



Nicki Poulos
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Mountain Coal Company, LLC
A subsidiary of Arch Resources, Inc.
West Elk Mine
5174 Highway 133
Somerset, CO 81434

July 29, 2021

Mr. Leigh Simmons
Colorado Division of Reclamation, Mining and Safety
Office of Mined Land Reclamation
1313 Sherman Street, Room 215
Denver, CO 80203

**Re: Mountain Coal Company, LLC - West Elk Mine, CDRMS Permit No. C-1980-007
Pond and Mine Site Quarterly Inspection Reports – 2nd Quarter 2021**

Dear Mr. Simmons:

Attached are Mountain Coal Company, LLC's (MCC) Pond, Refuse Pile and Mine Site quarterly self-inspection reports for the 2nd Quarter of 2021.

Also attached are compaction tests for June 2021 for the RPEE pile as well as P.E Certification for the RPEE.

Should you have questions or require additional information, please contact me at (970) 929-2219.

Sincerely,

A handwritten signature in black ink, appearing to read "Nicki Poulos", written in a cursive style.

Nicki Poulos
Environmental Engineer

Enclosures: Inspection Reports – 2nd Quarter 2021
Compaction Test Results- 2nd Quarter 2021

cc: K. Welt
Availability of Records File

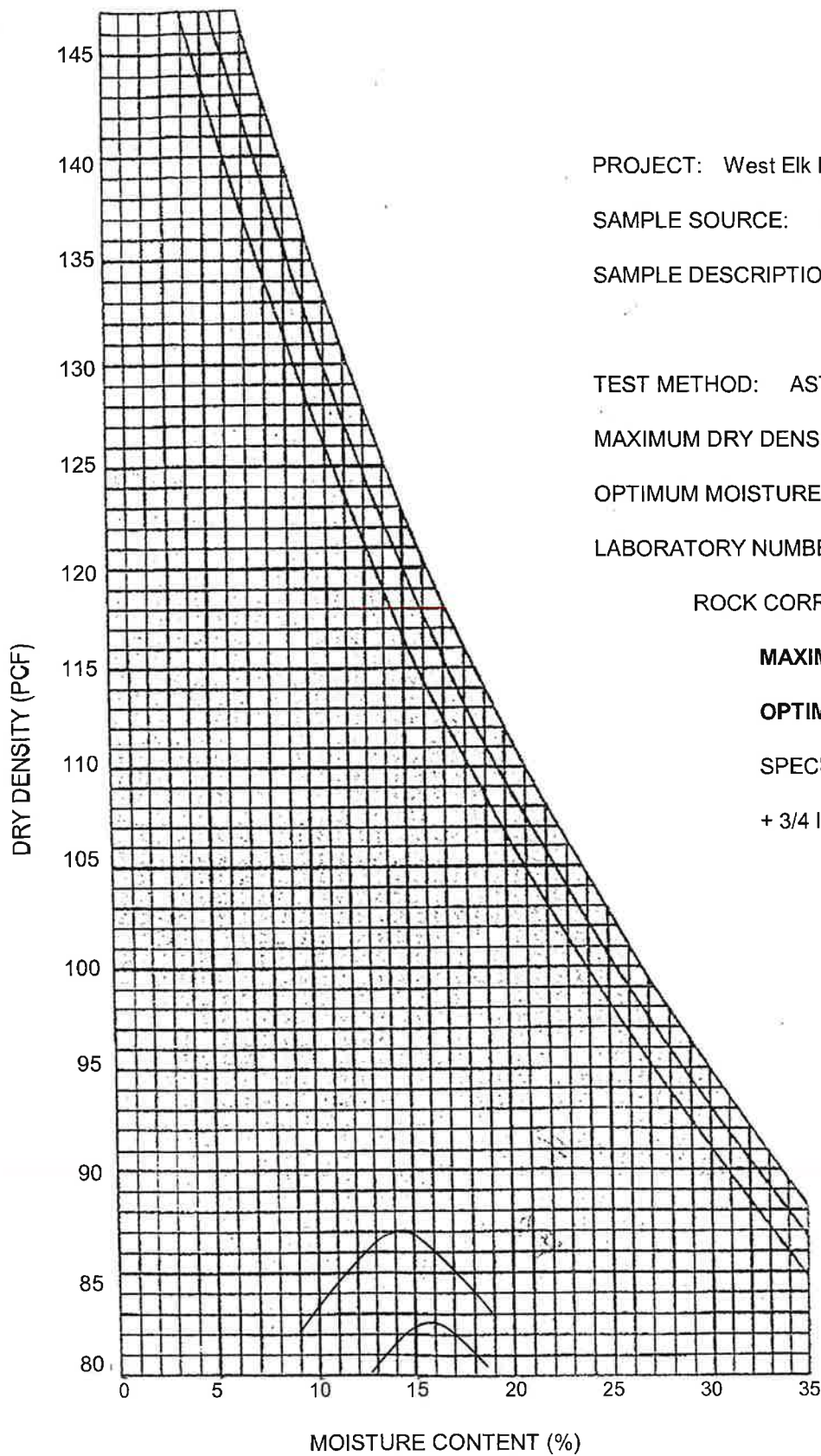
REFUSE PILE EXPANSION EAST CERTIFICATION

I, Jessica A. Wilczek, Colorado Registered P.E. No. 39802, hereby certify to the best of my knowledge and belief, the preparation of the Refuse Pile Expansion East (RPEE), including topsoil and subsoil salvage, underdrain and drainage ditch construction, and placement and compaction of fill lifts, was completed during the 2nd Quarter of 2021 in accordance with the approved designs for the Refuse Pile Expansion East (RPEE), see the attached compaction test results.

Jessica A. Wilczek, Colorado P.E. No. 39802

Jessica Wilczek





PROJECT: West Elk Mine

SAMPLE SOURCE: Stockpile Below

SAMPLE DESCRIPTION: Coal Gob, Black

TEST METHOD: ASTM D698C

MAXIMUM DRY DENSITY: 82.5 pcf

OPTIMUM MOISTURE CONTENT: 16.0 %

LABORATORY NUMBER: 4228

ROCK CORRECTION:

MAXIMUM DRY DENSITY: 87.0 pcf

OPTIMUM MOISTURE CONTENT: 14.5%

SPECIFIC GRAVITY: 1.74

+ 3/4 INCH = 20.3 % TOTAL WEIGHT

RELATIVE COMPACTION TEST RESULTS

PROJECT: West Elk Mine RPEE 2021

PROJECT NUMBER: M21049MT

DATE: June 01, 2021

LOCATION: Somerset, CO

ENGINEERING TECHNICIAN: Derrick Hayes

CLIENT: Mountain Coal Company

NUCLEAR GAUGE USED: 16

	TEST LOCATION	DEPTH OR ELEVATION	PROBE DEPTH (IN)	LABORATORY PROCTOR DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	SOIL TYPE
1	RPEE, stake # 13321		8"	90.5	12.5	95.8	14.2	100	Coal gob, black
2	RPEE, stake # 13319		8"	90.5	12.5	89.1	11.0	98	Coal gob, black
3	RPEE, stake # 13303		8"	90.5	12.5	97.4	13.6	100	Coal gob, black
4	RPEE, stake # 13316		8"	90.5	12.5	92.0	9.8	100	Coal gob, black
5	RPEE, stake # 13304		8"	90.5	12.5	88.6	12.3	98	Coal gob, black
6	RPEE, stake # 13322		8"	90.5	12.5	96.9	15.6	100	Coal gob, black
7	RPEE, stake # 13324		8"	90.5	12.5	96.6	16.3	100	Coal gob, black
8	RPEE, stake # 13323		8"	90.5	12.5	89.5	14.2	99	Coal gob, black
9	RPEE, stake # 13306		8"	90.5	12.5	92.7	14.9	100	Coal gob, black
10	RPEE, stake # 13307		8"	90.5	12.5	90.5	8.7	100	Coal gob, black
11	RPEE, stake # 13308		8"	90.5	12.5	91.4	13.6	100	Coal gob, black
12	RPEE, stake # 13328		8"	90.5	12.5	89.1	13.0	98	Coal gob, black

REMARKS: The test results indicate only the density and moisture content for the location and elevation tested only.

Lambert and Associates

PROJECT NUMBER: M21049MT

RELATIVE COMPACTION TEST RESULTS

PROJECT: West Elk Mine RPEE 2021

PROJECT NUMBER: M21049MT

DATE: June 01, 2021

LOCATION: Somerset, CO

ENGINEERING TECHNICIAN: Derrick Hayes

CLIENT: Mountain Coal Company

NUCLEAR GAUGE USED: 16

	TEST LOCATION	DEPTH OR ELEVATION	PROBE DEPTH (IN)	LABORATORY PROCTOR DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	SOIL TYPE
13	RPEE, stake # 13329		8"	90.5	12.5	95.6	14.9	100	Coal gob, black
14	RPEE, stake # 13330		8"	90.5	12.5	94.7	14.2	100	Coal gob, black
15	RPEE, stake # 13311		8"	90.5	12.5	96.7	16.3	100	Coal gob, black
16	RPEE, stake #13331		8"	90.5	12.5	96.5	16.3	100	Coal gob, black
17	RPEE, stake # 13332		8"	90.5	12.5	90.8	11.7	100	Coal gob, black

REMARKS: The test results indicate only the density and moisture content for the location and elevation tested only.

Lambert and Associates

PROJECT NUMBER: M21049MT

RELATIVE COMPACTION TEST RESULTS

PROJECT: West Elk Mine RPEE 2021 **PROJECT NUMBER:** M21049MT **DATE:** June 18, 2021

LOCATION: Somerset, CO **ENGINEERING TECHNICIAN:** Derrick Hayes

CLIENT: Mountain Coal Company **NUCLEAR GAUGE USED:** 16

	TEST LOCATION	DEPTH OR ELEVATION	PROBE DEPTH (IN)	LABORATORY PROCTOR DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	SOIL TYPE
18	RPEE, stake # 1		8"	87.0	14.5	92.6	13.0	100	Coal gob, black
19	RPEE, stake # 2		8"	87.0	14.5	96.1	11.0	100	Coal gob, black
20	RPEE, stake # 3		8"	87.0	14.5	101.0	12.3	100	Coal gob, black
21	RPEE, stake # 4		8"	87.0	14.5	96.2	13.0	100	Coal gob, black
22	RPEE, stake # 5		8"	87.0	14.5	100.4	13.6	100	Coal gob, black
23	RPEE, stake # 6		8"	87.0	14.5	95.7	11.7	100	Coal gob, black

REMARKS: The test results indicate only the density and moisture content for the location and elevation tested only.

Location

Inspector

Features	Problems		Maintenance		Repairs		Comments
Erosion:	Yes	No	Yes	No	Yes	No	
Rills and Gullies		X		X		X	
Vegetation		X		X		X	
Other		X		X		X	
Drainage:	Yes	No		No	Yes	No	
Ditches and Channels		X		X		X	Ditches cleaned
Berms		X		X		X	
Linings		X		X		X	
BMPs		X		X		X	
Culverts		X		X		X	
Other		X		X		X	
Structural:	Yes	No	Yes	No	Yes	No	
Side slopes and Stability		X		X		X	
Cracks or Settling		X		X		X	
Seepage		X		X		X	
Other		X		X		X	
Reclamation:	Yes	No	Yes	No	Yes	No	
Seedbed Material		X		X		X	
Subsoil		X		X		X	
Vegetation		X		X		X	
Mulch		X		X		X	
Other		X		X		X	
General Compliance & Miscellaneous	Yes	No	Yes	No	Yes	No	
Signs and Markers		X		X		X	
Roads		X		X		X	
Other		X		X		X	
Additional Comments:							
Action Required or Needed:							

Location

Inspector

Features	Problems		Maintenance		Repairs		Comments
Erosion:	Yes	No	Yes	No	Yes	No	
Rills and Gullies		X		X		X	
Vegetation		X		X		X	
Other		X		X		X	
Drainage:	Yes	No	Yes	No	Yes	No	
Ditches and Channels		X		X		X	
Berms		X		X		X	
Linings		X		X		X	
BMPs		X		X		X	
Culverts		X		X		X	
Other		X		X		X	
Structural:	Yes	No	Yes	No	Yes	No	
Side slopes and Stability		X		X		X	Surveyed regularly
Cracks or Settling		X		X		X	
Seepage		X		X		X	
Other		X		X		X	
Reclamation:	Yes	No	Yes	No	Yes	No	
Seedbed Material		X		X		X	
Subsoil		X		X		X	
Vegetation		X		X		X	
Mulch		X		X		X	
Other		X		X		X	
Miscellaneous	Yes	No	Yes	No	Yes	No	
Signs and Markers		X		X		X	
Roads		X		X		X	
Other		X		X		X	
Additional Comments:							
Action Required or Needed:							

Location

Inspector

Features	Problems		Maintenance		Repairs		Comments
Erosion:	Yes	No	Yes	No	Yes	No	
Rills and Gullies		X		X		X	
Vegetation		X		X		X	
Other		X		X		X	
Drainage:	Yes	No	Yes	No	Yes	No	
Ditches and Channels		X		X		X	Ditch cleaning in progress
Berms		X		X		X	
Linings		X		X		X	
BMPs		X		X		X	
Culverts		X		X		X	
Other		X		X		X	
Structural:	Yes	No	Yes	No	Yes	No	
Side slopes and Stability		X		X		X	
Cracks or Settling		X		X		X	
Seepage		X		X		X	
Monitoring-Survey		X		X		X	
Other		X		X		X	
Reclamation:	Yes	No	Yes	No	Yes	No	
Seedbed Material		X		X		X	
Subsoil		X		X		X	
Vegetation		X		X		X	
Mulch		X		X		X	
Other		X		X		X	
General Compliance & Miscellaneous	Yes	No	Yes	No	Yes	No	
Signs and Markers		X		X		X	
Roads		X		X		X	
Other		X		X		X	
Additional Comments:							
Action Required or Needed:							

Date

North Soils Storage Area (NSSA)

Location

Quarter/Year
N. Poulos
Inspector

Features	Problems		Maintenance		Repairs		Comments
Erosion:	Yes	No	Yes	No	Yes	No	
Rills and Gullies		X		X		X	
Vegetation		X	X			X	weeds were sprayed
Other		X		X		X	
Drainage:	Yes	No	Yes	No	Yes	No	
Ditches and Channels		X		X		X	
Berms		X		X		X	
Linings		X		X		X	
BMPs		X		X		X	
Culverts		X		X		X	
Other		X		X		X	
Structural:	Yes	No	Yes	No	Yes	No	
Side slopes and Stability		X		X		X	
Cracks or Settling		X		X		X	
Seepage		X		X		X	
Other		X		X		X	
Reclamation:	Yes	No	Yes	No	Yes	No	
Seedbed Material		X		X		X	
Subsoil		X		X		X	
Vegetation		X		X		X	
Mulch		X		X		X	
Other		X		X		X	
General Compliance & Miscellaneous	Yes	No	Yes	No	Yes	No	
Signs and Markers		X		X		X	
Roads		X		X		X	
Other		X		X		X	
Additional Comments:							
Action Required or Needed:							

4/21/2021

Date

Lower Rufuse Pile (Prep Plant)

Location

2nd 2021

Quarter/Year

N. Poulos

Inspector

Features	Problems		Maintenance		Repairs		Comments
Erosion:	Yes	No	Yes	No	Yes	No	
Rills and Gullies		X		X		X	
Vegetation		X		X		X	
Other		X		X		X	
Drainage:	Yes	No	Yes	No	Yes	No	
Ditches and Channels		X		X		X	
Berms		X		X		X	
Linings		X		X		X	
BMPs		X		X		X	
Culverts		X		X		X	
Other		X		X		X	
Structural:	Yes	No	Yes	No	Yes	No	
Side slopes and Stability		X		X		X	
Compaction		X		X		X	
Underdrains		X		X		X	
Cracks or Settling		X		X		X	
Seepage		X		X		X	
Monitoring-Survey		X		X		X	
Other		X		X		X	
Reclamation:	Yes	No	Yes	No	Yes	No	
Seedbed Material		X		X		X	
Subsoil		X		X		X	
Vegetation		X		X		X	
Mulch		X		X		X	
Other		X		X		X	
General Compliance & Miscellaneous	Yes	No	Yes	No	Yes	No	
Signs and Markers		X		X		X	
Spontaneous		X		X		X	
Roads		X		X		X	
Other		X		X		X	
Additional Comments:							
Action Required or Needed:							

Date	
Upper Sly Gulch Road	
Location	

Quarter/Year
N. Poulos
Inspector

Features	Problems		Maintenance		Repairs		Comments
Erosion:	Yes	No	Yes	No	Yes	No	
Rills and Gullies		X		X		X	
Vegetation		X		X		X	
Other		X		X		X	
Drainage:	Yes	No	Yes	No	Yes	No	
Ditches and Channels		X		X		X	
Berms		X		X		X	
Linings		X		X		X	
BMPs		X		X		X	
Culverts		X		X		X	
Other		X		X		X	
Structural:	Yes	No	Yes	No	Yes	No	
Side slopes and Stability		X		X		X	
Cracks or Settling		X		X		X	
Seepage		X		X		X	
Monitoring-Survey		X		X		X	
Other		X		X		X	
Reclamation:	Yes	No	Yes	No	Yes	No	
Seedbed Material		X		X		X	
Subsoil		X		X		X	
Vegetation		X		X		X	
Mulch		X		X		X	
Other		X		X		X	
General Compliance & Miscellaneous	Yes	No	Yes	No	Yes	No	
Signs and Markers		X		X		X	
Roads		X		X		X	
Other		X		X		X	
Additional Comments:							
Action Required or Needed:							

Date

Location

Quarter/Year

Inspector

Features	Problems		Maintenance		Repairs		Comments
Erosion:	Yes	No	Yes	No	Yes	No	
Rills and Gullies		X		X		X	
Vegetation		X		X		X	
Other		X		X		X	
Drainage:	Yes	No	Yes	No	Yes	No	
Ditches and Channels		X		X		X	
Berms		X		X		X	
Linings		X		X		X	
BMPs		X		X		X	
Culverts		X		X		X	
Other		X		X		X	
Structural:	Yes	No	Yes	No	Yes	No	
Side slopes and Stability		X		X		X	
Cracks or Settling		X		X		X	
Seepage		X		X		X	
Monitoring-Survey		X		X		X	
Other		X		X		X	
Reclamation:	Yes	No	Yes	No	Yes	No	
Seedbed Material		X		X		X	
Subsoil		X		X		X	
Vegetation		X		X		X	
Mulch		X		X		X	
Other		X		X		X	
Miscellaneous	Yes	No	Yes	No	Yes	No	
Signs and Markers		X		X		X	
Roads		X		X		X	
Other		X		X		X	
Additional Comments:							
Action Required or Needed:							

2nd 2021

4/21/2021

Date

2nd Quarter 2021

Quarter/Year

N. Poulos

Inspector

Pond ID	FW-1	SG-1	RPE West	RPE East	NSSA	Deepwell
Pond Type	Fresh Water	Sediment	Sediment	Sediment	Sediment	Fault Water
Sediment Level %	N/A	5%	<15%	<15%	0	<5%
Water Level (Approx.)	80%	40%	5%	15%	0	20%
Discharge? Y/N	N/A	N	N	N	N	N

Features	Problems?*		Maintenance?*		Repairs?*		Comments
* If Yes add comments							
Erosional:	Yes	No	Yes	No	Yes	No	
Rill & Gullies		X		X		X	
Inadequate Vegetation		X		X		X	Weeds sprayed
Outlet Channel Erosion		X		X		X	
Burrows		X		X		X	
Other		X		X		X	
Structural:							
Differential Settling		X		X		X	
Cracks and Slides		X		X		X	
Seepage		X		X		X	
Other		X		X		X	
Appurtenant Structures							
Defective Spillways		X		X		X	
De-Watering Device clogged		X		X		X	
Faulty Gates, Baffles, Pumps		X		X		X	
Other		X		X		X	
Additional Comments:	Water is recycled from the sediment ponds for use as dust control on roadways, as well as pumped to the CPP (as needed) and/or into the sealed area of the mine for storage and later use per MCC's adjudicated water storage right						
Action Needed:							

4/21/2021
Date

2nd Quarter 2021
Quarter/ Year
N. Poulos
Inspector

Pond ID	FW-2 North	FW-2 South	MB-3	MB-4	MB-5 North	MB-5 South
Pond Type	Fresh Water	Fresh Water	Sediment	Sediment	Sediment	Sediment
Sediment Level %	N/A	N/A	<15%	<5%	<10%	<15%
Water Level (Approx.)	Full	Full	5%	15%	15%	60%
Discharge? Y/N	N/A	N/A	N	N	N	N

Features	Problems?*		Maintenance?*		Repairs?*		Comments
* If Yes add comments							
Erosional:	Yes	No	Yes	No	Yes	No	
Rill & Gullies		X		X		X	
Inadequate Vegetation		X		X		X	Weeds were sprayed
Outlet Channel Erosion		X		X		X	
Burrows		X		X		X	
Other		X		X		X	
Structural:							
Differential Settling		X		X		X	
Cracks and Slides		X		X		X	
Seepage		X		X		X	
Other		X		X		X	
Appurtenant Structures							
Defective Spillways		X		X		X	
De-Watering Device clogged		X		X		X	
Faulty Gates, Baffles, Pumps		X		X		X	
Other		X		X		X	
Additional Comments:	Water is recycled from the sediment ponds for use as dust control on roadways, as well as pumped to the CPP (as needed) and/or into the sealed area of the mine for storage and later use per MCC's adjudicated water storage right						
Action Needed:							