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# State of Utah

## DEPARTMENT OF NATURAL RESOURCES

BRIAN C. STEED  
Executive Director

### Division of Oil, Gas and Mining

JOHN R. BAZA  
Division Director

September 9, 2020

John Byars, General Manager  
Canyon Fuel Company, LLC  
597 South SR24  
Salina, Utah 84654

Subject: Water Monitoring Revisions, Canyon Fuel Company, LLC, Sufco Mine,  
C/041/0002, Task #6179

Dear Mr. Byars:

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. The plans as submitted are denied. Please resubmit the entire application.

If you have any questions, please call me at (801) 538-5350.

Sincerely,

Steve Christensen  
Coal Program Manager

SKC/sqs

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## Technical Analysis and Findings

### Utah Coal Regulatory Program

**PID:** C0410002  
**TaskID:** 6179  
**Mine Name:** SUFCO MINE  
**Title:** WATER MONITORING REVISIONS

#### Operation Plan

##### Hydrologic Ground Water Monitoring

###### Analysis:

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

On July 23, 2020 the Division received an application to amend the Sufco MRP to revise the current water monitoring program. This application is in response to deficiencies from Task ID 6086, which was the initial amendment to revise the water monitoring program, but had a number of deficiencies that prevented it from being approved.

The proposed revisions to the ground water monitoring program include the removal of 5 groundwater wells. These wells area as follows: US-80-4, 89-20-2W, US-79-13, US-81-3 and US-81-4. The first 2 of these 5 are screened in the Castlegate Sandstone, the rest are screened in the Blackhawk Formation. Of the 5 wells proposed to be removed from the water monitoring program US-80-4, US-81-3, and US-81-4 have been reported as blocked for some time. Well US-81-3 was consistently unable to provide good monitoring as there were issues with blockages from the beginning it being completed as a monitoring well. The other 4 monitoring wells have many years of monitoring that demonstrated consistent water levels that did not show any impact from mining, and are no longer in areas of active mining. The Permittee provided a summary of monitoring information on these 5 wells in Appendix 7-4 of the MRP and discussed the historic data on page 7-52.

Spring monitoring in the currently approved MRP includes 65 different sites. This proposed amendment revises 25 of these springs and removes 9.

- 7 of these 25 are just minor clarification changes to the monitoring protocol and will not actually change the monitoring currently taking place. These sites are as follows: GW-20, Pines 206, Pines 209, Pines 212, Pines 214, Pines 310, and Pines 311.
- 2 of the revisions are to the Link Portal-West and Link Portal-East monitoring locations. These two sites are changing from quarterly operational laboratory measurements to only 2<sup>nd</sup> quarter monitoring for field measures, TDS, T-Fe and T-Mn. This is due to the fact that there have been 10 years of “no flow” conditions at these sites, but 2<sup>nd</sup> quarter monitoring will remain due to the probability that if there is flow it will occur during 2<sup>nd</sup> quarter.
- 8 of the 25 of the springs being changed are going from quarterly field measurements, TDS, T-Fe, and T-Mn, to only quarterly field measurements. The monitoring of these sites began in 2001 and 2002 and have consistently shown there to be no impacts to water quality parameters. The continued monitoring of these sites for field measurements will continue to be acceptable to monitor for any impacts from mining. These sites are as follows: M-SP05, M-SP09, M-SP15, M-SP19, M-SP40, M-SP104, M-SP105, and M-SP106.
- 7 of the 25 are sites that are being expanded from quarterly monitoring for operational laboratory measurements, to quarterly monitoring for field measurements as well as TDS, T-Fe, and T-Mn. These sites have been monitored for a number of years for the full laboratory suite of parameters without seeing any mining impacts, so

reducing the monitoring to field measurements in addition to a few key laboratory quality parameters is a reasonable change. These sites are as follows: Divide Spring, A Spring, B Spring, Skutumpah Spring, Spring 99, 94-110 Spring, and Hansen Seep.

- Sufco 089 spring is being changed to only monitor the spring pool level instead of quarterly field measurements. This site has almost consistently had no flow or very little flow, so monitoring quantity only from this point is reasonable.

The 9 spring sites being removed include sites GW-8, GW-9, GW-13, Mud Spring, Broad Hollow Spring, Wedge Spring, Amanda Spring, 94-113 Seep and 94-1397. All of these sites are in the Quitchupah drainage except GW-13, which is in the Muddy drainage.

- GW-8, GW-9, Broad Hollow, and 94-113 have been outside the influence of mining and were initially established as monitoring points for baseline sampling. These sites are also not near any approved future mining and will not provide any benefit to continue monitoring. These sites have shown no impacts from mining.
- Wedge Spring, Amanda Spring, 94-1397 are near or directly above mining that occurred in the south fork of Quitchupah Creek. This mining was completed in 2015, and monitoring has not impacted these sites. 94-1397 (or Roberts Spring) has not seen any mining impacts as well.
- GW-13 is located in the Muddy drainage and has been monitored since 1995. Mining occurred in the area in the 1980s and as this was more than 35 years ago and impacts have not been observed, this spring is no longer required to detect impacts.

In addition to the revisions to the ground water monitoring program, a few corrections to water right numbers were made to the MRP. These corrected a few issues where water rights were mis-labeled between springs found in the North Fork of Quitchupah and the South Fork of Quitchupah. Appendix 7-2 was updated to include these water rights.

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## Hydro Surface Water Monitoring

### *Analysis:*

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

On July 23, 2020 the Division received an application to amend the Sufco MRP to revise the current water monitoring program. This application is in response to deficiencies from Task ID 6086, which was the initial amendment to revise the water monitoring program, but had a number of deficiencies that prevented it from being approved.

The current surface water monitoring program has 44 stream monitoring locations. Of these 44, 3 sites are proposed for removal and 20 have proposed revisions to the monitoring requirements.

The 3 sites proposed for removal include stream monitoring locations Sufco 006D, Pines 302 and S. Fork Quitchupah Creek Lower.

- Pines 302 is located at the Muddy Creek and Last Water Creek Confluence. This is on the North side of Muddy Creek and is outside the influence of mining. The site has been monitored for 19+ years with no impact found from mining and is not going to be within the influence of future mining. This site is no longer needed for monitoring purposes.
- Sufco 006D is located on the South Fork of Quitchupah Creek near the confluence with the North Fork of Quitchupah. Mining in this area was completed in 2015 and has now had 7 consecutive years of monitoring without any apparent impacts.
- S. Fork Quitchupah Creek Lower is a monitoring site along the so named creek above where mining has taken place. Stream monitoring site 006 (just below along the same creek) will still be in place along this stretch of creek and as no impacts have been found, monitoring at this site is no longer necessary.

The 20 stream monitoring sites proposed for revisions to their sampling requirements include a large amount of paring back from full operational laboratory parameter monitoring suits to a more concise list of specific monitoring parameters. The proposed changes can be broken down in to a few categories:

- The following site will be monitored quarterly for field parameters, plus TDS, TSS, T-Fe and T-Mg: Sufco 046, SP60 Creek, CSC Upper, CPC Middle, CPC Lower, North Fork Upper, North Fork Lower, ULGH, and URGH. These sites are all being reduced to the above listed monitoring parameters from full operational laboratory

sampling. With impacts not being observed from previous sampling of the existing monitoring parameters, it is acceptable to reduce the list to the proposed key parameters.

- The following site will be monitored quarterly for field parameters, plus TDS, TSS, T-Fe, T-Mg, and Turbidity: Pines 405 and Muddy Creek above Horse. These sites are all being reduced to the above listed monitoring parameters from full operational laboratory sampling. With impacts not being observed from previous sampling of the existing monitoring parameters, it is acceptable to reduce the list to the proposed key parameters.
- The following site will be monitored quarterly for field parameters, plus turbidity: Muddy ABF, Muddy Creek below Horse, and Horse Creek. Muddy Creek below Horse and Horse Creek are being reduced to the above listed monitoring parameters from full operational laboratory sampling. Muddy ABF is proposing to drop TDS, TSS, T-Fe, and T-Mg. With the years of sampling that have taken place at these sites, producing a large amount of baseline data, the reduction in sampling parameters is acceptable.
- The following sites will be monitored quarterly for field parameters: Cowboy Top, Cowboy Middle, Cowboy Bottom, and GH at Road. These sites are all being reduced to the above listed monitoring parameters from full operational laboratory sampling. With impacts not being observed from previous sampling of the existing monitoring parameters, it is acceptable to reduce the list to the proposed sampling.
- The following sites will be monitored during 2<sup>nd</sup> quarter only for field parameters plus TDS, T-Fe, and T-Mg. Link 001 and Link 002. These two sites are being reduced from quarterly full operational laboratory sampling. This is due to the fact that there have been 10 years of “no flow” conditions at these sites, but 2<sup>nd</sup> quarter monitoring will remain due to the probability that if there is flow it will occur during 2<sup>nd</sup> quarter.

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## Maps Monitoring and Sampling Locations

### *Analysis:*

The amendment does not meet the State of Utah R645 requirements for Maps, Monitoring and Sampling Locations.

On July 23, 2020 the Division received an application to amend the Sufco MRP to revise the current water monitoring program. This application is in response to deficiencies from Task ID 6086, which was the initial amendment to revise the water monitoring program, but had a number of deficiencies that prevented it from being approved.

As part of this amendment Plates 7-2 Surface and Groundwater Rights – Quitcupah Tract and Plate 7-3 Hydrologic Monitoring Stations were revised to reflect the revisions to the water monitoring program and to correct some water right mistakes that were previously listed uncorrected in the MRP.

In addition to the plates that were updated, Plate 7-10 - Operation Hydrologic Monitoring Stations should also be updated.

### *Deficiencies Details:*

The amendment does not meet the State of Utah R645 requirements for Maps, Monitoring and Sampling Locations. The following deficiency must be addressed prior to final approval:

R645-301-731.730 Plate 7-10 – Operation Hydrologic Monitoring Stations must be updated to include the removal of monitoring sites.

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