



Technical Analysis and Findings
Utah Coal Regulatory Program

July 15, 2016

PID: C0070013
TaskID: 5208
Mine Name: HORSE CANYON MINE
Title: DRAINAGE REVISIONS

Environmental Resource Information

Soils Resource Information

Analysis:

Analysis:
The information provided meets the requirements of the operation plan with regard to Undisturbed islands which will not be disturbed during the life of mine. (Chapter 2, page 7).The Undisturbed within the disturbed area boundary lies to the south along the drainage at the permit boundary. The Topsoil Removal Map provided in the 2015 annual report states that there are 8.7 acres remaining as Undisturbed.
The Undisturbed acreage should be verified prior to the 2016 annual report, since it is slightly larger than stated in 2011. As a reminder, Chapter 2, page 7 states , Undisturbed islands located within the disturbed area will not be disturbed unless the mine reclamation plan is amended to allow for disturbance.

pburton

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 state that the mine discharge was unlikely. The current submission states that this PHC update is being worked on, but is not yet complete.

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 not 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 7-6a 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.

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 should re-add narrative clarifying the North Ventilation fan facilities that was presented in Task 5095 back Chapter 5, pages 11/12. The text originally said, "Ventilation fans will be located on Portal and on the Northern Breakouts. The ventilation fan will be accessed and installed from inside the mine. The need for surface access is not anticipated at this time. A concrete pad will be poured as a permanent support for the north fan. The highwall and approximately 40 feet of slope above the north breakout ledge will be chain-linked and shot-creted for stability. Prior to installing the chainlink." Chapter 5 page 64 also had clarifying text that needs to be re added under Section 553.120 stating, "During reclamation, the fans will be dismantled and either salvaged or taken underground. The chainlink bolts will be cut off 6 inches below the surface and the shot-crete and mesh will be disposed of underground. The concrete will be buried during highwall reclamation and suitable material will be placed against the portals. This material will be shaped to eliminate the highwall and to bring the slope back to the approximate original contour."

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 edit's removing Part A or Part B references should not be removed: Chapter 5 page 19 section 521.111, Chapter 5 page 20 Section 521.122, Chapter 5 page 34 section 525.120, Chapter 5 page 66 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.

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.

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:

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 should re-add narrative clarifying the North Ventilation fan facilities that was presented in Task 5095 back Chapter 5, pages 11/12. The text originally said, "Ventilation fans will be located on Portal and on the Northern Breakouts. The ventilation fan will be accessed and installed from inside the mine. The need for surface access is not anticipated at this time. A concrete pad will be poured as a permanent support for the north fan. The highwall and approximately 40 feet of slope above the north breakout ledge will be chain-linked and shot-creted for stability. Prior to installing the chainlink." Chapter 5 page 64 also had clarifying text that needs to be re added under Section 553.120 stating, "During reclamation, the fans will be dismantled and either salvaged or taken underground. The chainlink bolts will be cut off 6 inches below the surface and the shot-crete and mesh will be disposed of underground. The concrete will be buried during highwall reclamation and suitable material will be placed against the portals. This material will be shaped to eliminate the highwall and to bring the slope back to the approximate original contour."

Culverts listed on page 14 of Chapter 5 should match Table 9 in Chapter 7

DC-4 length should be verified as either 274' or 270'

DC-8 length should be verified as either 167' or 168'

DC-12b length should be verified as either 79' or 76'

DC-12c length should be verified as either 357' or 354'

DC-14 diameter should be verified as either 24" or 18"

SP2-1 diameter should be verified as either 24" or 18"

The Permittee must provide updated reclamation bond sheets for the following boning spreadsheets, similar to those submitted under Task 5095:

Demolition total
Demolition culverts
Earthwork total
Earthwork Backfill
Earthwork support
Total sheet

cparker

Relocation or Use of Public Roads

Analysis:

The amendment 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 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 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 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:

R645-301-527, -534 and -552: 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.

cparker

Topsoil and Subsoil

Analysis:

Analysis:

The information provided does not meet with the requirements of timing of soil salvage, R645-301-232.600. The 2015 Annual report states that only 2.02 acres of undisturbed soil remain within the proposed development area remain. Drainage diversions D8 and D9 run through the middle of undisturbed land, see Dwg 7-5. The Permittee must completely removal all topsoil from the remaining undisturbed land within the disturbed area boundary (i.e. the proposed truck loop location and the substation outslope) prior to construction of drainage ditches D8, D9 and prior to installation of culverts DC11 and DC12 a-d. Map 2-3a should show this undisturbed area with a different legend from the Undisturbed (never to be disturbed). Map 2-3a should include the proposed acreage of salvage and estimated volume of topsoil salvage from the undisturbed. The as built amounts can be provided with the Annual Report.

Drawing 2-3a was provided to show the

Deficiencies Details:

Deficiency:

R645-301-232.600, In accordance with the existing plan, The Permittee must completely removal all topsoil from the remaining undisturbed land within the disturbed area boundary (i.e. the proposed truck loop location, beneath the powerline and the substation outslope, including soil mound) prior to construction of drainage ditches D8, D9 and prior to installation of culverts DC11 and DC12 a-d. Map 2-3a should show this undisturbed area with a different legend from the Undisturbed (never to be disturbed). Map 2-3a should include the proposed acreage of salvage and estimated volume of topsoil salvage from the undisturbed. The as built amounts can be provided with the Annual Report.

Hydrologic Water Quality Standards

Analysis:

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

The Permittee must discuss whether the UPDES permit has been revised to account for the addition of mine water discharge in sediment pond 1.

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:

R645-301-751 The Permittee must include text explaining whether the UPDES permit has been revised to account for the addition of mine water discharge into Sediment Pond 1.

adaniels

Hydrologic Sediment Control Measures

Analysis:

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

Appendix 7-4 has been updated to include additional explanation regarding the proposed changes to ditches and culverts throughout the surface facilities at the Lila Mine. The ditches and culverts are being updated and some changes are being made to keep the surface flow going to the appropriate sediment pond. The changes to these ditches and culverts are outlined in Appendix 7-4, specifically Tables 1-9.

adaniels

Hydrologic Ponds Impoundments Banks Dams

Analysis:

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

Sediment pond 1 is being enlarged to account for the re-configuration of ditches and culverts throughout the surface facilities. The supporting calculations for these changes are listed in Section 3 of Appendix 7-4. Pates 7-6a and 7-6b, for sediment ponds 1 and 2 have also been updated.

Sediment pond 1 has a required volume of 13.04 ac-ft to contain the design storm event (10 yr - 24 hr), sediment yield storage, and to contain an additional 7 ac-ft of mine water. This design information is contained in Table 11 of Appendix 7-4.

The permittee must add a commitment, that if mine discharge exceeds 2,020 gpm (4.5 cfs), as specified on page 12 of Appendix 7-4, the design of sediment pond 1 as well culvert DC-5 and any down stream ditches or culverts, will be re-calculated.

Deficiencies Details:

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

R645-301-742 The permittee must add a commitment, that if mine discharge exceeds 2,020 gpm (4.5 cfs), as specified on page 12 of Appendix 7-4, the design of sediment pond 1 as well culvert DC-5 and any down stream ditches or culverts, will be re-calculated.

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

cparker

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 bond sheets for the following boning spreadsheets, similar to those submitted under Task 5095:

Demolition total
Demolition culverts
Earthwork total
Earthwork Backfill
Earthwork support
Total sheet

Deficiencies Details:

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

Demolition total
Demolition culverts
Earthwork total
Earthwork Backfill
Earthwork support
Total sheet

cparker

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. 6). This topsoil figure likely includes some subsoil salvaged and stockpiled from the bent tower construction, the current truck loop areas.

The deepest pockets of subsoil 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. Map 2-3a is referred to in Chap 2, page 13 of the application, but it does not provide information on the source of subsoil/cover for the rock waste. This reference to map 2-3a is not accurate and should be removed. The 2015 annual report states that the subsoil 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.

Deficiencies Details:

R645-301-121.200, Map 2-3a is referred to in Chap 2, page 13 of the application, but it does not provide information on the source of subsoil/cover for the rock waste. This reference to map 2-3a is not accurate and should be removed.

pburton

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 must provide updated reclamation bond sheets for the following boning spreadsheets, similar to those submitted under Task 5095:

Demolition total
Demolition culverts
Earthwork total
Earthwork Backfill
Earthwork support
Total sheet

Deficiencies Details:

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

Demolition total
Demolition culverts
Earthwork total
Earthwork Backfill
Earthwork support
Total sheet

cparker