



Huddleston-Berry
Engineering & Testing, LLC

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January 12, 2021
Project#01349-0001

Bowie Resources, LLC
43659 Bowie Road
Paonia, Colorado 81428

Attention: Mr. Basil Bear

Subject: Construction Materials Testing
4th Quarter 2020
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 October 7th and November 2nd, 2020. 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:** 10/7/20

Project Name: Bowie Mine

Work Order No: 69331

Client Name: Bowie Resources

Authorized By: Client **Date:** 10/7/20

Placement Contractor: Bowie Resources

Reviewed By: MAB **Date:** 10/10/20

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	1007	5907	104.0	13.5	109.4				155.2	510.5	462.8	94.7	15.5%	91%	
2	1008	5905	104.0	13.5	110.4				153.9	703.3	630.6	95.8	15.3%	92%	
3	1009	5904	104.0	13.5	108.3				159.8	533.7	492.9	96.5	12.2%	93%	
4	1010	5904	104.0	13.5	108.5				154.7	532.8	482.0	93.9	15.5%	90%	
5	1011	5902	104.0	13.5	109.3				156.1	660.0	598.3	95.9	14.0%	92%	
6	1012	5886	104.0	13.5	110.4				154.0	582.3	529.0	96.7	14.2%	93%	
7	1013	5887	104.0	13.5	112.3				191.2	820.0	737.8	97.6	15.0%	94%	
8	1014	5887	104.0	13.5	109.4				153.9	605.3	558.3	98.0	11.6%	94%	
9	1015	5885	104.0	13.5	111.8				191.6	613.0	560.1	97.8	14.4%	94%	
10	1016	5885	104.0	13.5	107.4				155.2	381.8	356.7	95.5	12.5%	92%	
11	1017	5885	104.0	13.5	111.4				153.4	640.3	575.5	96.6	15.4%	93%	

Remarks: Steve not present on this day so Locations shot by Basil

Gauge Number: 12122

Density Counts: 1412

Moisture Counts: 618

Record No. 40 S

SOIL COMPACTION TEST REPORT

Task: Gob Pile Densities

Field vs. Lab Densities

Project No.: 01349 - 0001

Tested By: MS **Date:** 11/2/20

Project Name: Bowie Mine

Work Order No: 69811

Client Name: Bowie Resources

Authorized By: Client **Date:** 11/2/20

Placement Contractor: Bowie Resources

Reviewed By: MAB **Date:** 11/6/20

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	1018	5912.7	95.5	14.0	105.1				384.4	1449.7	1320.7	92.4	13.8%	97%	
2	1019	5911.34	104.0	13.5	115.0				392.6	1353.7	1254.5	103.1	11.5%	99%	
3	1020	5908.87	104.0	13.5	109.5				398.3	1226.0	1132.9	97.2	12.7%	93%	
4	1021	5909.77	104.0	13.5	114.7				312.2	1207.1	1094.7	100.3	14.4%	96%	
5	1022	5910.2	95.5	14.0	107.3				317.8	1410.9	1264.2	92.9	15.5%	97%	
6	1023	5907.9	95.5	14.0	101.4				290.7	1055.2	970.2	90.1	12.5%	94%	

Remarks: Steve not present on this day so Locations shot by Basil. Basil not present at time of testing..

Gauge Number: 2472

Density Counts: 2733

Moisture Counts: 390

Record No. 41 S

Bowie Resources LLC

Gob Pile #3

Location of Compaction – 10-7-2020

Point#	North	East	Elevation	Date
1007	17611.53117	35771.90394	5906.99009	10/7/2020
1008	17545.2925	35828.25933	5905.045494	10/7/2020
1009	17606.00305	35851.571	5904.238687	10/7/2020
1010	17651.05589	35904.15778	5904.295313	10/7/2020
1011	17630.00396	35924.50754	5902.983	10/7/2020
1012	17938.03617	36474.35706	5886.302222	10/7/2020
1013	17960.24673	36543.51192	5887.17876	10/7/2020
1014	17980.41151	36594.57384	5887.23463	10/7/2020
1015	18021.90422	36581.23164	5885.635279	10/7/2020
1016	18007.77206	36527.41282	5885.28698	10/7/2020
1017	17982.40879	36461.77783	5885.002692	10/7/2020

Bowie Resources LLC

Gob Pile #3

Location of Compaction – 11-2-2020

Point#	North	East	Elevation	Date
1018	17632.0691	35737.0680	5912.70	11-2-2020
1019	17578.3950	35767.0410	5911.34	11-2-2020
1020	17539.4412	35803.3397	5908.87	11-2-2020
1021	17601.5107	35830.1922	5909.77	11-2-2020
1022	17642.1986	35816.0846	5910.20	11-2-2020
1023	17655.8014	35915.9379	5907.90	11-2-2020



Huddlestone-Berry Engineering & Testing, LLC
640 White Avenue, Unit B
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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: _____

14-0195

Sample No.: _____

Source of Material: _____

Gob #3 Borrow Blend

Description of Material: _____

Test Method: _____

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

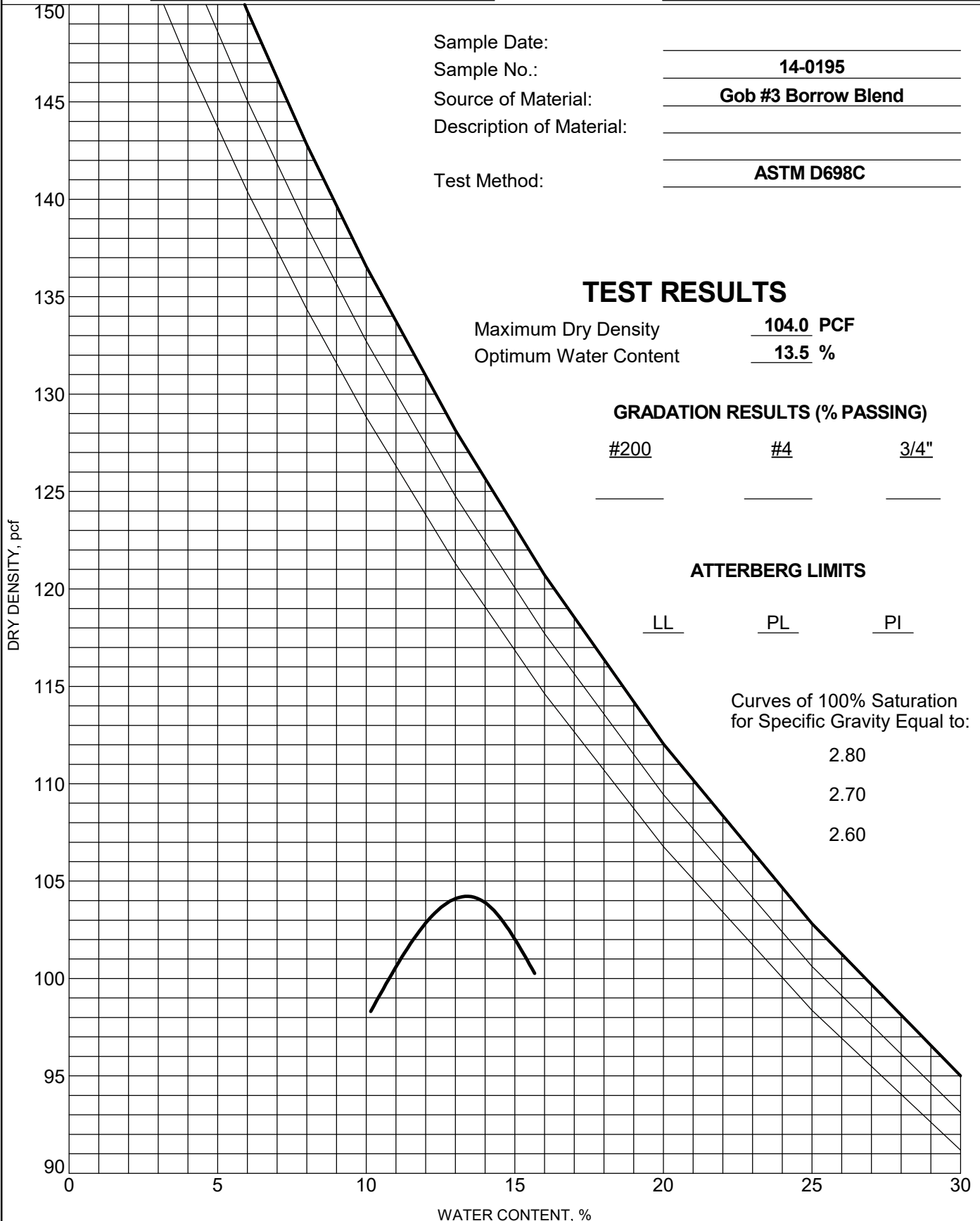
PI

Curves of 100% Saturation
for Specific Gravity Equal to:

2.80

2.70

2.60





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MOISTURE-DENSITY RELATIONSHIP

CLIENT Bowie Resources, LLC

PROJECT NAME Bowie Mine #2

PROJECT NUMBER 00489-0003

PROJECT LOCATION Paonia, CO

Sample Date: 3/28/2015
Sample No.: 15-0116
Source of Material: Gob 3 03/28/15
Description of Material: SILTY SAND with GRAVEL(SM)
Test Method: ASTM D698C

TEST RESULTS

Maximum Dry Density 95.5 PCF
Optimum Water Content 14.0 %

GRADATION RESULTS (% PASSING)

<u>#200</u>	<u>#4</u>	<u>3/4"</u>
<u>100</u>	<u>100</u>	<u>100</u>

ATTERBERG LIMITS

<u>LL</u>	<u>PL</u>	<u>PI</u>
<u>34</u>	<u>24</u>	<u>10</u>

Curves of 100% Saturation
for Specific Gravity Equal to:

2.80

2.70

2.60

