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State of Utah

DEPARTMENT OF NATURAL RESOURCES

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Executive Director

Division of Oil, Gas and Mining

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May 14th, 2020

Gregg Galecki
Canyon Fuel Company, LLC
HC 35 Box 380
Helper, Utah 84526

Subject: Conditional Approval of Modified Outfall Riprap Apron Design, Canyon Fuel Company, LLC, Skyline, C/007/0005, Task #6144

Dear Mr. Galecki:

The above-referenced amendment is approved conditioned upon receipt of 2 clean copies prepared for incorporation. Please submit these copies no later than May 22nd, 2020. Once we receive these copies, final approval will be granted.

A stamped incorporated copy of the approved plans will also be returned to you at that time, for insertion into your copy of the Mining and Reclamation Plan.

If you have any questions, please call me at (385) 290-9937.

Sincerely,

A handwritten signature in black ink, appearing to read "Steve Christensen".

Steve Christensen
Coal Program Manager

SKC/sqs
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Technical Analysis and Findings

Utah Coal Regulatory Program

PID: C0070005
TaskID: 6144
Mine Name: SKYLINE MINE
Title: MODIFIED OUTFALL RIPRAP APRON DESIGN

Summary

This application enlarges and fortifies the riprap apron at UPDES outfall 004 in Winter Quarters. Daren Rasmussen, Division of Water Rights authorized an Emergency Stream Alteration Emergency Action on May 1, 2020 (App. 118A). There is no increase to the disturbed area. Based on information provided, Skyline mine will be approved to discharge up to 1,200 gallons per minute mine water.

pburton

Environmental Resource Information

Fish and Wildlife Resource Information

Analysis:

The amendment meets the State of Utah R645-301-322 requirements for Fish and Wildlife Resource Information. Section 2.8.1, page 2-71a of the amendment contains a commitment to set up monitoring stations for macroinvertebrates during the low flow time period of 2020 and, should the mine still be discharging, again in 2021 before resuming the typical pattern of every three years, as illustrated on page 2-72a on Table 2.8.1a. The locations of these monitoring stations will be determined by qualified biologists during the 2020 season. The Permittee will also attempt to scale down the shutdown of the discharge gradually over the course of 3 to 4 days once it has become no longer necessary to discharge water from the mine. The ability to do this will be constrained by the equipment being used to operate the pump but, if possible at the time of shutdown, the Permittee will perform a gradual shutdown. At this time, the Permittee has also committed to not exceeding 1,200 gpm discharge prior to additional permitting.

tmiller

Soils Resource Information

Analysis:

The application meets the State of Utah R645 requirements for Soils: Environmental Description.

In his 2008 Soil Survey of Winter Quarters, Chris Jensen, Canyon Environmental, LLC., describes two pedons, SK2 and SK4, near Winter Quarters Creek (MRP App. 2 Vol 2, pdf p. 1894 of 5231). "These soils appear to contain a mixed A horizon to a depth of approximately 30 centimeters. In soil depths greater than 30 centimeters within the creek-bed, numerous sand and sandy clay depositional layers were identified above river cobble. River cobble was encountered in both profile locations at depths ranging from 52 to 89 centimeters below the ground surface....the soils from SK2 and SK4 most closely resemble the Silas series soils."

Mr. Dean Stacy, NRCS, described the ecological site as Wet Fresh Streambank (Willow) in their June 19, 2009 letter to

Mr. Galecki (MRP App. A2, Vol 2, p. 1,932 of 5,231). In 2009, Mr. Stacy noted that the productivity of the site was heavily impacted by grazing.

pburton

Probable Hydrologic Consequences Determination

Analysis:

This amendment meets the State of Utah R645 requirements for Probable Hydrologic Consequences Determination.

The permittee is proposing additional discharge from the Winter Quarter site by pumping mine water into Winter Quarter Creek. The Division finds the potential for increased sediment yield from the disturbed area or streamflow alteration to be minimal.

The application meets the requirements of R645-301-728 because a narrative was added to Chapter 2, Section 2.5 that offers a description of the potential impacts to Winter Quarters Creek due to mine-water discharge from outfall 004. Discharge is covered by Skyline Mine's current UPDES permit and any discharge from Outfall 004 must be compliant with that permit. Discharge from outfall 004 became necessary in April 2020 when the 8 through 15 left district filled with water 6-8 months earlier than anticipated. Mine #3 must remain accessible to extract remaining mining equipment from inactive workings, therefore water must be discharged from outfall 004 into Winter Quarters Creek. Winter Quarters Creek has been monitored above the discharge location, CS-20, since 2002 and below the discharge location, CS 24, since 2009 when outfall 004 was established. The two Geomorphology studies from EarthFax Engineering, March 2010 and April 2017, in Appendix A-1 support the statement that "No negative impacts to Winter Quarters creek due to mine-water discharge are anticipated".

In 2010 EarthFax produced a report (MRP App. A-1, pdf p. 735 of 5231) for Skyline Mine calculating the effect of discharging mine water from Winter Quarters Canyon mine portal into Winter Quarters Creek using FlowMaster version 6.0 software. FlowMaster models flow using Manning's Equation; equations are attached to the report. Through these calculations, it was determined that the maximum flow rate at which Skyline mine could discharge water at a non-erosive rate, including the maximum stream flow rate, was 6,217 gpm.

The permittee submitted an EarthFax report from April 2017 to be added to Appendix A-1; Evaluation of Geomorphic Conditions in Winter Quarters Canyon Near the Skyline Mine Ventilation Portal. In this report, EarthFax surveyed the longitudinal profile and cross section of the stream in four locations, WQ-1 through WQ-4, and collected and analyzed soil and streambed samples to evaluate the long-term impacts of portal operation on the stream. Erosional stability of the channel bed at each cross section was determined using the average hydraulic slope and maximum permissible velocity methods of the U.S. Natural Resources Conservation Service. The report concludes that the creek will remain stable with flows that far exceed the permitted cap of 1,200 gpm.

Chapter 2, section 2.4, page 2-45 of the amendment contains a commitment to monitor the four (4) established benchmark locations that were installed in Winter Quarters Creek in September 2016 for the Winter Quarters Geomorphology Survey. These four locations will be monitored for potential erosional features and will include photo documentation of each location, WQ-1 through WQ-4, as well as additional text observations. The monthly erosion reports will be submitted to the Division electronically in the month following the documentation. In addition to their quarterly water monitoring, Skyline has also committed to increase monitoring at Winter Quarters Creek as outlined in Chapter 2 Sections 2.3 and 2.4 of the MRP.

khinton

Operation Plan

Mining Operations and Facilities

Analysis:

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

The application satisfies the requirements of R645-301-526 because a narrative was added to Chapter 3, Section 3.2 that offers a description of the proposed discharge structure along with drawings and engineering specifications. The narrative states that the Permittee extended a dedicated HDPE pipe from the Winter Quarters pad to the decant pipe of the Sedimentation Pond (UPDES-004) to collect mine-water discharge. Although the Primary Outlet Culvert is sized to

accommodate 8.43 cfs, the calculated discharge rate for the Sediment Pond is 1.09 cfs, which leaves approximately 7.34 cfs of mine-water discharge capacity. The rip rap apron at the outfall will be upgraded to accommodate approximately 8.9 cfs (4,000 gpm). Calculations and drawings for the sizing of the improved rip rap apron are provided by Richard White, P.E., and have been included as Appendix A-5. Final grading and contouring plans on Page 4-28 indicate that the rip rap apron will be placed on the bottom of the Sedimentation Pond and buried in the latter stages of reclamation at the Winter Quarters ventilation facility.

jeatchel

Topsoil and Subsoil

Analysis:

The application meets the State of Utah R645 requirements for Soils: Performance Standards.

MRP Section 3.2 page 3-23(a) states that approximately 6 CY of topsoil will be removed for installation of discharge structure. Six cubic yards from the 10 ft x 10 ft rip rap structure will be approximately 1.5 foot cut which conforms with previous soil salvage in Winter Quarters (MRP, p. 4-34(a)). Salvaged topsoil will be placed on the existing stockpile shown on Dwg 3.2.4-3A and seeded. On page 3-23(b) the application states that the interim seed mix described in Table 4.7-9A will be applied to the topsoil stockpile. (Table 4.7-9A and Tale 4.7-8A are the same.)

No topsoil will be salvaged from beneath the pipeline which is in accordance with R645-301-232.400 et seq.

The location of the pipe and discharge structure (and topsoil salvage) is shown on Dwg 3.2.4-3A. Cross-section A-A' on Dwg 3.2.4-3E illustrates how the riprap will be imbedded into the ground after removal of topsoil.

pburton

Hydro Surface Water Monitoring

Analysis:

The amendment meets the State of Utah R645 requirements for Hydrologic: Surface Water Monitoring.

The Permittee submitted an amendment to the Skyline MRP to revise the ground and surface water monitoring program. The revisions include increased monitoring at locations CS 20 and CS 24 on a monthly basis, in addition to quarterly sampling, when UPDES outfall 004 is discharging from Winter Quarters. Monthly monitoring parameters include flow, field parameters, Total Suspended Solids (TSS) and Total Dissolved Solids (TDS). Included in the amendment, related to hydrology, are updates to section 2.3 of the MRP including Table 2.3.7-1. Monthly monitoring data will be uploaded to the Division database in the month following the date of collection.

khinton

Hydrologic Discharge Structures

Analysis:

The application meets the State of Utah R645 requirements for Hydrologic Discharge Structures.

The application satisfies the requirements of R645-301-744 -744.100 because a narrative was added to Chapter 3, Section 3.2 that offers a description of the proposed discharge structure along with drawings and engineering specifications. The narrative states that the Permittee extended a dedicated HDPE pipe from the Winter Quarters pad to the decant pipe of the Sedimentation Pond (UPDES-004) to collect mine-water discharge. Although the Primary Outlet Culvert is sized to accommodate 8.43 cfs, the calculated discharge rate for the Sediment Pond is 1.09 cfs, which leaves approximately 7.34 cfs of mine-water discharge capacity. The rip rap apron at the outfall will be upgraded to accommodate approximately 8.9 cfs (4,000 gpm). At this time, Skyline mine is not permitted to discharge above 1,200 gpm. Calculations and drawings for the sizing of the improved rip rap apron are provided by Richard White, P.E., and have been included as Appendix A-5. Final grading and contouring plans on Page 4-28 indicate that the rip rap apron will be placed on the bottom of the Sedimentation Pond and buried in the latter stages of reclamation at the Winter Quarters ventilation facility.

khinton

Maps Facilities

Analysis:

The application meets the State of Utah R645 requirements for Facilities Maps.

The application satisfies the requirements of R645-301-521.160 because the narrative is accompanied by several drawings and cross-sections that describe the proposed changes and additions to the Winter Quarters ventilation facility. Calculations and drawings for the sizing of an improved rip rap apron are provided by Richard White, P.E., and have been included as Appendix A-5. Plates 3.2.4-3A and 3.2.4-3E have been revised and updated to reflect the proposed changes. Plate 3.2.4-3A shows that the proposed changes to the Sedimentation Pond outfall structure are well within the permit area boundary. Sedimentation Pond plans and section details on Plate 3.2.4-3D have been certified by Gene H. Player, Registered Professional Engineer in the State of Utah.

jeatchel

Reclamation Plan

Topsoil and Subsoil

Analysis:

The application meets/does not meet the State of Utah R645 requirements for Soils: Redistribution.

There has been no change to the redistribution plan described in MRP, Section 4.6.6 (p. 4-41 (e) or pdf p. 138). The interim and final revegetation seed mixes for the WQVF area are listed in Tables 4.7-8A through 4.7-8C. (Section 4.7.9, p. 4.50 (a) or pdf p. 151).

The application states on page 4-28 that riprap from the outfall will be placed in the sediment pond before it is reclaimed. Affected riprap areas will be seeded with the mix described in Table 4.7.9B, a final revegetation seed mix.

pburton

Bonding Determination of Amount

Analysis:

The application meets the State of Utah R645 requirements for Determination of Bonding Amount.

The application satisfies the requirements of R645-301-830 and -542.800 because bonding calculations have been included that contemplate the demolition and disposal of the proposed discharge structure. According to the itemized bonding cost breakdown, \$2,000 has been earmarked for the removal of the rip rap discharge apron. 6 Yd³ of rip rap cobbles will be placed at the bottom of the Sedimentation Pond just prior to regrading and recontouring in the latter stages of final reclamation at the Winter Quarters ventilation facility.

The posted reclamation bond contains enough of a surplus that additional bond does not need to be posted to cover the \$2,000 required for additional reclamation.

jeatchel