



GARY R. HERBERT
Governor
GREG BELL
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining
JOHN R. BAZA
Division Director

Technical Analysis and Findings

Utah Coal Regulatory Program

September 13, 2016

PID: C0070013
TaskID: 5248
Mine Name: HORSE CANYON MINE
Title: DRAINAGE REVISIONS

Environmental Resource Information

Probable Hydrologic Consequences Determination

Analysis:

The amendment meets the State of Utah R645 requirements for Probably Hydrologic Consequences Determination.

The PHC, found in Appendix 7-3, was updated to include the potential for increased mine water discharge. The analysis of increased discharge into the Right Fork of Lila Canyon was completed using 4.63 cfs of discharge, increasing it from the original analysis of 1.1 cfs. 4.63 cfs is still well below the bank full conditions of the existing drainage and the risk of flooding should not increase. The flow distance in the drainage was re-analyzed and the discharge distance was increased from 3.4 miles to 8.5 miles, including subsurface flow. This still would not extend flow to the Price River, but if it did somehow reach the Price River, the flow would only account for 3.8% of the flow volume in the receiving river.

This revision of the PHC did not impact the previously made determination of no no impact to the underground or surface water within the proposed permit or adjacent area.

adaniels

Operation Plan

Mining Operations and Facilities

Analysis:

The amendment does not meet all the State of Utah R645 requirements for Mining Operations and Facilities.

The amendment was originally submitted under Task 5056 in March 2016, Task 5095 in May 2016, and Task 5208 in July that did not meet the requirements of R645-301-500 and -800 by presenting conflicting information with the mine plan details, plates, and drawings presented within the amendment. The Division recommends approval upon the receipt of a copy of the approval of the application for work in the right of way from the BLM.

The amendment does not meet the requirements of R645-301-512.120,512.200, -542.800, and -553 by not updating cut/fill certified engineered drawings and narrative for the proposed changes in reclamation. The narrative of grading activities within Chapter 5 was updated to include the new plates and that fans will be dismantled and taken underground. The amendment did not include an update to cut/fill tables provided for the proposed earthwork detailed on Plate 7-6a and 7-6b. The Permittee must provide updated earthwork sheets showing the additional grading that will be required due to the

resizing of Pond #1. The sheets must be submitted within the complete application for review.

Narrative within Chapter 5 was amended does not meet the requirements of R645-301-521,-526. The amendment did include updates to reference the historic Horse Canyon mine, which has received Phase III bond release. The edit's removing Part A should included the removal of Part A Drawing 2.2 should be removed: Chapter 5 page 20 section 521.111, Chapter 5 page 21 Section 521.122, Chapter 5 page 35 section 525.120, Chapter 5 page 67 section 553.500-540.

Narrative within Chapter 5 Section 533.200 was updated to reflect the two impoundments. The detailed designs of the ponds can be found in Appendix 7-4, Section 3.1 and on Plate 7-6a and 7-6b. Narrative within page 14 of Chapter 5 is correctly as the lengths and diameters of the culverts presented matches the information presented in Table 9 of Chapter 7. The Mine facility list in Chapter 5 was also updated to fix housekeeping errors. Plate references added to Section 533.220 do meet the requirements but additional narrative describing the ditch operations, or references to Chapter 7 narrative, are missing.

Additional language was added to clarify the Northern Ventilation fan facilities was included with this amendment when it was submitted in May 2016 under Task 5095 on page 11 of Chapter 5. These changes to the MRP should have remained within this current application. The permittee re-add narrative clarifying the North Ventilation fan facilities that was presented in Task 5095 back Chapter 5, pages 11/12.

Deficiencies Details:

R645-301-512.120, R645-301-532, R645-301-533.200, R645-301-542.800, R645-301-553, and R645-301-830.140: The Permittee must provide:

-Correct edit's that incorrectly removed only Part A or Part B references in: Chapter 5 page 20 section 521.111, Chapter 5 page 21 Section 521.122, Chapter 5 page 35 section 525.120, Chapter 5 page 67 section 553.500-540. The Permittee should remove the complete Part A references, i.e. Part A Drawing 2.2 should be completely removed.

cparker

Relocation or Use of Public Roads

Analysis:

The amendment conditionally meets the State of Utah R645 requirements for the Relocation or Use of Public Roads.

The Permittee did provide updated narrative within Appendix 5-4 for the Division to be able to determine if the requirements of R645-301-527, -534 and -552 are met within the amendment. The additional text was added detailing road grading is primary to build an access road for the Pond 1 and expanded the bank/storage capacity of the pond. The road is open to the public and still owned and the BLM has jurisdiction regarding the proposed work on the Emery County Road in lieu of Emery County. The cover letter of the amendment states that Utah American Energy submitted an application for a right-of-way encompassing the proposed road work and area around the dam of Sediment Pond #1 on May 24, 2016. The permittee has yet to receive approval and will send a copy of the approval to the Division upon the letter's arrival. UtahAmerican Energy recognizes that work will not commence on the roadway until the right of way has been approved. The Division recommends conditional approval upon the receipt of a copy of the BLM's application for right-of-way approval.

The amendment narrative in Appendix 5-4 meets R645-301-521.133 by detailing general mining methods that would be employed under or within 100 ft of public roads to protect interest of the public. The amendment must also address R645-103.224.422 by providing proof of a weekly public notice. In addition, narrative in the corresponding sections of Chapter 5 and/or Appendix 5-4 would need to be updated to reflect the changes proposed within this amendment.

cparker

Topsoil and Subsoil

Analysis:

Analysis:
The information provided meets the requirements of timing of soil salvage, R645-301-232.600.

Drainage diversions D8 and D9 run through the middle of undisturbed land as shown on Map 7-5. As shown on Map 2-3A topsoil will be removed from these undisturbed areas (UDA-1 and UDA-2) prior to construction of the drainage ditches D8, D9 and prior to installation of culverts DC11 and DC12 a-d. The only remaining disturbed area shown on Map 2-3a is the "never to be disturbed" Undisturbed area along the South permit boundary, which has a different hatch mark.

The Estimated Project Topsoil Table on Map 2-3a estimates that 2,604 CY will be salvaged from both UDA-1 and UDA-2 (which total 1.09 acres) for the installation of drainage diversions and culverts. However, the acreage table on Map 2-3a states that there is still 2.02 acres to be disturbed. The difference between one or two acres remaining to be disturbed is insignificant in relation to the total acreage disturbed to date (31.88 acres). The Permittee understands that all undisturbed topsoil/subsoil encountered in the construction of drainage ditches will be salvaged (conversation with P.J. Jenson, July 7/14/2016). And, the as built acreage and volume will be provided with the 2016 Annual Report.

pburton

Hydrologic Water Quality Standards

Analysis:

The amendment meets the State of Utah R645 requirements for the Hydrologic Water Quality Standards.

The Permittee added information regarding their UPDES permit on page 88 of Chapter 7. Under their current UPDES permit they are allowed to discharge from the mine and from the ponds, and it is included in the details of the UPDES permit.

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Hydrologic Ponds Impoundments Banks Dams

Analysis:

The amendment meets the State of Utah R645 requirements for Hydrologic Ponds.

The previous deficiency listed under task ID 5208 was addressed by adding a commitment to page 12 of Appendix 7-4 of the MRP that if the mine discharge exceeds their current predictions (4.5 cfs/2,020 gpm) their pond and drainage hydrology plan will be revised.

adaniels

Maps Facilities

Analysis:

The amendment meets the State of Utah R645 requirements Mining Facilities Maps.

The Plates provided within the application provide competing information with the amendment narrative and maps. Plate 8-1 shows the final construction plan proposed for Lila Canyon Mine. Plate 5-2 was updated to reflect the current facilities and grading of the main facilities area. Detailed designs of both sediment ponds at the main facilities were updated on Plate 7-6a and 7-6b.

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Reclamation Plan

Backfill and Grading General

Analysis:

The amendment does not meet the State of Utah R645 requirements for Backfill and Grading.

The amendment does not meet the general requirements of R645-301-553 by failing to provide updated bond earthwork sheets and a general discussion of grading at reclamation for the fans and ponds. The Permittee must provide updated reclamation volumes of the additional grading required to reclaim the culverts and larger pond.

Deficiencies Details:

R645-301-843.140: The Permittee must provide updated reclamation bond sheets for the following bonding spreadsheets, similar to those submitted under Task 5095:
Demolition total
Demolition culverts

Earthwork total
Earthwork backfill
Earthwork support
Total sheet

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Topsoil and Subsoil

Analysis:

Analysis:

The disturbed area covers 31.88 acres and will be 33.9 acres at completion of construction (2015 Annual Report Map 2-3). To date, 65,746 CY of topsoil, have been salvaged. That is very close to the 66,237 CY expected (Chap 2, p. 9). This topsoil figure likely includes some subsoil salvaged and stockpiled from the bent tower construction, the current truck loop areas. Plate 2-3a is the as-built topsoil salvage map.

The deepest pockets of subsoil (for use in final reclamation) are identified on Map 2-3 as Strych Bouldery fine sandy loam (SBG) and Strych Very bouldery fine sandy loam (VBJ). These subsoils are shown on Map 2-3 in the location of the mine parking, employee parking, the storage yard, the topsoil storage pile, the substation and the coal storage pile. The 2015 annual report states that the subsoil salvaged for use as cover over the 28,000 CY of mine waste will be tracked and an as-built will be provided when construction is completed.

pburton

Maps Reclamation Final Surface Configuration

Analysis:

The amendment meets the State of Utah R645 requirements for Reclamation Backfilling and Grading Maps.

The requirements of R645-301-542 are met within the amendment due to no changes suggested to the final reclamation backfill maps.

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Maps Reclamation Certification Requirments

Analysis:

The amendment meets the State of Utah R645 requirements for Certification Requirements.

R645-3010-512 requirements are met as all mine drawings and plates are stamped by a Utah certified professional engineer, David W Hibbs.

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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 requirements of R645-301-830.140 as the Permittee did provide detailed bond information for the demolition of the provided ditch and culvert information is present throughout the application in the narrative, tables and plates. The Permittee did provide the Division with additional excel sheets outside the application, however, the sheets accounted for salvage and appeared to be for a different mine. The bond sheet updates will only apply to Demolition total, Demolition culverts, Earthwork total, Earthwork Backfill, Earthwork support, and Total sheet. The information updated within said sheets should include the reclamation of the new culverts and ditches in 2013 unit costs. The amendment should only include the additional demo of the new culverts and does not need to include updates to every line item unit cost. The updated sheets then must also be included within the complete application to the Division for review and acceptance into the MRP.

Deficiencies Details:

R645-301-843.140: The Permittee must provide updated reclamation bond sheets for the following bonding spreadsheets:
Demolition total
Demolition culverts
Earthwork total
Earthwork backfill
Earthwork support
Total sheet

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