



Technical Analysis and Findings
Utah Coal Regulatory Program

May 3, 2016

PID: C0070013
TaskID: 5095
Mine Name: HORSE CANYON MINE
Title: DRAINAGE REVISIONS

Environmental Resource Information

Probable Hydrologic Consequences Determination

Analysis:

The amendment does not meet the State of Utah R645 requirements for Probable Hydrologic Consequences Determination. The PHC was not updated. This is required due to the mine discharging, when during initial permitting, the operators stated that mine discharge was unlikely.

Deficiencies Details:

The amendment does not meet the State of Utah R645 requirements for Probable Hydrologic Consequences Determination. The following deficiency must be addressed prior to final approval: R645-301-728 The PHC must be updated to account for mine discharge.

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 does not meet the requirements of R645-301-512.120,512.200, -542.800, and -553 by updating cut/fill certified engineered drawings and narrative for the proposed changes in reclamation. The narrative of grading activities within Chapter 5 were not updated nor were any cut/fill tables provided for the proposed earthwork detailed on Plate 7-5. The grading shown on Plate 7-5 needs to be removed and added to an engineering map that shows all operational grading. Narrative within Chapter 5 was amended that meets 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 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 on page 11 of Chapter 5. These changes to

the MRP should remain in further submissions.

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:

- Updated narrative within Chapter 5 describing the drainages reporting to ponds or references to Chapter 7 description in Section 533.200
- A clear operational grading map and remove the grading details on Plate 7-5
- A clear operational structures map on Plate 5-2 and further maps as necessary to make detailed bonded items clear
- A clear future structures map for bonding estimates
- A clear and concise Plates for Plate 7-2, 7-5, 7-6A, and 7-6b showing only the respective feature (i.e. only watersheds on Plate 7-2, only ditches and culverts on Plate 7-5, etc.)
- Bond sheets must be updated to reflect changes in Chapter 5 and Chapter 7 ditches
 - o DC-3 needs 70 ft instead of 65 ft length
 - o DC-11 needs 35 ft instead of 25 ft length
 - o DC-12a needs 141 ft instead of 140 ft length
 - o DC-12b needs 2.5 ft diameter instead of 2 ft
 - o DC-12c needs 2.5 ft diameter instead of 2 ft
 - o DC-13 needs 60 ft instead of 45 ft length

cparker

Topsoil and Subsoil

Analysis:

Analysis:
The application does not meet the requirements for R645-301-121.100 and R645-301-121.200: clear and concise and current information in the Mining and Reclamation Plan, because: (1) The location for salvage of topsoil and subsoil during construction in 2016 was said to be shown on Plates 7-2, 7-5, 7-6a and 7-6b, but no areas of topsoil salvage were shown on Plate 7-2. The legend on Plate 7-2 includes topsoil berms, but none could be located on Plate 7-2. Undisturbed areas shown on Plate 7-5 do not completely agree with those shown on the June 2015 Topsoil Removal Map provided with the application. The June 2015 map shows undisturbed area in the vicinity of the proposed truck loadout which is not shown on Plate 7-5.

The application brings the annual report of topsoil and subsoil salvage current to June 2015. The annual report supercedes information in the Available Resources Table of Section 232.100. This report indicates that 25,509 LCY were recovered from 2010-2015. The Topsoil Removal Map provided with the application states that 2.02 acres will yet be disturbed. The Topsoil Removal Map includes a chart of volume salvaged by location rather than soil type. Total volume salvaged is 65,746 LCY as of June 2015. Photographs in the annual report suggest that a pile of soil removed May 26, 2010, adjacent to the substation, is topsoil that should be removed to the topsoil stockpile.

Soils salvaged in 2014 and 2015 were placed on the south side of the topsoil stockpile and were seeded with the mix provided in Table 3.4/3.5 of the MRP. The south side of the topsoil pile was seeded in December 2015 (personal communication with Karin Madsen 3/16/2016).

Plate 7-5 states that 18 inches of topsoil will be removed from proposed ditch locations and stored at the SW corner of the topsoil stockpile location. New ditches and culverts entering the sediment ponds are shown on Plate 7-6a and 7-6b. Culverts DC-10, DC-11, DC-12a, DC-12b, DC-12c and DC12d will be installed, backfilled and seeded with the mix presented in the application which is the same as that shown in Table 3.4/3.5 of the MRP.

Deficiencies Details:

Deficiencies:
The application does not meet the requirements for R645-301-121.100 and R645-301-121.200: clear and concise and current information in the Mining and Reclamation Plan, because:

(1) The location for salvage of topsoil and subsoil during construction in 2016 is said to be shown on Plates 7-2, 7-5, 7-6a and 7-6b, but no areas of topsoil salvage were shown on Plate 7-2. The June 2015 Topsoil Removal Map indicates there are additional areas of topsoil in-situ that must either be salvaged or protected during this construction. If salvage is to be conducted, please indicate so. If not, protection methods must be described.

(2) The legend on Plate 7-2 includes topsoil berms, but none could be located on Plate 7-2.

(3) Undisturbed areas shown on Plate 7-5 do not completely agree with those shown on the June 2015 Topsoil Removal Map provided with the application.

(4) Please evaluate whether a pile of soil removed May 26, 2010, adjacent to the substation, is topsoil that should be removed to the topsoil stockpile location. Photographs of this stockpile are in the annual report. This pile of soil was noted during an inspection on 3/16/2016.

(5) The application must incorporate the June 2015 Topsoil Salvage Map into the MRP and update the total volume of topsoil salvaged to date (65,746 CY) in the MRP.

pburton

Road System Other Transportation Facilities

Analysis:

The amendment does not meet 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 road grading primary purpose 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 maintained by Emery County.

The Permittee still needs to demonstrate the owner of the road, Emery County, is satisfied by providing a copy of any construction/ use permits acquired for the road work.

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.

Deficiencies Details:

R645-301-521.133, R645-103-224.422, R645-301-527, R645-301-534: The Permittee will provide proof of a weekly public notice and agreement with Emery County (Copy of Permit or letter acknowledging the mine's responsibilities during construction).

cparker

Hydrologic General

Analysis:

The amendment does not meet the State of Utah R645 requirements for Hydrologic, General.

Narrative was not added to chapter 7 describing the planned changes in drainage for the mine surface facilities. There was also no discussion about impacts and changes in operations regarding mine discharge. Changes should be made to the plan to address the current need for mine discharge. This should include a revision to the PHC as well as additional monitoring commitments to evaluate the quantity and quality of the mine discharge.

Deficiencies Details:

The amendment does not meet the State of Utah R645 requirements for Hydrologic, General. the following deficiency must be addressed prior to final approval:

R645-301-700 Narrative to chapter 7 of the MRP must be added describing the need for and the exact drainage changes that will be made to the surface facilities, specifically ditches, culverts, and ponds. Narrative should also be added addressing issues related to the mine beginning to discharge. This should include a revision to the PHC, as well as additional monitoring commitments to evaluate the quantity and quality of the discharge.

adaniels

Hydrologic Gravity Discharge From Underground Mine

Analysis:

The amendment does not meet the State of Utah R645 requirements for Hydrologic Gravity Discharge From Underground Mine.

The permittee has included information in the design of Pond 1 which will account for mine discharge, and the operator has indicated that the mine will be discharging. Rules R645-301-731.520 must be addressed.

Deficiencies Details:

The amendment does not meet the State of Utah R645 requirements for Hydrologic Gravity Discharge From Underground Mine. The following deficiency must be met prior to final approval:

R645-301-731.520 The sited mine discharge rules must be addressed with the beginning of the Lila mine discharging.

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Hydrologic Water Quality Standards

Analysis:

The amendment does not meet the State of Utah R645 requirements for Hydrologic Water Quality Standards.

Appendix 7-4 includes the storage and treatment of mine discharge as part of the revision to sediment pond 1. The Permittee should include information regarding changes made to the UPDES outfall to allow for this change in operations.

Deficiencies Details:

The amendment does not meet the State of Utah R645 requirements for Hydrologic Water Quality Standards. The following deficiency must be addressed prior to final approval:

R645-301-731.222 The Permittee must include information regarding changes made to the UPDES permit to allow for change in operations regarding the handling of mine discharge.

adaniels

Maps Facilities

Analysis:

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

The Plates provided within the application provide competing information with the amendment narrative and maps. Per discussions with the Permittee on April 20, 2016, all maps will be amended to show only specific information for clarity purposes and only show current operations. All future plans for the facilities will be added to new maps for bonding purposes.

Deficiencies Details:

R645-301-512.200, R645-301-521.180-.190, 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:

- A clear operational grading map and remove the grading details on Plate 7-5
- A clear operational structures map for Plate 5-2
- A clear and concise Plates for Plate 7-2, 7-5, 7-6A, and 7-6b showing only the respective feature (i.e. only watersheds on Plate 7-2, only ditches and culverts on Plate 7-5, etc.)

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Reclamation Plan

Backfill and Grading General

Analysis:

The amendment now meets the State of Utah R645 requirements for Backfill and Grading.

The amendment meets the general requirements of R645-301-553 by providing updated bond earthwork sheets and a general discussion of grading at reclamation for the fans and ponds.

cparker

Maps Bonded Area

Analysis:

The amendment does not meet the State of Utah R645 requirements for Bonded Area.

The requirements of R645-301-800 are not met within the amendment as the ditch designed presented within Chapter 5 do not match the bond sheets.

Deficiencies Details:

R645-301-521.100, R645-301-800, R645-301-542.800, R645-301-830.140: The Permittee must provide:

- Updated operational 5-2 Plate
- A clear operational grading map and remove the grading details on Plate 7-5
- A clear bonded future structures map

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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.

cparker

Maps Reclamation Certification Requirements

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.

cparker

Bonding and Insurance General

Analysis:

The amendment does not meet the State of Utah R645 general requirements for Bonding and Insurance Requirements.

The amendment includes changes to Chapter 5 text culverts that is change the line item bond amounts, however, the information presented conflict with the details in Chapter 7 and Plate 7-5, 7-6a.

Deficiencies Details:

R645-301-121.200, R645-301-542.800, R645-301-553, R645-301-843.140: The Permittee shall correct all tables within Chapter 5, Appendix 7-4, Bond sheets, and all relevant plates to match.

- Bond sheets must be updated to reflect changes in Chapter 5 and Chapter 7 ditches
 - o DC-3 needs 70 ft instead of 65 ft length
 - o DC-11 needs 35 ft instead of 25 ft length
 - o DC-12a needs 141 ft instead of 140 ft length
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 - o DC-12c needs 2.5 ft diameter instead of 2 ft
 - o DC-13 needs 60 ft instead of 45 ft length

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Bonding Form of Bond

Analysis:

The amendment meets the State of Utah R645 requirements for Form of Bond.

The amendment meets the requirements of R645-301-860.100 as the applicant does currently meets all the -860 requirements of a surety bond.

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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 but conflicting ditch and culvert information is present throughout the application in the narrative, tables and plates. The Permittee updated the demolition sheet to 2013 year dollars and provided updated Earthwork sheets. The updated demolition sheet still contains error detailed in the findings below that need to be addressed.

Deficiencies Details:

R645-301-121.200, R645-301-542.800, R645-301-553, R645-301-843.140: The Permittee shall correct all tables within Chapter 5, Appendix 7-4, Bond sheets, and all relevant plates to match.

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Bonding Terms and Conditions Liability Insurance

Analysis:

The amendment meets the State of Utah R645 requirements for Terms and Conditions for Liability Insurance.

The amendment meets the requirements of R645-301-850 as the applicant currently holds liability insurance through The insurance includes the required Marsh from, explosives and claims made per occurrence.

cparker