

#5344

Sufco Mine
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December 7, 2016

RECEIVED

DEC 08 2016

DIV. OF OIL, GAS & MINING

Permit Supervisor
Utah Coal Regulatory program
Utah Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
PO Box 145801
Salt Lake City, UT 84114-5801

Re: Waste Sock Site Compaction Specification Amendment – Task ID#5281, Canyon Fuel Company, LLC, Sufco Mine

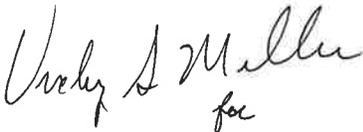
Dear Sirs:

Please find enclosed with this letter revised text pages for Chapter 5 of the permit. The revisions concern compaction specifications at the Sufco's Waste Rock Disposal Site. In the previous submittal more extensive revisions were requested, however in the current submittal the revisions are minimal.

The submittal suggests that a bi-monthly test be performed on the compacted waste rock material. We are suggesting that the tests be done at random locations over the area of the compacted pile. We are also suggesting that the testing be done by a contractor at their discretion of the time and date, to establish that the commitment for maximum laboratory compaction of 95% is being met.

We appreciate your cooperation in reviewing this material. If you have questions or need additional information please contact Vicky Miller (435) 286-4481 or Bryant Bunnell (435) 286-4490.

CANYON FUEL COMPANY
SUFCO Mine



Vicky Miller
for

Jacob Smith
Technical Services Manager

Encl.

cc: DOGM Correspondence File

APPLICATION FOR COAL PERMIT PROCESSING

Permit Change New Permit Renewal Exploration Bond Release Transfer

Permittee: Canyon Fuel Company, LLC

Mine: Sufco Mine

Permit Number: C/041/002

Title: Waste Rock Site Compaction Specification Amendment, Task ID# 5281

Description, Include reason for application and timing required to implement:

Instructions: If you answer yes to any of the first eight (gray) questions, this application may require Public Notice publication.

- Yes No 1. Change in the size of the Permit Area? Acres: _____ Disturbed Area: _____ increase decrease.
- Yes No 2. Is the application submitted as a result of a Division Order? DO# _____
- Yes No 3. Does the application include operations outside a previously identified Cumulative Hydrologic Impact Area?
- Yes No 4. Does the application include operations in hydrologic basins other than as currently approved?
- Yes No 5. Does the application result from cancellation, reduction or increase of insurance or reclamation bond?
- Yes No 6. Does the application require or include public notice publication?
- Yes No 7. Does the application require or include ownership, control, right-of-entry, or compliance information?
- Yes No 8. Is proposed activity within 100 feet of a public road or cemetery or 300 feet of an occupied dwelling?
- Yes No 9. Is the application submitted as a result of a Violation? NOV # _____
- Yes No 10. Is the application submitted as a result of other laws or regulations or policies?
 Explain: _____
- Yes No 11. Does the application affect the surface landowner or change the post mining land use?
- Yes No 12. Does the application require or include underground design or mine sequence and timing? (Modification of R2P2)
- Yes No 13. Does the application require or include collection and reporting of any baseline information?
- Yes No 14. Could the application have any effect on wildlife or vegetation outside the current disturbed area?
- Yes No 15. Does the application require or include soil removal, storage or placement?
- Yes No 16. Does the application require or include vegetation monitoring, removal or revegetation activities?
- Yes No 17. Does the application require or include construction, modification, or removal of surface facilities?
- Yes No 18. Does the application require or include water monitoring, sediment or drainage control measures?
- Yes No 19. Does the application require or include certified designs, maps or calculation?
- Yes No 20. Does the application require or include subsidence control or monitoring?
- Yes No 21. Have reclamation costs for bonding been provided?
- Yes No 22. Does the application involve a perennial stream, a stream buffer zone or discharges to a stream?
- Yes No 23. Does the application affect permits issued by other agencies or permits issued to other entities?

Please attach one (1) review copy of the application.

I hereby certify that I am a responsible official of the applicant and that the information contained in this application is true and correct to the best of my information and belief in all respects with the laws of Utah in reference to commitments, undertakings, and obligations, herein.

JACOB D SMITH

 Print Name

J. Beth, Engr. Mgr., 12/7/16

 Sign Name, Position, Date

Subscribed and sworn to before me this 7 day of December, 2016

Jacquelyn Nebeker

 Notary Public
 My commission Expires: _____, 20____ }
 Attest: State of _____ } ss:
 County of _____



For Office Use Only: 	Assigned Tracking Number: 	Received by Oil, Gas & Mining <div style="text-align: center; color: blue; font-weight: bold; font-size: 1.2em;">RECEIVED</div> <div style="text-align: center; color: red; font-weight: bold; font-size: 1.1em;">DEC 08 2016</div> <div style="text-align: center; color: blue; font-weight: bold; font-size: 1.1em;">DIV. OF OIL, GAS & MINING</div>
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Canyon Fuel Company, LLC
Sufco Mine

Waste Rock Disposal Site
December 7, 2016 ~~September 2015~~

CHAPTER 5

ENGINEERING

If a catastrophic event's causes damage to access roads, the repair of the road/roads will begin as soon as practical following the catastrophic damage.

528 Handling and Disposal of Coal, Excess Spoil, and Coal Mine Waste

Waste rock will be loaded into dump trucks at the mine site and will transport the waste rock approximately 6.4 miles to the disposal site. Trucks will not be overloaded. Because of the damp nature of the waste rock, any wind losses will be minimal. If any spillage should occur in a route to the disposal site, it will be cleaned up and transported to the disposal site as soon as practical. Haulage to the disposal site will be on an intermittent basis. Entrance to the waste rock disposal site is shown on Maps 4A and 5A. Refer to Section 531 for additional detail.

Non-coal waste will not be deposited at the waste rock disposal site. Final disposal of non-coal wastes shall continue to be in an approved sanitary land fill. Durable rock type construction materials such as cinder block, concrete, however, will be deposited at the disposal site.

Acid and Toxic Forming Materials - Based on analyses of material that has been placed in the waste rock disposal site to date, no acid forming problems are anticipated. There is a potential for borderline toxicity problems from boron. Samples of the waste material will be collected quarterly and will be analyzed for acid or toxic forming potential. Identified potential acid or toxic forming materials will be buried or otherwise treated.

Copies of laboratory reports on toxicity/acid-base accountability from representative waste samples are included in Volume 8 of the M&RP prior to 2005 and starting in 2005 will be included in the annual report.

529 Management of Mine Openings

No mine openings will be built in the area.

Once the topsoil and subsoil has been removed (Sections 222 and 231), subgrade surface will be scarified and re-compacted to a minimum of 90% maximum density. Densities will be taken on subgrade at a minimum of one per 5000 square yards using a nuclear density gauge. Scarification will be done using earth moving equipment such as a grader, dozer or excavator. Compaction will be done utilizing the same type of equipment by wheel rolling the subgrade surface prior to any waste rock being placed. Water will be added to material as needed to obtain compaction.

Once subgrade has been scarified and compacted, waste rock will be delivered to the site using haul trucks such as 10 wheeled dump trucks and double trailer belly dumps. As the waste pile is being constructed a berm along the outside edge of the pile will be constructed to comply with MSHA regulations. In addition the berm will act as a diversion to direct on site water into the ditches and eventually into the sediment pond. As the waste rock is delivered on site, it will be handled and placed in its final position using earth moving equipment such as loaders, graders and dozers. The waste rock will be placed in ~~4~~ approximately 2 foot lifts and each lift will be compacted lifts. As each layer is being constructed, it will be keyed into the adjacent slope at a minimum of 1 foot per lift or at a 1:1 keyed in slope (Map 3C). The material will be compacted to 95% of maximum laboratory compaction. To determine compaction, a nuclear density gauge will be used for random testing bi-monthly, except when waste material is not being placed. To assure the randomness of the bi-monthly test a contractor will choose the time and date to perform each random test. Testing location will be staggered and spaced not less than 50 feet apart during the bi-monthly tests. The results of the bi-monthly tests will be submitted quarterly with the quarterly waste rock inspection. When necessary due to the hydro carbons in the material, a density of the material may also be determined using a sand cone which will assist the nuclear density gauge results by providing an additional factor. ~~Densities will be taken every 5,000 square yards per lift. Potholing down to each lift will be done if additional layers have been placed prior to density testing.~~

The following text was previously submitted as redlined additional text, it is now being removed and thus has been struck out.

~~A geotechnical engineering firm was retained to determine the compaction specification for the waste rock. An onsite compaction study overseen by a professional engineer was conducted that involved creating a test pad 2 feet in height, 75 feet long and 35 feet wide. The test pad was tracked by a Caterpillar D6 dozer. In between passes compaction was measured with a nuclear density gauge until optimum compaction was determined and the number of passes with the dozer to achieve this compaction was then recorded. (1) It was determined that each 2 foot lift should have no less than 6 passes with equipment that have track pressures similar to or greater than a Caterpillar D6 dozer (tracked equipment equal to or greater than 18 tons).~~

~~During the tracking process a sample was taken after each density test. The gradation analyses of these samples suggests that material degradation, in terms of grain size, does occur during the compaction process. Using this data gradation limits were determined (See Appendix VIII, p. 7, Table 4) and regular sampling was suggested. (2) It has been determined that one sample should be taken and its gradation analyzed each quarter (unless no material was placed during that quarter) to assure that the material is meeting the gradation limit. Quarterly sampling and lab testing should be performed until a consistent range of gradations for the waste rock are found to be within the required gradation limit. If a sample's gradation does not meet the required limit additional measures should be taken such as: excavation and mixing (adding larger grained material) of the suspect material; compaction using the required methods; and resampling. This process should be repeated until specifications are met.~~

~~The onsite study also included measuring the angle of repose (Appendix VIII, p. 4, Table 1) to assure that the proposed compaction method doesn't void the previous slope stability evaluation done by EarthFax Engineering in 2015. Piles of material were created from both compacted and uncompact material and then measured. These angle of repose values were higher than those measured and used by EarthFax in their slope stability evaluation. Therefore, it's determined that the proposed compaction method does not decrease the slope integrity of the waste rock material.~~

~~In summary the following are required to ensure proper compaction of the waste rock:~~

~~1. Each lift requires at least 6 passes with equipment that have track pressures similar to or greater than a Caterpillar D6 dozer (tracked equipment equal to or greater than 18 tons).~~

~~2. One sample should be taken and its gradation analyzed each quarter (unless no material was placed during that quarter) to assure that the material is meeting the gradation limit (Appendix VIII, p. 7, Table 4). Quarterly sampling and lab testing should be performed until a consistent range of gradations for the waste rock are found to be within the required gradation limits. If a quarterly sample's gradation does not meet the required limit additional measures should be taken such as: excavation and mixing of suspect areas; compaction as specified above; and resampling until it meets specification.~~

As the pile is constructed a 1:1 sideslope on the outside of the pile adjacent to the adjoining phases will remain. As the phase is completed, the top of the waste rock pile will be reclaimed by placing the designated depth of topsoil on the top of the pile. Once the topsoil is placed, the surface will be pocked and gouged using equipment with a maximum bucket width of 30 inches wide. As construction from one phase to the other occurs, steps above will repeat.

Report is being removed from the submittal.

~~Appendix VIII
Compaction Specifications~~