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DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

August 3, 2016

Ken May, General Manager
Canyon Fuel Company, LLC
597 South SR24
Salina, Utah 84654

Subject: 2015 Annual Report Review Completion, Sufco Mine, C/041/0002, Task ID #5107

Dear Mr. May:

The Division staff has completed the review of the 2015 Annual Report. Enclosed is a copy of the review with each reviewer's comments.

Thank you for your diligence in completing the Annual Report. If you have any questions, please call me at (801) 538-5325.

Sincerely,

Daron R. Haddock
Coal Program Manager

DRH/sqs
Enclosure
O:\041002.SUF\WG5107 ANNUAL REPORT\ReviewCompletionLetter.doc

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UTAH DNR OIL, GAS & MINING

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Annual Report

This Annual Report shows information the Division has for your mine. Submit the completed document and any additional information identified in the Appendices to the Division by the date specified in the cover letter. During a complete inspection an inspector will check and verify the information.

GENERAL INFORMATION

Company Name	Canyon Fuel Company, LLC	Mine Name	SUFCO Mine
Permit Number	C/041/0002	Permit expiration Date	2017-05-21
Operator Name	Canyon Fuel Company Sufco Mine	Phone Number	+1 (435) 286-4480
Mailing Address	597 South SR24	Email	arichard@bowieresources.com
City	Salina		
State	Utah	Zip Code	84654

		DOGM File Location or Annual Report Location
Excess Spoil Piles	☐ Required ☒ Not Required	
Refuse Piles	☒ Required ☐ Not Required	Certified reports previously submitted.
Impoundments	☒ Required ☐ Not Required	Certified reports previously submitted.
Other:		

OPERATOR COMMENTS

REVIEWER COMMENTS ☒ Met Requirements ☐ Did Not meet Requirements

The annual report included copies of the quarterly inspection of the Refuse pile competed on: 3/30/15, 6/15/15, 9/28/15, and 12/10/15 for the Waste rock disposal site. The inspection reports were completed by Jacob Smith, a Utah PE certified professional engineer. The field inspections state that all foundation preparation was completed according to design specification. The reports detail that all slopes showed no signs of instability such as rills, gullies, or sloughage. The third quarter inspection report documents the fifth cells as active area of placement. The Permittee has addressed the requirements of this commitment. (CP)

COMMITMENTS AND CONDITIONS

The Permittee is responsible for ensuring annual technical commitments in the Mining and Reclamation Plan and conditions accepted with the permit are completed throughout the year. The Division has identified these commitments below and has provided space for you to report what you have done during the past year for each commitment. If additional written response is required, it should be filed as an attachment to this report.

Title: RAPTOR SURVEYS
Objective: To determine existence and status of raptor nests within 1/2 miles of surface mining activities or areas that may be impacted by subsidence. Any raptor nest that has the potential to be disturbed by subsidence will be evaluated with DWR and FWS and an appropriate plan of action will be developed on a case by case basis.
Frequency: Annually using aerial or ground surveys near the end of May.
Status: Ongoing
Reports: Annual
Citation: MRP, Volume 1, Chapter 3, page 3-9

Operator Comments

Raptor Survey report is included in the annual report under confidential information.

Reviewer Comments ☒ Met Requirements ☐ Did Not Meet Requirements

LR, 6/1/2016: Tetra Tech, Inc conducted raptor nest surveys as directed by Bowie Resources. At the request of the Division, additional information was presented that confirmed no active or inactive nests were within the subsidence areas for the past year or upcoming few years. The Division requests that raptor surveys be provided as soon as reasonably possible after they have been submitted (summer season) from the consultant to Bowie. The Division will review the data with the Operator to determine if any nests have the potential to be impacted by future mining activities and if any protection and enhancement measures are warranted. The Division also requests all future maps and information be in the format presented in the meeting on May 27, 2016 between the Division and Bowie representatives. Specifically, maps must clearly show the location of nests and mining operations. If nests are marked as "gone" or "destroyed", the history of that nest must be provided.

Title: SUBSIDENCE MONITORING
Objective: To document the amount of subsidence that has occurred.
Frequency: Annually
Status: Ongoing
Reports: Annual
Citation: MRP, Volume 1, Chapter 5, page 5-29

Operator Comments

Report and map is included.

Reviewer Comments ☒ Met Requirements ☐ Did Not Meet Requirements

The Permittee included a subsidence mine map, report, and summary table with the annual report. The subsidence map shows the

subsidence contours for the Sufco Mine as of 2015. The report details how the majority of the monitoring areas are dormant, Areas 1-12. Mining was completed in Area 13 and Area 14 in 2012 and the sites continue to be monitored. Mining activities began in Area 15 in 2012 and Area 16, 17, and 18. Baseline information for said areas was collected in 2011. The maximum subsidence witnessed in 2015 was 12 feet with the overall max of nine feet. The Permittee has addressed the requirements of this commitment. (CP)

Title: CLIMATOLOGICAL DATA
Objective: Collect climatological data to aid in determining the impact to runoff, stream flow and local springs from mining.
Frequency: Annually
Status: Ongoing
Reports: Annual
Citation: MRP, Volume 2, page 7-51E

Operator Comments

The climatological report is included in the annual report.

Reviewer Comments ☒ Met Requirements ☐ Did Not Meet Requirements

A NWS weather station and the Sufco Mine is used to prepare this report. The report was included with the annual report and was prepared by Peterson Hydrologic, LLC. (AD)

Title: Refuse Sampling
Objective: To determine chemical characteristics of the waste and ensure burial beneath four feet of non-toxic, non-acidic material and protect surface and groundwater.
Frequency: Quarterly, during periods of deposition at the waste rock site.
Status: Ongoing
Reports: Annual, indicate frequency of sampling (#samples/volume).
Citation: Vol. 3. Chap. 5 Sec. 528.

Operator Comments

Results are included in the annual report.

Reviewer Comments ☒ Met Requirements ☐ Did Not Meet Requirements

7/18/2016, PWB. Certified quarterly inspection reports are found in the 2015 Incoming folder on the following dates: 4/1, 7/2, 10/8 and 12/17/2015. Seven samples were taken of the waste in 2015. Although the location of the samples was not disclosed, the only active cell in 2015 was the west end of Cell 5. Sampling dates were first quarter: 1/26/2015, 3/20/2015; second quarter 6/29/2015; third quarter 7/6/2015 and in August 2015; and fourth quarter on 9/14/2015 and 12/9/2015. (The third quarter August sampling date not was specified on the chain of custody form.) All samples were analyzed by Inter-Mountain Labs, Sheridan, WY.

The material represented by the first quarter sampling (1/26/2015) must be covered with four feet of soil due to unacceptable boron levels of 6.44 ppm, all other parameters of this sample are acceptable. Although the second sample taken in the first quarter (3/20/2015) has a selenium content of 0.13 ppm, this is acceptable within the top four feet, because placement is not in a drainage or flood plain. Presumably, this second sample represents material that was placed on top of the high boron waste.

The second quarter material is acceptable on all parameters, however on the the saturation percentage of 74% indicates a texture very high in clay, making it poor quality for the surface material, all other parameters are suitable.

The third quarter material is acceptable on both sampling dates, boron is elevated on the second sample date, but not "unacceptable," according to the Division Guidelines. Similarly, the fourth quarter material parameters are acceptable on both dates, with elevated boron levels consistent at 4.42 and 4.32 ppm, just under the unacceptable value of 5.0 ppm.

Please provide the area of Lift 5 represented by sampling in 2015. Please provide volumes or tonnage of waste placed in each quarter at the waste rock site to confirm the placement of four feet over the high boron waste.

For the 2015 sampling, a statement of the location of the 2015 mine waste sample locations and the volumes represented by each sample is requested.

Title: NORTHWATER SPRING MITIGATION
Objective: Mitigation for water loss
Frequency: Annual
Status: Ongoing. By 2017, a perpetual maintenance agreement needs to be constructed between the Division, USFS and Sufco.
Reports: A report will describe conditions of water systems and future mitigation will be evaluated.
Citation: Vol. 3. Chap. 5 Sec. 528.

Operator Comments

According to the permit, "Upon completion of all mining activities at Sufco, perpetual maintenance of the system will be discussed and agreed on between the Division, the Forest Service and Sufco. Furthermore, Sufco will negotiate with the Forest to perform mitigation activities at another site within the Muddy or Quitchupah drainages that may include vegetation enhancement, spring collection improvement, fencing or sensitive area, etc. The negotiations and mitigation project will be completed before the end of year 2017."

Negotiations between Sufco and the Forest have occurred and the Mitigation project has been completed by Sufco in 2014/2015. A report on the Northwater water system and mitigation project, along with a mitigation completion letter from the Forest have been included.

Reviewer Comments ☒ Met Requirements ☐ Did Not Meet Requirements

The Operator provided a report from Ferron/Price Ranger District, Manti-La Sal National Forest which verify's completion of the mitigation project and notes that Sufco has fulfilled and surpassed their obligation to the Forest Service by completing three habitat improvement projects.

Title: Topsoil Sampling during Waste Rock construction
Objective: To determine soil chemistry and nutrient status prior to disturbance. During each phase of construction, "a composite sample will be taken [of each soil map unit] during each phase and analyzed for the pH; % Saturation; EC; Soluble Na, K, Mg, Ca; Available N03-N; Available Phosphorus; Particle Size% very fine sand, sand, silt, clay; Organic Matter%; CaC03%; and Extractable Potassium."
Frequency: During each Phase of construction prior to soil salvage.
Status: During construction of each Phase of the Waste Rock site.
Reports: Appendix V
Citation: MRP Vol 3 Chap 2 Sec 222.400

Operator Comments

Topsoil sampling is in progress. Samples have been taken and sent off to the lab for analysis. Once the results have been delivered to Sufco, the information will be incorporated in to Appendix V.

Reviewer Comments ☒ Met Requirements ☐ Did Not Meet Requirements

7/18/2016, PWB. The soil survey for the 46 acre expansion area , including sample analysis is found in Appendix V(A) of the Waste Rock volume. The parameters reported did not include analysis of N:P:K. Therefore section 222.200 states that a composite sample of topsoil will be taken at each phase of salvage and analyzed for a list of parameters, including the available nitrogen, available phosphorus and extractable potassium. This information will be used for comparison with nutrient analysis taken at final reclamation to determine whether amendments to the soil are necessary. The annual report states that sampling has been completed and analysis is forthcoming. Construction of the waste rock site expansion was ongoing at the time of the Annual Report writing, but was completed in April 2016. Topsoil analysis should be forthcoming.

Title: Topsoil Salvage
Objective: Topsoil and subsoil salvage will be under the direction of a qualified person and will utilize pits or trenches to determine depth of salvage. "The quantity of topsoil/subsoil salvaged during the construction of the expanded WRDS will be determined by surveying the phased area prior to salvage and post salvage. The M&RP will be updated with as-built drawings, cross sections and a table(s) listing volumes of subsoil and topsoil stockpiles."
Frequency: During each Phase of construction within six months of completion of salvage
Status: During construction of each Phase of the Waste Rock site.
Reports: As Built drawings and updated narrative listing volumes salvaged
Citation: Vol 3. Chap 2. Sec. 231.100 and 242.100 page 2-22.

Operator Comments

As-built drawings and updated narrative listing volumes salvaged will be incorporated into the MRP and will be submitted as completed.

Reviewer Comments ☒ Met Requirements ☐ Did Not Meet Requirements

Construction of the waste rock site expansion was ongoing at the time of the Annual Report writing, but was completed in mid-April 2016. The as-built information for completed cell 5 and the expansion area should be provided within six months or by mid-October 2016.

FUTURE COMMITMENTS AND CONDITIONS

The following commitments are not required for the current annual report year, but will be required by the permittee in the future as indicated by the "status" field. These commitments are included for information only, and do not currently require action. If you feel that the commitment is no longer relevant or needs to be revised, please contact the Division.

Title: COLOR INFRARED PHOTOGRAPHY
Objective: To assess changes in vegetation due to mining. Photos submitted after 2008 must include an analysis between 2008 and current photos to assess changes in vegetation due to subsidence.
Frequency: Once every 5 years beginning in 2008.
Status: Due in 2018.
Reports: Annual
Citation: MRP, Volume 1, Chapter 3, page 3-45, Chapter 5, page 5-29

Title: PROTECTION OF WILDLIFE DURING EXCLUSIONARY PERIODS
Objective: To avoid disturbance to wildlife during critical periods of their life cycle. Surface activities are curtailed from Nov. 1-April 1,& May 1 and July 1 in the calving area, except in the portal areas, for wintering elk. Any maintenance requiring heavy equipt will require monitoring from Dec.1 -April 15 for big game winter range and from Jan.1-Aug15 for raptors.
Frequency: During surface disturbing activity
Status: When construction or mitigation activities during wildlife exclusionary periods
Reports: Not Required, Contact DOGM if disturbance occurs during exclusion period
Citation: MRP, Vol. 1, Ch.3, Pg. 3-42 through 3-44 and 3-9

Title: VEGETATION SURVEY OF SOUTH FORK QUITCHUPAH
Objective: To provide sufficient data to make a determination of the degree of impacts of subsidence on riparian vegetation.
Frequency: Surveys will be conducted the fifth year following undermining (2018)
Status: Ongoing, Reports were provided in 2013. Next report due 2018.
Reports: 2018, (Reports shall provide information and data collected before the area is mined, throughout the mining period, and after mining is past. Monitoring and data collection will continue until the mine, Division and Forest agree that mining impacts, if any, have occurred, have been mitigated, and no further impacts are anticipated. Two reports shall be provided and the Division will provide the second copy to the Fishlake National Forest.)
Citation: MRP, Volume 5, appendix 3-14 page 5

Title: Topsoil sampling at reclamation
Objective: "The topsoil will be tested for need of nutrients and soil amendments following application and grading at the rate of one sample/acre. The depth of sampling should be the surface six inches of distributed topsoil. Parameters for testing will include plant available nitrogen, phosphorus and potassium. Section 528 contains the sampling commitments for the placed waste rock. Application will be on an as needed basis as determined by the tests."
Frequency: Reclamation
Status: Reclamation
Reports: Confer with the Division and include in the Annual Report (where easily found at bond release)
Citation: Vol 3. Chap 2. Sec. 231.300 and Section 243.

OPERATOR COMMENTS (OPTIONAL)

REVIEWER COMMENTS

REPORTING OF OTHER TECHNICAL DATA

Please list other technical data or information that was not included in the form above, but is required under the approved plan, which must be periodically submitted to the Division.

Please list attachments:

Reviewer Comments

MAPS

Copies of mine maps, current and up-to-date, are to be provided to the Division as an attachment to this report in accordance with the requirements of R645-301-525.240. The map copies shall be made in accordance with 30 CFR 75.1200 as required by MSHA. Mine maps are not considered confidential.

Map Name	Map Number	Included		Confidential	
		Yes	No	Yes	No
Annual subsidence map	1	☒	☐	☐	☒
Mine Map	1	☒	☐	☐	☒
		☐	☐	☐	☐
		☐	☐	☐	☐
		☐	☐	☐	☐

Reviewer Comments ☒ Met Requirements ☐ Did Not Meet Requirements

The Permittee included a mine map with the approximate dates associated with panels are projected to be mined. Planned mining operations are shown on the Sufco mine timing projection map until 2018. The Annual report also included a subsidence map showing the subsidence contours for the mined out areas. These mine maps meet the Division's requirements to show at least five years of projected mining annually. (CP)