

November 30, 2016

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

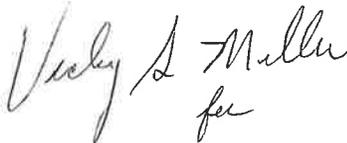
Re: Waste Rock Site – Subsurface Density Tests Amendment, Canyon Fuel Company, LLC, Sufco Mine

Dear Sirs:

Please find enclosed with this letter an amendment to the Sufco Mine Permit to include the density testing for the subsurface base upon which the waste will be placed. Map 2B shows the location of where the samples were taken. Appendix VIII has been added, which includes the density test results.

If you have questions or need addition information please contact Vicky Miller at (435)286-4481.

CANYON FUEL COMPANY
SUFco Mine



Jacob Smith
Technical Services Manager

Encl.

cc: DOGM Correspondence File

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DEC 07 2016
DIV. OF OIL, GAS & MINING

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/041/0002

Title: Waste Rock Disposal Site - Subsurface Density Tests Amendment

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 four (4) review copies of the application. If the mine is on or adjacent to Forest Service land please submit five (5) copies, thank you. (These numbers include a copy for the Price Field Office)

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.

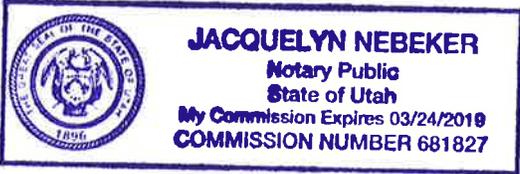
Jacob D. Smith
Print Name

JDS #, Engr. Major, 11/30/16
Sign Name, Position, Date

Subscribed and sworn to before me this 30 day of November, 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 RECEIVED DEC 07 2016 DIV. OF OIL, GAS & MINING
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Canyon Fuel Company, LLC
Sufco Mine

Waste Rock Disposal Site
November 30, 2016 ~~March 2016~~

CHAPTER 5

ENGINEERING

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. **Subgrade surface density test data is located in Appendix VIII, the physical location of the tests is shown on Map 2B. The surface density met the minimum re-compacted density limit.** 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 +/-1 foot 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. 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.

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, extreme roughening techniques will be applied. Extreme surface roughening techniques may include pocking and gouging, ripping, or other erosion control roughening methods. When pocking and gouging, equipment will have a maximum bucket width of 30" or less. As construction from one phase to the other occurs, steps above will repeat.

Canyon Fuel Company, LLC
Sufco Mine

Waste Rock Disposal Site
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APPENDIX VIII
Density Data

NUCLEAR MOISTURE-DENSITY TEST DATA

STANDARD COUNT		MAXIMUM OBTAINABLE DENSITY		OPTIMUM MOISTURE		COMPACTION REQUIREMENT	
DENSITY	MOISTURE						
@ SITE	DS=2336 MS=662		102.2		18.1		90
Ns=	ND=	NM=	Material Type: Tan Native clay				
NS=	=No+1.96(√No/64)		Source:				
TEST NUMBER	1	2	3	4	5	6	
Progress or Final	Progress	Progress	Progress	Progress	Progress	Progress	
STATION							
OFFSET							
LOCATION							
	TH # 1 Marked by survey	TH # 2 Marked by survey	TH # 3 Marked by survey	TH # 4 marked by survey	Th # 5 Marked by survey	TH # 6 Marked by survey	
DEPTH	6"	6"	6"	6"	6"	6"	
WET DENSITY PCF	110.6	114.8	108	129.6	105.4	102.9	
DRY DENSITY	100.4	102.3	96.6	119.2	96.6	93	
% MOISTURE	10.1	12.2	11.6	8.7	8.9	10.6	
% RELATIVE DENSITY	98.3	100	94.7	92.1	94.7	91	
AVERAGE							

LOCATION MAP (IF APPLICABLE)



Test # 4 was in a rockier part of site up against north side of site a different proctor was used from phase one the proctor used was 129.3 @ 9.2% moisture

INSTRUMENT:

3440

TROXLER #

66112

TESTED BY:

Tom T

ENGINEER:

Sufco waste rock site



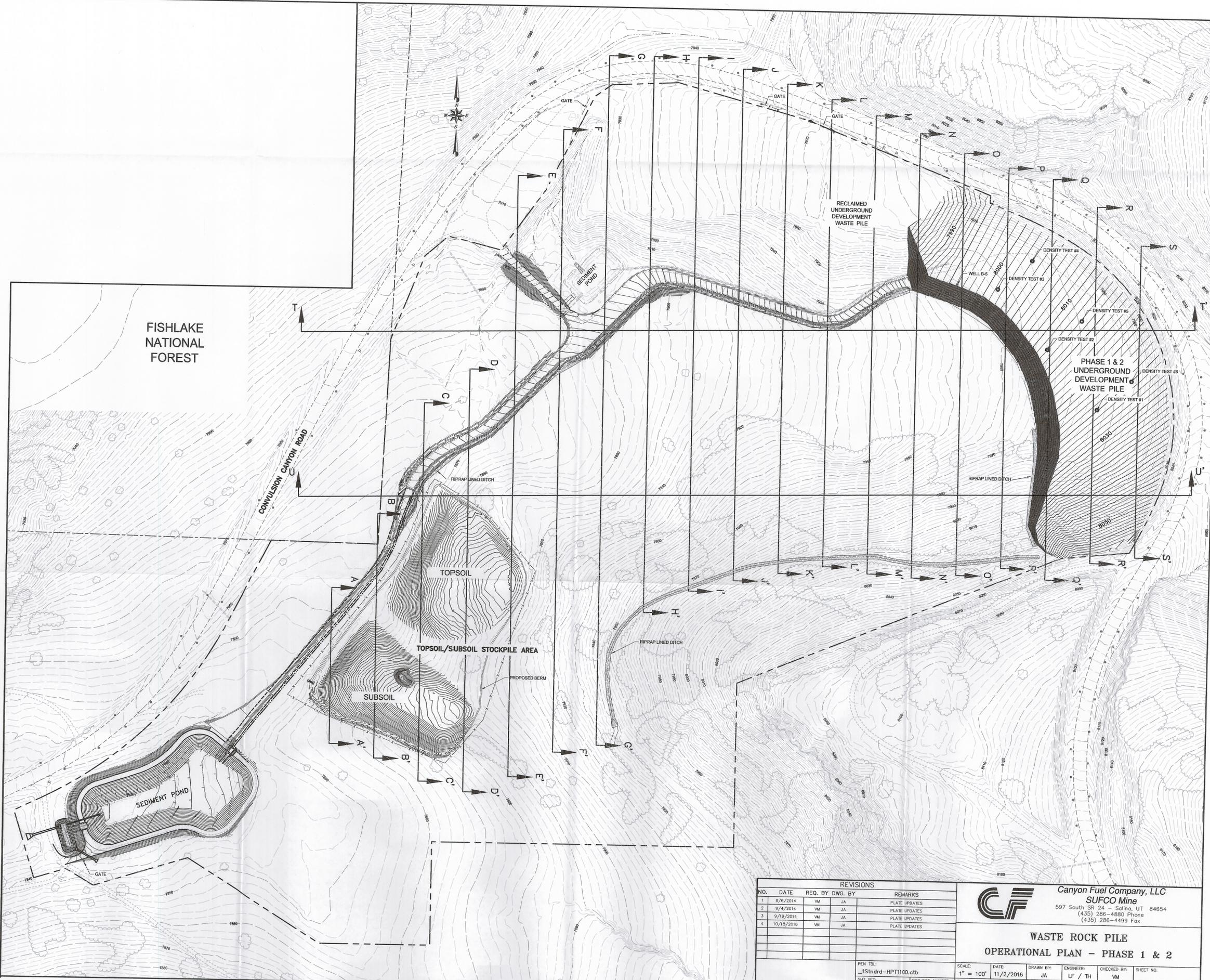
JONES & DEMILLE ENGINEERING

1535 South 100 West
Richfield, UT 84701

PROJECT NO

1406-120

5/24/2016



- LEGEND**
- 8140 — EXISTING GROUND MAJOR CONTOUR (10 FOOT)
 - EXISTING GROUND MINOR CONTOUR (2 FOOT)
 - 8140 — OPERATIONAL GROUND MAJOR CONTOUR (5 FOOT)
 - OPERATIONAL GROUND MINOR CONTOUR (1 FOOT)
 - - - - - EXISTING ROAD
 - - - - - EXISTING PAVED ROAD
 - ▨ EXISTING RIPRAP
 - - - - - EXISTING DITCH
 - ⊙ EXISTING SIGN
 - - - - - PROPOSED ANCILLARY ROAD
 - - - - - EXISTING CULVERT
 - ▭ PROPOSED CULVERT
 - ▬ PROPOSED BERM
 - - - - - DISTURBED AREA BOUNDARY
 - - - - - PROPERTY BOUNDARY
 - ~ EXISTING TREELINE
- A — A' OPERATIONAL CROSS SECTION LOCATION
(SEE MAP 3A, MAP 3B AND MAP 3C FOR CROSS-SECTIONS)

NOTE:
TOPOGRAPHIC DATA BASED ON 2016 AERIAL SURVEY

REVISIONS				
NO.	DATE	REQ. BY	DWG. BY	REMARKS
1	8/6/2014	VM	JA	PLATE UPDATES
2	9/4/2014	VM	JA	PLATE UPDATES
3	9/19/2014	VM	JA	PLATE UPDATES
4	10/18/2016	VM	JA	PLATE UPDATES

Canyon Fuel Company, LLC
SUFCO Mine
 597 South SR 24 - Solina, UT 84654
 (435) 286-4880 Phone
 (435) 286-4499 Fax

WASTE ROCK PILE
OPERATIONAL PLAN - PHASE 1 & 2

PEN TBL: _1Stdnd-HPT1100.ctb	SCALE: 1" = 100'	DATE: 11/2/2016	DRAWN BY: JA	ENGINEER: LF / TH	CHECKED BY: VM	SHEET NO.:	
SHT SET: 1406-120	PROJECT NUMBER: 1406-120	FILE NAME: H:_JD\Pro\1406-120\DWG\SHEET 1 OPERATIONAL COVER-2B.dwg	MAP 2B				

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Dec 4 2016
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