MRP can be reviewed.

Deficiencies Details:

The MRP does not meet the State of Utah R645 requirements for Violation Information. The following deficiency must be addressed.

R645-301-113: The Permittee must provide revised ownership and control information in order to review the adequacy of the violation information in the currently approved Emery Deep Mining and Reclamation Plan (MRP).

schriste

Right of Entry

Analysis:

The application does not meet the requirements of R645-301-121.100, current information is requested on the SITLA lease excluded/relinquished area (beneath the Alluvial Valley Floor) which had been shown on Plate V-5. until a recent revision dated 1/26/2018. Please provide updated Right of Entry for the State Lease ML51745-OBA that was previously relinquished.

Deficiencies Details:

The application does not meet the R645-301-121.100, current information requirements. The following deficiency must be addressed prior to final approval:

R645-301-121.100, Please provide updated Right of Entry for the State Lease ML51745-OBA shown on Plate V-5,

that was previously relinquished.

pburton

Legal Description

Analysis:

The MRP meets the State of Utah R645 requirements for Legal Description and Status of Unsuitability Claims.

The MRP discusses areas unsuitable for mining on page 7a of Chapter I. Areas unsuitable for mining are not located within the permit area. The adjacent area contains one dwelling that is occupied intermittently (located in Section 30, Township 225, R6E) and several public roads (depicted on Plate III). Protection of land surface features is presented in Chapter V of the MRP.

schriste

Permit Term

Analysis:

The MRP meets the State of Utah R645 requirements for Permit Term.

Active mining operations are underway at the Emery Deep Mine. The extent of the underground workings over the life of the permit is shown on Plate IV-I and IV-2. On page 8 of Chapter 1, the Permittee states, "It is anticipated that mining activities will continue considerably beyond the five year permit term. This will require renewals at the end of each term."

schriste

Permit Application Format and Contents

Analysis:

The Mining and Reclamation Plan does not meet the requirements of R645-301-121.100, because of the following:

Chap II, p. 9. Coal Stockpile Area. Two static stockpile areas are in existence, yet third stockpile is described.

Chap VII, Soil Resources Information, p.80 should provide a reference to the 4th East Portal soil survey (AppVII-3), and Emery 2 Soil Surveys (App. VII-5 and App VII-6).

Also, the MRP does not meet the requirements of R645-301-121.300, because it references the UMC code from the Utah interim program, rather than the Utah Coal Mining R645 Rules which were implemented in 1987. In each instance, these references should be updated with the corresponding R645 Rules in each heading of the application. The Division recognizes that this is a time-consuming and arduous task. Therefore, the Division should request that this overhaul of the MRP be accomplished over the next five years, by the next mid-term review, in accordance with R645-301-123.300.

Deficiencies Details:

The mining and reclamation plan does not meet the R645-301-123.300 and R645-301-121.100 requirements. In accordance with R645-301-123.300, the Division requests revision of the MRP to reference the R645 Rules over the next five years. The following deficiencies must be addressed prior to mid-term review completion:

R645-301-121.100, Please make the following corrections. Chap II, p. 9. Coal Stockpile Area. Two static stockpile areas are in existence, yet third stockpile is described. Chap VII, p.80 should provide a reference to the Emery 2 box cut soil survey information (App. VII-5 and App VII-6).

pburton

Permit Application Format and Contents

Analysis:

The MRP does not meet the State of Utah requirements for Format and Content.

R645-301-121.100 requires that the MRP contain current information as required by R645-301. During the field inspection on May 30th, 2018, it was determined that as-built maps must be submitted to the Division to accurately reflect the facilities/conditions on the ground.

Deficiencies Details:

The MRP does not meet the State of Utah requirements for Format and Content. The following deficiency must be addressed:

R645-301-121.100: The Permittee must provide as-built drawings for the Emery No. 2 mine expansion area.

schriste

Maps and Plans

Analysis:

The application does not meet the requirements of R645-301-121.100, because Surface and Coal Ownership Map Plate I-1 should indicate that land previously owned by Robertson West of the County Road in T22S are now owned by Stansfield. The map should be revised accordingly.

Deficiencies Details:

The application does not meet the R645-301-121.100, current information requirements. The following deficiencies must be addressed prior to final approval:

R645-301-121.100, Please update Plate I-1 with current surface ownership. i.e. Robertson lands West of the County Rd in T22S were transferred to Stansfield.

pburton

Environmental Resource Information

Historic and Archeological Resource Information

Analysis:

The Division has determined that the MRP needs to be updated to reflect changes in the Utah Coal Regulatory Program which have occurred subsequent to permit approval or renewal in accordance with R645-303-220.

The section of the Emery mine, (Panel Zero, Zero North) was permanently closed in 2010. Only first or development mining had taken place at the time of closure. However there is a commitment in the Mining and Reclamation Plan (MRP) to monitor the 5 eligible cultural resource sites annually that could be damaged as a result of subsidence in the zero zero north area after undermining until the Division determines subsidence is no longer an impact. they included sites 42Em3964, 42Em3965, 42Em3966, 42Em3969 and 42Em3974.

Since undermining or full extraction did not take place and that section of the mine has been permanently sealed the permittee would no longer be required to monitor the 5 eligible sites.

An amendment to the MRP, (Confidential Binder, Chapter X, Part A, Page 1), needs to be submitted to the Division that reflects the current status, (permanent closure) of mining activities in panel zero zero North noting that the monitoring of sites 42Em3964, 42Em3965, 42Em3966, 42Em3969, and 42Em3974 is no longer required.

Deficiencies Details:

The Division has determined that the MRP needs to be updated to reflect changes in the Utah Coal Regulatory Program which have occurred subsequent to permit approval or renewal in accordance with R645-303-220.

The section of the Emery mine, (Panel Zero, Zero North) was permanently closed in 2010. Only first or development mining had taken place at the time of closure. However there is a commitment in the Mining and Reclamation Plan (MRP) to monitor the 5 eligible cultural resource sites annually that could be damaged as a result of subsidence in the zero zero north area after undermining until the Division determines subsidence is no longer an impact. they included sites 42Em3964, 42Em3965, 42Em3966, 42Em3969 and 42Em3974.

Since undermining or full extraction did not take place and that section of the mine has been permanently sealed the permittee would no longer be required to monitor the 5 eligible sites.

An amendment to the MRP, (Confidential Binder, Chapter X, Part A, Page 1), needs to be submitted to the Division that reflects the current status, (permanent closure) of mining activities in panel zero zero North noting that the monitoring of sites 42Em3964, 42Em3965, 42Em3966, 42Em3969, and 42Em3974 is no longer required.

jhelfric

Operation Plan

Mining Operations and Facilities

Analysis:

The application meets the State of Utah R645 requirements for Mining Operations and Facilities.

R645-301-526: Chapter 2 of Permittee's Mining and Reclamation Plan contains a narrative describing the structures and facilities located within the permit area. Some facilities are labeled as "proposed," indicating that those facilities have not yet been built but there are plans to build in the future. Plate II - 1 illustrates locations of all of the structures and facilities in the main portal area. Plate II - 1A is a map of the same area, but shows the locations of proposed structures. The Division recommends that a note be included on Plate II - 1A indicating that none of the proposed structures have been included in the reclamation bond.

jeatchel

Subsidence Control Plan Slides and Other Damage

Analysis:

The application meets the State of Utah R645 requirements for Subsidence Control Plans for Slides and Other Damage.

A very limited amount of development mining occurred throughout 2017 and during the first half of 2018 as the West Mains were driven from the newly constructed Emery 2 portals. None of the recent mining can be classified as subsidence mining, and a pre-subsidence survey will be performed prior to any planned subsidence mining as per commitments in chapter V of Permittee's approved MRP.

During the midterm inspection on Wednesday, May 30, Mr. Kit Pappas presented the Division with images taken January 29, 2018 of supposed subsidence features. Mr. Pappas indicated the location of the features within NW 1/4 Sec 31 on privately owned farmlands within the permit area. (The surface owner approached the Division recently, wondering if these features were mining related.) Plate V-5 Subsidence Monitoring Points and the current 5 year Mine Map (2017 Annual Report) and Plate I-1 Surface Ownership were consulted. It was determined that the features could not be mining induced subsidence since the location of the alleged features are 0.5 miles from historic mine workings and nowhere near any currently active workings.

jeatchel

Topsoil and Subsoil

Analysis:

The application does not meet the requirements of R645-301-222, Soil Survey, because the soil analysis described in Chap VII.C.4 (p. 83) should include 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. In addition to the parameters outlined on page 83 of the MRP, Table 3 includes several important parameters for characterization and evaluation of soil.

The Plate VII-1 Soil Map and Plate III-9 Permit Boundaries and Bonding Map require updating with the appropriate shading for the Emery 2 disturbed area.

The application does not meet the requirements of R645-301-234.230, protection of stockpiled materials from erosion with regard to the stockpile of excess boxcut material at the waste rock site (Chap II, p. 17). This stockpile pile should be graded to lessen the slopes and be seeded in accordance with Section VIII.C.6.

As-built volumes of all stockpiles for the Emery 2 mine construction must be confirmed (Chap IV p. 8c).

Deficiencies Details:

The application does not meet the R645-301-222 requirements. The following deficiency must be addressed prior to final approval:

R645-301-222, Please update the soil analyses described in Chap VII.C.4 (p. 83) to include the field parameters outlined in Table 2 and all the laboratory parameters outlined in Table 3 of The Division's 2008 Guidelines for Management of Topsoil and Overburden. Please update Plate VII-1 and Plate III-9 to include the appropriate shading for the Emery 2 disturbed area.

R645-301-234.230, The excess boxcut stockpile pile should be graded to lessen the slopes and be seeded in accordance with Section VIII.C.6.

R645-301-121.100, Please confirm as-built volumes of all stockpiles for the Emery 2 mine construction.

pburton

Spoil Waste Coal Mine Waste

Analysis:

The application does not meet the requirements of R645-301-121.100, current information, because the MRP assumes only 600 CY of development waste in the coal mine waste stockpile area (Chap II, pg. 22), but recent boxcut development generated 98,000 CY of development waste (2017 Ann Report). Please confirm the volume of boxcut development waste stored on the mine waste stockpile area (Chap II, p. 17) and modify Chap II. C. accordingly.

Deficiencies Details:

The application does not meet the R645-301-121.100, current information requirements. The following deficiency must be addressed prior to final approval:

R645-301-121.100, Please confirm the volume of boxcut development waste stored on the mine waste stockpile area (Chap II, p. 17) and modify Chap II. C. accordingly.

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. The storm water runoff system was inspected (culverts, diversions, sediment ponds etc.). The MRP meets the requirements for Diversions as required in R645-301-732.300, 742.100, 6 / 10 742.200, 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. 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. 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

Hydrologic Stream Buffer Zones

Analysis:

The MRP meets the State of Utah R645 requirements for Stream Buffer Zone.

R645-301-731.600 requires that no land within 100 feet of a perennial stream or an intermittent stream or an ephemeral stream that drains a watershed of at least one square mile will be disturbed unless the Division specifically authorizes coal mining and reclamation operations to occur closer to, or through such a stream. Page VI-27 discusses stream buffer zones. Plate V-5, Subsidence Monitoring Points and Buffer Zones, depicts the location of stream buffer zones established on both Christiansen Wash and Quitchupah Creek. All perennial and intermittent streams in the permit area are protected by 100-foot stream buffer zones on either side of these streams. Coal mining and reclamation operations have been designed to minimize any adverse effects on water quantity and quality for these receiving streams. Areas surrounding the streams that are not to be disturbed are designated as buffer zones, and the Permittee has marked these areas as specified in R645-301-521.260.

The Emery No 2 expansion is located within an unnamed drainage tributary to Quitchupah Creek. Appendix VI-22, Baseline Investigation of Unnamed Ephemeral Wash identifies the drainage as ephemeral. Additionally, the unnamed drainage drains a watershed of less than one square mile. The Permittee utilizes an undisturbed by-pass culvert to safely convey the flow from the unnamed channel around the proposed expansion area. The by-pass culvert has been designed per the requirements of R645-301-742.300. The Permittee has also obtained a Stream Alteration Permit from the State of Utah Division of Water Rights (See Appendix VI-20, Stream Alteration Permit for the Emery 2 Surface Facility).

schriste

Hydrologic Sediment Control Measures

Analysis:

The MRP meets the State of Utah R645 requirements for Sediment Control Measures.

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. Revisions to the approved MRP relative to Sediment Control Measures are not required at this time. A field inspection was performed on May 30th, 2018. The storm water runoff system was inspected (culverts, diversions, sediment ponds etc.).

The approved MRP outlines the utilization of diversion channels, sedimentation ponds, containment berms, silt fences and road diversions and culverts as the primary sediment control measures. The application meets the Sediment Control Measure requirements as provided in R645-301-732. On page VI-38, the application discusses the various sediment control measures implemented at the site. The sediment control measures have been designed, constructed and maintained to accomplish the following:

- Prevent additional contributions of sediment to stream flow or to runoff outside the permit area;
- Meet the effluent limitations defined in Section VI.5.1; and
- Minimize erosion to the extent possible.

The sediment control plan includes:

- Retention of sediment within the disturbed area;
- Diversion of runoff away from the disturbed area;
- Diversion of runoff using channels or culverts through disturbed areas to prevent additional erosion;
- Provision of riprap, silt fences, site revegetation, ponds and other measures that reduce overland flow velocities, reduce runoff volumes, or trap sediment; and
- Treatment of mine drainage in underground sumps prior to being discharged to the surface.

The Permittee also utilizes a number of alternative sediment control methods for surface drainage that does not pass through a sedimentation pond. Details regarding the alternative sediment controls are provided in Appendix VI-8. Table VI-21 provides the locations of the alternative sediment controls that have been installed at the mine site. Alternative sediment control measures installed at the site include: runoff collection berms, rock check dams, silt fences and vegetative cover.

schriste

Hydrologic Siltation Sedimentation

Analysis:

The MRP meets the State of Utah R645 requirements for Sedimentation Ponds.

The sedimentation ponds utilized on the property meet the requirements as provided in R645-301-732.200 and -742.220. The mining operation utilizes 5 sedimentation ponds, not including the 3 mine-water discharge ponds. Discussion of the design of the mine-water discharge and sedimentation ponds are discussed in Section VI.4.2.2 of the MRP.

The sedimentation ponds were designed to provide treatment or full containment of the total runoff volume from a 10-year, 24-hour precipitation event. The sedimentation ponds were constructed with a dewatering system consisting of slide gates that remain closed except when dewatering. Dewatering of these ponds occurs after a minimum of 24 hours of storm water detention is provided to achieve effluent limitations. A registered professional engineer certified all sedimentation ponds at the Emery Mine after construction with as-built drawings submitted and approved by the Division. In addition, all ponds are inspected in accordance with applicable regulations.

Plans and cross sections associated with the sedimentation and mine-water discharge ponds are located provided on Plates VI-14 through VI-20, Plate VI-20A and Appendix VI-7 of the approved MRP. Each plan is designed to work individually to manage the design sediment volume and safely convey the peak discharge rate from its respective drainage area. All sedimentation ponds are located as near as possible to the disturbed areas that report to them.

Sediment storage and cleanout quantities (i.e. volumes and elevations) are presented in Table VI-19. The calculations utilized to generate these quantities are presented in Appendix VI-7. The Permittee commits to clean out each pond when its actual sediment storage equals 60% of the design volume.

The Emery No. 2 expansion utilizes a drainage conveyance system that routes and/or pumps all disturbed drainage to existing Sediment Pond 3. Sediment Pond 3 was originally designed and approved to contain the runoff resulting from a

100-year, 6-hour event from a smaller drainage area that what will not contribute to the pond following the mine expansion. The Permittee redesigned Pond 3 to contain and safely treat the runoff generated from a 10-year, 24-hour precipitation event as required per R645-301-742.220, and 221.33. As Pond 3 had previously only collected runoff from the coal stockpile area, the pond was enlarged to collect and treat runoff from the mine expansion area. The stage-storage capacity for Pond 3 is provided in Table 3 of Appendix VI-21. On page 5 of Appendix VI-21, the Permittee states, "Sediment will be removed when 60% of the design sediment capacity (11,380 cubic feet) has accumulated (an elevation of approximately 5,905.15').

schriste

Hydrologic Ponds Impoundments Banks Dams

Analysis:

The MRP meets the State of Utah R645 requirements for Ponds, Impoundments, Banks, Dams and Embankments.

The embankments are discussed on page VI-29 of the MRP. The embankments were designed and constructed to maintain a combined upstream and downstream slope of not less than 1v: 5h, with neither slope steeper than 1v: 2h. 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. In addition, channel bottoms will be armored with rock riprap where necessary.

It should be noted that during the construction of the sedimentation ponds, the embankment materials were free of sod, large roots, frozen soil and acid- or toxic-forming coal processing waste. The embankments were compacted during placement of the materials.

schriste

Reclamation Plan

Topsoil and Subsoil

Analysis:

The MRP does not meet the requirements of R645-301-121.100, current information, because as built excavation volumes must be provided in Chap IV, p. 8c and 8f and Section IV. B, Table III-1A. and Chap III pg 15g and 15h . The MRP assumed 114,350 CY of excess cut material would be stored at the waste disposal site for use in final reclamation (based on a 30% swell factor). The 2017 Annual Report states that there was 97,989 CY placed at the waste rock site. The MRP estimates 149,000 CY is required for reclamation. Changes to the the reclamation plan resulting from the as built volumes should be updated in the cut/fill balance provided in Chap III, Table III-1 and Chap III p. 15d-g and p. 21a. Changes to the bonding should be addressed accordingly.

Deficiencies Details:

The application does not meet the R645-301-121.100, current information requirements. The following deficiency must be addressed prior to final approval:

R645-301-121.100, As built excavation volumes must be provided in Chap IV, p. 8c and 8f and Section IV. B, Table III-1A. and Chap III pg 15g and 15h . Changes to the the reclamation plan resulting from the as built volumes should be updated in the cut/fill balance provided in Chap III, Table III-1 and Chap III p. 15d-g and p. 21a. Changes to the bonding should be addressed accordingly.

pburton

Bonding Determination of Amount

Analysis:

The application does not meet the State of Utah R645 requirements for Determination of Bonding Amount.

The reclamation cost estimate which is incorporated into the current Emery Deep Mining and Reclamation Plan has not been updated to current unit costs. Direct unit costs used to calculate the bond estimate need to account for overhead and profit costs (O&P), and be updated and escalated to 2023 dollars.

The State of Utah Technical Directive 007 (Tech 007) details how all Permittees are expected to appropriately calculate reclamation bonds within the State of Utah, and has recently been amended. The approved changes are to be enacted in 2018, and applied at the time of permit renewal or midterm review. One of the most significant items that is addressed in the updated version of Tech 007 is that overhead and profit costs should be applied to all direct unit costs. Taking this into account, the Permittee must provide updated information for estimated bonding costs with supporting calculations for all cost estimates with O&P applied to the direct unit costs and escalated to 2023 . The updated 5 year escalation factor to be used in the bonding calculations is 1.78%.

Deficiencies Details:

The application does not meet the State of Utah R645 requirements for Determination of Bonding Amount. The following deficiency must be addressed prior to final approval:

R645-301-830: The reclamation cost estimate which is incorporated into the current Emery Deep Mining and Reclamation Plan needs to be updated. Direct unit costs used to calculate the bond estimate need to account for overhead and profit costs (O&P), and be escalated to 2023 dollars.

jeatchel