

April 6, 2018

Twentymile Coal Company 29515 RCR #27 Oak Creek, CO 80467

Attn: Mr. Jerry Nettleton

Job Number: 99-3983

Subject: Quarterly Observation Report, Refuse Pile, Foidel Creek Mine, Routt County, Colorado.

Mr. Nettleton,

As requested, NWCC, Inc. (NWCC) has prepared this report outlining our observations made during the first quarter of 2018 at the Refuse Pile located at Twentymile Coal Company's (TCC) Foidel Creek Mine in Routt County, Colorado. During this quarter, Timothy Travis of NWCC visited the project site on March 30, 2018 to provide the quarterly inspection/observations of the Refuse Pile.

At the time of our site visit on March 30, 2018, NWCC completed a cursory site inspection of the existing refuse pile. Based on our observations made during this visit, it appeared that the contractor was presently stockpiling and compacting refuse coal in the new Expansion Area. At the time of our site visit the refuse coal had been placed and compacted to an elevation above the second bench situated along the east side of the stockpile.

In addition, a representative of NWCC visited the refuse pile on March 8, 2018 to conduct compaction testing in the new Expansion Area of the refuse pile. Three compaction tests (#563 to #565) were taken in Expansion Area during this quarter. All of the tests taken during this quarter met the minimum compaction requirement of 90% of the maximum standard Proctor density. Copies of the compaction test results and the daily field reports are attached. It should be noted that the abbreviations given in the Nuclear Density Test Results (Proctor Data) are as follows: Maximum DD = Maximum Dry Density and OMC = Optimum Moisture Content. Both of these values have been determined in accordance with ASTM D698.

The internal roadways in the new expansion area of the pile are in good condition. The upper haul road to Areas 2, 3 and 4 of the refuse pile was accessible at the time of our site visit and in good condition.

A seepage area at the toe of the northeast end of the refuse pile expansion area, approximately 30 feet northwest of the outlet of the underdrain, developed in fall 2014. At the time of our observations, the seepage was surfacing at the toe of the slope and flowing into the drainage from the undrain outlet then into the existing pond east of the Refuse Pile Expansion Area. The discharge was clear, with no evidence of sediment. No signs of washout, slumps or slope instability were observed at this time. The seepage area will be monitored during future inspections and noted in our inspection reports. Photographs of the seepage area taken at the time of our inspection on March 30, 2018 are attached.

Based on our observations, the surface drainage conditions, generally appeared to be adequate across the top and sides of the pile. Based on our observations, we did not observe any signs of instability, structural weakness or hazardous conditions at the refuse pile.

We were advised that the wash plants had produced approximately 117,547 tons of waste coal during the month of January 2018: approximately 107,254 tons during February 2018: and approximately 135,664 tons during March 2018. It is our understanding that the fines being produced at the wash plant, which consists of approximately 10 to 20 percent of the total materials being produced, are being pumped underground into the mine.

We were previously informed by Brian Watterson of Peabody that all of the original monitor wells installed in the Refuse Pile were destroyed in July 2012. Two new monitor wells were constructed in Area 1 of the Refuse Pile in December 2013. NWCC was provided monthly monitor well readings for this quarter by Miller Water Monitor Service, Inc. The water level in the western monitor well (RW#1) was measured at 57.31 feet below the existing ground surface (bgs) on January 6th, at 57.28 feet bgs on February 24th and at 57.03 feet bgs on March 26th of 2018. The water level in the eastern monitor well (RW#2) was measured at 56.32 feet bgs on January 6th, at 56.29 feet bgs on February 24th and at 56.15 feet bgs on March 26th of 2018. An additional monitor well (RW#3) was constructed at the southeast end of the 1st bench in new Expansion Area in June of 2014. The water level in the expansion area monitor well (RW#3) was dry when checked on January 6th, February 24th and March 26th of 2018.

Based on our limited observations, it appears that the pile is currently being constructed and maintained in general accordance with the project specifications and plans submitted under 2.05.3(8) and that the potential hazard to human life and property at the site in its present condition is minimal. This report fulfills the quarterly inspection requirements as specified by Rules 4.09.1(11)(a), 4.09.1(11)(b), 4.10.2(2)(a) and 4.10.2(2)(b).

If you have any questions regarding this report or our observations, please contact this office.

Sincerely,

NWCC, Inc.,

Timothy S. Travis,

Sr. Project Eng

Reviewed by

Principal Engl

cc: Tabetha Lynch - Environmental Protection Specialist - CDRM&S



March 30, 2018-Underdain Outlet/Seepage Area



March 30, 2018- Underdrain Outlet



March 30, 2018-Southwest End of Underdrain



March 30, 2018-Seepage Area



March 30, 2018-Areas 2, 3, 4

NWCC, INC. FIELD REPORT

Project: Refuse Pile

Project No.: 99-3983

Date: 3/8/18

Location: Foidel Creek Mine

Client: Twentymile Coal Co.

Report No.: 87

Time: 4.0 Mileage: 44

Engr. /Tech: CR

Work Performed:

As requested, we visited the project site on today's date and conducted compaction test No's 563 through 565 on the material being placed for the Refuse Pile.

Twentymile Coal Company crews placed and compacted processed waste coal in the Refuse Pile.

We also obtained a sample of material and returned it to our laboratory in Steamboat Springs, CO for standard checkpoint Proctor testing. The sample matched a previous Proctor 12P for this project.

Remarks:

The material tested today generally met project specifications for compaction.

Please refer to attached sheet for results of today's testing.

Verbal Discussions:

Representatives of Twentymile Coal Co. were on-site during our visit.

NWCC, Inc. Field Density Tests

Refuse Pile

PROJECT NAME:

99-3983

PROJECT NUMBER:

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	REQUIRED COMPACTION	06	06	06																								
સ: 87	PERCENT REQUIRED COMPACTION	63	96	93																								
	MOISTURE VARIANCE	-1.4	-3.9	-0.5															Soil Type	Naste Coal	Processed Waste Coal	Processed Waste Coal	Vaste Coal					
ORT NUMBER:	MOISTURE CONTENT (%)	6.2	3.7	7.1																Processed Waste Coa			Processed Waste Coa		NEC = Northeast Corner	SEC = Southeast Corner	NWC= Northwest Corner SWC= Southeast Corner	
REP(IN-PLACE DRY DENSITY (pcf)	102.6	105.9	101.8																						NEC =	SEC	SWC= S
	ELEVATION (ft)	6995.727	6991.900	6984.424																						***************************************		,
	PROCTOR NO.	12	12	12														4	ASTM Method	D698	D698	D698	869G			Grade		o − 0
CR	LOCATION Northing / Easting									A CALLADAMAN AND A								PROCTOR DATA	Relative Maximum Density (pcf)	+						BBCG = Below Base Cousre Grade	FG = Footing Grade	BFG= Below Footing Grade BTOT Below Top of Trench RFG = Below Existing Grade
		6794.44	30824.57 17000.95	31212.11 17253.21															Relative Minimum Density (pcf)							# BD88	Б.	BFG= BTOT
		30519.58 16794.44																	Moisture Specification (%)									
																			Optimum Moisture Content (%)	11.0	11.0	10.2	7.6			9		ď)
Tech:	DATE	8-Mar-18	8-Mar-18	8-Mar-18															Maximum Dry Density (pcf)	111.5	107.6	100.3	109.8			ments:	SG = Subgrade Grade	SBG = Subbase Grade BSBG = Below Subbase Grade
	TEST NO.	563	564	565															Proctor No.	7	10	11	12			Comments:	\$ = 98 = 1	SBG = 1 BSBG = 1