NorthWest Colorado Consultants, Inc.
Geotechnical / Environmental Engineering • Materials Testing

January 10, 2023

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

Job Number: 99-3983

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

Miranda,

As requested, NWCC, Inc. (NWCC) has prepared this report outlining our observations made during the fourth quarter of 2022 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 December 29, 2022 to provide the quarterly inspection/observations of the Refuse Pile.

At the time of our site visit on December 29, 2022, NWCC completed a site inspection of the existing refuse pile. Based on our observations made during this visit, it appeared that the contractor was presently stockpiling, grading 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 third bench situated along the east side of the stockpile.

Compaction testing in the new Expansion Area of the refuse pile was also completed on December 29, 2022. Four compaction tests (#637 to #639) were taken in Expansion Area during this quarter. Due to recent heavy snow, a limited area was open for compaction testing. 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. Due to recent heavy snow, access to the expansion area was limited. The upper haul road to Areas 2, 3 and 4 of the refuse pile was not accessible at the time of our site visit due to snow.

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 December 29, 2022 are attached.

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

We were advised that the wash plant had produced approximately 37,328 tons of waste coal during the month of October 2022: approximately 34,310 tons during November 2022: and approximately 29,896 tons during December 2022. 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 TCC 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 Two Pines, Inc. The water level in the western monitor well (RW#1) was measured at 57.48 feet below the existing ground surface (bgs) on October 22nd at 57.56 feet bgs on November 19th and at 57.63 feet bgs on December 17th of 2022. The water level in the eastern monitor well (RW#2) was measured at 56.59 feet bgs on October 22nd, at 56.70 feet bgs on November 19th and at 56.78 feet bgs on December 17th of 2022. 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 October 22nd, November 19th and December 17th of 2022.

Based on our 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, REO
Sr. Project Engineer

Reviewed by Brian D. Len, P.E.
Principal Engineer 1/10/2023

STATE OF COLORADO LICENSED BRIAN D. LEN 25750 PROFESSIONAL ENGINEER

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

NORTHWEST COLORADO CONSULTANTS, INC.

Project:	Refuse Pile	**Project No.:**	99-3983	**Date:**	12/29/22
				Time:	3
Location:	Foidel Creek Mine	**Report No.:**	106	**Mileage:**	45
Client:	Twentymile Coal Co.			**Engr. /Tech:**	TT

Work Performed:

As requested, we visited the project site on today's date and conducted compaction test No's 637 through 639 on the fill materials being placed within 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 previously determined 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:

Nick Aromando of Twentymile Coal Co. was notified of today's test results.

NUCLEAR DENSITY TEST RESULTS

Project: Refuse Pile **Project No.:** 99-3983 **Date:** 12/29/2022
Report No.: 106

Test No.	Location Northing/Easting	Depth Elev.	Proctor No.	Dry Density (pcf)	Water Content (%)	Actual Compaction	Required Compaction
637	30264.74 / 16591.44	7018.555	12	100.6	6.2	92	90
638	30421.29 / 16855.88	7016.295	12	99.6	6.7	91	90
639	30505.13 / 17004.56	7013.979	12	100.1	6.8	91	90

PROCTOR DATA

No.	Maximum Dry Density (pcf)	Optimum Moisture Content (%)	Relative Density Minimum Density (pcf)	Relative Density Maximum Density (pcf)	Soil Type
12	109.8	7.6			Processed Waste Coal
11	100.3	10.2			Processed Waste Coal
10	107.6	11.0			Processed Waste Coal

Comments:

BSG= Below Subgrade Grade
SG= Subgrade Grade
SBG= Subbase Grade
BSBG= Below Subbase Grade
BCG= Base Course Grade
BBF= Below Bottom of Footing
NWC= Northwest Corner
NEC= Northeast Corner
SWC= Southwest Corner
SEC= Southeast Corner
BFG= Below Footing Grade
FG= Footing Grade

December 29, 2022-Drain Outlet and Seepage Area

December 29, 2022-Drain Outlet

December 29, 2022-Seepage Area

December 29, 2022- Expansion Area

December 29, 2022- Expansion Area