



Huddleston-Berry
Engineering & Testing, LLC

2789 Riverside Parkway
Grand Junction, Colorado 81501
Phone: 970-255-8005
Info@huddlestonberry.com

July 19, 2021
Project#01349-0001

Bowie Resources, LLC
43659 Bowie Road
Paonia, Colorado 81428

Attention: Mr. Basil Bear

Subject: Construction Materials Testing
2nd Quarter 2021
Bowie Mine No. 2
Paonia, Colorado

Dear Mr. Bear,

At your request, a representative of Huddleston-Berry Engineering and Testing, LLC (HBET) conducted field moisture and compaction testing, and laboratory moisture testing of coal mine waste materials placed at Bowie Mine No. 2 near Paonia, Colorado. Field testing was conducted on June 2nd and June 28th, 2021. Soil compaction test reports, test location data, and laboratory optimum moisture and density (Proctor) data are attached.

We are pleased to be of service to your project. Please contact us if you have any questions or comments regarding the contents of this report.

Respectfully Submitted:
Huddleston-Berry Engineering and Testing, LLC

A handwritten signature in blue ink that reads "Michael A. Berry". The signature is fluid and cursive, with a long horizontal stroke at the end.

Michael A. Berry, P.E.
Vice President of Engineering

SOIL COMPACTION TEST REPORT

Task: Gob Pile Densities

Field vs. Lab Densities

Project No.: 01349 - 0001

Tested By: Dm **Date:** 6/2/21

Project Name: Bowie Mine

Work Order No: 72926

Client Name: Bowie Resources

Authorized By: Client **Date:** 6/2/21

Placement Contractor: Bowie Resources

Reviewed By: MAB **Date:** 6/7/21

Contractor Representative: Basil

No.	Point No.	Elevation	Max. Dry Density (pcf)	Optimum Moisture (%)	Wet Density (pcf)	Speedy Moisture (%)	Field Dry Density (pcf)	Relative Field Comp.(%)	Tare Weight (g)	Wet Weight (g)	Dry Weight (g)	Lab Dry Density (pcf)	Lab Moisture (%)	Relative Lab Comp.(%)	
1	3021	5918.27	104.0	13.5	108.2				291.1	922.0	855.8	96.8	11.7%	93%	
2	3022	5914.3	104.0	13.5	106.3				391.2	1669.5	1530.2	94.7	12.2%	91%	
3	3023	5910.9	104.0	13.5	109.1				281.9	1366.3	1251.2	97.5	11.9%	94%	
4	3024	5919.79	104.0	13.5	112.5				387.4	1052.8	982.5	100.6	11.8%	97%	
5	3025	5924.2	104.0	13.5	106.3				312.2	1039.7	962.3	95.0	11.9%	91%	
6	3026	5923.91	104.0	13.5	105.4				391.5	1278.8	1186.2	94.4	11.7%	91%	
7	3027	5919.72	104.0	13.5	106.3				318.6	1236.7	1140.5	95.2	11.7%	92%	
8	3028	5920.66	104.0	13.5	108.4				398.6	938.0	880.5	96.8	11.9%	93%	
9	3029	5916.5	104.0	13.5	104.5				292.0	938.6	870.2	93.4	11.8%	90%	
10	3030	5913.57	104.0	13.5	105.0				397.7	1442.7	1334.9	94.2	11.5%	91%	
11	3031	5916.06	104.0	13.5	106.2				379.5	1285.3	1190.9	95.1	11.6%	91%	
12	3032	5921.01	104.0	13.5	109.0				189.0	995.0	896.7	95.7	13.9%	92%	
13	3033	5917.74	104.0	13.5	108.5				386.9	1397.6	1289.3	96.9	12.0%	93%	
14	3034	5922.67	104.0	13.5	104.3				191.5	1034.1	945.1	93.3	11.8%	90%	
15	3035	5919.01	104.0	13.5	109.6				190.8	1004.4	920.2	98.3	11.5%	94%	

Remarks: _____

Gauge Number: 2472

Density Counts: 2733

Moisture Counts: 390

Record No. 43 S

SOIL COMPACTION TEST REPORT

Task: Gob Pile Densities

Field vs. Lab Densities

Project No.: 01349 - 0001

Tested By: Dm **Date:** 6/2/21

Project Name: Bowie Mine

Work Order No: 72926

Client Name: Bowie Resources

Authorized By: Client **Date:** 6/2/21

Placement Contractor: Bowie Resources

Reviewed By: MAB **Date:** 6/7/21

Contractor Representative: Basil

No.	Point No.	Elevation	Max. Dry Density (pcf)	Optimum Moisture (%)	Wet Density (pcf)	Speedy Moisture (%)	Field Dry Density (pcf)	Relative Field Comp.(%)	Tare Weight (g)	Wet Weight (g)	Dry Weight (g)	Lab Dry Density (pcf)	Lab Moisture (%)	Relative Lab Comp.(%)	
16	3036	5921.02	104.0	13.5	110.3				155.0	1297.8	1175.9	98.5	11.9%	95%	
17	3037	5915.75	104.0	13.5	112.4				155.1	745.5	667.3	97.5	15.3%	94%	
18	3038	5922.73	104.0	13.5	106.3				315.2	1089.2	1002.8	94.4	12.6%	91%	
19	3039	5919.85	104.0	13.5	107.0				153.3	972.7	885.9	95.7	11.8%	92%	
20	3040	5886.78	104.0	13.5	109.6				394.7	1371.1	1265.1	97.7	12.2%	94%	
21	3041	5887.76	104.0	13.5	108.4				384.6	1223.1	1135.4	97.1	11.7%	93%	
22	3042	5884.48	104.0	13.5	106.3				528.0	1567.6	1460.5	95.3	11.5%	92%	
23	3043	5883.95	104.0	13.5	107.4				160.2	996.2	906.2	95.8	12.1%	92%	
24	3044	5883.27	104.0	13.5	105.2				393.3	1198.4	1114.9	94.3	11.6%	91%	

Remarks: _____

Gauge Number: 2472

Density Counts: 2733

Moisture Counts: 390

Record No. 43 S

SOIL COMPACTION TEST REPORT

Task: Gob Pile Densities

Field vs. Lab Densities

Project No.: 01349 - 0001

Tested By: Dm **Date:** 6/28/21

Project Name: Bowie Mine

Work Order No: 73359

Client Name: Bowie Resources

Authorized By: Client **Date:** 6/28/21

Placement Contractor: Bowie Resources

Reviewed By: MAB **Date:** 7/2/21

Contractor Representative: Basil

No.	Point No.	Elevation	Max. Dry Density (pcf)	Optimum Moisture (%)	Wet Density (pcf)	Speedy Moisture (%)	Field Dry Density (pcf)	Relative Field Comp.(%)	Tare Weight (g)	Wet Weight (g)	Dry Weight (g)	Lab Dry Density (pcf)	Lab Moisture (%)	Relative Lab Comp.(%)	
1	3049	5884.68	104.0	13.5	111.3				378.8	925.1	863.2	98.7	12.8%	95%	
2	3050	5886.66	104.0	13.5	114.5				393.8	962.1	892.7	100.5	13.9%	97%	
3	3051	5886.46	104.0	13.5	115.1				393.2	1409.6	1284.5	100.9	14.0%	97%	
4	3052	5887.46	104.0	13.5	115.2				399.1	1346.7	1232.7	101.3	13.7%	97%	
5	3053	5888.58	104.0	13.5	110.9				395.4	1301.9	1180.5	96.0	15.5%	92%	
6	3054	5888.69	104.0	13.5	106.6				397.6	1137.8	1045.9	93.4	14.2%	90%	
7	3055	5889.15	104.0	13.5	109.7				392.2	965.0	905.2	98.2	11.7%	94%	
8	3056	5889.09	104.0	13.5	111.4				387.0	1096.6	1022.2	99.7	11.7%	96%	
9	3057	5888.81	104.0	13.5	110.3				384.5	1878.4	1682.8	95.9	15.1%	92%	
10	3058	5886.46	104.0	13.5	111.2				391.5	1093.7	1005.6	97.2	14.3%	94%	
11	3059	5887.81	104.0	13.5	115.5				387.3	1064.6	987.1	102.3	12.9%	98%	
12	3060	5885.9	104.0	13.5	112.4				387.2	1390.3	1276.5	99.6	12.8%	96%	

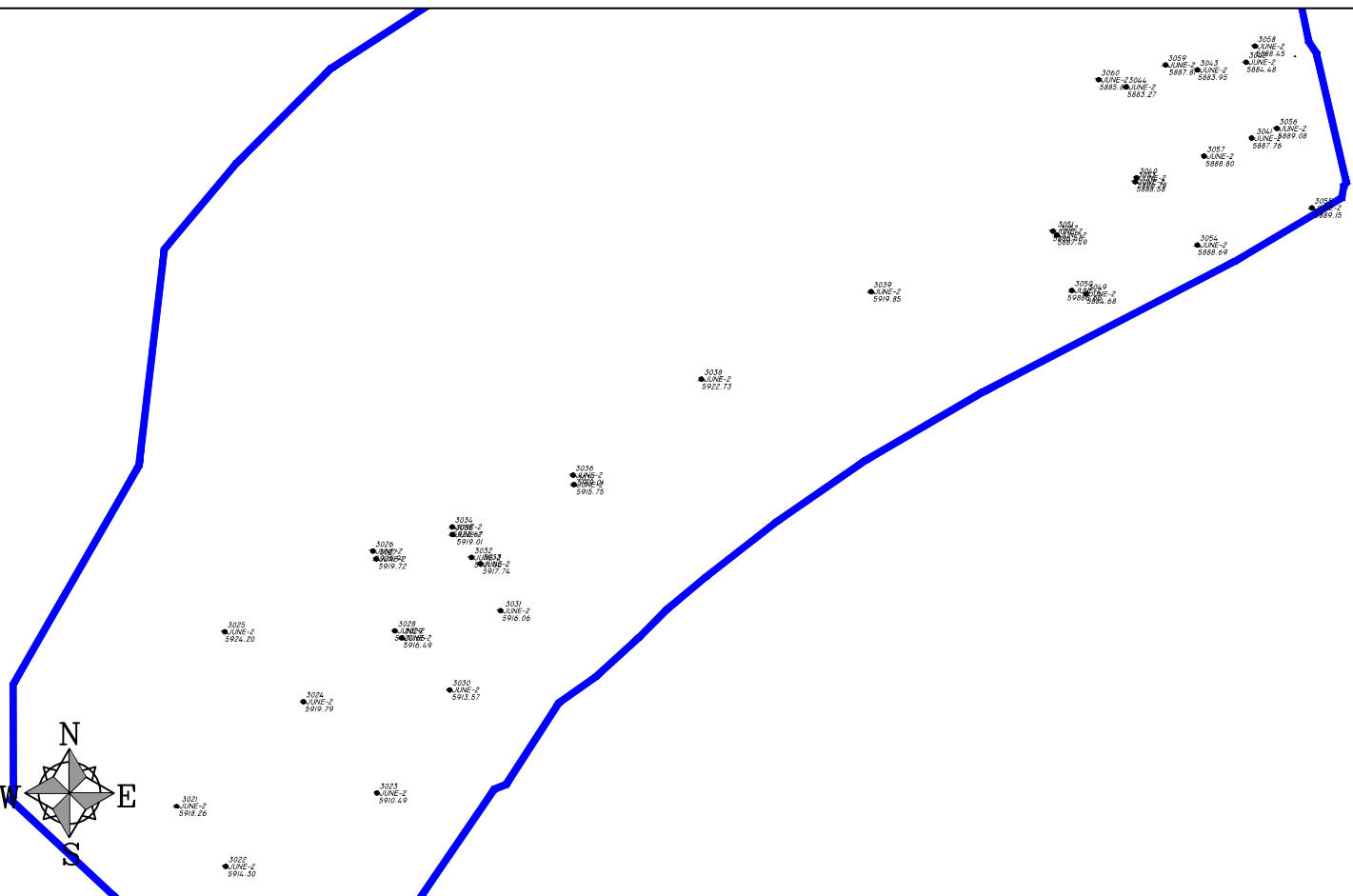
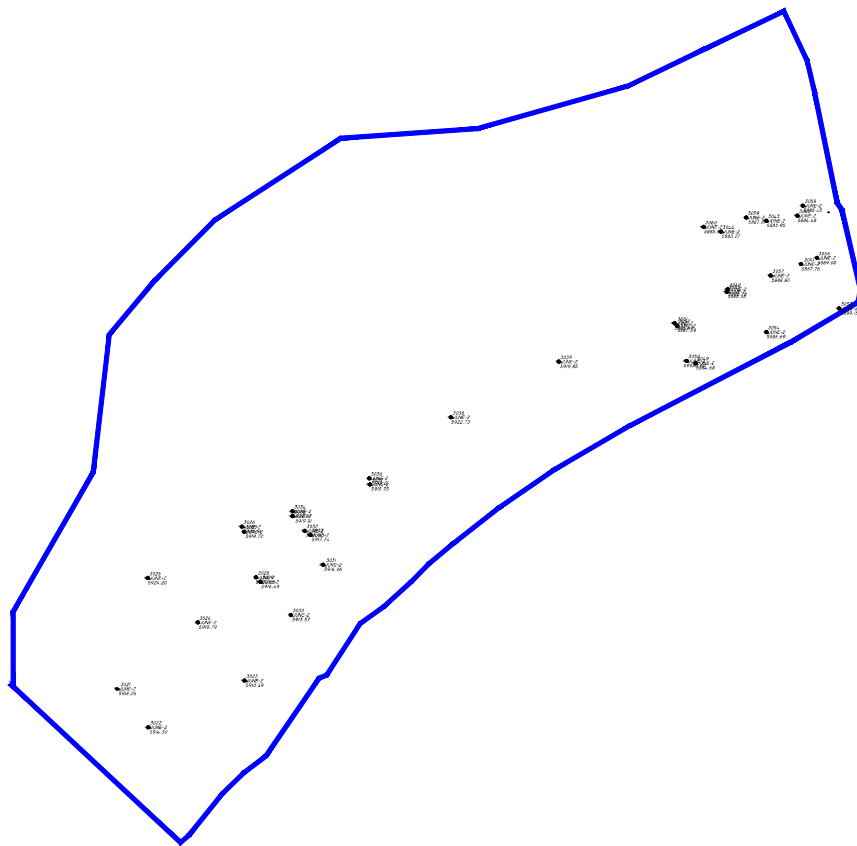
Remarks: _____

Gauge Number: 2472

Density Counts: 2733

Moisture Counts: 390

Record No. 43 S



GOB PILE #3 COMPACTION TEST LOCATIONS

PREPARED FOR:

BRL
BOWIE RESOURCES, LLC

BOWIE RESOURCES, LLC
BOWIE NO. 2 MINE
P.O. BOX 483
PAONIA, COLORADO 81428

J. E. STOVER & ASSOCIATES, INC.
2358 N 7th St. Unit B
Grand Jct., CO 81501

GOB PILE #3 06/02/21	
DESIGN BY:	DATE: 06/17/21
DRAWN BY: T.K.B.	CHK'D BY:
SCALE: NONE	
DIRECTORY: D:\BOWIE	DWG. NAME:

Point #	Northing	Easting	Elevation	Description
3049	17885.562313	36400.163298	5884.678675	Drying Area
3050	17888.775881	36387.049747	5886.657592	Drying Area
3051	17943.135684	36369.598883	5886.462458	Drying Area
3052	17939.713130	36373.359774	5887.493340	Drying Area
3053	17988.559883	36445.162685	5888.579143	Drying Area
3054	17930.469142	36502.435683	5888.690356	Drying Area
3055	17964.556621	36607.520507	5889.153694	Drying Area
3056	18037.467074	36575.408390	5889.082958	Drying Area
3057	18011.991906	36508.596891	5888.808481	Drying Area
3058	18113.063672	36555.299428	5888.458338	Drying Area
3059	18095.923487	36473.207510	5887.806354	Drying Area
3060	18082.272002	36411.714999	5885.899048	Drying Area

~~X~~³⁰⁵⁸_{5888.46}
6-28-21

~~X~~³⁰⁵⁹_{5887.81}
6-28-21

~~X~~³⁰⁶⁰_{5885.90}
6-28-21

~~X~~³⁰⁵⁶_{5889.08}
6-28-21

~~X~~³⁰⁵⁷_{5888.81}
6-28-21

~~X~~³⁰⁵³_{5888.58}
6-28-21

~~X~~³⁰⁵⁵_{5889.15}
6-28-21

~~X~~³⁰⁵¹_{5886.55}
~~X~~³⁰⁵²_{5887.49}
6-28-21

~~X~~³⁰⁵⁴_{5888.69}
6-28-21

~~X~~³⁰⁵⁰_{5886.66} ~~X~~³⁰⁴⁹_{5884.68}
6-28-21



Huddlestone-Berry Engineering & Testing, LLC
640 White Avenue, Unit B
Grand Junction, CO 81501
970-255-8005
970-255-6818

MOISTURE-DENSITY RELATIONSHIP

CLIENT Bowie Resources, LLC

PROJECT NAME Bowie Mine #2

PROJECT NUMBER 00489-0003

PROJECT LOCATION Paonia, CO

Sample Date: _____

Sample No.: _____

Source of Material: _____

Description of Material: _____

Test Method: _____

14-0195

Gob #3 Borrow Blend

ASTM D698C

TEST RESULTS

Maximum Dry Density 104.0 PCF

Optimum Water Content 13.5 %

GRADATION RESULTS (% PASSING)

#200

#4

3/4"

ATTERBERG LIMITS

LL

PL

PI

Curves of 100% Saturation
for Specific Gravity Equal to:

2.80

2.70

2.60

