GARY R. HERBERT
Governor
SPENCER J. COX
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES
BRIAN C. STEED
Executive Director
Division of Oil, Gas and Mining
JOHN R. BAZA
Division Director

February 7, 2020

Corey Heaps, Mine Manager
Canyon Fuel Company, LLC
HC 35 Box 380
Helper, Utah 84526

Subject: Midterm Completion Response, Canyon Fuel Company, LLC, Skyline Mine, C/007/0005, Task #6055

The Division has reviewed your application. The Division has identified deficiencies that must be addressed before final approval can be granted. The deficiencies are listed as an attachment to this letter. The deficiencies authors are identified so that your staff can communicate directly with that individual should questions arise.

After you've had an opportunity to read the analysis and corresponding deficiencies, the Division recommends a face-to-face meeting with your staff in order to facilitate a path forward in resolving outstanding issues. We will make ourselves available at the earliest convenience.

The plans as submitted are denied. Please resubmit the entire application by no later than March 13th, 2020. If you have any questions, please call me at (801) 538-5350.

Sincerely,

Steve Christensen
Coal Program Manager

SKC/sqs
cc: Gregg Galecki, CFC
O:\007005.SKY\WG6055 MID COMPLETION RESPONSE\Deficiencies.doc

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Technical Analysis and Findings

Utah Coal Regulatory Program

PID: C0070005
TaskID: 6055
Mine Name: SKYLINE MINE
Title: MIDTERM COMPLETION RESPONSE

Summary

This mid-term review response amendment includes a red-line revision of the Table of Contents for all Chapters in the Mining and Reclamation Plan; an updated reclamation bond in redline; a revision of MRP Chap 2, page 2-120m; and the addition of a new Appendix 4.17-1 Boulger Subsidence Monitoring (previously reviewed in 2019 as Task 6000). Although Appendix 4.17-1 is a new addition to the MRP, it was reviewed once before and so it does contain redline format.

Appendix 4.17-1 provides the installation location and design for five previously installed seismic monitoring stations (A through E). Installation of the seismic stations A - E and all piezometers were permitted under the Utah Coal Exploration R645-200 rules (2017 Outgoing document 09252017.5518). However as these are long-term seismic -monitoring stations, the Division, requires their inclusion in the MRP, which entails providing environmental, operational and reclamation details for each seismic site and piezometer site, in compliance with the R645 rules for soils, biology, hydrology and engineering.

In addition the mid-term review is tracking the three requirements placed upon the Permittee as a condition of the 2017 exploration approval:

1. Provide photographs of each piezometer and survey monuments from two different angles.

2. Provide cultural and archaeology approval from the U.S. Forest Service. (the land managing agency).

3. Provide approval from Dam Safety for piezometers and survey monument installation.

Appendix 4.17-1 Attachment 5-4 is the RB&G Engineering Inc. report titled, Skyline Flat Canyon Mining Lease Boulger and Electric Lake Dams & Reservoirs, June 2018, which contains monitoring recommendations to be incorporated into the MRP. Attachment 5-5 is the correspondence from Canyon Fuels to Dave Marble, Utah Division of Water Rights - Dam Safety describing the monitoring plan. Attachment 5-6 is the letter from Dave Marble to Canyon Fuel Company accepting the monitoring plan.

In May 2019, the Permittee predicted active mining would be within one mile of Boulger dam by November 2019 (App. 4.17-1, Attachment 5-5, p. 1 & 2). Draining of the dam would commence in the Fall of 2021 and full extraction would be conducted in the Spring of 2022. Any necessary repairs would be made in the late Fall of 2023. (Attachment 5-5, p.4).

pburton

General Contents

Identification of Interest

Analysis:

The application meets the State of Utah R645 requirements for Ownership and Control.

Updates to General Chapter 1 for Wolverine Fuels, LLC. were approved on November 21, 2019 (Task 6015).

pburton

Violation Information

Analysis:

The application meets the State of Utah R645 requirements for Violation Information.

Updates to General Chapter 1 for Wolverine Fuels, LLC. were approved on November 21, 2019 (Task 6015).

pburton

Permit Application Format and Contents

Analysis:

The application does not meet the State of Utah R645 requirements for Format and Contents.

There are several inconsistencies between the MRP Table of Contents and the approved MRP. These will be reviewed in detail during a meeting with Canyon Fuel.

The table of contents for Appendix 14.7-1 is not accurate for many of the Sections. Please verify the page numbers within in each section and make adjustments to the table of contents accordingly.

Appendix 4.17-1, Section 521.100, Landowner, Rght of Entry and Public Interest section is incomplete with regard to the land ownership of the Repeater site.

The application is missing the revised pages 4-34b, 4-35, 4-38c and 4-38d which are listed on the C2 form. (These pages are found in the MRP Chapter 4, Section 4.6 Topsoil and Subsoil Handling Plan.)

The Dam safety approval letter found in Appendix 4.17-1 Attachment 5-6 requests a copy of the U.S. Forest letter that acknoledges and accepts theBoulger Dam monitoring and mitigation plan. As of February 6, 2020, Dam Safety has not received a copy of approval from the U.S. Forest Service which is the land managing agency and the owner of the dam (personal communiction with D. Marble, 2/6/2020). The U.S. Forest Service letter of approval and acceptance for the Boulger Seismic Monitoring and Mitigation plan must be included in Appendix 4.17-1 and provided to David Marble at the Utah Division of Water Rights/Dam Safety.

The application does not specify where to place Appendix 4.17-1 Boulger Canyon Dam Subsidence Information.

Deficiencies Details:

The application does not meet the State of Utah R645 requirements for Current Information and Clear and Concise. The following deficiency must be addressed prior to final approval:

R645-301-121.100, **(1)** Please provide the missing revised pages p. 4-34b, 4-35, 4-38c and 4-38d of the Topsoil Handling Plan, Section 4.6, Chapter 4 of the MRP. (2) Please complete Appendix 4.17-1, Section 521.100, Landowner, Rght of Entry and Public Interest section with regard to the land ownership of the Repeater site. **(2)** The U.S. Forest Service letter of approval and acceptance for the Boulger Seismic Monitoring and Mitigation plan must be included in Appendix 4.17-1 and provided to David Marble at the Utah Division of Water Rights/Dam Safety.

R645-301-121.200, (**1**) Please specify on the C2 form where Appendix 4.17-1 Boulger Canyon Dam Subsidence information should be placed in the MRP. i.e Should Appendix 4.17-1 be placed at the end of the Chapter or with other related appendices in Appendix Volume A-3? **(2)** The table of contents for Appendix 14.7-1 is not accurate for many of the Sections. Please verify the page numbers within in each section and make adjustments to the table of contents

accordingly. **(3)** There are several inconsistencies between the MRP Table of Contents and the approved MRP. These will be reviewed in detail during a meeting with Canyon Fuel.

pburton

Environmental Resource Information

Historic and Archeological Resource Information

Analysis:

The amendment does not meet the State of Utah R645-301-411 requirements for Historic and Archeological Resource Information.

The amendment added a seismic control plan which includes the installation of six seismic stations. Each of these stations is required to have clearance from SHPO as part of the permitting process. Included in the submittal are several cultural resource reports and letters from SHPO documenting these clearances. However, with two of the stations, Stations D and F, it is unclear whether SHPO has cleared their construction.

Deficiencies Details:

The amendment does not meet the State of Utah R645-301-411 requirements for Historic and Archeological Resources. The following deficiency must be addressed prior to final approval:

R645-301-411: The Permittee must provide evidence of SHPO clearances for all six seismic stations.

tmiller

Fish and Wildlife Resource Information

Analysis:

The amendment meets the State of Utah R645-301-322 requirements for Fish and Wildlife Resource Information.

The amendment added a seismic control plan which includes the installation of six seismic stations. Threatened and endangered wildlife species are named and discussed in Attachment 3-4 of the amendment. Due to the size, scope, and nature of the project, no threatened, endangered, or sensitive species are expected to be impacted by the proposal.

tmiller

Soils Resource Information

Analysis:

The application does not meet the State of Utah R645 requirements for Clear and Concise.

Soil survey information was provided for drill hole 1-18 which proposed a 0.275 acre disturbance (App. 4.17-1 Attach 3-3). This proposed drill site was never drilled, but it is in the same location as seismic site C (personal communication with G. Galecki., 2/5/2020). The reason for including Attachment 3-3 in Appendix 4.17-1 must be made clear in the narrative of Appendix 4.17-1, Section 2.

Attachment 3-3 is missing a cover page with information on the consultant's credentials. The attachment begins with a letter from the consultant, which appears to be incomplete, since there is no closing salutation or signature.

Appendix A of Attach 3-3 (the drill hole 1-18 soil survey) provides a map which shows the extent of the existing Carbon County soil survey. The map outlines soil units, but does not label them. The location of drill hole 1-18 is not shown on the map. The existing soil survey does not extend to the location of Sseismic site C (on a ridge South of Swens Canyon as shown in Appendix 4.17-1, Figure 1-1), but the consultant, Allan Stevens, states that the drill hole 1-18 soil "resembles the Trag-Croydon Complex," which is Map Unit 118 in the existing Carbon County Soil Survey (Appendix 4.17-1, Attachment 3-3). Appendix D of Attachment 3-3 provides a soil profile log. The soil has a 5 inch "A" horizon of clay texture. Roots extend to 15 inches. Below 15 inches, the soil becomes increasingly more rocky and bedrock is encountered at 27 inches. A photograph of the soil profile is provided in Appendix E.

Soil characteristics at seismic location F (Figure 1-1) can be inferred from the Swen's Canyon soil survey which was

immediately adjacent to the proposed disturbance. Appendix 4.17-1, Section 222.200 refers to Section 2.11 of the MRP for details concerning soil identification.

MRP Section 2.11 refers to MRP Appendix A2 for the "Order 2 Soil Survey of the Powerline Corridor Swens Pad Ventilation and Excape Shafts Coal Pile Expansion" dated December 4, 2014. Figure 2 of this survey shows the extent of the survey and the location of the soils. The survey is immediately adjacent to, but does not include the location of the Seismic Site F location shown on Figure 1-1 of Appendix 4.17-1.

Seismic site F is at an elevation of 8,750 feet at the toe of a north facing slope near the confluence of Swens Creek and Huntington Canyon. The site was previously disturbed and is grass covered. The surrounding area includes sagebrush, serviceberry, aspen, Douglas-fir and snowberry. This site is very likely similar to the S1 map unit: Hailman family sandy loam, 5 to 15% slopes , represented by the 14SKY15 soil sample location. The S1 soil is described on page 19 of the soil survey (e-p. 2142) as follows:

"The S1 (sagebrush) soil map unit is located on gently to strongly sloping mountain footslopes at the juncture of Upper Huntington and Swens canyons. This map unit is dominated by soils that are deep to sandstone and shale. This map unit consists of 90 percent Hailman family soils. Soil profile 14SKY15 is representative of Hailman family soils in map unit Sl. Also included are 10 percent Kamack family soils and other similar soils. Native vegetation is dominated by mountain big sagebrush, grasses, and forbs."

Other than their locations shown on Figure 1-1, there is no further information on seismic sites B, D and E, which were permitted under the Utah Coal Exploration R645-200 rules (2017 Outgoing document 09252017.5518). Seismic site A is located on the dam which is a disturbed site.

Deficiencies Details:

The application does not meet the State of Utah R645 requirements for Clear and Concise. The following deficiency must be addressed prior to final approval:

R645-301-121.200, **(1)** Soil survey information was provided for drill hole 1-18 which proposed a 0.275 acre disturbance (App. 4.17-1 Attach 3-3). This proposed drill site was never drilled, but it is in the same location as seismic site C (personal communication with G. Galecki., 2/5/2020). The reason for including Attachment 3-3 in Appendix 4.17-1 must be made clear in the narrative of Appendix 4.17-1, Section 2. **(2)** The drill hole 1-18 location must be shown on the map in Appendix A of Attach 3-3. **(3)** The Attach 3-3 Appendix A map must include labels for the outlined soil units. **(4)** Attachment 3-3 is missing a cover page with information on the consultant's credentials. **(5)** The Attachment 3-3 consultant's letter appears to be incomplete, since there is no closing salutation or signature.

pburton

Maps Vegetation Reference Area

Analysis:

The amendment meets the State of Utah R645-301-323 requirements for Vegetation Reference Area Maps.

DWG. 2.7.1-2 has been updated by the Permittee to provide correct GPS coordinates for the site's reference areas.

tmiller

Operation Plan

Subsidence Control Plan Subsidence

Analysis:

The application meets the State of Utah R645 requirements for Subsidence Control Plans.

The application satisfies the requirements of R645-301-525.440 because of updated narrative and the addition of supplemental information contained in Attachment 5-4 which is a P.E. stamped report by PG&E Engineering, Inc. describing mining-induced seismicity within the vicinity of Boulger Dam and Electric Lake Dams and associated subsidence monitoring methods. The narrative states that various methods will be employed to monitor and track seismic activity throughout all active areas of the mine with specific attention being given to Boulger Dam. The narrative describes the installation of 6 Seismic Sites, mostly throughout areas that will be directly affected by mining or have

been recently mined out. In addition to the Seismic Stations, the narrative describes the installation of 6 survey monuments around the perimeter of Bulger Reservoir, as well as 4 piezometers along the length of Bulger Dam. Figure 1-1 illustrates the locations of all proposed Seismic Stations, and Figure 1-2 shows the locations of the proposed survey monuments and piezometers. Attachment 5-1 illustrates a cross-section of a typical Seismic Station, with a description of the building configuration and dimensions.

The attached geotechnical report by PG&E Engineering offers recommendations for how close longwall mining may approach the Boulger Dam without subsidence impacts to the dam embankment. The report elaborates on how much subsidence may be expected if subsidence mining were to proceed beneath Boulger Reservoir although approval to mine beneath the reservoir has not yet been granted. Based on the results of this study, it does not appear that the proposed mine plan will create an unacceptable risk to Boulger Dam.

In addition to a description of the installation specifications and the expected operation of the proposed Seismic Stations throughout the permit area, a description of the reclamation activities are given on pages 5-6 through 5-8. Since the Seismic Stations disturb such a small footprint, reclamation is to be done by hand. The concrete footings containing the instrumentation will be buried in place, and the instruments themselves recovered by NIOSH once they are no longer in use. Attachment 8-1 contains correspondence from the United States Forest Service that endorses the proposal to bury concrete footings in place upon reclamation. Attachment 5-6 contains correspondence from David K. Marble, P.E. of Dam Safety that approves of the proposed monitoring and mitigation plan for the Boulger Dam. Bonding to cover the reclamation of the Seismic Sites has been included and is itemized on page 45 of the updated reclamation bond.

jeatchel

Topsoil and Subsoil

Analysis:

The application does not meet the State of Utah R645 requirements for Soils: Operation Plan.

The mid-term review task 5979 identified the following deficiencies which were not addressed with this application: *R645-301-121.100, The number and location of long term topsoil stockpiles must be updated with current information in Chap. 4, Section 4.6.2 (e-p. 111). The Swen's Canyon and Waste rock site stockpile areas must be added to the narrative. R645-301-121.200, The location of Swens Canyon soil sampling information referred to in MRP Section 2.11, p. 2-120(m) [e-p 296] and in Chap 4, p. 4-34 (b) [e-p. 109] must be provided on both pages where it is referenced.* A deficiency written under the General Contents heading identifies missing pages 4-34b, 4-35, 4-38c and 4-38d from this application. Once received, these pages will likely address the above issues.

The Boulger Dam subsidence monitoring plan meets the State of Utah R645 requirements for Soils: Topsoil and Subsoil Removal from minor disturbances. Appendix 4.17-1 Section 2 describes the installation of five survey monuments, four piezometers and one seismic monitoring stations for Boulger Dam monitoring. The survey monuments were installed around the reservoir with three being on the dam (Figure 1-1). The piezometers were installed on the dam. No soil was disturbed for the installation of survey monitors and piezometers. The seismic station surface disturbance was limited as described in Section 222.100 and illustrated in Figure 5-1.

In accordance with R645-301-232.410, no topsoil was salvaged for the boulger seismic monitoring installations. Photographs of seismic stations A - E and the repeater sites are found in Appendix 4.17-1, Attachment 5-1. The images demonstrate the limited disturbance associated with the seismic installations.

The 0.275 acre disturbance proposed for Drill hole 1-18 did not occur, because the well was not installed (personal communication with G. Galecki, 2/5/2020).

Deficiencies Details:

The application does not meet the R645-301-121.100 Current Information and R645-301-121.200, Cear and Concise requirements. The following deficiencies must be addressed prior to final approval:

R645-301-121.100, The number and location of long term topsoil stockpiles must be updated with current information in Chap. 4, Section 4.6.2 (e-p. 111). The Swen's Canyon and Waste rock site stockpile areas must be added to the narrative.

R645-301-121.200, The location of Swens Canyon soil sampling information referred to in MRP Section 2.11, p. 2-120(m) [e-p 296] and in Chap 4, p. 4-34 (b) [e-p. 109] must be provided on both pages where it is referenced. A

deficiency written under the General Contents heading identifies missing pages 4-34b, 4-35, 4-38c and 4-38d from this application. Once received, these pages will likely address the above issues.

pburton

Hydrologic General

Analysis:

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

As part of the mid-term responds, the Permittee is attempting to permit the disturbances associated with the seismic monitoring stations associated with the Flat Canyon Lease. However, due to the un-clear nature of the information as it was provided to the Division, a review of compliance with the R645-301-700 rules is not possible. The Permittee has not made it clear what areas surrounding each station will be considered "disturbed area". Maps must be provided delineating the exact location and associated disturbed area boundaries. Additionally, section 731.700 references "Figure 6-?" this reference should be corrected.

Deficiencies Details:

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

R645-301-700, R645-301-121.200 Due to the un-clear nature of the information provided in associated with the distubance areas of the seismic monitoring stations, a review of these small disturbed areas for their compliance with the R645-301-700 rules is not possible. The Permittee must clearly submit delineated areas of disturbance for each of the seismic monitoring station.

adaniels

Hydrologic Ground Water Monitoring

Analysis:

The previous deficiencyiy from Task ID 5979 for Hydrologic Ground Water Monitoring is being addressed under a separate Task ID 5056.

adaniels

Hydro Surface Water Monitoring

Analysis:

The previous deficiencyiy from Task ID 5979 for Hydrologic Surface Water Monitoring is being addressed under a separate Task ID 5056.

adaniels

Hydrologic Impoundments

Analysis:

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

Plate 3.2.1-2B was a map created in 1991 of the main surface facilities sediment pond. This map was out of date and in need of updating. As part of the Permittee's response Plate 3.2.1-2B was recreated and a 12-inch pipe that was previously depicted on the map has been removed as it was not reflective of the actual sediment pond.

adaniels

Reclamation Plan

Topsoil and Subsoil

Analysis:

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

The mid-term review task 5979 idenitied the following deficiencies which were not addressed with this application: R645-301-121.200, *The Chapter 4 Table 4.6-4 [e-p. 119] Topsoil Redistribution table must account for current acreage and volumes, including additional soil stockpiled at the waste rock site in 2016 and minus the South Fork and North of Graben disturbed area/volumes.* A deficiency written under the General Contents heading identifies missing pages 4-34b, 4-35, 4-38c and 4-38d from this application. Once received, these pages will likely address the above issues.

The Boulger Dam subsidence monitoring plan meets the State of Utah R645 requirements for Soils: Redistribution Plan.

Appendix 4.17-1, Section 341, describes raking the topsoil back into place and hand broadcasting seed over the disturbance. The seed mix is outlined in Table 3-1 (App. 4.17-1, p. 3-6).

Appendix 4.17-1 Performance Standard Section 352 states that reclamation activities will be performed contemporaneously. The seismic stations were installed in 2018.

Deficiencies Details:

The application does not meet the R645-301-121.100, Current Information requirements for Soils Redistribution. The following deficiency must be addressed prior to final approval:

R645-301-121.100, The Chapter 4 Table 4.6-4 [e-p. 119] Topsoil Redistribution table must account for current acreage and volumes, including additional soil stockpiled at the waste rock site in 2016 and minus the South Fork and North of Graben disturbed area/volumes. A deficiency written under the General Contents heading identifies missing pages 4-34b, 4-35, 4-38c and 4-38d from this application. Once received, these pages will likely address the above issues.

pburton

Revegetation General Requirements

Analysis:

The amendment meets the State of Utah R645-301-356 requirements for Revegetation General Requirements.

The Permittee has committed to installing readily-visible carsonite signs at each of the site's reference areas when the weather permits during the 2020 field season.

tmiller

Stabilization of Surface Areas

Analysis:

The application meets the State of Utah R645 requirements for soil stabilization.

Appendix 4.17-1, Section 742 states that sediment control relies on minimizing the disturbance using hand tools, roughening the ground and reseeding.

The plan states that the timetable for reclamation is uncertain, due to the indefinite period of monitoring required (Appendix 4.17-1, Section 542.100). In May 2019, the Permittee predicted active mining would be within one mile of Boulger dam by November 2019 (App. 4.17-1, Attachment 5-5, p. 1 & 2). Draining of the dam would commence in the Fall of 2021 and full extraction would be conducted in the Spring of 2022. Any necessary repairs would be made in the late Fall of 2023. (Attachment 5-5, p.4). Appendix 4.17-1, Section 352, states that reclamation activities will be performed contemporaneously to the extent possible.

pburton

Bonding Determination of Amount

Analysis:

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

The application does not satisfy the State of Utah R645 bonding requirements because several items within the calculations remain vague and inaccurate. A previous deficiency identified several items within the bonding calculations that needed to be resolved: The inclusion of overhead and profit (O&P) in all unit costs, correction of an arithmetic error on page 70, the inclusion of reclamation costs for recently drilled water monitoring wells, and the proper escalation

applied to the total calculated bond. These requested corrections have been applied although there still exists a number of items within the demolition costs that require clarification:

1. The calculated subtotal for the Shop Warehouse on page 4 is missing demolition and disposal costs for the entire structure. Only the costs for the demolition and disposal of the concrete foundation were included in the total cost.
2. The unit costs for the Truck Loadout on page 12 are inexplicably discounted, and an incorrect swell factor applied.
3. The unit costs for the demolition and disposal of "Paving From W entrance to Silos" were completely omitted from the Pavement Rail Loadout costs on page 66.
4. The unit costs for the operation of a 16-ton dump truck on page 68 were inexplicably changed and cannot be verified with the Means Reference Number that was provided.
5. The Means Reference Numbers for Equipment costs on page 75 are incorrect, and the unit costs were either deleted or altered inexplicably. This cost decreased significantly since the last midterm review going from $237,900 to $9,637 without any narrative or calculations to clarify the large decrease.

The costs to reclaim the North of Graben Bleeder Shaft have been completely removed from the reclamation bond as proposed in a parallel amendment (Task# 6054).

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: Permittee must address the missing/inaccurate costs within the demolition section of the reclamation bond as outlined in the bullet points above:

1. The demolition and disposal costs for the entire Shop Warehouse structure need to be restored since the only costs included in this submittal included the demolition and disposal of the concrete foundation.
2. The unit costs for the Truck Loadout on page 12 require revision, and a corrected swell factor applied.
3. The unit costs for the demolition and disposal of "Paving From W entrance to Silos" for the Pavement Rail Loadout on page 66 need to be restored.
4. The unit costs for the operation of a 16-ton dump truck on page 68 require revision. Please include the year and edition of the R.S. Means manual used in these calculations.
5. The Means Reference Numbers for Equipment costs on page 75 require revision. Please restore the unit costs that were either deleted or altered since the last midterm review.

jeatchel