# Technical Report on the Coal Resource and Coal Reserve Controlled by Corsa Coal Corp., Pennsylvania, and Maryland USA – Prepared in accordance with National Instrument 43-101 Standards for Disclosure for Mineral Projects Effective December 31, 2022

*February 2023*

**Prepared for:**
**Corsa Coal Corp.**
1576 Stoystown Road
Friedens, PA 15541

**Prepared by:**
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# TITLE

Technical Report on the Coal Reserve and Coal Resource Controlled by **Corsa Coal Corp.**, Pennsylvania and Maryland, United States of America (USA) - Prepared in accordance with National Instrument 43-101 Standards for Disclosure for Mineral Projects – Effective December 31, 2022.

# PROJECT LOCATION

The project area is largely situated within Somerset County in the Commonwealth of Pennsylvania, west of the capital city of Harrisburg. Corsa Coal Corp. has additional coal property located in Garrett County, Maryland. The coal deposits which occur in the project area are part of the Northern Appalachian Basin of the eastern USA. The project area is accessible via interstate highways and secondary roads and serviced by major rail operators.

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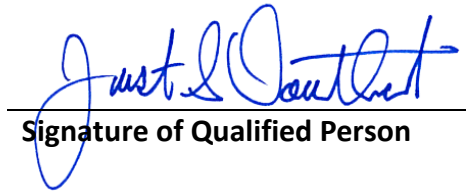
# EFFECTIVE DATE OF REPORT

The effective date of the Technical Report (TR) is December 31, 2022.

# DATE AND SIGNATURE PAGE

The effective date of this Technical Report is December 31, 2022.



February 10, 2023

**Signature of Qualified Person** **Date of Signing**

Justin S. Douthat, PE, MBA

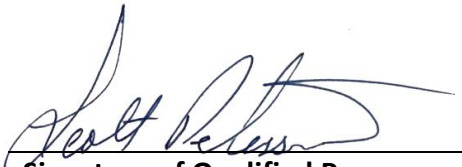
**Print Name of Qualified Person**

February 10, 2023

**Signature of Qualified Person** **Date of Signing**

John W. Eckman, CPG

**Print Name of Qualified Person**



February 10, 2023

**Signature of Qualified Person** **Date of Signing**

Scott Peterson, CPG

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# Table of Contents

## Figures (in Report)



## Tables (in Report)

## Listing of Appendices



## Listing of Maps

# 1 Summary

## 1.1 Introduction, Terms of Reference

**Marshall Miller & Associates, Inc. (*MM&A*)** was engaged by **Corsa Coal Corp. (*Corsa*)** to conduct a Coal Resource and Coal Reserve evaluation of the bituminous coal deposits on properties controlled in the Commonwealth of Pennsylvania and in the State of Maryland, United States of America (*USA*) and to prepare a technical report (*TR*) in accordance with National Instrument 43-101 (*NI 43-101*) and Canadian Institute of Mining's Definition Standards (*CIMDS*) on Mineral Reserves and Mineral Resources, adopted May 10, 2014.

This TR provides technical information to support estimates of mineral resource and mineral reserve, hereafter referred to as coal resource and coal reserve. However, a small amount of non-coal mineral resources (limestone at Blue Lick) is also discussed in this report.

Corsa is a junior natural resource company existing under the *Canada Business Corporations Act* and its common shares are listed on the **TSX Venture Exchange (*TSXV*)** under the trading symbol "CSO". Corsa is a reporting issuer in the Canadian provinces of British Columbia, Alberta, and Ontario. In August 2014, Corsa completed a transaction for the acquisition of **PBS Coals, Inc. (*PBS*)**, a wholly owned subsidiary of **Severstal Resources (*Severstal*)**. PBS, based in Somerset County, Pennsylvania, was previously acquired by Severstal in 2008. Corsa previously acquired the mines and resources of **Wilson Creek Energy, LLC (*Wilson Creek*)** in 2010. Currently, Corsa operations consist of three active underground mines and three active surface mines. Corsa operates two preparation plants and rail load-out facilities; the Cambria Preparation Plant, which is serviced by **CSX Corporation (*CSX*)** rail, and the temporarily idled Shade Creek Preparation Plant, which is serviced by **Norfolk Southern (*NS*)**.

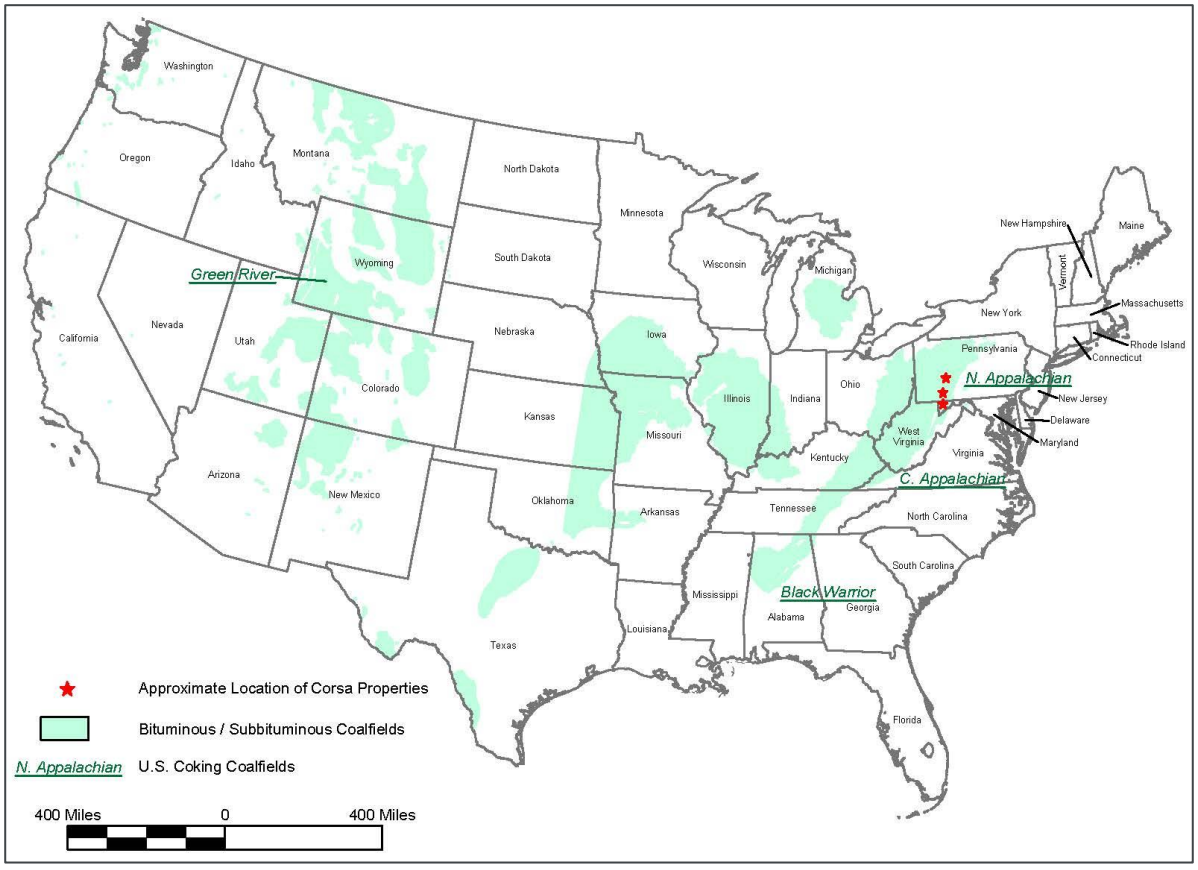
In September 2013, MM&A (then **Cardno MM&A**) completed an evaluation of the subject properties titled "*Evaluation of Coal Reserves and Resources for Severstal Resources/ PBS Coals, Inc. on Select Properties Located in Pennsylvania and Maryland (USA)"* for Corsa's predecessor Severstal. The report was conducted in accordance with *United States Securities and Exchange Commission (SEC)* standards using guidelines prescribed in the **United States Geological Survey (*USGS*)** *Circular 891 Coal Resource Classification System*, which is the standard classification system for coal projects in the USA. The effective date of the former evaluation was March 31, 2013, which served as the basis for a TR effective August 19, 2014, titled "*Technical Report on the Coal Resource and Coal Reserve Controlled by PBS Coals, Inc. Pennsylvania, USA*" dated October 2014. The coal resources and reserves associated with the Wilson Creek properties were previously evaluated by **Earthtech, Inc. (*Earthtech*)** in a May 9, 2014, report titled "*Wilson Creek Energy, LLC Northern Appalachian Coal Holdings, USA Technical Report on Coal Resources and Coal Reserves*" with an effective date of December 31, 2013. The coal resources and reserves controlled by Corsa were subsequently re-evaluated annually in reports titled *"Technical*

*Report on the Coal Resource and Coal Reserve Controlled by Corsa Coal Corp., Pennsylvania and Maryland USA – Prepared in accordance with National Instrument 43-101 Standards for Disclosure for Mineral Projects Effective December 31, 2016", "Technical Report on the Coal Resource and Coal Reserve Controlled by Corsa Coal Corp., Pennsylvania and Maryland USA – Prepared in accordance with National Instrument 43-101 Standards for Disclosure for Mineral Projects Effective December 31, 2017"*, *"Technical Report on the Coal Resource and Coal Reserve Controlled by Corsa Coal Corp., Pennsylvania and Maryland USA – Prepared in accordance with National Instrument 43-101 Standards for Disclosure for Mineral Projects Effective December 31, 2018"*, *"Technical Report on the Coal Resource and Coal Reserve Controlled by Corsa Coal Corp., Pennsylvania and Maryland USA – Prepared in accordance with National Instrument 43-101 Standards for Disclosure for Mineral Projects Effective December 31, 2019*, *"Technical Report on the Coal Resource and Coal Reserve Controlled by Corsa Coal Corp., Pennsylvania and Maryland USA – Prepared in accordance with National Instrument 43-101 Standards for Disclosure for Mineral Projects Effective December 31, 2020"* and *"Technical Report on the Coal Resource and Coal Reserve Controlled by Corsa Coal Corp., Pennsylvania and Maryland USA – Prepared in accordance with National Instrument 43-101 Standards for Disclosure for Mineral Projects Effective December 31, 2021"*. This current TR with an effective date of December 31, 2022, is being completed to satisfy NI 43-101 requirements, and includes changes occurring to the subject properties since the conclusion of previous work of MM&A and Earthtech.

## 1.2 Property Location

Bituminous coal deposits controlled by Corsa (the *Property*) and included in this TR are located in the Commonwealth of Pennsylvania within the western county of Somerset, west of the capital city of Harrisburg and in Garrett County, Maryland near the town of Grantsville (*Map 1*). Two active underground mines and three active surface mines are in Somerset County, Pennsylvania and another active underground mine is in Garrett County, Maryland. The corporate office is at 1576 Stoystown Road, Friedens, Pennsylvania. The properties consist of a complex assemblage of owned and/or leased tracts that range from a few acres to several hundred acres in size. Segregation of mineral and land (surface rights) ownership is common to the properties, with Corsa acquiring the necessary rights to support development through purchase or lease agreements with predominately private owners or entities. The properties are readily accessible via interstate highways and secondary roads.

**Figure 1-1: General Location Map (as of December 31, 2022)**




## 1.3 Regional Geological Setting, Deposit Types and Mineralization

The coal deposits in the eastern USA are among the oldest and most extensively developed in the country, containing sizeable deposits of bituminous coal, which have long supported coal production for domestic and international metallurgical and thermal markets. Properties controlled by Corsa and reported on in this TR are situated in the northern portion of the Appalachian Basin, which contains two-fifths of the nations' bituminous coal deposits and extends over 900 miles from northern Alabama to Pennsylvania. The Appalachian Basin is more than 250 miles wide and, in some portions, contains over 60 coal seams of varying economic significance. Coal-bearing formations on the properties are Pennsylvanian age and of the Monongahela, Conemaugh, Allegheny and Upper Pottsville groups. The mineable thickness for coal horizons in these formations ranges from 1 foot to more than 8 feet. Structurally, the coal horizons are typically characterized as gently dipping to the northwest (except where localized variations are present adjacent to anticlinal/synclinal axes), striking northeast-southwest.

## 1.4 Exploration, Drilling, Sampling, Analysis and Data Verification

The properties have been extensively explored, primarily through continuous (diamond) core and air-rotary drilling methods, which are standard industry practice. Drilling is conducted by Corsa on an on-going basis, and performed by a third-party contractor, to identify and delineate coal resources, identify geologic conditions in advance of mining, and collect core for quality sampling and analysis. In the past, Corsa typically employed the air-rotary method due to lower cost and shorter drilling duration. Air-rotary drilling provides general geologic information such as depth and approximate thickness but does not provide details of coal seam or strata unless used in conjunction with "spot coring" and/or downhole geophysical logging. In recent history, Corsa has employed both spot coring and downhole geophysical logging in conjunction with air-rotary drilling to obtain core samples and confirm core recovery. Corsa utilizes continuous core drilling to a lesser extent, typically employed when greater geologic detail is needed or for recovery of core for sampling and analysis. Additional supplemental data is obtained from coal outcrop or surface exposures through surface mining, or from in-mine measurements as underground mining advances.

Sampling and analysis are typically carried out during exploration of coal resources and used to define the quality of resource areas prior to development. For active operations, Corsa conducts regular in-mine sampling, as well as preparation plant sampling to monitor processing performance and product sampling prior to delivery to customers. Sampling is typically conducted or supervised by Corsa personnel. For samples recovered during drilling, a geologist or company representative is present to observe core condition and verify that acceptable recovery is achieved to ensure a representative sample is used for analysis. Although MM&A has no direct involvement with the sampling programs, available data suggests that sampling and analysis is performed to American Society for Testing and Materials (*ASTM*) standards.

Data used by MM&A to evaluate the subject properties was supplied by Corsa in digital format and consisted of drill hole records, coal quality spreadsheets, copies of laboratory analysis, permit maps, underground and surface mine maps, and reserve summary reports. Drill hole records were supplied in digital format in the form of resource databases. A representative number of drill hole records in the form of drill logs were provided and used by MM&A to verify the resource database integrity on an audit basis. Geophysical logs were only available for relatively few drill holes to confirm coal seam thickness; however, these were also used to check the database. For air-rotary drill hole records, only general geologic descriptions and thickness data were available; therefore, factors such as coal seam thickness, intra-seam parting, and quality of roof and floor rock could not be verified.

The extent of sampling for geological data is generally sufficient to define the characteristics of the coal horizons based on the Qualified Person's (*QP*) examination of the data. Sampling for quality data from drill holes is limited to a relatively small percentage of the total drill holes. The available data appear to be representative of the coal seams based on known regional trends.

MM&A examined the data available for the evaluation during the course of its work and incorporated all pertinent information into the TR. Where data appeared to be anomalous or not representative, the data were not honored within the digital resource database and subsequent processing by MM&A.

## 1.5 Coal Resources and Coal Reserves

This TR provides a geological evaluation and estimate of coal resource and coal reserve as of December 31, 2022, in accordance with the requirements set forth in 1) NI 43-101 Rules and Policies, 2) CIMDS. Coal resources calculations are based on mine advancement positions as of September 20, 2022 as provided by Corsa. This coal resource and reserve determination includes coordination, assembly, and analysis of all pertinent resource data and processing into a resource database; the mapping of coal resources; estimation of coal resources and coal reserves; review and compilation of coal quality data; review and assessment of the economics associated with the planned mineral development and production by Corsa; and the preparation of a TR in accordance with NI 43-101 standards.

Coal resources and coal reserves are herein reported using imperial units of measurement, the prevalent units of measurement in the USA. The coal resources controlled by Corsa are summarized in *Table 1-1* below.

**Table 1-1: Coal Resources Summary**

| | Total Resource (in situ) Tons | | | |
|---|---|---|---|---|
| **Type/seam** | **Measured** | **Indicated** | **Total** | **Inferred** |
| **Surface-mineable** | | | | |
| Sewickley | 93,700 | 0 | 93,700 | 0 |
| Redstone | 119,900 | 0 | 119,900 | 0 |
| Upper Freeport | 91,900 | 0 | 91,900 | 0 |
| Lower Freeport | 510,800 | 0 | 510,800 | 0 |
| Upper Kittanning | 1,256,500 | 0 | 1,256,500 | 0 |
| Middle Kittanning | 131,800 | 0 | 131,800 | 0 |
| Lower Kittanning | 746,000 | 0 | 746,000 | 0 |
| **Total** | **2,950,600** | **0** | **2,950,600** | **0** |
| **Auger-mineable** | | | | |
| Upper Freeport | 26,600 | 0 | 26,600 | 0 |
| Upper Kittanning | 82,700 | 0 | 82,700 | 0 |
| Middle Kittanning | 60,300 | 0 | 60,300 | 0 |
| Lower Kittanning | 55,400 | 0 | 55,400 | 0 |
| **Total** | **225,000** | **0** | **225,000** | **0** |
| **Highwall-mineable** | | | | |
| Upper Kittanning | 473,000 | 0 | 473,000 | 0 |
| **Total** | **473,000** | **0** | **473,000** | **0** |
| **Underground-mineable** | | | | |
| Upper Freeport | 23,118,200 | 6,578,100 | 29,696,200 | 0 |
| Lower Freeport | 11,419,600 | 568,900 | 11,988,500 | 0 |
| Upper Kittanning | 32,546,500 | 7,282,000 | 39,828,500 | 0 |
| Middle Kittanning | 12,122,900 | 3,279,000 | 15,401,900 | 0 |
| Lower Kittanning | 34,445,300 | 16,783,900 | 51,229,100 | 44,000 |
| Brookville | 23,737,000 | 4,487,900 | 28,224,900 | 0 |
| **Total** | **137,389,400** | **38,979,700** | **176,369,100** | **44,000** |

| Type/seam | Total Resource (in situ) Tons | | | |
|---|---|---|---|---|
| | Measured | Indicated | Total | Inferred |
| **Grand Total** | | | | |
| Sewickley | 93,700 | 0 | 93,700 | 0 |
| Redstone | 119,900 | 0 | 119,900 | 0 |
| Upper Freeport | 23,236,600 | 6,578,100 | 29,814,700 | 0 |
| Lower Freeport | 11,930,400 | 568,900 | 12,499,300 | 0 |
| Upper Kittanning | 34,358,700 | 7,282,000 | 41,640,700 | 0 |
| Middle Kittanning | 12,315,000 | 3,279,000 | 15,594,000 | 0 |
| Lower Kittanning | 35,246,700 | 16,783,900 | 52,030,500 | 44,000 |
| Brookville | 23,737,000 | 4,487,900 | 28,224,900 | 0 |
| **Grand Total** | **141,038,000** | **38,979,700** | **180,017,600** | **44,000** |

Notes: Recoverable reserve tons are derived from the in-situ resource tons. (2) Coal reserves are included within coal resources.
Totals may not add due to rounding.

In summary, Corsa controls a total of 180.0 million measured and indicated in-situ coal resource tons. Of the total measured and indicated tons, 78% are measured and 22% are indicated. An additional 0.04 million inferred in-situ coal tons have been identified.

*Table 1-2* below summarizes the raw in-seam coal quality for each resource area included in this TR.

**Table 1-2: Summary of Raw, In-seam Quality by Seam by Property**

| Area | Seam | Raw Quality, Dry Basis | | | | |
|---|---|---|---|---|---|---|
| | | Ash% | Sulfur% | Btu/lb. | Vol. | No. of Samples* |
| **Surface-Mineable** | | | | | | |
| Gaz | Upper Kittanning | 21.8 | 2.3 | 11,380 | 20.2 | 8 |
| Rhoads | Upper Kittanning | 10.6 | 0.6 | 12,950 | 20.4 | 3 / 3 /2 /3 |
| Rhoads | Middle Kittanning | 23.3 | 2.8 | 11,670 | 15.6 | 11 / 11 / 9 / 8 |
| Rhoads | Lower Kittanning | 19.0 | 3.5 | 12,490 | 16.5 | 2 |
| Schrock Run | Lower Freeport | 9.0 | 0.7 | 13,970 | 17.7 | 4 |
| Schrock Run | Upper Kittanning | 14.1 | 2.4 | 13,260 | 18.1 | 13 |
| Shaffer | Lower Freeport | 10.1 | 1.1 | 14,060 | 18.7 | 5 |
| Hamer-Byers | Upper Freeport | 23.6 | 1.6 | - | 19.1 | 2 / 2 / 0 /2 |
| Blue Lick | Sewickley | 16.6 | 1.5 | 12,810 | 0.0 | 5 |
| Blue Lick | Redstone | 17.8 | 2.6 | 12,650 | 0.0 | 9 |
| Hart | Upper Kittanning | 24.8 | 1.9 | 11,200 | 0.0 | 68 / 68 / 1 / 0 |
| Bassett | Upper Freeport | 26.4 | 4.7 | 11,100 | 15.8 | 5 |
| Acosta #4 | Upper Kittanning | 41.8 | 0.4 | 6,420 | 23.5 | 1/1/1/1 |
| Acosta #4 | Middle Kittanning | 23.5 | 4.4 | 12,190 | 16.0 | 4/4/2/4 |
| Will Farm | Lower Kittanning | 20.2 | 2.8 | 12,200 | 16.5 | 4 |
| **Total Composite** | | **19.2** | **2.2** | **12,240** | **18.0** | |
| **Auger Mineable** | | | | | | |
| Gaz | Upper Kittanning | 21.8 | 2.3 | 11,380 | 20.2 | 8 |
| Rhoads | Upper Kittanning | 10.6 | 0.6 | 12,950 | 20.4 | 3 / 3 /2 /3 |
| Rhoads | Middle Kittanning | 23.3 | 2.8 | 11,670 | 15.6 | 11 / 11 / 9 / 8 |
| Rhoads | Lower Kittanning | 19.0 | 3.5 | 12,490 | 16.5 | 2 |
| Hamer-Byers | Upper Freeport | 23.6 | 1.6 | - | 19.1 | 2 / 2 / 0 /2 |
| **Total Composite** | | **20.3** | **2.4** | **12,010** | **17.9** | |
| **Highwall-Mineable** | | | | | | |
| Schrock Run | Upper Kittanning | 14.1 | 2.4 | 13,260 | 18.1 | 13 |
| **Total Composite** | | **14.1** | **2.4** | **13,260** | **18.1** | |

| Area | Seam | Raw Quality, Dry Basis | | | | |
|---|---|---|---|---|---|---|
| | | Ash% | Sulfur% | Btu/lb. | Vol. | No. of Samples* |
| **Underground-Mineable** | | | | | | |
| Casselman (South) | Upper Freeport | 16.8 | 1.7 | 14,040 | 19.9 | 8 / 36 / 29 / 36 |
| Casselman (North) | Upper Freeport | 18.4 | 1.8 | - | 0.0 | 9 / 9 / 0 / 0 |
| Acosta | Upper Kittanning | 18.9 | 2.7 | 12,580 | 19.1 | 21 / 14 / 14 / 13 |
| Acosta | Middle Kittanning | 26.6 | 3.4 | 11,270 | 26.9 | 15 / 11 / 11 / 9 |
| Acosta | Lower Kittanning | 32.6 | 2.8 | 9,610 | 15.2 | 14 / 12 / 11 / 10 |
| Horning | Upper Freeport | 22.1 | 2.5 | 12,040 | 16.5 | 14/14/12/14 |
| Horning | Lower Freeport | 11.4 | 2.3 | 14,020 | 17.2 | 15/15/10/10 |
| A Seam | Brookville | 31.5 | 1.2 | 10,170 | 16.7 | 33 / 33 / 33 / 32 |
| Keyser | Lower Kittanning | 20.0 | 3.6 | 11,660 | 18.5 | 14 / 14 / 10 / 14 |
| Agustus | Upper Kittanning | 20.0 | 3.6 | 12,280 | 16.4 | 2 |
| Agustus | Lower Kittanning | 21.6 | 2.3 | 12,600 | 18.9 | 4 / 4 / 3 / 3 |
| Agustus | Lower Freeport | 22.0 | 3.4 | 11,900 | 16.9 | 13 |
| Mega | Lower Kittanning | 32.0 | 2.5 | 10,050 | 14.8 | 9 |
| **Total Composite** | | **23.8** | **2.6** | **11,460** | **18.4** | |
| **Total** | | | | | | |
| Surface Mineable | | 19.2 | 2.2 | 12,240 | 18.0 | 0 |
| Auger Mineable | | 20.3 | 2.4 | 12,010 | 17.9 | 0 |
| Highwall Mineable | | 14.1 | 2.4 | 13,260 | 18.1 | 0 |
| Underground Mineable | | 23.8 | 2.6 | 11,460 | 18.4 | 0 |
| **Total Composite** | | **23.7** | **2.6** | **11,480** | **18.4** | |

*No. of samples = if single digit, then all 4 columns are same; otherwise corresponds to column.
All seam quality reported is based on arithmetic averages. Composites are based on tons and are therefore weighted.

Proven and probable coal reserves were derived from the defined coal resources when considering relevant processing, economic (including independent estimates of capital, revenue, and cost), marketing, legal, environmental, socio-economic, and regulatory factors. Mine depletion for the fourth quarter of 2022 was supplied by Corsa, and MM&A deducted this historical production from the mapped reserves in order to estimate reserves as of December 31, 2022. The coal reserves controlled by Corsa are summarized in *Table 1-3* below.

**Table 1-3: Coal Reserves Summary (Moist, Recoverable Basis)**

| Type/seam | Total Demonstrated Tons | | | By Permit Status | |
|---|---|---|---|---|---|
| | Proven | Probable | Total | Permitted | Not Permitted |
| **Surface-mineable** | | | | | |
| Upper Freeport | 10,800 | 0 | 10,800 | 10,800 | 0 |
| Lower Freeport | 457,800 | 0 | 457,800 | 457,800 | 0 |
| Upper Kittanning | 661,600 | 0 | 661,600 | 661,600 | 0 |
| Middle Kittanning | 51,300 | 0 | 51,300 | 51,300 | 0 |
| Lower Kittanning | 89,100 | 0 | 89,100 | 89,100 | 0 |
| **Total** | **1,270,700** | **0** | **1,270,600** | **1,270,700** | **0** |
| **Auger-mineable** | | | | | |
| Upper Freeport | 6,900 | 0 | 6,900 | 6,900 | 0 |
| Upper Kittanning | 8,400 | 0 | 8,400 | 8,400 | 0 |
| Middle Kittanning | 13,400 | 0 | 13,400 | 13,400 | 0 |
| Lower Kittanning | 13,800 | 0 | 13,800 | 13,800 | 0 |
| **Total** | **42,500** | **0** | **42,500** | **42,500** | **0** |

| Type/seam | Total Demonstrated Tons | | | By Permit Status | |
|---|---|---|---|---|---|
| | Proven | Probable | Total | Permitted | Not Permitted |
| **Highwall-mineable** | | | | | |
| Upper Kittanning | 199,800 | 0 | 199,800 | 199,800 | 0 |
| **Total** | **199,800** | **0** | **199,800** | **199,800** | **0** |
| **Underground-mineable** | | | | | |
| Upper Freeport | 5,682,400 | 1,496,400 | 7,178,800 | 5,452,900 | 1,725,900 |
| Lower Freeport | 1,593,500 | 235,700 | 1,829,200 | 1,829,200 | 0 |
| Upper Kittanning | 7,852,200 | 1,526,100 | 9,378,300 | 0 | 9,378,300 |
| Middle Kittanning | 3,752,100 | 986,300 | 4,738,400 | 4,737,700 | 700 |
| Lower Kittanning | 8,464,900 | 4,733,800 | 13,198,700 | 0 | 13,198,700 |
| Brookville | 5,589,300 | 810,400 | 6,399,700 | 6,399,600 | 0 |
| **Total** | **32,934,300** | **9,788,700** | **42,723,100** | **18,419,400** | **24,303,600** |
| **Grand Total** | | | | | |
| Upper Freeport | 5,700,100 | 1,496,400 | 7,196,500 | 5,470,600 | 1,725,900 |
| Lower Freeport | 2,051,300 | 235,700 | 2,287,000 | 2,287,000 | 0 |
| Upper Kittanning | 8,722,000 | 1,526,100 | 10,248,100 | 869,800 | 9,378,300 |
| Middle Kittanning | 3,816,800 | 986,300 | 4,803,100 | 4,802,400 | 700 |
| Lower Kittanning | 8,567,800 | 4,733,800 | 13,301,600 | 102,900 | 13,198,700 |
| Brookville | 5,589,300 | 810,400 | 6,399,700 | 6,399,600 | 0 |
| **Grand Total** | **34,447,200** | **9,788,700** | **44,236,000** | **19,932,300** | **24,303,600** |

Notes: Proven and probable coal reserves were derived from the defined coal resources considering relevant processing, economic (including independent estimates of capital, revenue, and cost), marketing, legal, environmental, socio-economic, and regulatory factors.

Totals may not add due to rounding.

In summary, Corsa controls 44.2 million moist, recoverable proven and probable coal reserve tons, of which 78% is considered proven and 22% is considered probable, after the application of all mining factors. Of the total coal reserve, 1.3 million moist, recoverable tons are surface-mineable, 0.04 million moist, recoverable are auger-mineable, 0.2 million moist, recoverable tons are highwall-mineable, and 42.7 million moist, recoverable tons are underground-mineable. Of the total coal reserve, 19.9 million tons are permitted for mining by appropriate federal and state regulatory authorities with the responsibility for oversight of mining operations in the USA and in Pennsylvania and Maryland. The remaining 24.3 million reserve tons are not permitted. Definitions of terms stated above are defined in *Item 2.2*.

*Table 1-4* below summarizes the washed in-seam coal quality for each reserve area included in this TR. *Table 1-5* summarizes the reserves and anticipated product quality by mine.

## Table 1-4: Summary of Coal Reserve Quality by Seam by Property – Proximate Analysis

| Reserve Area | Seam | Weighted Composite (Moist Basis) | | | | |
|---|---|---|---|---|---|---|
| | | Recovery% | Ash% | Sulfur% | Btu | VM |
| **Surface-Mineable** | | | | | | |
| Rhoads | Upper Kittanning | 94.4 | 8.0 | 0.5 | 12,400 | 18.7 |
| Rhoads | Middle Kittanning | 74.8 | 13.8 | 1.6 | 12,200 | 15.4 |
| Rhoads | Lower Kittanning | 81.7 | 11.2 | 2.1 | 12,700 | 15.9 |
| Schrock Run | Lower Freeport | 95.7 | 6.6 | 0.7 | 13,300 | 16.6 |
| Schrock Run | Upper Kittanning | 90.9 | 9.9 | 1.5 | 12,900 | 17.2 |
| Shaffer | Lower Freeport | 95.6 | 7.2 | 0.8 | 13,400 | 17.7 |
| Hamer-Byers | Upper Freeport | 83.2 | 13.0 | 1.1 | - | 19.4 |
| Hart | Upper Kittanning | 77.2 | 14.9 | 1.2 | 12,300 | 0.0 |
| **Total** | | **88.0** | **10.3** | **1.1** | **12,800** | **17.3** |
| **Auger-mineable** | | | | | | |
| Rhoads | Upper Kittanning | 94.4 | 8.0 | 0.5 | 12,400 | 18.7 |
| Rhoads | Middle Kittanning | 74.8 | 13.8 | 1.6 | 12,200 | 15.4 |
| Rhoads | Lower Kittanning | 81.7 | 11.2 | 2.1 | 12,700 | 15.9 |
| Hamer-Byers | Upper Freeport | 83.2 | 13.0 | 1.1 | 0 | 19.4 |
| **Total** | | **82.1** | **11.8** | **1.5** | **12,400** | **16.8** |
| **Highwall Miner** | | | | | | |
| Schrock Run | Upper Kittanning | 90.9 | 9.9 | 1.5 | 12,900 | 17.2 |
| **Total** | | **90.9** | **9.9** | **1.5** | **12,900** | **17.2** |
| **Underground-Mineable** | | | | | | |
| Casselman North | Upper Freeport | 80.2 | 8.6 | 1.1 | 0 | 20.5 |
| Casselman South | Upper Freeport | 81.7 | 7.6 | 1.1 | 14,600 | 20.5 |
| Acosta | Upper Kittanning | 78.6 | 9.8 | 1.8 | 14,100 | 21.4 |
| Acosta | Middle Kittanning | 63.2 | 12.3 | 1.3 | 13,700 | 16.8 |
| Acosta | Lower Kittanning | 65.3 | 11.0 | 2.0 | 13,900 | 18.8 |
| Horning | Lower Freeport | 75.0 | 9.8 | 1.3 | 14,100 | 18.1 |
| Keyser | Lower Kittanning | 74.1 | 7.3 | 1.5 | 14,600 | 20.5 |
| A Seam | Brookville | 55.5 | 11.2 | 0.8 | 13,700 | 18.9 |
| **Total** | | **70.0** | **9.8** | **1.4** | **14,100** | **19.6** |
| **Total** | | | | | | |
| Surface Mineable | | 88.0 | 10.3 | 1.1 | 12,800 | 17.3 |
| Auger Mineable | | 82.1 | 11.8 | 1.5 | 12,400 | 16.8 |
| Highwall Mineable | | 90.9 | 9.9 | 1.5 | 12,900 | 17.2 |
| Underground Mineable | | 70.0 | 9.8 | 1.4 | 14,100 | 19.6 |
| **Total** | | **70.5** | **9.8** | **1.4** | **14,100** | **19.6** |

Note: Reserve quality based on production forecast of metallurgical and thermal coal.

## Table 1-5: Summary of Coal Reserve Quality by Mine– Proximate Analysis

| | Total Demonstrated | | | Weighted Composite (Moist Basis) | | | | |
|---|---|---|---|---|---|---|---|---|
| | Proven | Probable | Total | Recovery | Ash | Sulfur | Btu | VM |
| Rhoads | 271,100 | 0 | 271,100 | 85.0 | 10.6 | 1.3 | 12,500 | 16.9 |
| Schrock Run | 403,200 | 0 | 403,200 | 92.0 | 9.2 | 1.3 | 13,000 | 17.1 |
| Shaffer | 391,600 | 0 | 391,600 | 95.6 | 7.2 | 0.8 | 13,400 | 17.7 |
| Hamer-Byers | 17,700 | 0 | 17,700 | 62.3 | 9.7 | 0.8 | - | 14.5 |
| Hart | 429,300 | 0 | 429,300 | 77.2 | 14.9 | 1.2 | 12,300 | - |
| Casselman (South) | 2,326,000 | 310,300 | 2,636,300 | 81.7 | 8.6 | 1.1 | 14,600 | 20.5 |
| Casselman (North) | 3,356,400 | 1,186,200 | 4,542,600 | 80.2 | 8.6 | 1.1 | - | 20.5 |
| Horning | 1,593,500 | 235,700 | 1,829,200 | 75.0 | 9.8 | 1.3 | 14,100 | 18.1 |
| Acosta | 15,235,100 | 3,748,800 | 18,983,900 | 70.6 | 10.8 | 1.7 | 13,900 | 19.4 |
| Keyser | 4,834,000 | 3,497,400 | 8,331,400 | 74.1 | 7.3 | 1.5 | 14,600 | 20.5 |
| A Seam | 5,589,300 | 810,400 | 6,399,700 | 55.5 | 11.2 | 0.8 | 13,700 | 18.9 |
| **Total** | **34,447,200** | **9,788,800** | **44,236,000** | **70.5** | **9.8** | **1.4** | **14,000** | **19.6** |

Note: Reserve quality based on production forecast of metallurgical and thermal coal. Moist coal quality basis includes 8% moisture. Totals may not add due to rounding.

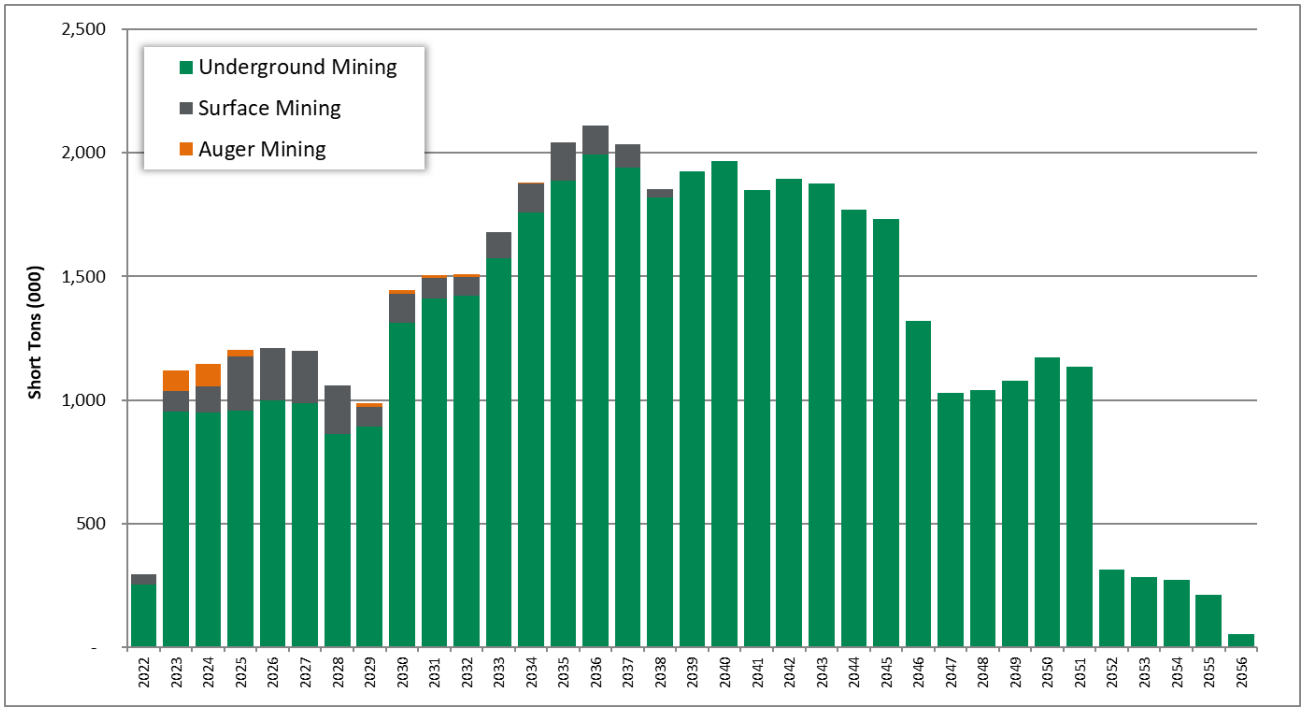
## 1.6 Economic Evaluation

The pre-feasibility financial model, prepared for this TR, was developed to test the economic viability of each coal resource area. The results of the financial model are not intended to represent a bankable feasibility study, required for financing of any current or future mining operations contemplated for the Corsa properties, but are intended to establish the economic viability of the estimated coal reserves. The discounted cash flow analysis presented herein is based on an effective date of December 31, 2022.

Mine plans and projections were developed by Corsa or MM&A for each of the mining areas. Using the mine plans, MM&A developed a detailed financial model for each projected mine and produced a consolidated financial model. The financial model projects the revenue stream, operating costs, and capital expenditures for the life-of-reserves presently controlled by Corsa. Cash flow after tax, but before debt service, generated over the life of the project was discounted to net present value (*NPV*) at a 15.04% discount rate, which represents MM&A's estimate of the constant dollar, risk-adjusted weighted average cost of capital (*WACC*) for likely market participants if the subject coal reserves were offered for sale. The resulting NPV represents the enterprise value of the project. Sensitivity of the project economics was tested by separately varying coal sales prices, operating costs, and capital expenditures. The terms "cash flows" and "project cash flows" used in this report refer to after-tax cash flows. The currency reported herein is expressed in USA dollars ($).

The operations are projected on a calendar year basis from 2022 through 2056. MM&A's projection of consolidated annual sales tonnage is summarized in the chart below. While all Corsa coal resources properties deemed by MM&A to have potential for classification as coal reserves were evaluated as part of the economic model, some of those resource areas were determined to be uneconomical in the current market and were therefore excluded from coal reserves as discussed below.

**Figure 1-2: Projection of Sales Tons**




Note: Results shown for 2022 are for fourth quarter only.
Auger Mining includes Highwall Miner

### 1.6.1 P&L and EBITDA Summary

*Table 1-6* shows life-of-mine (*LOM*) tonnage, profit and loss before tax (*P&L*), and Earnings before Interest, Taxes, Depreciation, and Amortization (*EBITDA*) for each Corsa mine evaluated herein.

**Table 1-6: Life-of-Mine Tonnage (1,000's), P&L before Tax, and EBITDA**

| Underground Mines | LOM Tonnage | LOM Pre Tax P&L | P&L Per Ton | LOM EBITDA | EBITDA Per Ton |
|---|---|---|---|---|---|
| A Seam | 6,400 | $64,874 | $10.14 | $112,067 | $17.51 |
| Horning D | 1,846 | $20,072 | $10.87 | $39,779 | $21.55 |
| Casselman | 2,709 | $22,360 | $8.25 | $44,755 | $16.52 |
| Casselman North | 4,543 | ($14,993) | ($3.30) | $26,400 | $5.81 |
| Keyser LK | 8,331 | $39,940 | $4.79 | $110,075 | $13.21 |
| Acosta UK | 9,378 | $63,880 | $6.81 | $132,000 | $14.08 |
| Acosta MK | 4,821 | $10,307 | $2.14 | $49,414 | $10.25 |
| Acosta LK | 4,867 | $6,396 | $1.31 | $45,753 | $9.40 |
| **Consolidated Deep Mines** | **42,895** | **$212,836** | **$4.96** | **$560,242** | **$13.06** |

| | LOM Tonnage** | LOM Pre Tax P&L | P&L Per Ton | LOM EBITDA | EBITDA Per Ton |
|---|---|---|---|---|---|
| **Surface Mines** | | | | | |
| Bassett* | 52 | ($3,195) | ($61.31) | $108 | $2.07 |
| Shaffer | 392 | $2,830 | $7.23 | $7,755 | $19.80 |
| Gaz* | 241 | ($2,806) | ($11.63) | $3,392 | $14.06 |
| Will Farm* | 453 | ($3,668) | ($8.10) | $2,190 | $4.84 |
| Hart | 429 | $9,488 | $22.10 | $15,085 | $35.14 |
| Rhoads | 235 | ($1,011) | ($4.29) | $3,817 | $16.21 |
| Schrock Run | 224 | ($5,708) | ($25.52) | $2,577 | $11.52 |
| Hamer | 16 | $258 | $16.03 | $424 | $26.32 |
| **Consolidated Surface Mines** | **2,042** | **($3,811)** | **($1.87)** | **$35,348** | **$17.31** |
| | | | | | |
| **Auger/HWM Operations** | | | | | |
| Gaz HWM* | 13 | $550 | $41.67 | $576 | $43.66 |
| Rhoads HWM | 36 | $1,622 | $45.56 | $1,696 | $47.64 |
| Schrock Run HWM | 200 | $13,251 | $66.32 | $13,475 | $67.44 |
| Hamer HWM | 7 | $371 | $51.29 | $385 | $53.28 |
| **Consolidated HWMs** | **256** | **$15,792** | **$61.73** | **$16,132** | **$63.06** |
| | | | | | |
| **Grand Total** | **45,193** | **$222,917** | **$4.97** | **$611,722** | **$13.54** |

Notes: *This resource area failed to achieve positive P&L in the economic evaluation. Therefore, the coal tons forecasted from this mine have been excluded from the estimate of coal reserves in this TR.

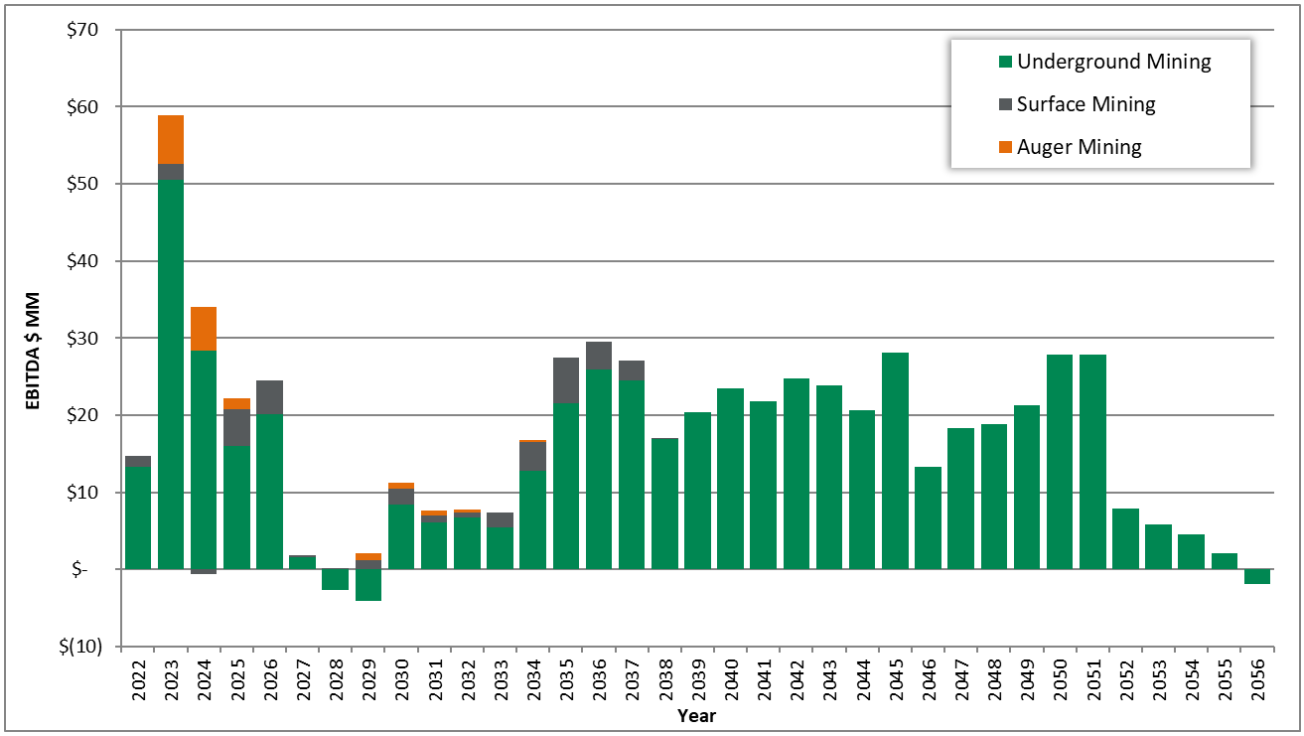
**LOM tonnage evaluated in the financial model includes 0.759 million tons for Bassett, Gaz, and Will Farm surface mines, which failed to achieve positive economic results, as well as 4th quarter 2022 production (0.197 million clean tons) which was subtracted from coal reserves in order to make the effective date of reserves December 31, 2022.

As shown in *Table 1-6,* all of the mines show positive EBITDA over the LOM. Regarding the surface mines, all of the mines analyzed show positive P&L over the LOM with the exception of the Bassett, Gaz, and Will Farm surface mines. Casselman North underground mine and Schrock Run/Schrock Run Extension surface mine show a negative LOM P&L; however, these mines are either active or (in the case of Casselman North) part of an active complex that shows positive LOM P&L and are therefore considered reserve. Overall, Corsa consolidated shows positive LOM P&L and EBITDA of $222.9 million and $611.7 million, respectively.

Based on the negative P&L as shown in the results summarized above, the Bassett, Gaz and Will Farm surface mine resource areas have been excluded from the estimate of coal reserves. The negative financial results for these areas are included in the consolidated results presented herein.

A breakdown of projected consolidated EBITDA by mining method is shown in the chart below.

**Figure 1-3: Annual EBITDA**




Note: Results shown for 2022 are for fourth quarter only.
Auger Mining includes Highwall Miner.

## 1.6.2 Cash Flow Summary

Corsa's Consolidated Cash Flow Summary in constant 2022 dollars, excluding debt service, is shown in *Table 1-7* below.

**Table 1-7: Project Cash Flow Summary (000)**

| | Total | YE 12/31 2022 | YE 12/31 2023 | YE 12/31 2024 | YE 12/31 2025 | YE 12/31 2026 | YE 12/31 2027 |
|---|---|---|---|---|---|---|---|
| Production & Sales tons | 45,193 | 294 | 1,118 | 1,145 | 1,201 | 1,211 | 1,199 |
| Total Revenue | $4,704,971 | $46,787 | $177,335 | $154,094 | $145,977 | $146,785 | $123,140 |
| EBITDA | $611,722 | $14,686 | $58,859 | $33,468 | $22,230 | $24,545 | $1,826 |
| Net Income | $172,362 | $10,115 | $37,486 | $19,345 | $9,885 | $11,598 | ($8,768) |
| Net Cash Provided by Operating Activities | $565,079 | $12,542 | $24,508 | $33,783 | $22,434 | $21,502 | $7,503 |
| Purchases of Property, Plant, and Equipment | ($287,902) | $0 | ($7,400) | ($11,590) | ($6,726) | ($7,591) | ($13,103) |
| Net Cash Flow | $277,177 | $12,542 | $17,108 | $22,193 | $15,708 | $13,910 | ($5,600) |
| | | | | | | | |
| | YE 12/31 2028 | YE 12/31 2029 | YE 12/31 2030 | YE 12/31 2031 | YE 12/31 2032 | YE 12/31 2033 | YE 12/31 2034 |
| Production & Sales tons | 1,060 | 987 | 1,446 | 1,504 | 1,508 | 1,678 | 1,879 |
| Total Revenue | $108,529 | $101,526 | $147,517 | $153,374 | $153,166 | $167,432 | $185,563 |
| EBITDA | ($2,482) | ($2,029) | $11,205 | $7,587 | $7,696 | $7,375 | $16,760 |
| Net Income | ($15,121) | ($17,133) | ($5,942) | ($8,155) | ($8,032) | ($11,675) | ($827) |
| Net Cash Provided by Operating Activities | ($503) | ($653) | $3,640 | $6,158 | $8,038 | $4,752 | $12,680 |
| Purchases of Property, Plant, and Equipment | ($18,978) | ($17,053) | ($14,591) | ($9,169) | ($7,228) | ($24,349) | ($8,700) |
| Net Cash Flow | ($19,481) | ($17,706) | ($10,951) | ($3,011) | $810 | ($19,597) | $3,980 |

| | YE 12/31 2035 | YE 12/31 2036 | YE 12/31 2037 | YE 12/31 2038 | YE 12/31 2039 | YE 12/31 2040 | YE 12/31 2041 |
|---|---|---|---|---|---|---|---|
| Production & Sales tons | 2,043 | 2,111 | 2,037 | 1,852 | 1,927 | 1,966 | 1,849 |
| Total Revenue | $200,805 | $207,842 | $199,905 | $182,029 | $190,741 | $194,627 | $183,772 |
| EBITDA | $27,425 | $29,554 | $27,093 | $16,990 | $20,350 | $23,485 | $21,808 |
| Net Income | $9,374 | $13,040 | $10,680 | $75 | $4,279 | $8,876 | $5,732 |
| Net Cash Provided by Operating Activities | $23,963 | $27,543 | $28,801 | $20,218 | $18,426 | $22,382 | $23,491 |
| Purchases of Property, Plant, and Equipment | ($18,691) | ($10,266) | ($4,849) | ($10,973) | ($11,133) | ($9,065) | ($18,861) |
| Net Cash Flow | $5,272 | $17,277 | $23,952 | $9,245 | $7,293 | $13,317 | $4,630 |
| | | | | | | | |
| | YE 12/31 2042 | YE 12/31 2043 | YE 12/31 2044 | YE 12/31 2045 | YE 12/31 2046 | YE 12/31 2047 | YE 12/31 2048 |
| Production & Sales tons | 1,896 | 1,875 | 1,772 | 1,732 | 1,321 | 1,029 | 1,039 |
| Total Revenue | $189,261 | $186,451 | $176,688 | $173,099 | $132,608 | $103,535 | $105,065 |
| EBITDA | $24,790 | $23,892 | $20,609 | $28,115 | $13,322 | $18,302 | $18,899 |
| Net Income | $11,282 | $9,661 | $5,923 | $13,667 | $3,091 | $7,582 | $8,452 |
| Net Cash Provided by Operating Activities | $22,828 | $23,931 | $22,106 | $27,672 | $19,833 | $19,262 | $15,247 |
| Purchases of Property, Plant, and Equipment | ($5,420) | ($12,811) | ($9,489) | ($4,011) | ($3,643) | ($5,046) | ($8,689) |
| Net Cash Flow | $17,408 | $11,119 | $12,617 | $23,661 | $16,190 | $14,216 | $6,558 |
| | | | | | | | |
| | YE 12/31 2049 | YE 12/31 2050 | YE 12/31 2051 | YE 12/31 2052 | YE 12/31 2053 | YE 12/31 2054 | YE 12/31 2055 |
| Production & Sales tons | 1,079 | 1,171 | 1,135 | 312 | 284 | 271 | 211 |
| Total Revenue | $109,428 | $118,614 | $115,299 | $34,236 | $31,210 | $29,741 | $23,148 |
| EBITDA | $21,237 | $27,792 | $27,838 | $7,881 | $5,816 | $4,515 | $2,136 |
| Net Income | $10,335 | $16,116 | $16,285 | $3,776 | $2,364 | $1,553 | $346 |
| Net Cash Provided by Operating Activities | $16,759 | $20,735 | $22,981 | $20,185 | $5,390 | $4,082 | $3,020 |
| Purchases of Property, Plant, and Equipment | ($1,920) | ($1,600) | ($2,442) | ($762) | ($1,751) | $0 | $0 |
| Net Cash Flow | $14,839 | $19,135 | $20,539 | $19,423 | $3,639 | $4,082 | $3,020 |
| | YE 12/31 2056 | YE 12/31 2057 | YE 12/31 2058 | YE 12/31 2059 | YE 12/31 2060 | YE 12/31 2061 | YE 12/31 2062 |
| Production & Sales tons | 51 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Revenue | $5,644 | $0 | $0 | $0 | $0 | $0 | $0 |
| EBITDA | ($1,854) | $0 | $0 | $0 | $0 | $0 | $0 |
| Net Income | ($2,864) | ($19) | ($8) | ($4) | ($2) | ($1) | $0 |
| Net Cash Provided by Operating Activities | $2,138 | ($1,387) | ($454) | ($227) | ($113) | ($120) | ($0) |
| Purchases of Property, Plant, and Equipment | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Net Cash Flow | $2,138 | ($1,387) | ($454) | ($227) | ($113) | ($120) | ($0) |

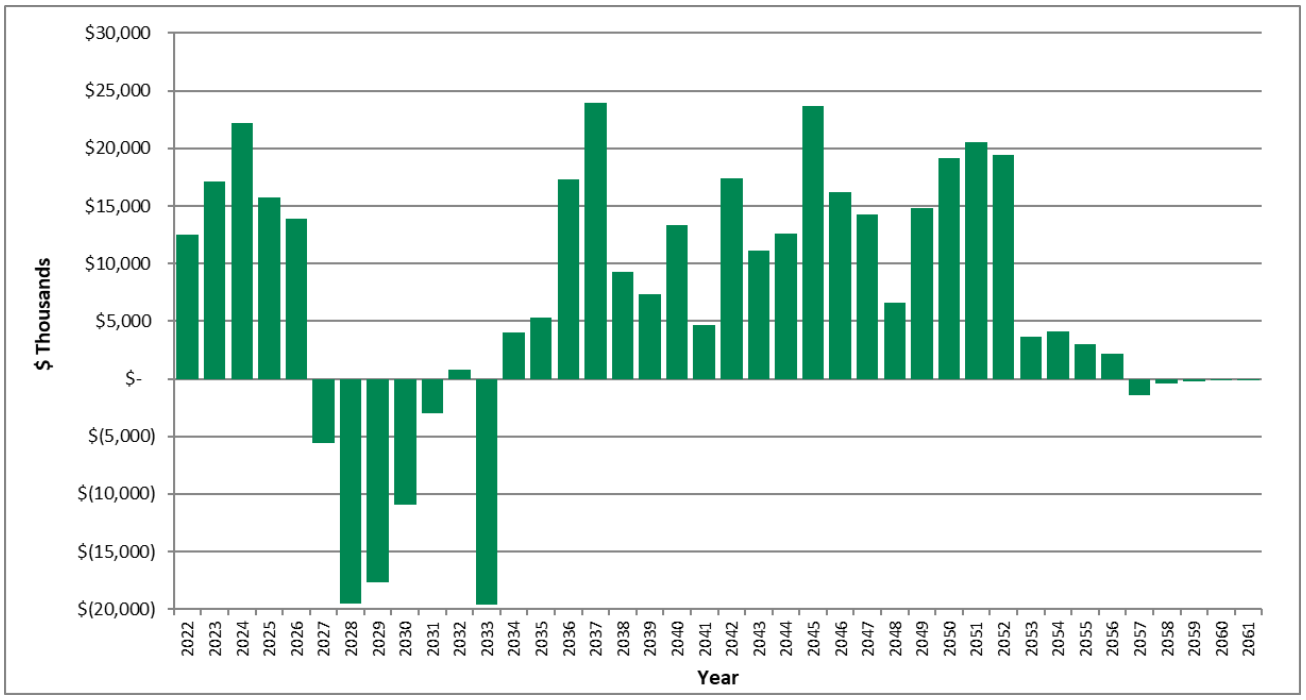
Note: * Results shown for 2022 are for fourth quarter only.
** LOM tonnage evaluated in the financial model includes 0.759 million tons for Bassett, Gaz, and Will Farm surface mines, which failed to achieve positive economic results, as well as 4th quarter 2022 production (0.197 million clean tons) which was subtracted from coal reserves in order to make the effective date of reserves December 31, 2022.

Consolidated cash flows are driven by annual sales tonnage, which grows from 1.1 million tons in 2023 to a peak of 2.1 million tons in 2036. Between years 2037 and 2051, sales range from 1.0 million to 2.0 million tons and between years 2052-2056, sales range from 0.05 million tons to 0.3 million tons. Projected consolidated revenue peaks at $207.8 million in 2036 and totals $4.7 billion for the project's life.

Consolidated cash flow from operations is positive throughout most of the projected operating period, with the exception of post-production years, due to end-of-mine reclamation spending. Consolidated cash flow from operations peaks at $33.8 million in 2024 and totals $565.1 million over the project life. Capital expenditures total $46.4 million during the first five years and $287.9 million over the project's life.

Consolidated net cash flow after tax, but before debt service, is shown by year in the chart below:

**Figure 1-4: Net Cash Flow after Tax (Before Debt Service)**




Note: Results shown for 2022 are for the fourth quarter only.

LOM net cash flow is positive for the Corsa properties evaluated. The cash flows in years 2057-2061 are end-of-mine (*EOM*) reclamation expenditures, which are accrued over the life of the mines.

### 1.6.3 Discounted Cash Flow Analysis

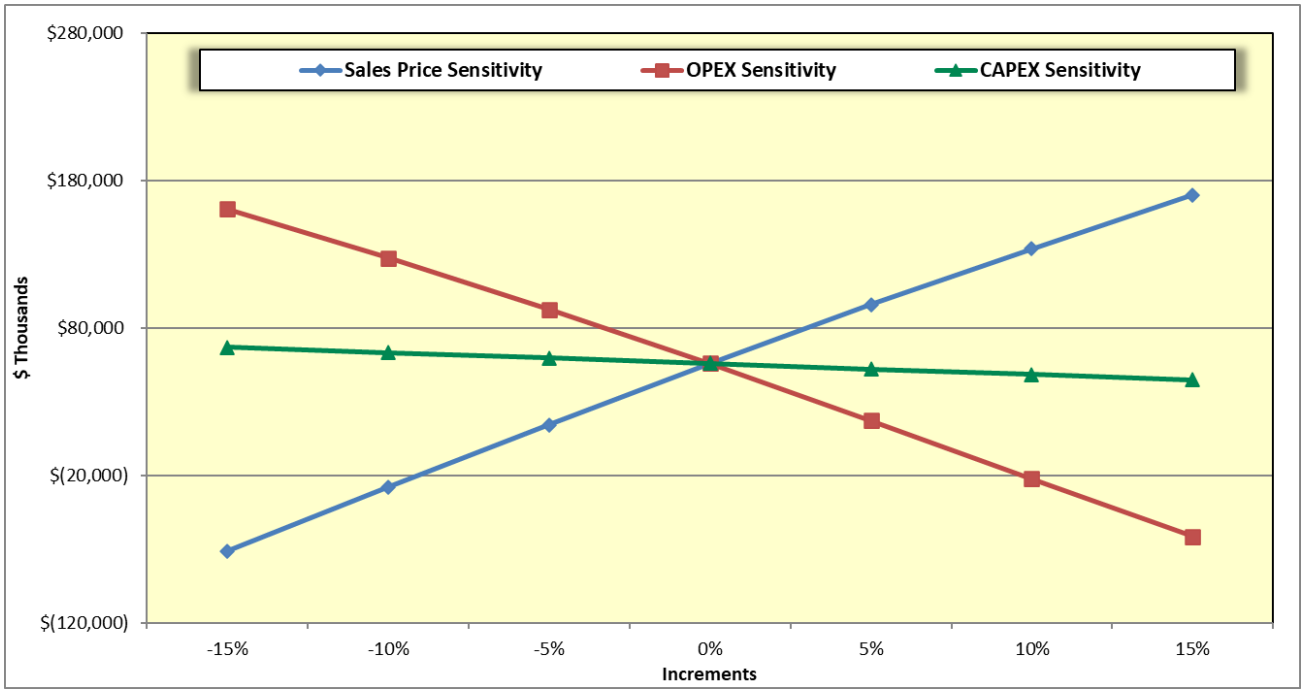
On an un-levered basis, the NPV of the project cash flows represents the Enterprise Value of the project and amounts to $55.8 million at a 15.04% discount rate. Corsa is an active producer, and the financial model shows positive net cash flow for each year of the operating life of the reserve. Therefore, internal rate-of-return (*IRR*) and project payback were not calculated, as there was no initial investment considered in the financial model. The pre-feasibility financial model prepared for the TR was developed to test the economic viability of each coal resource area. The NPV estimate was made for the purpose of confirming the economics for classification of coal reserves and not for purposes of valuing Corsa or its assets. Mine plans were not optimized, and actual results of the operations may be different, but in all cases, the mine production plan assumes the properties are under competent management.

### 1.6.4 Sensitivity Analysis

Sensitivity of the NPV results to changes in the key drivers is presented in the chart below. The sensitivity study shows the NPV at the 15.04% discount rate when Base Case sales prices, operating

costs, and capital costs are increased and decreased independently in increments of 5% within a +/- 15% range.

**Figure 1-5: Sensitivity of NPV**




As shown, NPV is quite sensitive to changes in sales price and operating cost estimates, and slightly sensitive to changes in capital cost estimates.

## 1.7 Conclusions

### 1.7.1 Coal Resources

There has been sufficient data obtained through various exploration and sampling programs and mining operations to support the geological interpretations of structure and thickness for the coal horizons situated on the properties. The data is of sufficient spatial density and reliability to reasonably support the classification of measured and indicated coal resource estimates in this TR under guidelines established by CIMDS.

### 1.7.2 Coal Reserves

In considering mining plans, coal quality, revenue, operating and capital cost estimates, and the coal reserve estimate conducted in accordance with CIMDS, the TR is sufficient to conclude that the coal reserves are proven and probable under reasonable expectations of market prices for metallurgical and thermal coal produced from the properties. The cash flow estimates are positive even after performing independent sensitivity analyses of up to 7.5% variation in sales price and up to 7.5% variation in the operating cost and 15% variation in capital expenditures. The Discounted Cash Flow (*DCF*) analysis

shows a large positive value given the prevailing market for metallurgical and thermal coals and the anticipated market share available to Corsa.

### 1.7.3 Operations

Corsa operations currently consists of six active mines (see *Table 4-2*). Three of these are underground mines (Acosta, Horning and Casselman) and three are active surface mines (Schrock Run/Schrock Run Extension North and South Pits, Rhoads and Hamer-Byers). Corsa operates one preparation plant and rail load-out facility (Cambria Preparation Plant) which is serviced by CSX rail, and one rail load-out facility (Shade Creek) which is serviced by NS. The Shade Creek preparation plant is temporarily idle and on care-and-maintenance status. In addition, Corsa has another preparation plant, the Rockwood plant, which is on care-and-maintenance status.

Run-of-mine (*ROM*) raw coal is delivered to the preparation plants by truck. Raw coal is sized and shipped or washed depending on quality.

Underground operations are projected to continue until year 2056. Surface operations are projected to continue through year 2038. Corsa is committed to expanding its reserve base for both surface and underground operations going forward.

### 1.7.4 Recommendations

Recommendations based on the conclusions of this TR are listed below.

1. MM&A highly recommends additional drilling exploration to include quality analyses relevant to the qualification of the coals as metallurgical grade, along with geotechnical data for use in assessing the mineability or potential mining conditions of the operations. There are limitations to determining the mineability or mining conditions of the seams from interpretation of the drill hole data as provided. A large portion of the drill hole data contains only rock-coal descriptions, no driller or geologist log and only a minority of the drill holes contain downhole geophysical logs. The majority of the available coal sample analyses do not have qualitative assurance of complete and representative coal core sample recovery. This weakness in the data set of verifiable and accurate coal seam thickness from geophysical logs, quality and detailed lithologic composition of the roof and floor material from limited core sample analysis makes for less accurate predictions of coal classification, recovery and other factors associated with mining conditions.
2. Coal resources deemed to have insufficient geologic definition due to a lack of drill or quality data to justify inclusion in the reserve estimates may reasonably become the target of future exploration programs. With sufficient drill data, some identified resources may demonstrate reserve potential in the future. Exploration should include the collection of core samples to be analyzed for metallurgical coal quality. An example of such an area is the Keyser Middle Kittanning underground coal resource.

3. MM&A recommends further exploration be pursued at Casselman North, north of Interstate Highway I68 to further establish seam thickness and coal quality trends in this area thereby increasing the probable reserves to the proven classification.

4. MM&A recommends further evaluation of the Agustus resources, including evaluation of the potential for resource area expansion through negotiations with adjacent lessor Berwind/Wilmore.

5. MM&A recommends further evaluation of the Mega Mine Lower Kittanning resources. Definition core drilling is required it increase the confidence of the seam continuity and to define low and no coal zones. Coal analysis is need defining quality variations and trends.

6. MM&A is aware of no conditions that presently would prevent permitting of the surface-mineable reserves, however, the time required to acquire surface mining permits continues to increase. MM&A recommends that Corsa dedicate continuing efforts to permit mining areas well ahead of current mining to better assure that production will not be interrupted.

## 1.8 Qualified Persons

MM&A's Qualified Persons (*QPs*) for this TR are Mr. Justin S. Douthat, PE, MBA, Executive Vice President, Mr. John W. Eckman, CPG, Senior Geologist and Mr. Scott Peterson, Senior Principal Geologist. Mr. Peterson conducted a site visit to the Property in December 2022 and participated in interviews with representatives of Corsa. Messrs. Eckman and Douthat did not participate in the December 2022 site visit.

The QPs who are responsible for direct supervision of this TR include: Mr. Douthat graduated with a Bachelor of Science in Mining Engineering from the Virginia Polytechnic Institute & State University and a Master of Business Administration degree from The Pennsylvania State University and is licensed as a professional engineer in Virginia, West Virginia, Kentucky, Illinois, North Carolina, Kansas, Arkansas, Colorado, Mississippi, and Louisiana. He has been employed at MM&A since 1995, working on coal mining projects throughout the USA and internationally. See *Appendix 5, Résumés of Qualified Persons.*

Mr. Eckman is a senior geologist, employed as a geologist since 1988. He manages projects at MM&A with a concentration in coal resource, reserve and mineability evaluations for public filings in the United States, Canada, and Australia. Mr. Eckman has worked in all the domestic coal fields in the United States and on international projects in Canada, China, Chili, and Venezuela and his experience includes evaluation of industrial minerals and aggregates. He has been responsible for the design, implementation, and management of major exploration projects. Mr. Eckman's' contributions include resource evaluations using computer-based geologic modeling that meet **United States Security and Exchange Commission (*SEC*)**, JORC and NI 43-101 standards and requirements, from which the coal reserve has been derived. Mr. Eckman graduated with a Bachelor of Science in Geosciences from The

Pennsylvania State University, is a Registered Professional Geologist in the Commonwealth of Kentucky and Certified Professional Geologist member of the American Institute of Professional Geologists.

Mr. Peterson graduated with a Bachelor of Science in Geology from the University of Minnesota, Duluth and has over 35 years of mining experience in both surface and underground coal operations. Mr. Peterson is responsible for exploration management, database preparation, coal seam mapping, resource evaluations and reserve studies for mine properties both domestically and internationally. Mr. Peterson is a Licensed Professional Geologist in the state of Wyoming and Certified Professional Geologist member of the American Institute of Professional Geologists.

# 2 Introduction

## 2.1 Introduction

This TR is prepared for **Corsa Coal Corp. (*Corsa*)**, based in Toronto, Ontario. Corsa engaged **Marshall Miller & Associates (*MM&A*)** to conduct a Coal Resource and Coal Reserve evaluation of the bituminous coal deposits on properties controlled by Corsa in the State of Maryland and in the Commonwealth of Pennsylvania, USA and to prepare a TR in accordance with NI 43-101 and *CIMDS* on Mineral Reserves and Mineral Resources, adopted May 10, 2014. This TR provides technical information to support estimates of mineral resource and mineral reserve, hereafter referred to as coal resource and coal reserve. A non-coal mineral resource (limestone at Blue Lick) is also discussed in this report.

Corsa is a junior natural resource company existing under the *Canada Business Corporations Act* and its common shares are listed on the **TSX Venture Exchange** (***TSXV***) under the trading symbol "CSO". Corsa is a reporting issuer in the Canadian provinces of British Columbia, Alberta, and Ontario. In August 2014, Corsa completed a transaction for the acquisition of **PBS Coals, Inc. (*PBS*)**, a wholly owned subsidiary of **Severstal Resources (*Severstal*)**. PBS, based in Somerset County, Pennsylvania, was acquired by Severstal in 2008. Corsa previously acquired the mines and resources of **Wilson Creek Energy, LLC (*Wilson Creek*)** in 2010.

Corsa operations currently consists of six active mines (see *Table 4-2*). Three of these are underground mines (Acosta, Horning and Casselman) and three are active surface mines (Schrock Run/Schrock Run Extension North and South Pits, Rhoads and Hamer-Byers). Corsa operates one preparation plant and rail load-out facility (Cambria Preparation Plant) which is serviced by CSX rail, and one rail load-out facility (Shade Creek) which is serviced by NS. The Shade Creek preparation plant is temporarily idle and on care-and-maintenance status. In addition, Corsa has another preparation plant, the Rockwood plant, which is on care-and-maintenance status.

In September 2013, MM&A (then Cardno MM&A) completed an evaluation of the subject properties titled "*Evaluation of Coal Reserves and Resources for Severstal Resources/ PBS Coals, Inc. on Select*

*Properties Located in Pennsylvania and Maryland (USA)*" for predecessor Severstal. The report was conducted in accordance with United States Securities and Exchange Commission (SEC) standards using guidelines prescribed in the **United States Geological Survey (*USGS*)** Circular 891 Coal Resource Classification System, which is the standard classification system for coal projects in the USA. The effective date of the evaluation was March 31, 2013 and served as the basis for a TR effective August 19, 2014 titled "*Technical Report on the Coal Resource and Coal Reserve Controlled by PBS Coals, Inc. Pennsylvania, USA*" dated October 2014. The coal resources and reserves associated with the Wilson Creek properties were previously evaluated by **Earthtech, Inc. (*Earthtech*)** in a May 9, 2014, report titled "*Wilson Creek Energy, LLC Northern Appalachian Coal Holdings, USA Technical Report on Coal Resources and Coal Reserves*" with an effective date of December 31, 2013. Earthtech subsequently updated the resource and reserve tonnage estimates as of December 31, 2014, to account for mine depletion that occurred in year 2014. The coal resources and reserves controlled by Corsa were subsequently re-evaluated in reports titled *"Technical Report on the Coal Resource and Coal Reserve Controlled by Corsa Coal Corp., Pennsylvania and Maryland USA – Prepared in accordance with National Instrument 43-101 Standards for Disclosure for Mineral Projects Effective December 31, 2016", "Technical Report on the Coal Resource and Coal Reserve Controlled by Corsa Coal Corp., Pennsylvania and Maryland USA – Prepared in accordance with National Instrument 43-101 Standards for Disclosure for Mineral Projects Effective December 31, 2017"*, *"Technical Report on the Coal Resource and Coal Reserve Controlled by Corsa Coal Corp., Pennsylvania and Maryland USA – Prepared in accordance with National Instrument 43-101 Standards for Disclosure for Mineral Projects Effective December 31, 2018", "Technical Report on the Coal Resource and Coal Reserve Controlled by Corsa Coal Corp., Pennsylvania and Maryland USA – Prepared in accordance with National Instrument 43-101 Standards for Disclosure for Mineral Projects Effective December 31, 2019"*, *"Technical Report on the Coal Resource and Coal Reserve Controlled by Corsa Coal Corp., Pennsylvania and Maryland USA – Prepared in accordance with National Instrument 43-101 Standards for Disclosure for Mineral Projects Effective December 31, 2020"* And *"Technical Report on the Coal Resource and Coal Reserve Controlled by Corsa Coal Corp., Pennsylvania and Maryland USA – Prepared in accordance with National Instrument 43-101 Standards for Disclosure for Mineral Projects Effective December 31, 2021"*. This current TR with an effective date of December 31, 2022, is being completed to satisfy NI 43-101 requirements, and includes changes occurring to the subject properties since the conclusion of previous work of MM&A and Earthtech.

## 2.2 Terms of Reference

Definitions of mining terms used in this TR are provided in *Appendix 1, Glossary of Abbreviations and Definitions*. An independent evaluation of the coal reserves was conducted in accordance with Definitions within NI 43-101 and CIMDS[1], classifying the coal as "Resource" and "Reserve" as explained below.

[1] See Item 3.1 for specific Standards reference.

**Mineral Resource** is defined as "…a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade or quality that there are reasonable prospects for eventual economic extraction. The location, quantity, grade, continuity and other geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling".

Mineral Resources are subdivided into classes of Measured, Indicated, and Inferred, with the level of confidence reducing with each class, respectively. Coal is defined as combustible sedimentary rock in which organic matter, including residual moisture (as defined by ASTM Procedure 3180.84) comprises more than 50-perent by weight and more than 70-percent by volume of carbonaceous material formed from altered plant remains. Coal resources are reported as in-situ tonnage and are not adjusted for mining losses or mining recovery. Coal resources have been estimated and classified as *Measured*, *Indicated*, and *Inferred* following CIMDS. Measured coal resources are those lying within ¼-mile radius of a valid point of measurement. Indicated coal resources are those lying between ¼-mile and ¾-mile radius from such an observation point. Inferred coal resources lie more than a ¾-mile radius from a valid point of measurement, but less than 3 miles from one. These classifications connote the degree of tonnage estimation reliability based on distance from known points of measurements.

**Mineral Reserve** is defined as "…the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes dilution materials and allowances for losses, which occur when the material is mined or extracted and is defined by studies at Preliminary Feasibility or Feasibility level as appropriate that include Modifying Factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified". Reserves, as defined by CIMDS, are those coal deposits that exhibit:

1. Geologic assurance of existence, continuity, grade; and
2. Economic feasibility of recovery, as demonstrated by at least a Preliminary Feasibility Study.

As referenced in CIMDS, *Measured*, *Indicated*, and *Inferred* in-situ coal resources (*Table 1-1*) are reported separately from the *Proven* and *Probable* coal reserves (*Table 1-2*) which are shown on a recoverable, as-received basis.

A **Preliminary Feasibility Study** is defined as "…a comprehensive study of a range of options for technical and economic viability of a mineral project that has advanced to a stage where a preferred mining method, in the case of underground mining, or the pit configuration, in the case of an open pit, is established and an effective method of mineral processing is determined. It includes a financial analysis based on reasonable assumptions on the Modifying Factors and the evaluation of other relevant factors which are sufficient for a Qualified Person, acting reasonably, to determine if all or part of the Mineral Resource may be converted to a Mineral Reserve at the time of reporting. A Pre-feasibility Study is at a lower confidence level than a Feasibility Study".

As part of this evaluation, the following mineability factors were considered, in addition to those concerned more specifically with geologic conditions, including mining height, out-of-seam dilution, intervals between seams, depth, occurrence of faults, reserve size and configuration, and coal quality, among others.

Economic feasibility may be evaluated by interrelating coal thickness, overburden thickness, coal quality, costs of mining, processing, transportation, and expected selling price, among other factors. The coal reserve assessment provided herein addresses and summarizes the factors described above. In addition, each of the reserve areas identified was subject to a Preliminary Feasibility Study based on Corsa's current operations and plans and independent estimates of capitalization, revenue, and mining cost by MM&A.

In its examination of the economic viability of the coal reserves, mining methods and preliminary configurations of underground mines and surface support operations were reviewed and found consistent with standard industry practice. Production, processing cost, transportation, royalty obligations, regulatory constraints, market assumptions, and other related factors summarized in Corsa's financial statements were found to be reasonable given observations during the site inspection by the QPs and in subsequent review by MM&A staff members.

Currencies in the TR are expressed in USA dollars ($) unless otherwise noted. Imperial units of measurement are used herein, as is customary in the USA.

## 2.3 Report Purpose

The purpose of this report is to provide an independent QP's TR, meeting the requirements of NI 43-101, for identified properties belonging to Corsa.

## 2.4 Source of Information

The primary information contained in this report has been obtained from the following sources:

All site-specific geologic information and project baseline information was provided to MM&A by Corsa, its mineral lessors, or prior owners of the properties (with permission). The provided information includes drill hole data and the associated coal quality information developed from various exploration programs conducted on the properties.

Geologic information was utilized, and mining models were prepared by MM&A staff and where feasible, MM&A used information from previous evaluations on the properties.

Site visits by MM&A representatives to Corsa operations and water treatment sites that occurred on July 29 and 30, 2014 included Mr. Michael G. McClure, CPG, and Mr. Justin S. Douthat, PE, MBA. As part of the site visits, MM&A met with Corsa personnel including Mr. Joe Gallo, Mr. Robert Bottegal,

Mr. Doug Berkley, Ms. Melissa Mitchell, Mr. John Weir, and Mr. D.J. Elliot to discuss Corsa's current and planned future operations. MM&A also visited all of the locations for proposed surface and underground mines; MM&A personnel also visited the Corsa coal preparation plants, refuse disposal areas, water treatment facilities, unit-train rail load-outs, and all active surface and underground operations. These site visits were conducted on multiple occasions between May of 2013 and November of 2016. MM&A representatives Mr. McClure and Mr. Gerry Enigk conducted a site visit to the Property in October 2017 and participated in interviews with representatives of Corsa. Mr. Eckman and Mr. Douthat also conducted a site visit to the Property in November of 2018 and also in November 2019 and participated in interviews with representatives of Corsa. Mr. Tim Meyers conducted a site visit on behalf of MM&A to the Property in November 2020. Most recently, Mr. Scott Peterson conducted a site visit to the Property in December 2022 and participated in interviews with Corsa personnel. Messrs. Eckman and Douthat did not participate in the December 2022 site visit.

Work completed in conjunction with separate projects (not part of 43-101 TRs) on geological review, preliminary mine planning, design, and mine costing by MM&A.

MM&A has not carried out independent title verification of property control, by assignment, and has relied on property boundaries and representations of title supplied by Corsa.

All information in the TR related to acquisitions and transfers of property ownership is based on public news announcements and other similar records. MM&A is not aware of any encumbrances on the properties. Other information provided by Corsa is as follows:

- *Metallurgical coal price data*
- *Bonding and Asset Retirement Obligations as reported by Corsa*
- *Historical Production at Active Mines as reported by Corsa*
- *Historical Costs of Active Mines as Reported by Corsa*

MM&A has previously performed geologic evaluations of property holdings for various predecessors-in-title. The following is a list of the previous reports prepared by MM&A.

- *"Technical Report on the Coal Resource and Coal Reserve Controlled by Corsa Coal Corp., Pennsylvania, and Maryland USA – Prepared in accordance with National Instrument 43-101 Standards for Disclosure for Mineral Projects Effective December 31, 2021*
- *'Technical Report on the Coal Resource and Coal Reserve Controlled by Corsa Coal Corp., Pennsylvania and Maryland USA' – Prepared in accordance with National Instrument 43-101 Standards for Disclosure for Mineral Projects Effective December 31, 2020*

- *'Technical Report on the Coal Resource and Coal Reserve Controlled by Corsa Coal Corp., Pennsylvania and Maryland USA' – Prepared in accordance with National Instrument 43-101 Standards for Disclosure for Mineral Projects Effective December 31, 2019*
- *'Technical Report on the Coal Resource and Coal Reserve Controlled by Corsa Coal Corp., Pennsylvania and Maryland USA' – Prepared in accordance with National Instrument 43-101 Standards for Disclosure for Mineral Projects Effective December 31, 2018*
- *'Technical Report on the Coal Resource and Coal Reserve Controlled by Corsa Coal Corp., Pennsylvania and Maryland USA' – Prepared in accordance with National Instrument 43-101 Standards for Disclosure for Mineral Projects Effective December 31, 2017*
- *'Technical Report on the Coal Resource and Coal Reserve Controlled by Corsa Coal Corp., Pennsylvania and Maryland USA' – Prepared in accordance with National Instrument 43-101 Standards for Disclosure for Mineral Projects Effective December 31, 2016*
- *'Phase 3 Analysis of Geologic and Related Conditions within the Southern Portion of the A Seam Deep-Mineable Reserve Area; Prepared for Corsa Coal Corporation; July 2017*
- *'Evaluation of Coal Reserves and Resources for Severstal Resources / PBS Coals, Inc. on Select Properties Located in Pennsylvania and Maryland (USA)'; Prepared for PBS Coals, Inc.; September 2013.* This was an evaluation of select properties identified by PBS as having reserve potential but did not include all properties controlled by PBS.
- *'Reserve Evaluation of Mincorp, Inc. Somerset and Indiana Counties, PA'; Prepared for Citicorp Venture Capital, Ltd.; January 1998*
- *'Modified Phase I Environmental Site Assessment of Pennsylvania Subsidiaries of Mincorp, Inc.'; Prepared for Citicorp Venture Capital, Ltd., Bank of Scotland; January 1998*
- *'Reserve Evaluation of PBS Coals for First Reserve Corporation'; Prepared for First Reserve Corporation; April 1997*
- *'Preliminary Comments Coal Preparation Plants – PBS Coals, Inc. Somerset, Pennsylvania'; Prepared for Appalachian Fuels, LLC; June 2001*
- *'Reserve Audit of PBS Coals, Inc.'; Prepared for Appalachian Fuels, LLC; June 2001*
- *'Executive Summary – Modified Phase I Environmental Site Assessment – PBS Coals, Inc. – Somerset County, Pennsylvania'; Prepared for Appalachian Fuels, LLC; June 2001*
- *'Assessment of Mine Roof Water and Gas Influx, Quecreek No. 1 Mine, Somerset County, Pennsylvania'; Prepared for PBS Coals, Inc.; February 2005*

In addition to work performed by MM&A, the following is a list of previous reports generated by others with respect to the properties.

- "*Underground Mining Feasibility & Coal Reserve Study, A Seam, 1975*" prepared for Penn Pocahontas Coal Company by John T. Boyd Company.
- "*Reserve Study and Mining Plan, PBS Coals, Inc., 1978*" prepared for major mining company by John T. Boyd Company.
- "*Review of PBS Coals, Inc. as Coal Supplier to Morgantown and/or Chalk Point Generating Stations, 1984 & 1990*" prepared for Potomac Electric Power Company by John T. Boyd Company.
- *"Field Inspection and Determination of Decreased Capacity and Reduced yield at Shade Creek Coal Preparation Plant, 1987" p*repared for Mincorp, Inc. by John T. Boyd Company.
- *"Independent Coal Reserve Estimate, 1990"* prepared for PBS Coals, Inc. & Mincorp, Inc. by John T. Boyd Company.
- "*Preliminary Independent Valuation of PBS Coals, Inc.'s U.S. Coal Holdings, 1990*" prepared for PBS Coals, Inc. & Mincorp, Inc. by John T. Boyd Company.
- "*Preliminary Business Interruption Claim – Diamond T Mine, B Seam, Roxcoal, Inc., 1992*" prepared for GAB Business Services, Inc. by John T. Boyd Company.
- "*Preliminary Claim Review of Roof Fall and Equipment Damage at Roxcoal, Inc.'s Longview Mine, 1995*" prepared for GAB Business Services, Inc. by John T. Boyd Company.
- "*Advisory Services Related to Insurance Claim for Equipment Lost Due to Roof Fall at Diamond B Mine, Roxcoal, Inc., 1996*" prepared for GAB Robins North America, Inc. by John T. Boyd Company.
- "*Insurance Claim Review Related to Underground Inundation of PBS's Quecreek No. 1 Mine from Saxman Mine No. 2 on July 24, 2002*" prepared for GAB Robins North America, Inc. by John T. Boyd Company.
- "*Provide Assistance Regarding Evaluation of Future Mine Plans for PBS Coals, Inc., 2003*" prepared for Brikis Financial Services Co. by John T. Boyd Company.
- "Review of Insurance Claim Related to Stacking Conveyor Failure at PBS Coals, Inc.'s Shade Creek Preparation Plant, 2003" prepared for York Claims Service, Inc. by John T. Boyd Company.
- "*Independent Audit of Internally Prepared Coal Reserve Estimates, Coal Holdings of PBS Coals, Inc., 2006"* prepared for PBS Coals, Inc. by John T. Boyd Company.
- "*Independent Technical Report Coal Reserves and Mining Operations PBS Coals, Inc., Somerset County, Pennsylvania, U.S.A., May 2008*" prepared for PBS Coals, Inc. by John T. Boyd Company.
- "*Wilson Creek Energy, LLC Northern Appalachian Coal Holdings, USA Technical Report on Coal Resources and Coal Reserves*" with an effective date of December 31, 2013, prepared for Corsa by Earthtech. Tonnage estimates were subsequently updated by Earthtech effective December 31, 2014, in a letter report to Corsa.

## 2.5 Involvement of Qualified Persons

MM&A is a United States of America-based mining geological and engineering firm based in Bluefield, Virginia. MM&A has provided project feasibility studies and related engineering and geological services at coal projects and mines worldwide since 1975. MM&A has been involved extensively in coal projects throughout the Appalachian region for more than 40 years and has been involved in prior work on the properties for the current and previous operators and third parties.

This TR was prepared under the supervision of Mr. John W. Eckman, CPG, Senior Geologist, Mr. Justin S. Douthat, PE, MBA, Executive Vice President and Mr. Scott Peterson, Senior Principal Geologist. Mr. Peterson completed visits to the properties in December 2022 and assisted in preparing the resource and reserve evaluation in accordance with NI 43-101, CIMDS and the assessment of mining operations, infrastructure, transportation, conceptual mine plans, prefeasibility financial model, and marketing and production costs. These individuals were supported by additional geological and mining engineering staff members and associates.

Neither MM&A nor its employees have any financial interest in Corsa or the properties. The work completed in the preparation of this TR was paid for by Corsa under the terms of its project engagement and was not contingent upon any pre-determined results or conclusions.

# 3 Reliance on Other Experts

In preparing this TR, MM&A has relied on information provided by other experts, who are not QPs, concerning legal, environmental, political, and/or other relevant issues and factors. In particular, MM&A has relied upon property control, mine and financial information (including coal sales pricing) directly from Corsa's personnel: Messrs. Robert Bottegal, D.J. Elliot, and Dan Bonacci, including income statements and balance sheets, depreciation expense reports, and fixed asset schedules. This information was used in the development of the capital and operating costs provided in *Item 21*, along with the economic analysis provided in *Item 22*.

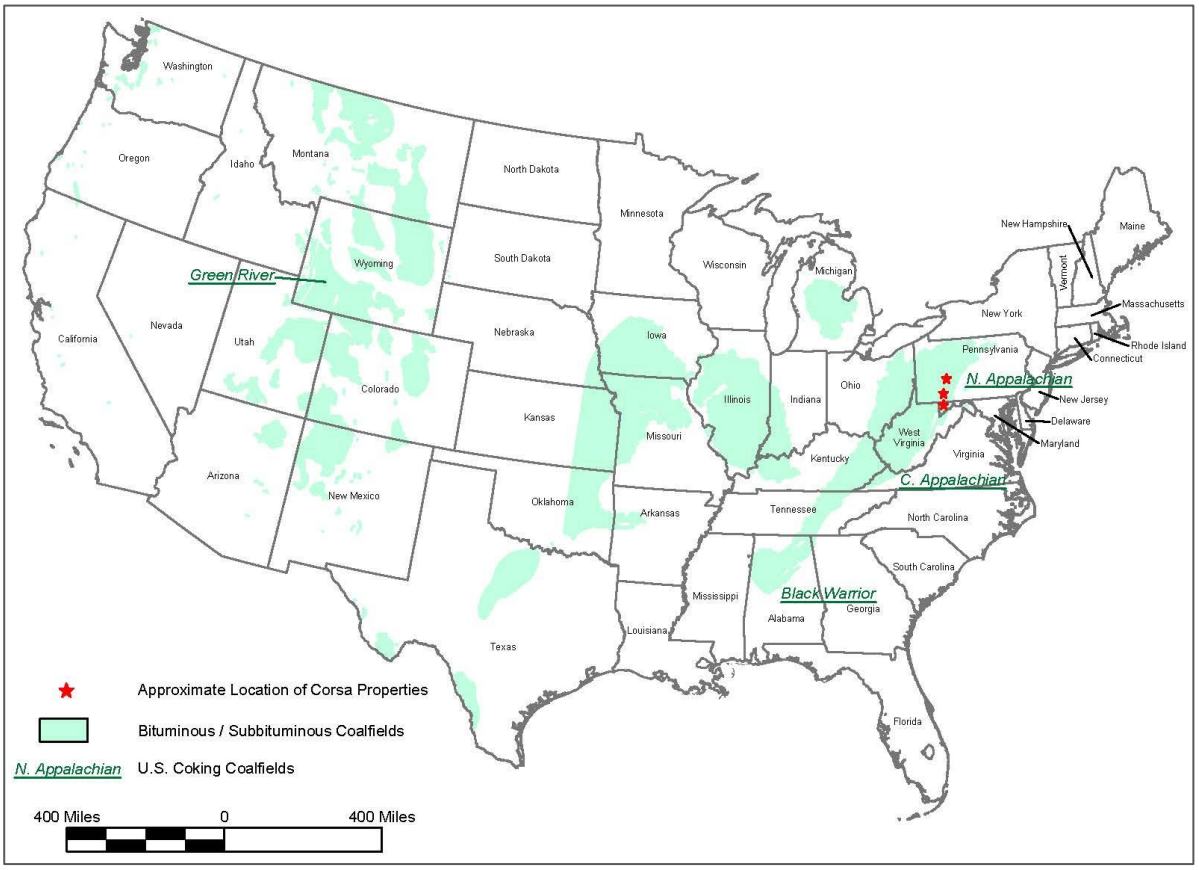
Metallurgical coal price information was provided by Corsa. MM&A has relied on this information for *Item 19* and in preparing the financial model underpinning the coal reserves contained in this TR, which is summarized in *Item 22*.

# 4 Property Description and Location

## 4.1 Location

The properties are located in Pennsylvania and Maryland, approximately 60 miles southeast of Pittsburgh and 120 miles west of Pennsylvania's capital city of Harrisburg, within the Northern Appalachian coal-producing region of the eastern USA.

**Figure 4-1: General Location Map (as of December 31, 2022)**




## 4.2 Description

The coal resource properties consist of approximately 36,500 acres of mineral and/or surface control located in Somerset County Pennsylvania and Garrett County, Maryland. The properties are located on portions of ten **United States Geological Survey (*USGS*)** quadrangles shown in *Table 4-1* and generally consist of a complex assemblage of owned and/or leased tracts that range from a few acres to several hundred acres in size. Segregation of mineral and surface ownership is common to the properties, with Corsa acquiring the necessary rights to support development through purchase or lease agreements with predominately private owners or entities. Corsa typically only acquires rights for areas required

for development of resources and therefore does not have contiguous property control throughout the project area.

**Table 4-1: USGS 7.5-Minute Quadrangles on which Corsa Properties are Located**

| | | | |
|---|---|---|---|
| | Boswell, PA | Hooversville, PA | Windber, PA |
| | Somerset, PA | Stoystown, PA | Central City, PA |
| | Murdock, PA | Berlin, PA | |
| | | Wittenberg, PA | |
| Grantsville, MD | | | |

Corsa operations currently consists of six active mines (see *Table 4-2*). Three of these are underground mines (Acosta, Horning and Casselman) and three surface mines (Schrock Run/Schrock Run Extension North and South Pits, Rhoads and Hamer-Byer). Corsa operates one preparation plant and rail load-out facility (Cambria Preparation Plant) which is serviced by CSX rail, and one rail load-out facility (Shade Creek) which is serviced by NS. The Shade Creek preparation plant is temporarily idle and on care-and-maintenance status. In addition, Corsa has another preparation plant, the Rockwood plant, which is on care-and-maintenance status.

**Table 4-2: Active Mines**

| Mine | Status | Coal Seam |
|---|---|---|
| Casselman (UG) | Active | Upper Freeport |
| Acosta (UG) | Active | Middle Kittanning |
| Schrock Run/Schrock Run Extension (S) | Active | Lower Freeport & Upper Kittanning |
| Hamer-Byers (S) | Active | Upper Kittanning |
| Rhoads (S) | Active | Upper, Middle & Lower Kittanning |
| Horning (UG) | Active | Lower Freeport |

By assignment, MM&A has not independently verified property boundaries, lease agreements or royalty rates, rather has utilized royalty rates provided by Corsa. Typical mineral royalty rates range from 5% to 6% of the gross sales price. For surface reserves the combined surface and mineral royalties are as high as 16%. All surface facilities necessary to access the coal seams and process, store and ship the production are controlled by Corsa.

Pennsylvania South and Maryland North American Datum (*NAD*) 83 State Plane coordinate systems were utilized to represent the geographic position of all data presented herein.

## 4.3 Regulation of Mining Activities on the Properties

Mining is one of the most heavily regulated industries in the USA. Mining activities are controlled and regulated by both federal and state laws, which establish policy, set goals, and provide a system of enforcement. Each of the properties is thus subject to certain environmental permits authorized by federal authorities. The federal laws relevant to mining include:

> The Clean Air Act of 1970, as amended

> The Clean Water Act of 1977

> The Surface Mining Control and Reclamation Act (*SMCRA*) of 1977

> The Resource Conservation and Recovery Act of 1976

The **Commonwealth of Pennsylvania Department of Environmental Protection (*DEP*)** has responsibility of enforcing these Acts with aid of numerous state laws and legislative rules defined in the Codes of State Rules (*CS*). Relevant codes governing coal exploration, mining and preparation include:

> The Surface Mining Conservation and Reclamation Act, of May 31, 1945 (P.L. 1198, No. 412), as amended, 52 P.S. §§1396.1 et seq.

> Clean Streams Law, Act of June 22, 1937 (P.L>1984) 35 P.S. §§ 691.1 et seq.

> Bituminous Mine Subsidence and Land Conservation Act, Act of April 27, 1966 (P.L. 31, No.1), as amended, 52 P.S. §§ 1406.1 et seq. 25 Pa. Code §§ 86-90.

## 4.4 Permits

The properties are the subject of numerous permits for surface and underground mining, for coal preparation and related facilities, and for haul roads and other incidental permits necessary for mining to occur. A listing of all current Pennsylvania and Maryland mining permits held by Corsa is provided in *Table 4-3*. It should be noted that the Pennsylvania DEP permits have expired in many cases. Permit Renewal applications have been submitted on time and while the renewal process is ongoing, other permitting activities are being approved by the agencies. *Table 4-3* includes information on the various permits and the expirations are noted.

Permits generally require that the permittee post a performance bond in an amount established by the regulatory program to provide assurance that any disturbance or liability created during mining operations is properly restored to an approved post-mining land use and that all regulations and requirements of the permits are fully satisfied before the bond is returned to the permittee. Significant penalties exist for any permittee who fails to meet the obligations of the permits including cessation of mining operations, which can lead to potential forfeiture of the bond. Any company, and its directors,

owners, and officers, which are subject to bond forfeiture, can be denied future permits under the program.[2]

New permits or permit revisions will be necessary from time to time to facilitate the expansion or addition of new mining areas on the properties. New or modified mining permits are subject to a public advertisement process and comment period, and the public is provided an opportunity to raise an objection to any proposed mining operation. While there is some public opposition to mining in the USA, it is rare for objections to cause issuance of a permit to be denied. However, recent **United States Environmental Protection Agency (*EPA*)** intervention in the surface mine permitting process in Pennsylvania and other states has resulted in lengthy delays in issuance of Section 401, 402 and 404 permits required under the Clean Water Act. Unless specific prohibitions against surface mining impacts were identified, other delays in obtaining necessary mining permits and authorizations for mining to occur are not reflected herein. MM&A is not aware of any prohibition of mining on the properties and, given sufficient time and planning, Corsa should be able to secure new permits to maintain its planned mining operations within the context of the current regulations. Necessary permits are in place to support current production on the properties.

The Corsa properties and adjacent properties have supported surface and underground mining operations for more than 70 years. Consequently, numerous abandoned mines and related facilities exist within and adjacent to the properties. Each of the known abandoned mines and facilities within or adjacent to the properties has been identified to assess their potential impact on the remaining coal reserves. To the extent past mining impacts classification of coal reserves, all relevant factors were taken into consideration. The extent of these abandoned mines is shown in the figures accompanying this report or on the detailed maps included in MM&A's files. MM&A largely depended on data provided by Corsa and obtained from state agencies to identify the presence of previous mining.

Portions of the properties are located near local communities. Regulations prohibit mining activities within 300 feet of a residential dwelling, school, church, or similar structure unless written consent is first obtained from the owner of the structure. Where required, such consents have been obtained where mining is proposed beyond the regulatory limits. All known mining restrictions have been considered for estimation of reserves herein.

**Table 4-3: Summary of Corsa Permits**

| SMCRA Permit No. | Facility Name | Type | Status | Acreage | Expiration |
|---|---|---|---|---|---|
| 56010104 | Acosta #3 Mine | Surface | Stage 2 Approved | 135.8 | 12/12/2022* |
| 56021301 | Roytown Mine | Underground | Approved Cessation | S 69.5<br>U 1246.8 | 3/30/2019* |
| 56050105 | New Centerville Mine (Quarry Mine) | Surface | Stage 1/Regraded | 273.6 | 05/12/2021* |

[2] Monitored under the Applicant Violator System (AVS) by the Federal Office of Surface Mining.

| SMCRA Permit No. | Facility Name | Type | Status | Acreage | Expiration |
|---|---|---|---|---|---|
| 56061301 | Kimberly Run Mine | Underground | Stage 1 Regraded | S 106.9<br>U 2676.1 | 3/13/2023 |
| 56070103 | Trent Mine | Surface | Active | 344.1 | 10/23/2022* |
| 56071301 | Horning Mine | Underground | Active | S 116.4<br>U 2545.4 | 5/8/2019* |
| 56080108 | Blue Lick #4 Strip | Surface | Active | 377.7 | 8/31/2024 |
| 56090102 | Barta Mine | Surface | Reclamation Complete | 83.5 | 8/20/2024 |
| 56090111 | Friedens Mine | Surface | Stage 2 Approved | 233.6 | 08/30/2026 |
| 56090113 | Tipple Mine | Surface | Stage 1/Regraded | 204.9 | 03/03/2026 |
| 56090701 | Schrock Run Refuse Area | Refuse | Active | 263 | 10/02/2022* |
| 56100101 | Berwind-Lohr Mine | Surface | Active | 238.9 | 12/19/2026 |
| 56100102 | Hart Mine | Surface | Stage 1/Regraded | 448 | 10/14/2021* |
| 56100105 | Ponderosa #2 Mine (Plant Mine) | Surface | Active | 149.3 | 06/30/2021* |
| 56100701 | Milford #3 CRDA | Refuse | Active | 137.1 | 11/15/2021* |
| 56101301 | A-Seam Mine | Underground | Approved Cessation | S 163<br>U 3174.4 | 2/15/2018* |
| 56110104 | Ankeny Mine | Surface | Reclamation Complete | 132.5 | 07/10/2022 |
| 56110106 | Hamer | Surface | Active | 107.7 | 7/25/2023 |
| 56111302 | Acosta MK Mine | Underground | Active | S 49.8<br>U 2776.4 | 10/18/2018* |
| 56120104 | Byers | Surface | Approved Cessation | 72 | 10/28/2023 |
| 56120106 | Bassett Mine | Surface | Not Started | 150.4 | 6/11/2023 |
| 56120111 | GAZ Mine | Surface | Not Started | 91.1 | 11/21/2023 |
| 56120113 | Rhoads #2 Strip | Surface | Active | 228.7 | 11/21/2023 |
| 56120117 | Ash Mine | Surface | Stage 2 Eligible | 241.6 | 07/24/2023 |
| 56131301 | Keyser | Underground | Proposed Awaiting Auth Decision | S 40.1<br>U 3971.1 | ** |
| 56160301 | Blue Lick #4 Limestone Mine | Surface | Active | 174.3 | 08/31/2024 |
| 56170104 | Schrock Run Extension | Surface | Active | 569.9 | 12/7/2024 |
| 56180101 | Schrock Run Mine | Surface | Active | 348.3 | 12/20/2023 |
| 56663135 | Walker-Zubek | Surface | Stage 1/ Regraded | 27.5 | 07/11/2025 |
| 56773707 | Cambria Fuels Refuse Area | Refuse | Stage 1/ Regraded; Water Treatment[1] | 38.7 | 4/29/2021* |
| 56813006 | Clear Run | Surface | Reclaimed/Chemical Treatment | 285.9 | 4/13/2024 |
| 56813104 | Roberts Mine | Surface | Reclaimed/ Water Treatment[1] | 344.7 | 4/17/2025 |
| 56823123 | Walker Mine | Surface | Stage 1/ Regraded | 203 | 07/09/2025 |
| 56841603 | Shade Creek Preparation Plant | Plant | Active | 103.3 | 11/12/2021* |
| 56841605 | Goodtown Prep Plant | Plant | Reclaimed/ Water Treatment[1] | 13.5 | 9/2/2021* |
| 56841608 | Cambria Preparation Plant | Plant | Active | 56 | 11/12/2021* |
| 56841612 | Wilson Creek Preparation Plant | Prep Plant | Approved Cessation | 43 | 11/23/2021* |
| 56851303 | Barbara B | Underground | Stage 1/Regraded | S 75.69<br>U 2668.81 | 7/31/2017* |

| SMCRA Permit No. | Facility Name | Type | Status | Acreage | Expiration |
|---|---|---|---|---|---|
| 56890101 | Pine Hill Strip | Surface | Stage 1/Regraded | 163 | 8/4/2024 |
| 56900109 | Mostoller | Surface | Reclamation Complete | 48.2 | 1/9/2022 |
| 56900701 | Job 12 Expansion | Refuse | Active | 296.8 | 5/24/2016* |
| 56910701 | Job 10 Refuse Area | Refuse | Active; Water Treatment[1] | 68.8 | 8/5/2022* |
| 56950106 | Walker #3 Mine | Surface | Stage 1/ Regraded] | 62.8 | 02/21/2026 |
| 56950702 | Cambria Refuse Area (Job 93) | Refuse | Stage 1/Regraded; Water Treatment[1] | 67.1 | 01/04/2023 |
| 56951301 | Agustus Mine | Underground | Approved Cessation | S 58.5<br>U 1341 | 4/28/2022 |
| 56960107 | Acosta Mine | Surface | Reclaimed/Water Treatment[1] | 13 | 3/13/2022 |
| 56961301 | Sarah Mine | Underground | Stage 1 Regraded | S 43.5<br>U 895.7 | 11/18/2021* |
| 56961302 | Miller Mine | Underground | Stage 2 Eligible | S 14.5<br>U 857.6 | 04/27/2022 |
| 56971301 | Geronimo Mine | Underground | Stage 2 Approved | S 21.25<br>U 4475.3 | 8/18/2022 |
| 56980103 | Acosta #2 Mine | Surface/Long Term WT | Reclaimed/Chemical Treatment | 138 | 02/04/2024 |
| 56981301 | Quecreek Mine | Underground | Reclamation | S 47.3<br>U 4774 | 3/31/2019* |
| 3366BSM2 | Magnetto | Surface | Reclaimed/Water Treatment[1] | 299.6 | 9/6/2026 |
| 4074SM28 | Garrett | Surface | Reclaimed/ Water Treatment[1] | 377.2 | 9/6/2026 |
| 40A77SM12 | Job 21 Surface | Surface | Reclaimed/Water Treatment[1] | 1,128.00 | 07/19/2025 |
| DM-09-113 | Casselman | Underground | Active | S 35.0<br>U 2940.8 | 9/15/2024 |

Notes: 1. Water treatment refers to perpetual water treatment sites covered under the Consent Order & Agreement (*COA*) dated March 22, 2012, with the Commonwealth of Pennsylvania Department of Environmental Protection.
*Renewal application is pending with DEP.
**Interim permit received and/or initial permit application is pending with DEP.

## 4.5 Liabilities against the Property

The **United States Department of Labor Mine Safety and Health Administration (*MSHA*)** conducts regular inspections of the mines and related facilities. Notices of violations, often accompanied by fines, are issued as a result of the inspections if the inspector determines that regulatory requirements are not fulfilled. It is Corsa's practice to attempt to rectify the violations promptly to secure the termination of the violation. The fines are typically considered to not be material.

Certain environmental liabilities have been created from previous mining operations under the approved permits. An assessment of the reclamation liabilities for the properties is updated on an annual basis. Corsa is aware of the liabilities created under its permits. The timing to satisfy all liabilities under the permits will vary based on the extent to which the permits support current or planned mining operations. As such, these liabilities are expected to be satisfied on an ongoing basis as part of the execution of Corsa's business plan.

Long-term water treatment liabilities exist for 18 of the PBS/Wilson Creek properties. These liabilities are covered under three separate Consent Order & Agreements (*COA*) between PBS/Wilson Creek and the PA DEP. Under these COAs, three trust funds designed to cover operating and capital expenses associated with the treatment of the 18 perpetual water treatment sites were established. The first, dated March 17, 1999, for the Clear Run watershed Permits (#s 56813006, 56840107, 56920112 and 56663112) is currently fully funded. Based on the last PA DEP cost review of March 2, 2022, the Clear Run Trust target ($3.51 million) including the sub-account ($0.77 million) is $5.28 million. The Clear Run Trust account value as of March 31, 2022, was $4.84 million and $2.65 million in bonds are posted for a total of $7.49 million. Clear Run costs were submitted for the April 1, 2021 to March 31, 2022 reporting period of $0.252 million; however, as of the date of this TR Corsa had not received as response from PA DEP.

The second fund, The Global Treatment Trust under the COA dated March 22, 2012, covers 12 properties:

**Table 4-4: Permits Included in Global Treatment Trust**

| Property | Permit # |
|---|---|
| Acosta Mine | 56960107 |
| Cambria Fuels Refuse Area | 56773707 |
| Garrett | 4074AM28 |
| Goodtown Prep Plant | 56841605 |
| Job 21 | 40A77AM12 |
| Job 10 Refuse Area | 56910701 |
| Jolin Strip | no longer exists |
| Magnetto | 3366BSM2 |
| Roberts | 56813104 |
| Job 12 Expansion | 56900701 |
| Cambria Refuse (Job 93) | 56950702 |
| Barbara B | 56851303 |

The Global Trust was established on March 30, 2012, with a $1.0-million payment, and PBS continued to deposit funds into the account each year as required. The 2021 end of year trust target valuation was $16.78 million along with a capital improvement account of $1.58 million. According to the May 31, 2022 letter from PA DEP to Corsa, the value of the trust as of December 31, 2021 was $19.76 million and the capital account was $1.59 million, therefore the trust is currently fully funded.

The third trust, the Trent and Acosta 2 Treatment Trust, established in December 2018, includes two additional surface mines: Trent Mine and Acosta 2 Mine. The permit numbers are #56070103 and #56980103 respectively. At the end of 2021, the current trust target was $3.68 million along with a capital improvement account of $0.19 million. Based on the April 15, 2022 letter from PA DEP to Corsa, the trust value at the end of 2021 was $4.16 million and the capital account was $0.19 million, therefore the trust is currently fully funded.

MM&A visited many of these properties in December 2022 and observed them to be well-maintained.

Reclamation activities at the active operations are an ongoing process completed contemporaneously with production activities in keeping with industry standards and regulations of federal law.

# 5 Accessibility, Climate, Local Resources, Infrastructure and Physiography

## 5.1 Topography, Elevation and Vegetation

The properties are situated within the northern portion of the Appalachian Plateau physiographic province, where terrain is typically characterized by gently undulating hills with narrow to relatively shallow dendritic patterned erosional valleys. Ground surface elevations are typically between 1,400 and 2,000 feet above-mean sea level (*MSL*) along the major drainages to greater than 2,500 feet on the higher hilltop areas. Normal topography relief between areas of higher elevation on the property and the adjacent drainages are 300 to 600 feet. The properties are moderately vegetated, with a mixture of mature hardwood and conifer forest and pastureland typical of rural farmland. The properties are not situated close to any major urban centers.

## 5.2 Access

General access to the properties is via a well-developed network of primary, secondary, and unimproved roads. Primary highways include Interstate 76 (*Pennsylvania Turnpike*) and Interstate 68 in Maryland both of which travel east-west, passing through Somerset County, Pennsylvania and Garrett County, Maryland, respectively. Numerous secondary and unimproved roads maintained by state and local governments provide direct access to the properties, although it is common for municipalities to require a surety bond from mining companies for possible damages incurred during use or to maintain/upgrade roadways for heavy truck usage. These roads are typically open throughout the year.

There are currently railroad service and unit train load-outs at the active Cambria and temporarily idled Shade Creek preparation plants operated by Corsa.

## 5.3 Proximity to Population Center and Transport

The general location of the Pennsylvania properties lies 60 miles southeast of Pittsburgh, near the town of Somerset. The western Maryland property is located near the town of Grantsville in Garrett County approximately 30 miles south of the Pennsylvania properties. As of the 2020 census, the population of Somerset County was approximately 74,129 and Garrett County was 28,806.

Transportation of coal from Corsa's mines and processing facility to market is predominately by rail, which is serviced by CSX (Cambria and Rockwood Preparation Plants) and NS (temporarily idled Shade

Creek Preparation Plant). Coal transportation within the properties and between mine and processing facility is typically performed by third-party trucking contractors.

## 5.4 Climate and Length of Operating Season

The climate in the northern portion of the Appalachian Plateau physiographic province is humid continental, with four distinct seasons: cold winters, warm summers, and moderate fall and spring seasons. Average annual rainfall is approximately 43 inches per year in most of the region, with a greater percentage occurring during winter and spring months. Winters (mid-November to early-March) are typically cold with temperatures generally in the low-10s to lower-30 degrees Fahrenheit. Primary precipitation during winter months is in the form of snow, with the occasional severe snowstorm. Summer (late-May to mid-September) temperatures range from high-40s to lower-80s degrees Fahrenheit.

Seasonal variations in the weather seldom limit the ability to conduct mining operations in Pennsylvania; however, efficiency may be negatively impacted at surface and preparation plant operations.

## 5.5 Surface Rights and Infrastructure

As is common in the mining industry, it is necessary to acquire surface rights to conduct and support surface mining operations. Corsa reports it controls adequate surface rights to sustain current mining operations in the near future, however, typical of mines producing in the northern Appalachian region, additional surface rights will be required to support future mine plans. While these rights cannot be guaranteed, operating companies typically are able to secure those rights under favorable economic terms. For the purposes of this TR, only resources for which Corsa controls both surface and mineral rights have been considered as surface-mineable reserves. Proposed surface mining requiring acquisition of surface rights after the effective date of this report has been excluded from reserve estimates provided herein.

Sources of power, water, supplies, and materials are readily available to the properties. Power service is provided to mines and facilities by regional utility companies *Penelec* (subsidiary of *First Energy*) or *Somerset Rural Electric Cooperative.* Water is supplied to some of the mines and facilities by public water services. Water is also supplied from surface impoundments, or water wells installed and operated by Corsa.

The three Corsa coal preparation plants have permitted areas for disposal of coal refuse.

# 6 History

## 6.1 Prior Ownership

Prior to acquisition by Corsa, extensive surface and underground mining has occurred by previous owners and operators. The extent of previous mining shown in the TR is a result of MM&A's interpretation of information provided by Corsa. MM&A did not perform an independent verification of previous mining, as it was beyond the scope of this report.

The extent of previous mining and its effects on Corsa's ability to exploit the reserves on the Property has been examined carefully. Records of previous mining were provided by Corsa, or in the case of past surface mining, were projected from USGS topographic or flown maps or taken from maps generated by prior owners of the Property. Other sources of previous mining include USGS (1997) and National Agricultural Imagery Program (*NAIP*) aerial photography.

## 6.2 Previous Exploration and Development

The properties have been extensively developed by mining activities for more than 50 years. Drilling has been carried out by numerous entities during that period. A significant amount of exploration was carried out by the previous entities, prior to acquisition by Corsa. Upon acquisition of the property, Corsa obtained copies of drilling records within or adjacent to its mineral leases. Refer to *Item 9* for details of previously completed exploration drilling. All exploration data that has been made available to MM&A has been incorporated into this TR, where appropriate.

Coal mining has occurred within the region for well over 100 years. Rapid growth in the coal industry was led by extensive operations within the large, easily accessible coal deposits throughout the Appalachian coal fields. Over the years, with the depletion of the larger, thicker coal deposits, and the introduction of mechanization, traditional labor was replaced by more economical means of extracting coal. With the introduction of mechanization came the ability to mine thinner seams through both surface and underground mining methods. The development of improved technology and increased demand for high quality coal products has resulted in the feasibility of extracting previously uneconomical and unmineable coal deposits.

Primary seams found on the properties have been extensively mined throughout the history of coal mining in the region. The remaining coal deposits within the properties are typically characterized by thinner coal horizons that were generally passed over in favor of thicker, more easily accessible coal in the past. Mining on the property typically consists of single seam mining by underground methods. In areas lying close to the surface, surface mining methods typically mine multiple seams through area removal, contour mining, and auger mining, which allow for the recovery of thin coal seams, which may or may not exhibit continuity across the entire mining area, and do not exhibit adequate thickness and continuity for mining by underground mining methods.

A summary of historical clean coal production from 2017 through 2022 for the Corsa properties is provided in the table below.

**Table 6-1: Historical Clean Coal Production Summary**

| | Clean Tons | | | | | |
|---|---|---|---|---|---|---|
| | 2017 | 2018 | 2019 | 2020 | 2021 | 2022[1] |
| Casselman | 525,620 | 386,556 | 635,107 | 523,490 | 375,383 | 225,658 |
| Wilson Creek Surface | 32,181 | 20,486 | 131 | 0 | 0 | 7,426 |
| Wilson Creek HWM | 10,095 | 41,751 | 0 | 0 | 0 | 0 |
| PBS Mines[2] | 26,699 | 45,592 | 159,927 | 167,309 | 127,398 | 99,016 |
| Horning | 0 | 32,616 | 181,107 | 160,411 | 190,102 | 89,287 |
| Acosta | 71,273 | 375,379 | 401,848 | 362,347 | 355,935 | 244,813 |
| Quecreek | 167,444 | 133,747 | 0 | 0 | 0 | 0 |
| **Total** | **833,312** | **1,036,127** | **1,378,120** | **1,213,557** | **1,048,818** | **666,200** |

Source: U.S. Mine Safety and Health Administration and Corsa.
Note: 1. 2022 production through 3rd quarter 2022.
2. Combined Schrock Run Extension surface and HWM production.

## 6.3 Historic Resource and Reserve Estimates

MM&A and others have previously performed geologic evaluations of property holdings for Corsa and/or other entities. The following is a list of the previous reports of which MM&A is aware:

> "*Underground Mining Feasibility & Coal Reserve Study, A Seam, 1975*" prepared for Penn Pocahontas Coal Company by John T. Boyd Company.

> "*Reserve Study and Mining Plan, PBS Coals, Inc., 1978*" prepared for major mining company by John T. Boyd Company.

> "*Review of PBS Coals, Inc. as Coal Supplier to Morgantown and/or Chalk Point Generating Stations, 1984 & 1990*" prepared for Potomac Electric Power Company by John T. Boyd Company.

> *"Field Inspection and Determination of Decreased Capacity and Reduced yield at Shade Creek Coal Preparation Plant, 1987" p*repared for Mincorp, Inc. by John T. Boyd Company.

> *"Independent Coal Reserve Estimate, 1990"* prepared for PBS Coals, Inc. & Mincorp, Inc. by John T. Boyd Company.

> "*Preliminary Independent Valuation of PBS Coals, Inc.'s U.S. Coal Holdings, 1990*" prepared for PBS Coals, Inc. & Mincorp, Inc. by John T. Boyd Company.

> "*Preliminary Business Interruption Claim – Diamond T Mine, B Seam, Roxcoal, Inc., 1992*" prepared for GAB Business Services, Inc. by John T. Boyd Company.

> "*Preliminary Claim Review of Roof Fall and Equipment Damage at Roxcoal, Inc.'s Longview Mine, 1995*" prepared for GAB Business Services, Inc. by John T. Boyd Company.

> "*Advisory Services Related to Insurance Claim for Equipment Lost Due to Roof Fall at Diamond B Mine, Roxcoal, Inc., 1996*" prepared for GAB Robins North America, Inc. by John T. Boyd Company.

- "*Insurance Claim Review Related to Underground Inundation of PBS's Quecreek No. 1 Mine from Saxman Mine No. 2 on July 24, 2002*" prepared for GAB Robins North America, Inc. by John T. Boyd Company.
- "*Provide Assistance Regarding Evaluation of Future Mine Plans for PBS Coals, Inc., 2003*" prepared for Brikis Financial Services Co. by John T. Boyd Company.
- *"Review of Insurance Claim Related to Stacking Conveyor Failure at PBS Coals, Inc.'s Shade Creek Preparation Plant, 2003"* prepared for York Claims Service, Inc. by John T. Boyd Company.
- "*Independent Audit of Internally Prepared Coal Reserve Estimates, Coal Holdings of PBS Coals, Inc., 2006"* prepared for PBS Coals, Inc. by John T. Boyd Company.
- "*Independent Technical Report Coal Reserves and Mining Operations PBS Coals, Inc., Somerset County, Pennsylvania, U.S.A., May 2008*" prepared for PBS Coals, Inc. by John T. Boyd Company.
- *"Reserve Evaluation of Mincorp, Inc. Somerset and Indiana Counties, PA";* Prepared for Citicorp Venture Capital, Ltd.; January 1998 by MM&A.
- *"Modified Phase I Environmental Site Assessment of Pennsylvania Subsidiaries of Mincorp, Inc.";* Prepared for Citicorp Venture Capital, Ltd., Bank of Scotland; January 1998 by MM&A.
- *"Reserve Evaluation of PBS Coals for First Reserve Corporation";* Prepared for First Reserve Corporation; April 1997 by MM&A.
- *"Preliminary Comments Coal Preparation Plants – PBS Coals, Inc. Somerset, Pennsylvania";* Prepared for Appalachian Fuels, LLC; June 2001 by MM&A.
- *"Reserve Audit of PBS Coals, Inc.";* Prepared for Appalachian Fuels, LLC; June 2001 by MM&A.
- *"Executive Summary • Modified Phase I Environmental Site Assessment • PBS Coals, Inc. • Somerset County, Pennsylvania"*; Prepared for Appalachian Fuels, LLC; June 2001 by MM&A.
- *"Assessment of Mine Roof Water and Gas Influx, Quecreek No. 1 Mine, Somerset County, Pennsylvania"*; Prepared for PBS Coals, Inc.; February 2005 by MM&A.
- "*Evaluation of Coal Reserves and Resources for Severstal Resources/ PBS Coals, Inc. on Select Properties Located in Pennsylvania and Maryland (USA)";* prepared for Severstal Resources in 2013 by MM&A. This was an evaluation of select properties identified by PBS as having reserve potential but did not include all properties controlled by PBS. This report estimated 58.6 million recoverable tons of demonstrated reserves and an additional 21.9 million tons of resource according to *U.S. Securities and Exchange Commission (SEC) Industry 7* guidelines. The estimate of coal reserves in the current TR differs significantly from the 2013 SEC reserve estimates based on numerous factors including changes in mineral property control, mine plans, and/or results of the economic evaluation completed as part of this TR. August 19, 2014, titled *"Technical Report on the Coal Resource and Coal Reserve Controlled by PBS Coals, Inc. Pennsylvania, USA*" dated October 2014. Cardno MM&A estimated a total of 74.2 million measured and indicated in-situ coal resource tons and 3.1 million

inferred in-situ coal resource tons and 19.9 million moist, recoverable proven and probable coal reserve tons in the 2014 TR.

> "*Wilson Creek Energy, LLC Northern Appalachian Coal Holdings, USA Technical Report on Coal Resources and Coal Reserves*" with an effective date of December 31, 2013, prepared for Corsa by Earthtech. Earthtech estimated a total of 123.3 million measured and indicated in-situ coal resource tons and 0.03 million inferred in-situ coal resource tons and 37.0 million moist, recoverable proven and probable coal reserve tons. In the December 31, 2014, update, Earthtech reported an estimated 73.0 million measured and indicated in-place resource coal tons and 19.0 million recoverable proven and probable reserve coal tons.

> Technical Report on the Coal Resource and Coal Reserve Controlled by Corsa Coal Corp., Pennsylvania and Maryland USA – Prepared in accordance with National Instrument 43-101 Standards for Disclosure for Mineral Projects Effective December 31, 2016, *issued February 2017*. MM&A estimated a total of 168.9 million measured and indicated in-situ coal resource tons and 45.0 million moist, recoverable proven and probable coal reserve tons for the Corsa properties in the 2017 TR.

> Technical Report on the Coal Resource and Coal Reserve Controlled by Corsa Coal Corp., Pennsylvania and Maryland USA – Prepared in accordance with National Instrument 43-101 Standards for Disclosure for Mineral Projects Effective December 31, 2017, *issued February 2018*. MM&A estimated a total of 169.58 million measured and indicated in-situ coal resource tons and 48.1 million moist, recoverable proven and probable coal reserve tons for the Corsa properties in the 2018 TR.

> *'Phase 3 Analysis of Geologic and Related Conditions within the Southern Portion of the A Seam Deep-Mineable Reserve Area; Prepared for Corsa Coal Corporation; July 2017.*

> Technical Report on the Coal Resource and Coal Reserve Controlled by Corsa Coal Corp., Pennsylvania and Maryland USA – Prepared in accordance with National Instrument 43-101 Standards for Disclosure for Mineral Projects Effective December 31, 2018, *issued February 2019*. MM&A estimated a total of 181.5 million measured and indicated in-situ coal resource tons and 47.1 million moist, recoverable proven and probable coal reserve tons for the Corsa properties in the 2019 TR.

> Technical Report on the Coal Resource and Coal Reserve Controlled by Corsa Coal Corp., Pennsylvania and Maryland USA – Prepared in accordance with National Instrument 43-101 Standards for Disclosure for Mineral Projects Effective December 31, 2019, *issued March 2020*. MM&A estimated a total of 180.6 million measured and indicated in-situ coal resource tons and 40.3 million moist, recoverable proven and probable coal reserve tons for the Corsa properties in the 2020 TR.

> Technical Report on the Coal Resource and Coal Reserve Controlled by Corsa Coal Corp., Pennsylvania and Maryland USA – Prepared in accordance with National Instrument 43-101

Standards for Disclosure for Mineral Projects Effective December 31, 2020, *issued February 2021*. MM&A estimated a total of 169.9 million measured and indicated in-situ coal resource tons and 38.98 million moist, recoverable proven and probable coal reserve tons for the Corsa properties in the 2021 TR.

> Technical Report on the Coal Resource and Coal Reserve Controlled by Corsa Coal Corp., Pennsylvania and Maryland USA – Prepared in accordance with National Instrument 43-101 Standards for Disclosure for Mineral Projects Effective December 31, 2021, issued February 2022. MM&A estimated a total of 175.5 million measured and indicated in-situ coal resource tons and 39.2 million moist, recoverable proven and probable coal reserve tons for the Corsa properties in the 2022 TR.

# 7 Geological Setting and Mineralization

## 7.1 Regional Geology

The coal deposits in the eastern USA are the oldest and most extensively developed coal deposits in the country. The coal-bearing formations on the properties are Carboniferous in age, being in the Pennsylvanian system, which includes the Monongahela, Conemaugh, Alleghany, and Upper Pottsville groups. These coal-bearing formations contain two-fifths of the nation's bituminous coal deposits, extend over 900 miles from northern Alabama to Pennsylvania, and are part of what is known as the Appalachian Basin. The Appalachian Basin is more than 250 miles wide and, in some portions, contains over 60 coal seams of varying economic significance. Seams are typically between 1 foot and 6 feet in thickness, with relatively little structural deformation. Coal in the region is classified as high- to low-volatile bituminous with rank increasing to the east. Coals are typically characterized as low to medium sulfur and high heat content.

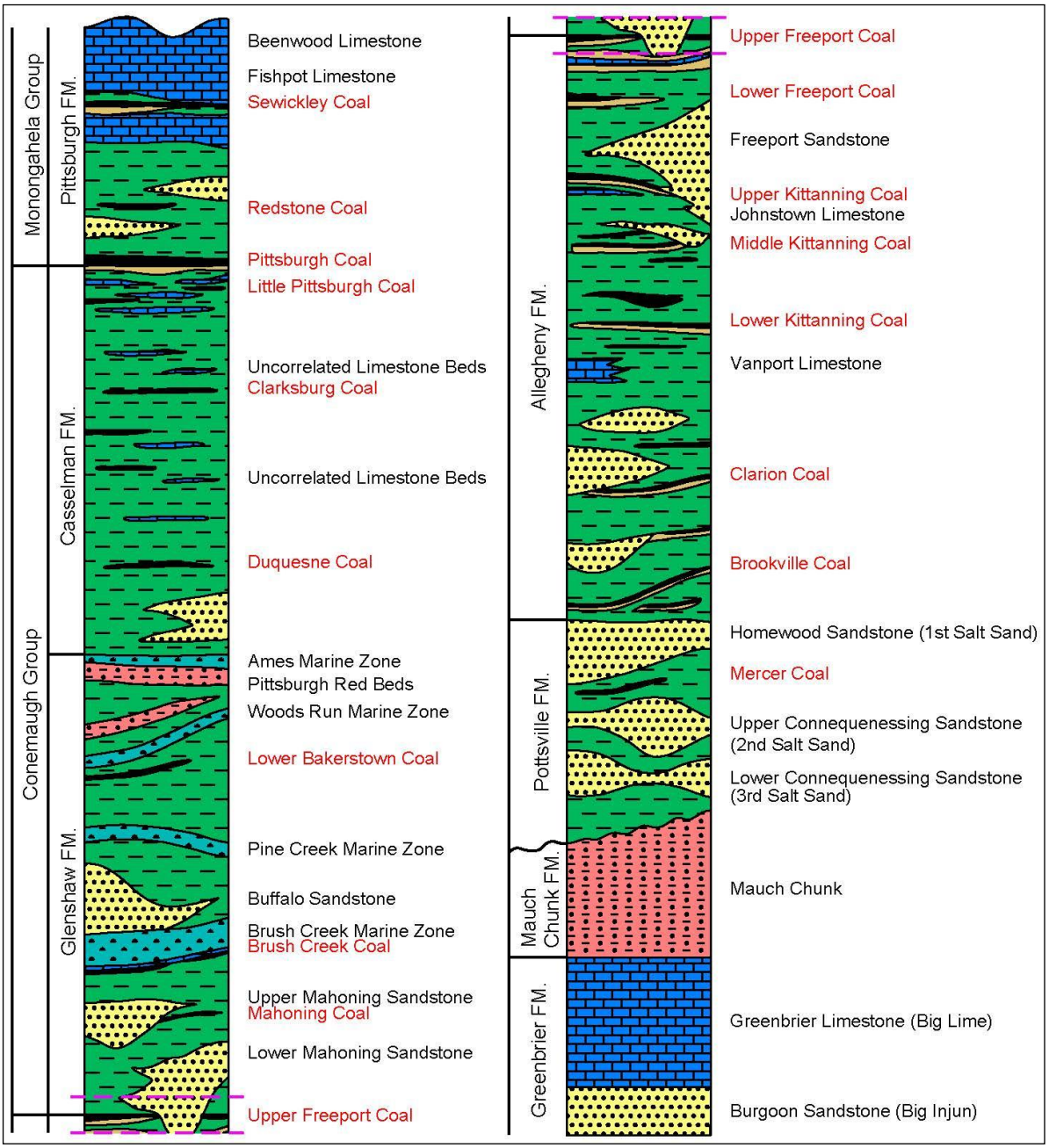
Seams in which reserves and/or resources are reported by Corsa include the following (in descending stratigraphic order). Within each seam, there may be multiple benches consisting of riders (overlying the main seam), leaders (underlying the main seam), and splits (where main seam separates into two or more benches).

**Table 7-1: Coal Seams in which Corsa Reserves/Resources Are Located**

| Seam | Alternate Name 1 | Alternate Name 2 |
|---|---|---|
| Sewickley | | |
| Redstone | | |
| Upper Freeport | E | Kelly |
| Lower Freeport | D | |
| Upper Kittanning | C' | |
| Middle Kittanning | C | |
| Lower Kittanning | B | |
| Brookville | A | Gordon |

As illustrated on *Figure 7-1, Generalized Stratigraphic Column* below, Corsa reserves and resources are found primarily within four Pennsylvanian-age coal-bearing formations: Pittsburgh, Glenshaw, Allegheny, and Pottsville. Generalized lithologic composition of each formation in which the major coal beds are enclosed is shown on this figure including claystone, shale, sandy shale, sandstone, limestone, and various marine zones. The majority of Corsa reserves occur within the Allegheny formation.

**Figure 7-1: Generalized Stratigraphic Column for the Northern Appalachian Basin (not to scale)**



## 7.2 Stratigraphy

### 7.2.1 Monongahela Group

The Monongahela Group is named after the Monongahela River in West Virginia and southwestern Pennsylvania. The formations in this group are Pittsburgh and Uniontown, of which the majority of coal-bearing unit strata are located in the Pittsburgh formation. The formations are comprised of sequences of limestone, calcareous mudstone, shale, siltstone, and coal. The only significant sandstone occurrence lies directly above the Pittsburgh coal seam. The formations extend from the top of the Conemaugh Group, or base of the Pittsburgh coal seam, upward to the top of the Waynesburg coal seam and include the Sewickley, Redstone, and Pittsburgh coal seams, which are of economic importance on the properties.

### 7.2.2 Conemaugh Group

The Conemaugh Group is named after Conemaugh River in western Pennsylvania and includes the Glenshaw and Casselman formations. These formations are comprised of sequences of limestone, mudstone, shale, siltstone, sandstone, and coal. The formations extend from the Mahoning Limestone near the base of the Glenshaw Formation to the Pittsburgh Limestone, occurring at the top of the Casselman Formation and base of the Monongahela Group. The Bakerstown coal seam lies within the Glenshaw Formation.

### 7.2.3 Allegheny Group

The Allegheny Group is named after the Allegheny River in Pennsylvania and contains the majority of economically mineable coal in Pennsylvania. The formations in this group are comprised of l sequences of sandstone, siltstone, shale, thin limestone, clay, and coal. The Allegheny Formation includes the following coal seams of economic importance in stratigraphically descending order: Upper Freeport, Lower Freeport, Upper Kittanning, Middle Kittanning, Lower Kittanning, and Brookville.

### 7.2.4 Pottsville Group

The Pottsville Group is named after the locality of which it was first described near Pottsville, Pennsylvania and contains major coal-bearing formations from Pennsylvania to Alabama. The Pottsville Group contains the majority of economically mineable coal within the Appalachian Basin outside of Pennsylvania and includes more than 10 formations, depending on the state in which it occurs. The formations are comprised of sequences of sandstone, siltstone, clay, and coal.

### 7.2.5 Structure

The counties in which the properties are located are situated along the eastern edge of the Alleghany Plateau, bordering the Alleghany Front, the major southeast facing escarpment of the Alleghany Mountains. Regional structure is typically characterized as gently dipping from a series of north-northeast trending folds (anticlinal and synclinal) including the Youghiogheny, New

Lexington/Johnstown, Somerset, Berlin, and Wellersburg synclines and Laurel Hill, Centerville Dome, Boswell Dome, and Negro Mountain anticlines. Within the major structural trends, there are typically minor undulations and local flexures. No major structural faults or tectonic features are known to occur on the properties.

### 7.2.6 Geology of the Properties

The geology of the properties is consistent with regional structural trends. In Maryland, the local Casselman synclinal fold is evident in the Casselman mine. Coal seams of economic importance on the properties typically range from 1 foot to 6 feet in thickness and are primarily low-volatile in rank. There are 11 coal seams on the properties that demonstrate reserve or resource potential including (not all of which are included within this report), in descending stratigraphic order: Sewickley, Redstone, Pittsburgh, Bakerstown, Upper Freeport, Lower Freeport, Upper Kittanning, Middle Kittanning, Lower Kittanning, Brookville, and Mercer (see *Table 7-1* for list of coal seams and alternate names).

### 7.2.7 Mineralization

Mineable coal seams within the properties are typically low-ash, low to high-sulfur, and high-thermal content bituminous coals. Regionally, the coals are typically low-volatile in rank, with rank increasing from west to east. The maximum seam thickness may reach over 6.0 feet where multiple coal benches occur in proximity to one another; however, the average mineable thickness of the seams in this evaluation generally ranges from 1 foot to 4 feet. Seams are generally continuous but may be locally absent. Secondary discontinuity due to erosional features is present in most areas, resulting in seam outcropping, or visible exposure of the seam at the surface. Other than oxidation of the coal exposed at the surface, erosion of the seams has no significant impact on the mineralized deposits. Mineable seams associated with the properties are generally outcrop-accessible. Coal seams are characterized by both single-bench and multiple-bench coal horizons with parting (non-coal) material varying by seam and area. Seam parting is common within the coal seams on the properties with intra-seam parting material increasing drastically in some areas. Roof strata are typically shale or sandy shale with zones of sandstone roof being common. Floor strata are typically sandstone, shale, sandy shale, fireclay, or in the case of the Upper Kittanning, limestone. The general stratigraphic relationship of each of the coal horizons is shown on the generalized stratigraphic section (see *Figure 7-1*).

Limestone beds occur within the various stratigraphic groups of the region. Some of these limestone beds are extracted in conjunction with surface mining of the Sewickley coal in particular.

## 7.3 Coal Seams of Interest

### 7.3.1 Surface-mineable Seams

There are seven primary coal seams (and associated splits) identified on the properties exhibiting surface-mineable potential. Surface-mineable coal seams are contained within the upper and middle portions of the stratigraphic section and include coal seams from the Sewickley through the Lower

Kittanning coal seam. There are 10 areas within the properties where coal seams exhibit surface-mineable potential including: Bassett, Blue Lick 4, Byers, GAZ, Hart, Rhoads II, Schrock Run/Schrock Run Extension, Hamer, Will Farm and Shaffer. Hamer and Byers are directly adjacent to each other and are therefore reported together herein as Hamer-Byers.

### 7.3.2 Underground-mineable Seams

There are six coal seams identified on the properties exhibiting underground-mineable potential. These coal seams are contained within the middle to lower portions of the stratigraphic section and include the Upper Freeport his, Lower Freeport (D), Upper Kittanning (C'), Middle Kittanning (C), Lower Kittanning (B), and Brookville (A) coal seams.

# 8 Deposit Types

The coal reserves reported herein are bituminous coals. The primary coal-bearing formations on the properties are Carboniferous in age, being in the Pennsylvanian system, which includes the Monongahela, Conemaugh, Allegheny, and Pottsville groups. The average mineable seam thickness for coal horizons in these formations ranges from 1 foot to over 6 feet. The coal seams are generally continuous and non-complex but may vary in thickness and may also be locally absent. Seams retain normal stratigraphic sequence throughout the properties and no evidence has been observed that seams have been modified from pre-deformational thicknesses.

MM&A reviewed the criteria for classification of coal deposits by geology type and the complexity of seam geometry within deposits, as outlined in Paper 88-21 of the **Geological Survey of Canada (*GSC*)** titled *A Standardized Coal Resource/Reserve Reporting System for Canada.* Primary categories are **low, moderate, complex** and **severe**. The low category is subdivided into three subdivisions, Type A, Type B and Type C, in ascending order of complexity. MM&A concluded that the coal and limestone deposits should be classified as Low – Type C because:

> The deposits are relatively unaffected by tectonic deformation;

> The deposits are near flat-lying to gentle dipping (typically less than 5 degrees);

> The deposits are generally not faulted, although small-displacement normal faults and compaction related faults may occur;

> The deposits are rarely greater than 6 feet thick;

> The deposits are characterized by seam splitting and lateral variation in thickness;

> Deposits are rarely modified from their pre-deformational thickness; and

> The deposits retain normal stratigraphic sequence.

# 9 Exploration

The properties have been extensively explored through exploratory drilling by Corsa and predecessors. Records from exploration drilling comprise the primary data used in the evaluation of resources on the properties. Drill records, in most cases, have been compiled by Corsa into geologic databases which include drill hole location, coal thickness, and detailed lithologic data (thickness, description, and elevation). Details such as drill dates, drilling company, and other header information are generally excluded from the database but are contained on hard or digital copies of drill logs in Corsa's records. Additional supplemental exploration data is available on the properties in the form of coal outcrop or surface exposure measurements, or in-mine measurements from ongoing or previous underground mining. This data is utilized to a lesser extent but is incorporated into the geologic database in the absence of drill data or to aid in delineation of geologic conditions not evident from exploration drilling.

The extent of exploration varies by property and is largely dependent on the intended development and geologic conformity. Exploration is typically extensive for areas of proposed surface and/or underground mining (which total approximately 36,500 acres), unless adverse mining or geologic conditions are encountered or expected; at which time additional, and often more closely-spaced drilling will then be carried out to identify such conditions. Drilling on the properties is generally sufficient for delineation and estimation of surface and underground mineable reserves such as those on the property, which are of low geologic complexity. However, a lack of geotechnical exploration data limits the ability to map future underground mineable conditions, specifically related to the roof and floor rock. Existing data is typically in the form of simplified drillers' logs that are general in nature and do not describe with sufficient detail, the roof and floor rock of each coal seam. The provided data typically consists of coal thickness and seam interval information and does not contain detailed lithologic or geotechnical descriptions. Thus, definitive strata mapping for the prediction of future roof and floor mining conditions is not possible.

A total of more than 3,000 individual exploration data points, including drill holes, in-mine measurements, pit measurements, and outcrop measurements were incorporated into the digital geologic database, and were used for modeling the geology of the properties. This data is used to delineate the resources on the property and to determine geologic reliability of coal resource and coal reserve estimates. The drill hole data density is sufficient to adequately support the geological trends and projected reserves on the properties. *Maps 2 through 17* show the location of the drill holes on the properties that have been used for this TR. MM&A has reviewed all new exploration data provided by Corsa for this report and checked it against previously completed MM&A work for consistency.

In 2022 Corsa drilled two holes at Casselman, six holes at Horning, two holes at Acosta and two at Blue Lick. MM&A reviewed and verified the new exploration data through the generation of stratigraphic columnar sections using cross-sectional analysis to confirm coal seam correlations. After

establishing or verifying seam correlations from drill records, coal seams were identified in the geologic database. During the investigation, some seam data from a few holes were deemed to be questionable (e.g., unlikely or uncharacteristic elevations, thicknesses or intervals) and were not honored for the purposes of geologic mapping. The locations of drill holes and outcrop measurements have not been independently verified by MM&A.

Data verification and statements regarding the reliability of the data MM&A are included in *Item 12.*

# 10 Drilling

The properties have been extensively explored, primarily through continuous (diamond) core and air-rotary drilling methods, which are standard industry practice. Drilling is conducted by Corsa on an on-going basis, and performed by a third-party contractor, to identify and delineate coal reserves, identify mine and geologic conditions in advance of mining, and collect core for quality sampling and analysis. Drilling on the properties typically requires drilling to depths typically within the range of 50 feet to 1,000 feet depending on the target coal seam(s). In the past, Corsa typically employed air-rotary (6-inch diameter) methods instead of core drilling due to lower cost and shorter drilling duration. Air-rotary drilling provides general geologic information such as depth and approximate thickness but does not provide details of coal seam or strata unless used in conjunction with “spot coring” and/or downhole geophysical logging. Spot coring utilizes the advantages of the air-rotary method to drill to within proximity of the coal seam, then employs coring for an interval that typically includes the coal seam and immediate roof and floor. The air-rotary method is typically used to economically explore for coal seams in areas of sparse data to identify target coal seams for “twin” drilling of an offset continuous core or spot core drill hole to obtain detailed geologic data and/or obtain core samples for analysis. The air-rotary method is also used to obtain general geologic data between existing exploration drill holes where only general geologic data is needed to confirm the presence of coal seams or to locate coal seam subcrop for surface mineable areas. Air-rotary drilling alone does not provide sufficient geologic data alone to allow for classification of reserves but is a useful method of economical exploration.

Corsa utilizes continuous core drilling to a lesser extent, typically employing when greater geologic detail is needed or for recovery of core for sampling and analysis. Core drilling provides continuous recovery of typically NX-size (2.16 inch or 5.4 centimeter) core. Recovery of core, specifically coal core, is supervised by a geologist or representative of Corsa prior to delivery to a certified laboratory for sampling for analysis. Core recovery for coal seams on the properties is reported by Corsa to generally be greater than 90 percent, however the coal seams are typically soft in nature and core recoveries of less than 90 percent are not uncommon. To ensure adequate recovery of core prior to sampling and analysis, downhole geophysical logging is performed, typically consisting of natural gamma and density logs, and allowing for differentiation of lithology and determination of thickness. Although utilized in

recent exploration efforts, downhole geophysical logging has been performed on relatively few of the total holes drilled on the properties.

Although MM&A has not had direct involvement with implementing and supervising the drilling on the properties, drilling information has been reviewed in detail and deemed reliable and sufficient for delineation and estimation of resources and reserves. Drill records were provided by Corsa in digital format in the form of electronic databases, driller logs, and geophysical logs. Additional data was obtained from previous geologic evaluations conducted by MM&A and others on the properties.

The strata encountered during drilling are generally horizontal to gently dipping and therefore considered perpendicular to drilling. As such, thicknesses recorded on drill hole records represent the true thickness and do not demonstrate vertical exaggeration.

# 11 Sample Preparation, Analyses, and Security

## 11.1 Sample Preparation Methods

Application tests are laboratory procedures that measure some characteristics of coal that has been empirically related to some application or handling or processing step. Typically, these procedures attempt to duplicate some aspects of the commercial application at laboratory scale and may produce information in the form of an index. Application procedures do not measure a single component of the coal but infer the combined effect of multiple components.

The **ASTM International** (*ASTM*) publishes the most inclusive reference to analytical procedures. This publication, which is revised annually, provides extensive information concerning generally accepted methods of laboratory analysis. ASTM also provides standards for sampling and some information concerning sample handling.

Ultimate analysis is a process typically used which gives the composition of coal in terms of carbon, hydrogen, nitrogen, oxygen, ash, and sulfur without regard to origin. The ash determination can be found by ASTM D-3174. Sulfur is determined either by wet chemistry methods (ASTM D-3177) or by measuring the sulfur content of the gas released through high-temperature combustion of the coal sample (ASTM D-4239). Carbon and hydrogen are also determined through a combustion process (ASTM D-3178) and nitrogen by a wet chemistry method (D-3179). Oxygen is not determined directly. The sum of the carbon, hydrogen, nitrogen, sulfur, and ash are subtracted from 100 percent to calculate oxygen percent (ASTM D-3176).

Heating value or calorific value is a measure of the heat produced from a unit weight of coal. In the United States, it is commonly expressed in British thermal units per pound (*Btu/lb.*). Other units are

kilocalories per kilogram (*Kcal/kg*) and kilojoules per gram (*KJ/g*). Heating value is generally determined by burning a weighed coal sample, in oxygen, in a calorimeter.

The ASTM method used by the laboratories to determine calorific value (in Btu/lb.), was D-5865. These labs determined sulfur content with ASTM Method D-4239, Method B. Ash content was calculated from ASTM method D-3174.

The extent of sampling for geological data is generally sufficient to define characteristics of the mineable coal horizons based on the QP's examination of the data. The sampling of quality data from drill holes is less than the total drill holes; however, available data appears to be representative of the coal seams based on historical knowledge and regional trends.

## 11.2 Integrity of Sampling Process

Corsa previously maintained an in-house laboratory staffed by experienced laboratory personnel, which conducted coal analysis using ASTM testing procedures (except for minimum sample sizes too small to meet ASTM weight specifications). The laboratory performed proximate, screen sizing, washability, and other basic coal analyses. Procedures such as sulfur forms, ultimate analysis, ash fusion and mineral, trace element, and metallurgical analyses were outsourced to independent commercial laboratories including: *Geochemical Testing* in Somerset, Pennsylvania; *Summit Technical Laboratories* in Meyersdale, Pennsylvania; *CoalTech Petrographic Associates, Inc*. in Murrysville, Pennsylvania; and *Clark Coal and Coke Laboratory*, Jefferson Hills, Pennsylvania; *Geochemical Testing* is currently the primary laboratory for conducting analytical testing for Corsa. All independent commercial laboratories utilized by Corsa strictly conform and adhere to ASTM and ISO practices and procedures. These laboratories have varied accreditations and certifications, and all routinely submit to audits of their laboratory quality control/quality assurance systems. The commercial laboratory used most often by Corsa is *Geochemical Testing*. *Geochemical Testing* holds accreditation under the **NELAC Institute (*TNI*)** 2009 standard. The purpose of the National Environmental Laboratory Accreditation Program (*NELAP*) is to establish and implement a program for the accreditation of environmental laboratories. The TNI standard for laboratories is modeled after ISO/IEC 17025 "2005 "*General Requirements for the Competence of Testing and Calibration Laboratories*." The Laboratory Accreditation Program of Pennsylvania DEP has accredited Geochemical Testing (Pennsylvania DEP Lab # 56-00306) for coal testing methods in the Solid and Chemical Materials (*SCM*) category.

Independent laboratories contracted for outsourced analyses are privately-owned companies that are paid a fee for analytical work performed and to MM&A's knowledge hold no equity or material interest in any of its client's operations or businesses.

## 11.3 Security Methods

For coal exploration practice in the United States, it is unusual to employ security methods (other than those described in the chain-of-custody procedures) for the shipping and storage of samples, because

coal is a low value bulk commodity and good security conditions prevail domestically. MM&A is aware Corsa's procedures for handling and shipping coal samples and for sample security was essentially the same as that of other operators in the region. Since only a minority of the drill holes have coal seam thickness verification by downhole geophysical logging, most of the available sample analyses do not have qualitative assurance of complete and representative coal core sample recovery. However, efforts have been made by both mining company and MM&A geologists to disqualify coal samples which clearly have material core loss problems. While many of the samples do not meet current best practice standards for recovery assurance, the lab data verification procedures and sample preparation methods (as described above) do meet typical industry standards. It is the QPs opinion that the sample preparation, security measures, and analytical procedures, as reported to Corsa by the laboratories, are adequate.

The following procedures summarize the major aspects of chain of custody.

> Sample Labels – include the following information: a unique sample number, sample type, name of collector, date and time of collection, place of collection, and sample preservative.

> Sample Seals – to detect unauthorized tampering with samples up to the time of analysis.

> Field Logbook or Approved Electronic Data Collector – to record all information pertinent to a field survey.

> Chain of Custody Record – including the sample number, name of collector, date and time of collection, signatures of persons involved in the chain of possession, and inclusive dates and times of possession.

> Sample analysis request sheet – including pertinent information from driller's logbook, and information completed by company engineer or technician regarding sample number, date of receipt and condition of sample.

> Delivery to the laboratory – as soon as practicable after collection, typically within one week.

> Receipt and logging of sample – general core description is completed by the driller (contractor). Detailed core description is performed by Corsa. Geophysical logging is performed by a contractor.

> Assignment of sample for analysis – sample is delivered to laboratory by Corsa.

> Disposal, after the data has been reviewed and accepted, in accordance with local, state and U.S. EPA-approved standards.

It is MM&A's opinion that there are no known factors that may materially impact the accuracy or reliability of the results of the samples.

# 12 Data Verification

MM&A has relied upon geologic information and mapping provided by Corsa and examined carefully prior to use in this TR. Any data deemed anomalous or unreliable has been excluded from this TR.

MM&A reviewed and verified drill hole exploration data through the generation of stratigraphic columnar sections for cross-sectional analysis to identify and confirm coal seam correlations. After establishing that stratigraphic correlations were consistent, coal seams were identified in the geologic database, which was used to generate individual coal seam thickness and elevation data maps. During the investigation, some of the data from a relatively small number of holes were deemed to be questionable (e.g., unlikely or uncharacteristic elevations, thicknesses or intervals) and were not honored for the purposes of geologic mapping.

For the coal and limestone resource estimates in this TR, MM&A conducted a detailed independent geological evaluation. This included: the review of exploration drill holes and detailed seam correlation; the coordination, assembly and analysis of data into a digital resource database; and mapping and estimation of coal resources and coal reserves and associated coal quality. Furthermore, an independent evaluation consists of delineating and/or verifying seam thickness trends, defining intra-seam splitting, characterizing seam quality, estimating projected surface mining ratios and overburden volumes. Coal quality analyses were performed to ASTM standards by a qualified laboratory as described in *Item 11*. The exploration data evaluated and processed in preparation of this TR are considered adequate for estimation of coal resources and provide reliable and reasonable prospects for development and extraction of such coal resources.

MM&A did not conduct an independent verification of property-control surveys or other property-control instruments but relied upon representations supplied by Corsa. MM&A has not independently surveyed the mining locations but has relied on information compiled from maps prepared by current or previous owners and does not warrant or otherwise certify the location of such mining or associated features, nor have the location of data points been independently verified. Most of the mining activity represented on the maps occurred in the past and the mines are now abandoned, sealed, and are inaccessible. Final maps prepared by previous mine operators are filed with state and federal agencies. Overall, the available data, used for reporting the mineral resource and mineral reserve, was sufficient for the low geologic complexity deposit.

# 13 Mineral Processing and Metallurgical Testing

Coal seam quality data, available from exploration drill holes, have been used in the determination and summary of coal quality. Drill hole quality data was tabulated on a seam-by-seam basis for individual

resource and reserve areas on computer spreadsheets (using *Microsoft Excel* software) to allow for computation of basic statistical analyses (average, maximum, minimum) of the data sets. Raw coal quality for each resource area is shown in *Table 13-1*, while saleable coal quality for each reserve area is shown in *Table 13-2.* The arithmetic average of the coal quality data by area was applied to the mine plans and production forecasts and used to represent the coal quality of the reserve areas in *Table 13-2*. Where laboratory test results or sample intervals were judged to be anomalous and unrepresentative of the seam quality within the reserve area (based on other compelling data), the anomalous data were not used in computation of the area averages. Testing services used by Corsa for recent coal sample analysis are mentioned in *Item 11.1.*

Drill hole seam quality data was adequate to provide reasonable confidence about seam characteristics in most areas. Due to variability in the statistical validity of coal quality averages from one reserve area to another, the number of samples available to represent the coal reserve is shown on detailed quality spreadsheets (see *Appendix 4*). Petrographic analyses for the various Corsa properties are also included in *Appendix 4*. In locations where only limited data is available to represent coal quality, additional sampling, and laboratory testing is recommended to confirm yield and quality projections.

Readers should recognize limitations to the use of the average coal quality estimations presented herein. Drill hole data for average quality characterization is limited to a relatively small percentage of the total number of holes. However, due to the extensive history of successful mining within seams discussed in this TR, the overall quality used for the sales price forecasting can be considered as reasonably assured.

*Table 13-1* below summarizes the raw in-seam coal quality for each resource area included in this TR.

**Table 13-1: Summary of Raw, In-seam Quality by Seam by Property**

| Area | Seam | Raw Quality, Dry Basis | | | | |
|---|---|---|---|---|---|---|
| | | Ash% | Sulfur% | Btu/lb. | Vol. | No. of Samples* |
| **Surface-Mineable** | | | | | | |
| Gaz | Upper Kittanning | 21.8 | 2.3 | 11,380 | 20.2 | 8 |
| Rhoads | Upper Kittanning | 10.6 | 0.6 | 12,950 | 20.4 | 3 / 3 /2 /3 |
| Rhoads | Middle Kittanning | 23.3 | 2.8 | 11,670 | 15.6 | 11 / 11 / 9 / 8 |
| Rhoads | Lower Kittanning | 19.0 | 3.5 | 12,490 | 16.5 | 2 |
| Schrock Run | Lower Freeport | 9.0 | 0.7 | 13,970 | 17.7 | 4 |
| Schrock Run | Upper Kittanning | 14.1 | 2.4 | 13,260 | 18.1 | 13 |
| Shaffer | Lower Freeport | 10.1 | 1.1 | 14,060 | 18.7 | 5 |
| Hamer-Byers | Upper Freeport | 23.6 | 1.6 | - | 19.1 | 2 / 2 / 0 /2 |
| Blue Lick | Sewickley | 16.6 | 1.5 | 12,810 | 0.0 | 5 |
| Blue Lick | Redstone | 17.8 | 2.6 | 12,650 | 0.0 | 9 |
| Hart | Upper Kittanning | 24.8 | 1.9 | 11,200 | 0.0 | 68 / 68 / 1 / 0 |
| Bassett | Upper Freeport | 26.4 | 4.7 | 11,100 | 15.8 | 5 |
| Acosta #4 | Upper Kittanning | 41.8 | 0.4 | 6,420 | 23.5 | 1/1/1/1 |
| Acosta #4 | Middle Kittanning | 23.5 | 4.4 | 12,190 | 16.0 | 4/4/2/4 |
| Will Farm | Lower Kittanning | 20.2 | 2.8 | 12,200 | 16.5 | 4 |
| **Total Composite** | | **19.2** | **2.2** | **12,240** | **18.0** | |

| Area | Seam | Raw Quality, Dry Basis | | | | |
|---|---|---|---|---|---|---|
| | | Ash% | Sulfur% | Btu/lb. | Vol. | No. of Samples* |
| **Auger Mineable** | | | | | | |
| Gaz | Upper Kittanning | 21.8 | 2.3 | 11,380 | 20.2 | 8 |
| Rhoads | Upper Kittanning | 10.6 | 0.6 | 12,950 | 20.4 | 3 / 3 /2 /3 |
| Rhoads | Middle Kittanning | 23.3 | 2.8 | 11,670 | 15.6 | 11 / 11 / 9 / 8 |
| Rhoads | Lower Kittanning | 19.0 | 3.5 | 12,490 | 16.5 | 2 |
| Hamer-Byers | Upper Freeport | 23.6 | 1.6 | - | 19.1 | 2 / 2 / 0 /2 |
| **Total Composite** | | **20.3** | **2.4** | **12,010** | **17.9** | |
| **Highwall-Mineable** | | | | | | |
| Schrock Run | Upper Kittanning | 14.1 | 2.4 | 13,260 | 18.1 | 13 |
| **Total Composite** | | **14.1** | **2.4** | **13,260** | **18.1** | |
| **Underground-Mineable** | | | | | | |
| Casselman (South) | Upper Freeport | 16.8 | 1.7 | 14,040 | 19.9 | 8 / 36 / 29 / 36 |
| Casselman (North) | Upper Freeport | 18.4 | 1.8 | - | 0.0 | 9 / 9 / 0 / 0 |
| Acosta | Upper Kittanning | 18.9 | 2.7 | 12,580 | 19.1 | 21 / 14 / 14 / 13 |
| Acosta | Middle Kittanning | 26.6 | 3.4 | 11,270 | 26.9 | 15 / 11 / 11 / 9 |
| Acosta | Lower Kittanning | 32.6 | 2.8 | 9,610 | 15.2 | 14 / 12 / 11 / 10 |
| Horning | Upper Freeport | 22.1 | 2.5 | 12,040 | 16.5 | 14/14/12/14 |
| Horning | Lower Freeport | 11.4 | 2.3 | 14,020 | 17.2 | 15/15/10/10 |
| A Seam | Brookville | 31.5 | 1.2 | 10,170 | 16.7 | 33 / 33 / 33 / 32 |
| Keyser | Lower Kittanning | 20.0 | 3.6 | 11,660 | 18.5 | 14 / 14 / 10 / 14 |
| Agustus | Upper Kittanning | 20.0 | 3.6 | 12,280 | 16.4 | 2 |
| Agustus | Lower Kittanning | 21.6 | 2.3 | 12,600 | 18.9 | 4 / 4 / 3 / 3 |
| Agustus | Lower Freeport | 22.0 | 3.4 | 11,900 | 16.9 | 13 |
| Mega | Lower Kittanning | 32.0 | 2.5 | 10,050 | 14.8 | 9 |
| **Total Composite** | | **23.8** | **2.6** | **11,460** | **18.4** | |
| **Total** | | | | | | |
| Surface Mineable | | 19.2 | 2.2 | 12,240 | 18.0 | 0 |
| Auger Mineable | | 20.3 | 2.4 | 12,010 | 17.9 | 0 |
| Highwall Mineable | | 14.1 | 2.4 | 13,260 | 18.1 | 0 |
| Underground Mineable | | 23.8 | 2.6 | 11,460 | 18.4 | 0 |
| **Total Composite** | | **23.7** | **2.6** | **11,480** | **18.4** | |

*No. of samples = if single digit, then all 4 columns are same; otherwise corresponds to column.
All seam quality reported is based on arithmetic averages. Composites are based on tons and are therefore weighted.

*No. of samples = if single digit, then all 4 columns are same; otherwise corresponds to column.
All seam quality reported is based on arithmetic averages. Composites are based on tons and are therefore weighted.

*Table 13-2* below summarizes the washed in-seam coal quality for each reserve area included in this TR. *Table 13-3* summarizes the reserves and anticipated product quality by mine.

**Table 13-2: Summary of Coal Reserve Quality by Seam by Property – Proximate Analysis**

| Reserve Area | Seam | Weighted Composite (Moist Basis) | | | | |
|---|---|---|---|---|---|---|
| | | Recovery% | Ash% | Sulfur% | Btu | VM |
| **Surface-Mineable** | | | | | | |
| Rhoads | Upper Kittanning | 94.4 | 8.0 | 0.5 | 12,400 | 18.7 |
| Rhoads | Middle Kittanning | 74.8 | 13.8 | 1.6 | 12,200 | 15.4 |
| Rhoads | Lower Kittanning | 81.7 | 11.2 | 2.1 | 12,700 | 15.9 |
| Schrock Run | Lower Freeport | 95.7 | 6.6 | 0.7 | 13,300 | 16.6 |
| Schrock Run | Upper Kittanning | 90.9 | 9.9 | 1.5 | 12,900 | 17.2 |
| Shaffer | Lower Freeport | 95.6 | 7.2 | 0.8 | 13,400 | 17.7 |
| Hamer-Byers | Upper Freeport | 83.2 | 13.0 | 1.1 | - | 19.4 |
| Hart | Upper Kittanning | 77.2 | 14.9 | 1.2 | 12,300 | 0.0 |
| **Total** | | **88.0** | **10.3** | **1.1** | **12,800** | **17.3** |

| Reserve Area | Seam | Weighted Composite (Moist Basis) | | | | |
|---|---|---|---|---|---|---|
| | | Recovery% | Ash% | Sulfur% | Btu | VM |
| **Auger-mineable** | | | | | | |
| Rhoads | Upper Kittanning | 94.4 | 8.0 | 0.5 | 12,400 | 18.7 |
| Rhoads | Middle Kittanning | 74.8 | 13.8 | 1.6 | 12,200 | 15.4 |
| Rhoads | Lower Kittanning | 81.7 | 11.2 | 2.1 | 12,700 | 15.9 |
| Hamer-Byers | Upper Freeport | 83.2 | 13.0 | 1.1 | 0 | 19.4 |
| **Total** | | **82.1** | **11.8** | **1.5** | **12,400** | **16.8** |
| **Highwall Miner** | | | | | | |
| Schrock Run | Upper Kittanning | 90.9 | 9.9 | 1.5 | 12,900 | 17.2 |
| **Total** | | **90.9** | **9.9** | **1.5** | **12,900** | **17.2** |
| **Underground-Mineable** | | | | | | |
| Casselman North | Upper Freeport | 80.2 | 8.6 | 1.1 | 0 | 20.5 |
| Casselman South | Upper Freeport | 81.7 | 7.6 | 1.1 | 14,600 | 20.5 |
| Acosta | Upper Kittanning | 78.6 | 9.8 | 1.8 | 14,100 | 21.4 |
| Acosta | Middle Kittanning | 63.2 | 12.3 | 1.3 | 13,700 | 16.8 |
| Acosta | Lower Kittanning | 65.3 | 11.0 | 2.0 | 13,900 | 18.8 |
| Horning | Lower Freeport | 75.0 | 9.8 | 1.3 | 14,100 | 18.1 |
| Keyser | Lower Kittanning | 74.1 | 7.3 | 1.5 | 14,600 | 20.5 |
| A Seam | Brookville | 55.5 | 11.2 | 0.8 | 13,700 | 18.9 |
| **Total** | | **70.0** | **9.8** | **1.4** | **14,100** | **19.6** |
| **Total** | | | | | | |
| Surface Mineable | | 88.0 | 10.3 | 1.1 | 12,800 | 17.3 |
| Auger Mineable | | 82.1 | 11.8 | 1.5 | 12,400 | 16.8 |
| Highwall Mineable | | 90.9 | 9.9 | 1.5 | 12,900 | 17.2 |
| Underground Mineable | | 70.0 | 9.8 | 1.4 | 14,100 | 19.6 |
| **Total** | | **70.5** | **9.8** | **1.4** | **14,100** | **19.6** |

Note: Reserve quality based on production forecast of metallurgical and thermal coal.

**Table 13-3: Summary of Coal Reserve Quality by Mine– Proximate Analysis**

| | Total Demonstrated | | | Weighted Composite (Moist Basis) | | | | |
|---|---|---|---|---|---|---|---|---|
| | Proven | Probable | Total | Recovery | Ash | Sulfur | Btu | VM |
| Rhoads | 271,100 | 0 | 271,100 | 85.0 | 10.6 | 1.3 | 12,500 | 16.9 |
| Schrock Run | 403,200 | 0 | 403,200 | 92.0 | 9.2 | 1.3 | 13,000 | 17.1 |
| Shaffer | 391,600 | 0 | 391,600 | 95.6 | 7.2 | 0.8 | 13,400 | 17.7 |
| Hamer-Byers | 17,700 | 0 | 17,700 | 62.3 | 9.7 | 0.8 | - | 14.5 |
| Hart | 429,300 | 0 | 429,300 | 77.2 | 14.9 | 1.2 | 12,300 | - |
| Casselman (South) | 2,326,000 | 310,300 | 2,636,300 | 81.7 | 8.6 | 1.1 | 14,600 | 20.5 |
| Casselman (North) | 3,356,400 | 1,186,200 | 4,542,600 | 80.2 | 8.6 | 1.1 | - | 20.5 |
| Horning | 1,593,500 | 235,700 | 1,829,200 | 75.0 | 9.8 | 1.3 | 14,100 | 18.1 |
| Acosta | 15,235,100 | 3,748,800 | 18,983,900 | 70.6 | 10.8 | 1.7 | 13,900 | 19.4 |
| Keyser | 4,834,000 | 3,497,400 | 8,331,400 | 74.1 | 7.3 | 1.5 | 14,600 | 20.5 |
| A Seam | 5,589,300 | 810,400 | 6,399,700 | 55.5 | 11.2 | 0.8 | 13,700 | 18.9 |
| **Total** | **34,447,200** | **9,788,800** | **44,236,000** | **70.5** | **9.8** | **1.4** | **14,000** | **19.6** |

Note: Reserve quality based on production forecast of metallurgical and thermal coal. Moist coal quality basis includes 8% moisture. Totals may not add due to rounding.

Estimated wash recoveries shown in *Table 13-2* are based on average in-seam float-sink washability analysis and inclusion of out-of-seam dilution (*OSD*) from mining, based on information provided by Corsa. Float-sink washability analysis parameters are determined by Corsa to simulate preparation plant circuits to estimate post processing quality and meet desired coal quality specifications. The reader is referred to *Table 16-2* for raw production wash recoveries, which account for OSD and losses due to plant processing inefficiencies.

Coal quality and processing parameters have been considered within the economic analysis of the TR. *Item 19* summarizes the economic impact of quality on coal pricing while *Item 22* and *Appendices 2 and 3* include sales price assumptions and quality adjustments used in the economic analysis. While coal quality impacts the coal sales price, coal processing contributes to operating cost. Variances in mining conditions such as seam splitting, which would increase intra-seam parting and reduce in-seam wash recovery, or poor roof and/or floor conditions resulting in higher OSD, could result in lower plant yields and, therefore, higher processing cost.

# 14 Mineral Resource Estimates

## 14.1 Introduction

The coal resource estimates were prepared in accordance with CIMDS (as adopted May 10, 2014). The tonnage estimates provided herein report in-situ resources as measured and indicated, and those resources are reported inclusive of the reported reserve tons, since they include the in-situ tons from which the recoverable coal reserve is derived. Inferred coal resources are also reported. No coal reserve tons have been estimated from inferred coal resources.

As is customary in the USA, the categories for *Measured*, *Indicated*, and *Inferred* coal resources are based on the distances from valid points of measurement as prescribed in *USGS Circular 891*.[3]

The coal resources estimates are presented in *Table 14-2*.

## 14.2 Definitions and Applicable Standards

In accordance with NI 43-101, MM&A has classified the coal as "resource" and "reserve" as defined in CIMDS as adopted in May 2014. In this standard, a **Mineral Resource** is defined as "…a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade or quality that there are reasonable prospects for eventual economic extraction. The location, quantity, grade, continuity and other geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling".

Coal resources are subdivided into classes of *Measured, Indicated*, and *Inferred*, with the level of confidence reducing for each class, respectively. Coal resources are reported as in-situ tonnage and are not adjusted for mining losses or mining recovery.

Coal resources have been estimated and classified as *Measured*, *Indicated*, and *Inferred* following USA guidelines provided for in the *USGS Circular 891*. Measured coal resources are those lying within ¼-

[3] The Mineral Resources are subdivided into classes of: Measured resource, those lying within ¼-mile radius of a valid point of measurement. Indicated Resources are those lying between ¼-mile and ¾-mile of a valid point of measurement. Inferred Resources lie more than a ¾-mile radius from a valid point of measurement, but less than 3 miles from one.

mile radius of a valid point of measurement. Indicated coal resources are those lying between ¼-mile and ¾-mile radius from such an observation point. Inferred coal resources lie more than a ¾-mile radius from a valid point of measurement, but less than 3 miles from one. These classifications connote the degree of resource estimation reliability based on distance from known points of measurements.

As referenced in the CIMDS, coal resources and coal reserves are herein reported inclusively. The tonnage estimates provided herein report in-situ coal resources as measured and indicated, and those coal resources are reported inclusive of the reported reserve tons, since they include the in-situ tons from which the recoverable coal reserve is derived. Inferred coal resources are also reported. No coal reserve tons have been estimated from inferred coal resources. Detailed maps representing the resource areas are not included in this TR but are available upon request from Corsa or MM&A.

## 14.3 Methodology Used to Estimate Coal Resources

After establishing that correlations were consistent or determining that edits to coal seam correlations were needed, coal seams were identified in the geologic database, which was used to generate coal seam data control maps. These maps form the basis for coal seam mapping and coal resource estimations. During the investigation, some of the data from a relatively small number of holes were deemed to be questionable (e.g., unlikely or uncharacteristic elevations, thicknesses or intervals) and were not honored for the purposes of geologic mapping. The locations of drill holes and outcrop measurements have not been independently verified.

A model of the deposit was created to estimate coal resources. Seam grids, including seam thickness, roof and floor grids, plus the topographic surfaces were generated for individual coal seams using Carlson Software® for Mining (*Carlson*). The grids were then used in conjunction with coal resource criteria outlined in *Table 14-1* to delineate resource boundaries used for the generation of coal resource estimates. Base-of-coal-seam structure and topographic surface grids were generated to determine the intersection between projected coal horizons and topography of the properties. Coal seam outcrop boundaries were generated at the intersection points of these grid files, defining the limits of coal deposits limited by dendritic patterned erosional valleys. Once delineated, resource area acreage, average seam thickness and coal tonnages were generated in Carlson and MM&A proprietary software and tabulated in Microsoft® Excel (*Excel*) computer spreadsheets. After processing, an independent estimate of coal resources was prepared using guidelines outlined in CIMDS.

## 14.4 Coal Resource Estimation Criteria

Resource estimation criteria were established to assure that coal resource estimates have been prepared using generally accepted industry methodology to provide reasonable prospects for economic extraction. *Table 14-1* below outlines the criteria used for estimation of coal resources provided herein.

## Table 14-1: Coal Resource Criteria

| | Parameter | Technical Notes |
|---|---|---|
| **• Coal Resource Classification** | | |
| Geologic Reliability | <¼ mile radius | Measured |
| | ¼ to ¾ mile radius | Indicated |
| | >¾ mile radius | Inferred |
| Unit of Measure | Mile, Feet | USA customary unit of measure of distance (except where noted) |
| Unit of Area | Acre | USA customary unit of area |
| Unit of Weight | Short Ton | USA customary unit of measure of weight |
| Effective Date of TR | December 31, 2022 | |
| **• Underground-Mineable Criteria** | | |
| Mining Type | Underground | Existing pillar/barriers remaining in areas of previous underground mining not considered. |
| Basis for Coal Tonnage | Total seam thickness for underground-mineable coal | Out-of-seam dilution not considered in tonnage and quality estimates, but was considered for mine productivity and economics |
| Coal Density | Used laboratory apparent specific gravity data where available. Otherwise use raw ash formula: Sp. Gr. = (% Raw Ash/100) + 1.25 | |
| | Used estimated specific gravity based on 1.30 specific gravity for coal and 2.25 specific gravity for rock where no lab data was available. | This is also referred to as EVR or Estimated Visual Recovery method |
| Minimum Total Seam Thickness | 2.33 - 2.50 feet | |
| Minimum Total Coal Thickness | 2.33 - 2.50 feet | |
| Minimum Cover | 100 feet | |
| Mine Barrier | 200 feet | Applied around old underground mines or sealed-off sections, augered or high-wall mined areas |
| | 100 feet | Where certified mine maps available |
| | 50 feet | Where mine intends to penetrate existing mine works. |
| **• Surface-mineable Criteria** | | |
| Mining Type | Surface mining | |
| | Auger mining | |
| Coal Density | Used laboratory apparent specific gravity data where available. Otherwise use raw ash formula: Sp. Gr. = (% Raw Ash/100) + 1.25 | |
| | Used estimated specific gravity based on 1.30 specific gravity for coal and 2.25 specific gravity for rock where no lab data was available. | This is also referred to as EVR or Estimated Visual Recovery method.<br>EXCEPTION: Used 1800 tons per acre foot for seams with no quality data on surface reserve calculation |
| Surface Property Control | Controlled | Surface-mineable coal resource estimated where mineral and surface rights are controlled. No resource estimated if mineral rights are not controlled. |
| | Uncontrolled | Surface-mineable coal resource estimated where surface is uncontrolled if mineral rights are controlled. |
| Basis for Coal Tonnage | Thickness of recoverable coal less removable partings | Minimum thickness of removable parting for surface-mineable seam is 0.25-foot generally. |
| Minimum Total seam thickness for Single Cut Contour | 2.0 feet (*) | |
| Minimum Thickness of Principal Seam in Multi-Seam Areas | 1.0 foot (*) | |
| Minimum Thickness of Secondary Seam | 0.5 foot | Secondary seam is within 2.5 feet of principal seam |
| Areas Considered for Surface-mineable Coal Resource | Permitted and potential permit areas provided by Corsa | |

** Practical exceptions based on well-demonstrated mining success were made as warranted.*

## 14.5 Coal Resource Estimate Summary

The results of this TR define an estimated 180.0 million tons of measured and indicated coal resources. Of the total measured and indicated tons, 78% are measured and 22% are indicated. An additional 0.04 million inferred in-situ coal tons have been identified. Coal resource tons are presented on a dry, in-situ basis and provide reasonable prospects for economic extraction. The following table summarizes the total coal resource (inclusive and exclusive of reserve) controlled by Corsa.

**Table 14-2: Coal Resources Summary**

| | Total Resource (in situ) Tons | | | |
|---|---|---|---|---|
| **Type/seam** | **Measured** | **Indicated** | **Total** | **Inferred** |
| **Surface-mineable** | | | | |
| Sewickley | 93,700 | 0 | 93,700 | 0 |
| Redstone | 119,900 | 0 | 119,900 | 0 |
| Upper Freeport | 91,900 | 0 | 91,900 | 0 |
| Lower Freeport | 510,800 | 0 | 510,800 | 0 |
| Upper Kittanning | 1,256,500 | 0 | 1,256,500 | 0 |
| Middle Kittanning | 131,800 | 0 | 131,800 | 0 |
| Lower Kittanning | 746,000 | 0 | 746,000 | 0 |
| **Total** | **2,950,600** | **0** | **2,950,600** | **0** |
| **Auger-mineable** | | | | |
| Upper Freeport | 26,600 | 0 | 26,600 | 0 |
| Upper Kittanning | 82,700 | 0 | 82,700 | 0 |
| Middle Kittanning | 60,300 | 0 | 60,300 | 0 |
| Lower Kittanning | 55,400 | 0 | 55,400 | 0 |
| **Total** | **225,000** | **0** | **225,000** | **0** |
| **Highwall-mineable** | | | | |
| Upper Kittanning | 473,000 | 0 | 473,000 | 0 |
| **Total** | **473,000** | **0** | **473,000** | **0** |
| **Underground-mineable** | | | | |
| Upper Freeport | 23,118,200 | 6,578,100 | 29,696,200 | 0 |
| Lower Freeport | 11,419,600 | 568,900 | 11,988,500 | 0 |
| Upper Kittanning | 32,546,500 | 7,282,000 | 39,828,500 | 0 |
| Middle Kittanning | 12,122,900 | 3,279,000 | 15,401,900 | 0 |
| Lower Kittanning | 34,445,300 | 16,783,900 | 51,229,100 | 44,000 |
| Brookville | 23,737,000 | 4,487,900 | 28,224,900 | 0 |
| **Total** | **137,389,400** | **38,979,700** | **176,369,100** | **44,000** |
| **Grand Total** | | | | |
| Sewickley | 93,700 | 0 | 93,700 | 0 |
| Redstone | 119,900 | 0 | 119,900 | 0 |
| Upper Freeport | 23,236,600 | 6,578,100 | 29,814,700 | 0 |
| Lower Freeport | 11,930,400 | 568,900 | 12,499,300 | 0 |
| Upper Kittanning | 34,358,700 | 7,282,000 | 41,640,700 | 0 |
| Middle Kittanning | 12,315,000 | 3,279,000 | 15,594,000 | 0 |
| Lower Kittanning | 35,246,700 | 16,783,900 | 52,030,500 | 44,000 |
| Brookville | 23,737,000 | 4,487,900 | 28,224,900 | 0 |
| **Grand Total** | **141,038,000** | **38,979,700** | **180,017,600** | **44,000** |

Notes: Recoverable reserve tons are derived from the in-situ resource tons. (2) Coal reserves are included within coal resources.
Totals may not add due to rounding.

Because the coal resources are reported inclusive of the coal reserves, the extent to which the coal resources may be affected by any known environmental, permitting, legal, title, variation, socio-economic, marketing, political, or other relevant issues is less rigorously tested than the coal reserves. Similarly, the extent to which the coal resource estimate may be materially affected by mining,

metallurgical, infrastructure, and other relevant factors has also not been rigorously reviewed for estimation of coal resources.

*Table 14-3* below summarizes the raw in-seam coal quality for each resource area included in this TR.

**Table 14-3: Summary of Raw, In-seam Quality by Seam by Property**

| Area | Seam | Raw Quality, Dry Basis | | | | |
|---|---|---|---|---|---|---|
| | | Ash% | Sulfur% | Btu/lb. | Vol. | No. of Samples* |
| **Surface-Mineable** | | | | | | |
| Gaz | Upper Kittanning | 21.8 | 2.3 | 11,380 | 20.2 | 8 |
| Rhoads | Upper Kittanning | 10.6 | 0.6 | 12,950 | 20.4 | 3 / 3 /2 /3 |
| Rhoads | Middle Kittanning | 23.3 | 2.8 | 11,670 | 15.6 | 11 / 11 / 9 / 8 |
| Rhoads | Lower Kittanning | 19.0 | 3.5 | 12,490 | 16.5 | 2 |
| Schrock Run | Lower Freeport | 9.0 | 0.7 | 13,970 | 17.7 | 4 |
| Schrock Run | Upper Kittanning | 14.1 | 2.4 | 13,260 | 18.1 | 13 |
| Shaffer | Lower Freeport | 10.1 | 1.1 | 14,060 | 18.7 | 5 |
| Hamer-Byers | Upper Freeport | 23.6 | 1.6 | - | 19.1 | 2 / 2 / 0 /2 |
| Blue Lick | Sewickley | 16.6 | 1.5 | 12,810 | 0.0 | 5 |
| Blue Lick | Redstone | 17.8 | 2.6 | 12,650 | 0.0 | 9 |
| Hart | Upper Kittanning | 24.8 | 1.9 | 11,200 | 0.0 | 68 / 68 / 1 / 0 |
| Bassett | Upper Freeport | 26.4 | 4.7 | 11,100 | 15.8 | 5 |
| Acosta #4 | Upper Kittanning | 41.8 | 0.4 | 6,420 | 23.5 | 1/1/1/1 |
| Acosta #4 | Middle Kittanning | 23.5 | 4.4 | 12,190 | 16.0 | 4/4/2/4 |
| Will Farm | Lower Kittanning | 20.2 | 2.8 | 12,200 | 16.5 | 4 |
| **Total Composite** | | **19.2** | **2.2** | **12,240** | **18.0** | |
| **Auger Mineable** | | | | | | |
| Gaz | Upper Kittanning | 21.8 | 2.3 | 11,380 | 20.2 | 8 |
| Rhoads | Upper Kittanning | 10.6 | 0.6 | 12,950 | 20.4 | 3 / 3 /2 /3 |
| Rhoads | Middle Kittanning | 23.3 | 2.8 | 11,670 | 15.6 | 11 / 11 / 9 / 8 |
| Rhoads | Lower Kittanning | 19.0 | 3.5 | 12,490 | 16.5 | 2 |
| Hamer-Byers | Upper Freeport | 23.6 | 1.6 | - | 19.1 | 2 / 2 / 0 /2 |
| **Total Composite** | | **20.3** | **2.4** | **12,010** | **17.9** | |
| **Highwall-Mineable** | | | | | | |
| Schrock Run | Upper Kittanning | 14.1 | 2.4 | 13,260 | 18.1 | 13 |
| **Total Composite** | | **14.1** | **2.4** | **13,260** | **18.1** | |
| **Underground-Mineable** | | | | | | |
| Casselman (South) | Upper Freeport | 16.8 | 1.7 | 14,040 | 19.9 | 8 / 36 / 29 / 36 |
| Casselman (North) | Upper Freeport | 18.4 | 1.8 | - | 0.0 | 9 / 9 / 0 / 0 |
| Acosta | Upper Kittanning | 18.9 | 2.7 | 12,580 | 19.1 | 21 / 14 / 14 / 13 |
| Acosta | Middle Kittanning | 26.6 | 3.4 | 11,270 | 26.9 | 15 / 11 / 11 / 9 |
| Acosta | Lower Kittanning | 32.6 | 2.8 | 9,610 | 15.2 | 14 / 12 / 11 / 10 |
| Horning | Upper Freeport | 22.1 | 2.5 | 12,040 | 16.5 | 14/14/12/14 |
| Horning | Lower Freeport | 11.4 | 2.3 | 14,020 | 17.2 | 15/15/10/10 |
| A Seam | Brookville | 31.5 | 1.2 | 10,170 | 16.7 | 33 / 33 / 33 / 32 |
| Keyser | Lower Kittanning | 20.0 | 3.6 | 11,660 | 18.5 | 14 / 14 / 10 / 14 |
| Agustus | Upper Kittanning | 20.0 | 3.6 | 12,280 | 16.4 | 2 |
| Agustus | Lower Kittanning | 21.6 | 2.3 | 12,600 | 18.9 | 4 / 4 / 3 / 3 |
| Agustus | Lower Freeport | 22.0 | 3.4 | 11,900 | 16.9 | 13 |
| Mega | Lower Kittanning | 32.0 | 2.5 | 10,050 | 14.8 | 9 |
| **Total Composite** | | **23.8** | **2.6** | **11,460** | **18.4** | |
| **Total** | | | | | | |
| Surface Mineable | | 19.2 | 2.2 | 12,240 | 18.0 | 0 |
| Auger Mineable | | 20.3 | 2.4 | 12,010 | 17.9 | 0 |
| Highwall Mineable | | 14.1 | 2.4 | 13,260 | 18.1 | 0 |
| Underground Mineable | | 23.8 | 2.6 | 11,460 | 18.4 | 0 |
| **Total Composite** | | **23.7** | **2.6** | **11,480** | **18.4** | |

*No. of samples = if single digit, then all 4 columns are same; otherwise corresponds to column.
All seam quality reported is based on arithmetic averages. Composites are based on tons and are therefore weighted.

The resources discussed below in *Sections 14.6* and *14.7* are resources *only (exclusive of reserves)* – no reserves have been calculated for these areas due to various noted encumbrances. Even so, these resources are included in the total Corsa resource (*inclusive* and *exclusive of reserve*) estimates shown in *Table 14-2* above.

## 14.6 Limestone Resources (Only)

Corsa controls limestone resources that will be extracted as part of the Blue Lick surface mine operations (see *Map 12A*). MM&A has reviewed the testing results for the limestone; it appears that this formation has potential for use as coarse aggregate. It is MM&A's opinion that the limestone at Blue Lick has reasonable prospects for economic extraction.

MM&A estimates the in-situ resource for the Fishpot limestone at Blue Lick 4 to be 0.32 million tons. Due to the limited testing data, and absence of a market study or sales history, no reserve estimate has been made for the limestone.

**Table 14-4: Blue Lick 4 Fishpot Limestone Resource Summary**

| | Total Resource (in situ) Tons | | | |
|---|---|---|---|---|
| Seam | Measured | Indicated | Total | Inferred |
| Limestone | 320,000 | 0 | 320,000 | 0 |

Note: Totals may not add due to rounding.

## 14.7 Coal Resources Only - *exclusive of reserve*)

The coal tons stated in this section are resources exclusive of coal reserve and their associated resource tons. Whereby, reported detailed tonnage tables (*Table 14-2* also) includes the total coal resource, (inclusive plus exclusive of reserve) by area. Below, underground resource only areas are listed first followed by surface resource only areas.

### 14.7.1 Casselman North– Upper Freeport Underground Resource (*Map 2*)

Corsa controls several scattered (i.e., non-contiguous) leases north of the current Casselman mine and Interstate Highway I68. The resource estimate in the following table summarizes the in-situ tons associated with these tracts (see *Map 2*). It is possible that through the acquisition of additional mineral tracts, some of the areas could be converted to reserves in the future if sufficient in size and with access.

**Table 14-5: Casselman North Underground Resource Summary**

| | Total Resource (in situ) Tons | | | |
|---|---|---|---|---|
| Type/seam | Measured | Indicated | Total | Inferred |
| Upper Freeport | 1,838,800 | 2,329,600 | 4,168,400 | 0 |

Note: Totals may not add due to rounding.

### 14.7.2 Horning – Upper Freeport Seam Underground Resource (*Map 4A*)

Horning property is in Somerset County, Pennsylvania, within the USGS Berlin 7.5-Minute quadrangle. The Horning resource includes the Upper Freeport seam of Owned and Leased mineral control. Adverse property separates three resource blocks of the Upper Freeport. Seam access will require ramping up from the underlying Lower Freeport seam unless adverse property is acquired to complete one coalesced resource block. Average seam thickness is greater than 3.5 feet.

**Table 14-6: Horning Underground Resource Summary**

| | Total Resource (in situ) Tons | | | |
|---|---|---|---|---|
| **Type/seam** | **Measured** | **Indicated** | **Total** | **Inferred** |
| Upper Freeport | 6,108,200 | 204,200 | 6,312,400 | 0 |

Note: Totals may not add due to rounding.

### 14.7.3 Barbara B – Lower Kittanning Seam Underground Resource (*Map 6*)

Barbara B property is in Somerset County, Pennsylvania, within the USGS Berlin 7.5-Minute quadrangle. Barbara B, an underground mine which operated in the Lower Kittanning seam, is permitted but has been closed. The former leased property has been relinquished yet the owned coal resource remains; however, the face up area has been backfilled. Since the leased property has been dropped, there is no longer direct access to the remaining controlled coal and therefore this mineral property has been excluded from resource estimates. Average seam thickness is 4.6 feet.

### 14.7.4 Agustus –Lower Freeport Seam Underground Resource (*Map 15A*)

The Agustus D property is in Somerset County, Pennsylvania, and within the USGS Central City 7.5 Minute quadrangle. Agustus D includes the Lower Freeport seam and is an inactive underground deposit that could potentially produce a blended metallurgical-grade coal. The resource area occurs entirely within owned property and is not currently permitted. Expansion of the resource area may also be possible via additional unleased and contiguous mineral property controlled by coal lessor, **Berwind Natural Resources Corporation (*Berwind*)** and/or Berwind's wholly-owned subsidiary, **Wilmore Coal Company (*Wilmore*)**. Lower Freeport seam thickness is highly variable, ranging from 0.0 to 6.90 feet, with an average overall thickness of approximately 3.0 to 3.25 feet. Due to the presence of several low-coal zones, the resource area has been subdivided into three blocks: West, Central, and East, with low-coal zones between blocks. Available analytical data is insufficient to adequately characterize the quality of the seam across the property. The Lower Freeport seam at Agustus has been identified as a resource. Further evaluation is necessary in order to confirm mine access and economic viability of this area in order to be considered reserve.

**Table 14-7: Agustus Lower Freeport Underground Resource Summary**

| Type/seam | Total Resource (in situ) Tons | | | |
|---|---|---|---|---|
| | Measured | Indicated | Total | Inferred |
| Lower Freeport | 7,723,600 | 70,600 | 7,794,300 | 0 |

Note: Totals may not add due to rounding.

### 14.7.5 Agustus – Upper Kittanning Seam Underground Resource (*Map 15B*)

The Agustus C' property is located in Somerset County, Pennsylvania, and within the USGS Central City 7.5 Minute quadrangle. Agustus C' includes the Upper Kittanning seam and is an inactive underground deposit that could potentially produce a blended metallurgical-grade coal. The resource area is immediately north of an inactive underground mine. Extensive historical underground mining has occurred in the area to the south of the Agustus Upper Kittanning resource. This resource occurs entirely within owned property and is not currently permitted. Expansion of the resource area may be possible via additional unleased and contiguous mineral property controlled by Berwind and/or Wilmore. The Upper Kittanning seam thickness varies from 0.0 to 4.80 feet, with an average thickness of approximately 3.2 feet. Available analytical data is insufficient to adequately characterize the quality of the seam. The Upper Kittanning seam at Agustus has been identified as a resource. Further evaluation is necessary in order to confirm mine access and economic viability of this area in order to be considered reserve.

**Table 14-8: Agustus Upper Kittanning Underground Resource Summary**

| Type/seam | Total Resource (in situ) Tons | | | |
|---|---|---|---|---|
| | Measured | Indicated | Total | Inferred |
| Upper Kittanning | 4,470,000 | 0 | 4,470,000 | 0 |

Note: Totals may not add due to rounding.

### 14.7.6 Agustus – Lower Kittanning Seam Underground Resource (*Map 15C*)

The Agustus B property is located in Somerset County, Pennsylvania, and within the USGS Central City 7.5 Minute quadrangle. Agustus B includes the Lower Kittanning seam and is an inactive underground deposit that could potentially produce a blended metallurgical-grade coal. The remaining unmined resource area is adjacent to an inactive underground mine, occurs entirely within owned property, and is currently not permitted. Expansion of the resource area may also be possible via additional unleased and contiguous mineral property controlled by Berwind and/or Wilmore. The Lower Kittanning seam thickness is highly variable, ranging from 0.0 to 7.90 feet, with an average thickness of approximately 5.0 feet. Available analytical data is insufficient to adequately characterize the quality of the seam. The Lower Kittanning seam at Agustus has been identified as a resource. Further evaluation is necessary in order to confirm mine access and economic viability of this area in order to be considered reserve.

**Table 14-9: Agustus Lower Kittanning Underground Resource Summary**

| Type/seam | Total Resource (in situ) Tons | | | |
|---|---|---|---|---|
| | Measured | Indicated | Total | Inferred |
| Lower Kittanning | 1,234,100 | 77,200 | 1,311,300 | 0 |

Note: Totals may not add due to rounding.

### 14.7.7 Mega Mine – Lower Kittanning Underground Resource(*Map 17*)

The Mega Mine is a Lower Kittanning resource that would be mined by underground mining methods. Access to the resource is proposed by developing portals in the final highwall of the undeveloped Will Farm surface mine. The resource is contained in two blocks, one block adjacent to the Will Farm reserve and one block further east that is separated from the main resource by a low to no coal zone. Further exploration is necessary to identify access to the eastern resource block. The Lower Kittanning seam thickness is highly variable, ranging from 2.5 feet at the thickness cutoff line along the low coal zone to about 8.00 feet, with an average thickness of approximately 5.0 feet. Available analytical data is insufficient to adequately characterize the quality of the seam in the eastern resource block.

**Table 14-10: Mega Mine Underground Resource Summary**

| Type/seam | Total Resource (in situ) Tons | | | |
|---|---|---|---|---|
| | Measured | Indicated | Total | Inferred |
| Lower Kittanning | 4,583,200 | 2,207,000 | 6,790,200 | 0 |

Note: Totals may not add due to rounding.

### 14.7.8 Acosta #4 – Upper Kittanning Seam Surface Resource (*Map 3A*)

Acosta #4 is located in Somerset County, Pennsylvania within the USGS Somerset 7.5-Minute quadrangle. Resources for Acosta #4 are in the Upper, and Middle Kittanning seams on leased mineral control Additional mineral and surface control of property east of the Gehman lease, must be obtained for this area to be considered reserve.

**Table 14-11: Acosta #4 Upper Kittanning Surface Resource Summary**

| Type/seam | Total Resource (in situ) Tons | | | |
|---|---|---|---|---|
| | Measured | Indicated | Total | Inferred |
| Upper Kittanning | 37,400 | 0 | 37,400 | 0 |

Note: Totals may not add due to rounding.

### 14.7.9 Acosta #4 – Middle Kittanning Seam Surface Resource (*Map 3B*)

Acosta #4 is located in Somerset County, Pennsylvania within the USGS Somerset 7.5-Minute quadrangle. Resources for Acosta #4 are in the Upper, and Middle Kittanning seams on leased mineral control. Additional mineral and surface control of property east of the Gehman lease must be obtained in order for this area to be considered as reserve.

**Table 14-12: Acosta #4 Middle Kittanning Surface Resource Summary**

| Type/seam | Total Resource (in situ) Tons | | | |
|---|---|---|---|---|
| | Measured | Indicated | Total | Inferred |
| Middle Kittanning | 55,100 | 0 | 55,100 | 0 |

Note: Totals may not add due to rounding.

### 14.7.10 Gaz – Upper Kittanning Seam Surface Resource (*Map 8*)

Gaz is in Somerset County, Pennsylvania within the USGS Stoystown 7.5-Minute quadrangle. Based on information provided by Corsa, it has been estimated that approximately 55 percent of the Upper Kittanning coal production from this property could potentially enter the metallurgical coal market, with the remainder going to the steam market. Gaz, along with associated highwall mining, is classified as an inactive surface mine property. Surface mining rights are reportedly controlled on this property, the mineral control is by lease and the reserve is permitted. This area was tested for economic viability and failed under current market conditions; therefore, the area is classified as resource.

**Table 14-13: Gaz Upper Kittanning Auger and Surface Resource Summary**

| Type/seam | Total Resource (in situ) Tons | | | |
|---|---|---|---|---|
| | Measured | Indicated | Total | Inferred |
| **Auger Mineable** | | | | |
| Upper Kittanning | 53,900 | 0 | 53,900 | 0 |
| **Surface-mineable** | | | | |
| Upper Kittanning | 328,900 | 0 | 328,900 | 0 |
| **Total** | **382,800** | **0** | **382,800** | **0** |

Note: Totals may not add due to rounding.

### 14.7.11 Blue Lick 4 – Sewickley Seam Surface Resource (*Map 12B*)

Blue Lick 4 is in Somerset County, Pennsylvania within the Wittenberg and Berlin USGS 7.5-Minute quadrangles. This is the only property evaluated in this TR, on which Corsa controls the Sewickley and Redstone seams of coal. It is classified as an inactive surface mine property. Each of the main seams has a rider coal. The volume associated with each of the rider coals is of minor value but has been incorporated into the main seam resource tonnage. Corsa is actively extracting the overlying Fishpot Limestone for potential aggregate use on this property; however, the coal seams are not actively being mined. Resource tons associated with the Fishpot Limestone are shown for informational purposes in *Section 14.6* and are not included with any of the coal seam results. Surface mining rights are reportedly controlled, the mineral control is by lease and the coal reserves and limestone resource are permitted. Coal resources are only estimated for those areas not already covered by spoil from the aggregate mining operations.

**Table 14-14: Blue Lick 4 Sewickley Surface Resource Summary**

| Type/seam | Total Resource (in situ) Tons | | | |
|---|---|---|---|---|
| | Measured | Indicated | Total | Inferred |
| Sewickley | 93,700 | 0 | 93,700 | 0 |

Note: Totals may not add due to rounding.

### 14.7.12 Blue Lick 4 – Redstone Seam Surface Resource (*Map 12C*)

Blue Lick 4 is in Somerset County, Pennsylvania within the USGS Wittenberg and Berlin 7.5-Minute quadrangles. This is the only property evaluated in this TR on which Corsa controls the Sewickley and Redstone seams of coal. It is classified as an inactive surface mine property. Each of the main seams contains a rider coal. The volume associated with each of the rider coals is of minor value but has been incorporated into the main seam reserve tonnage. Corsa is actively extracting the overlying Fishpot Limestone for potential aggregate use on this property; however, the coal seams are not actively being mined. Resource tons associated with the Fishpot Limestone are shown for informational purposes in *Section 14.6* and are not included with any of the coal seam results. Surface mining rights are reportedly controlled, the mineral control is by lease and the coal reserves and limestone resource are permitted. Coal resources are only estimated for those areas not already covered by spoil from the aggregate mining operations.

**Table 14-15: Blue Lick 4 Redstone Surface Resource Summary**

| | Total Resource (in situ) Tons | | | |
|---|---|---|---|---|
| Type/seam | Measured | Indicated | Total | Inferred |
| Redstone | 119,900 | 0 | 119,900 | 0 |

Note: Totals may not add due to rounding.

### 14.7.13 Bassett – Upper Freeport Seam Surface Resource (*Map 14*)

Bassett is in Somerset County, Pennsylvania within the USGS Somerset and Hooversville 7.5-Minute quadrangles. The property is classified as an inactive surface mine property. Surface mining rights are reported as controlled on this property, the mineral is controlled through lease and the resource is permitted. Bassett is classified in this TR as a resource since it failed to achieve a positive economic evaluation.

**Table 14-16: Bassett Surface Resource Summary**

| | Total Resource (in situ) Tons | | | |
|---|---|---|---|---|
| Type/seam | Measured | Indicated | Total | Inferred |
| Upper Freeport | 77,000 | 0 | 77,000 | 0 |

Note: Totals may not add due to rounding.

### 14.7.14 Will Farm – Lower Kittanning Seam Surface Resource (*Map 16*)–

Will Farm is located in Somerset County, Pennsylvania within portions of the USGS Stoystown and Berlin 7.5-Minute quadrangles. This property is near the active Schrock Run Extension operations. Approximately 55 percent of coal production from this property could potentially enter the metallurgical coal market, with the remainder going to the steam market.

Surface mining rights are reported as controlled on this property, the mineral is controlled through lease and ownership and the reserves are not permitted. Surface mining ratios are 25.9: 1 within the reserve area. Will Farm is classified as a resource due to poor economics.

**Table 14-17: Will Farm Surface Resource Summary**

| | Total Resource (in situ) Tons | | | |
|---|---|---|---|---|
| Type/seam | Measured | Indicated | Total | Inferred |
| Lower Kittanning | 627,000 | 0 | 627,000 | 0 |

Note: Totals may not add due to rounding.

# 15 Mineral Reserve Estimates

## 15.1 Introduction

The coal reserve estimates were prepared in accordance with CIMDS (as adopted May 10, 2014). Proven and probable coal reserves were derived from the defined coal resource considering relevant processing, economic (including independent estimates of capital, revenue, and cost), marketing, legal, environmental, socio-economic, and regulatory factors and are presented on a moist, recoverable basis.

As is customary in the USA, the categories for *Proven* and *Probable* coal reserves are based on the distances from valid points of measurement used for *Measured* and *Indicated* coal resources prescribed in *USGS Circular 891*.[4]

The coal reserve estimates are presented in *Table 15-2*.

## 15.2 Definitions and Applicable Standards

In accordance with NI 43-101, MM&A has classified the coal as "coal resource" and "coal reserve" according to definitions published in CIMDS as adopted in May 2014. In this standard, a **Mineral Reserve** is defined as "…the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes dilution materials and allowances for losses, which occur when the material is mined or extracted and is defined by studies at Preliminary Feasibility or Feasibility level as appropriate that include Modifying Factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified".

Coal is defined as combustible sedimentary rock in which organic matter, including residual moisture (as defined by ASTM Procedure 3180.84) comprises more than 50% by weight and more than 70% by volume of carbonaceous material formed from altered plant remains.

[4] The Mineral Reserves are subdivided into classes of: Proven Mineral Reserves, those lying within ¼-mile radius of a valid point of measurement; Probable Mineral Reserves are those lying between ¼-mile and ¾-mile of a valid point of measurement.

As referenced in the CIMDS, coal resources and coal reserves are herein reported inclusively. The *Measured*, *Indicated*, and *Inferred* in-situ coal resources are reported inclusive of the reported reserve tons, since they include the in-situ tons from which the recoverable coal reserve is derived.

A *Preliminary Feasibility Study* is defined as "…a comprehensive study of a range of options for technical and economic viability of a mineral project that has advanced to a stage where a preferred mining method, in the case of underground mining, or the pit configuration, in the case of an open pit, is established and an effective method of mineral processing is determined. It includes a financial analysis based on reasonable assumptions on the Modifying Factors and the evaluation of other relevant factors which are sufficient for a Qualified Person, acting reasonably, to determine if all or part of the Mineral Resource may be converted to a Mineral Reserve at the time of reporting. A Pre-feasibility Study is at a lower confidence level than a Feasibility Study".

Reserves, as defined by the CIMDS, are those coal deposits that exhibit:

1. Geologic assurance of existence, continuity, grade; and
2. Economic feasibility of recovery, as demonstrated by at least a Preliminary Feasibility Study.

Economic feasibility may be evaluated by interrelating coal thickness; overburden thickness; coal quality; costs of mining, processing, and transportation; and expected selling price, among other factors. The reserve assessment provided herein addresses and summarizes the factors described above. In addition, each of the reserve areas identified was subject to a preliminary feasibility study based on Corsa's plans, which were reviewed by MM&A for reasonableness and incorporated into this TR, and independent estimates of capitalization, revenue, and mining cost by MM&A.

## 15.3 Impact of Over- and/or Undermining

An understanding of the potential for sterilization of otherwise underground-mineable resources through subsidence from overlying or underlying seams is essential for coal reserve classification and estimation. In conjunction with the impact associated with subsidence, reserves can also be adversely impacted by the presence of flooded and abandoned (primarily overlying) mine workings which can, in some instances, impede or entirely prevent development within such areas. Hence, evaluation of resource areas in relation to superjacent or subjacent mined-out seams is germane to the assessment of mineability.

Because detailed analysis is beyond the scope of the present investigation, an approximate 40-foot interval has been assumed by MM&A as the *minimum* interval between a potential mineable seam and an overlying or underlying mined-out seam.[5] Additional analysis of the lithologic composition and geotechnical properties of the strata comprising the interval between two seams, as well as details

[5] The assumption has been established through previous work of MM&A in the Appalachian region and is considered reasonable for pre-feasibility determination.

concerning the underground mined area (pillar location, geometry, areas of second mining, pooled water, etc.), is always recommended to determine optimal layout and mine design to operate safely and to maximize mineral recovery.

## 15.4 Limitations to Mineability

There are limitations to determining the mineability of the seams from interpretation of the drill hole data as provided. A large portion of the drill hole data contains only rock-coal descriptions, no driller or geologist log and only a minority of the drill holes contain downhole geophysical logs. The majority of the available coal sample analyses do not have qualitative assurance of complete and representative coal core sample recovery. This weakness in the data set of verifiable and accurate coal seam thickness, quality and detailed lithologic composition of the roof and floor material makes for less accurate predictions of coal classification, recovery and other factors associated with mining conditions.

## 15.5 Methodology Used to Estimate Coal Reserves

Coal reserve estimates were derived from the defined coal resource considering relevant processing, economic (including independent estimates of capital, revenue, and cost), marketing, legal, environmental, socio-economic, and regulatory factors and are presented herein on a moist, recoverable basis.

Upon completion of delineation and calculation of coal resources, MM&A generated LOM plans for each mining complex (*Maps 2 through 17*). Mine plans were generated based on forecasted mine plans and permit plans provided by Corsa with modifications by MM&A in certain areas. Previous reserve evaluations defined general locations for the primary coal reserve areas. Additional drilling, detailed topography maps, aerial photography, and updated reserve criteria refined these earlier selected locations. MM&A used property development plans established by Corsa, and modified plans where necessary due to current property control limits, modifications to geologic mapping due to additional exploration, etc.

Carlson (or other software) generated grid files were used to build geologic elevation models for coal seams demonstrating mineable potential. Coal seam thickness and base-of-coal-seam structure grid files were used to define the top and bottom of each coal horizon. The grid models were used to develop LOM and timing sequence plans for underground-mineable coal seams, based on volume productivity schedules provided by Corsa for active mining operations. An underground mining height of 42, based on current mining practices and/or equipment capabilities, were used to determine OSD and to project raw production tons. In addition to the minimum mining height, a minimum OSD thickness of 6 inches was applied for all mines.

For surface-mineable coal seams, surface topography grids were generated using USGS digital elevation models or more detailed digital flown topography provided by Corsa, where available. Surface LOM and timing plans were sequenced using Carlson based on surface equipment productivity and

equipment expansion plans determined to be reasonable by MM&A. Estimates of surface-mineable coal reserves and associated bank cubic yard (*bcy*) overburden volumes were generated based on an economic ratio limit (bcy of overburden to recoverable coal tons), which is a function of coal prices and operating costs. For coal seams that demonstrate the potential for surface mining methods, seam product thickness grid files, excluding scalpable (removable) in-seam partings, were generated for the surface-mineable seam thickness.

Raw, ROM production data outputs from LOM sequencing were processed into Excel spreadsheets and summarized on an annual basis for use in the economic model. Average seam densities for underground and surface-mineable coal seams were estimated to determine raw coal tons produced from the LOM plan. Average mine recovery and wash recovery factors, determined by available quality or estimated from specific gravities, were applied to determine recoverable tons.

Coal reserve tons in this evaluation are reported on a moist (8.0 percent for washed product and 4.25 percent for raw product), recoverable basis, and represent the saleable product from the Properties.

## 15.6 Coal Reserve Estimation Criteria

Coal reserve estimation criteria were established to assure that the basic geologic characteristics of the coal reserves (e.g., minimum coal thickness and wash recovery, interval between underground-mineable seams, etc.) are in reasonable conformity with present and past mine operations capabilities on the properties. The coal reserve estimates have been prepared using generally accepted industry methodology to provide reasonable assurance that the coal reserves are economic and recoverable at the time of evaluation.

**Table 15-1: Coal Reserve Criteria**

| | Parameter | Technical Notes |
|---|---|---|
| **Coal Reserve Classification** | | |
| Reliability of Geologic Conditions and Modifying Factors | Proven | <¼-mile radius from valid point of measurement and economically mineable part of a Measured Resource. Implies the highest degree of confidence. |
| | Probable | ¼- to ¾-mile radius from valid point of measurement and economically mineable part of an Indicated Resource, and in some circumstances, a Measured Resource. Implies lower level of confidence than Proven. |
| Unit of Measure | Mile, Feet | USA customary unit of measure of distance (except where noted) |
| Unit of Area | Acre | USA customary unit of area |
| Unit of Weight | Short Ton | USA customary unit of measure of weight |
| Coal Sales Prices | $99.32 to $171.48 FOB Mine price, with an average $104.11 FOB Mine pricing reflective of the low-volatile metallurgical and thermal products currently sold at Corsa | Prices are in terms of FOB Mine |
| Effective Date of TR | December 31, 2022 | |

| | Parameter | Technical Notes |
|---|---|---|
| **Underground-Mineable** | | |
| Mining Type | Underground | Existing pillar/barriers remaining in areas of previous underground mining not considered |
| Coal Density | Used laboratory apparent specific gravity data where available. Otherwise use raw ash formula: Sp. Gr. = (% Raw Ash/100) + 1.25 | |
| | Used estimated specific gravity based on 1.30 specific gravity for coal and 2.25 specific gravity for reject where no lab data was available. | This is also referred to as EVR or Estimated Visual Recovery method. |
| Minimum Total Seam Thickness | 2.33 - 2.50 feet | Minimum mineable thickness, rock partings removed |
| Minimum Total Coal Thickness | 2.33 - 2.50 feet | Minimum mineable thickness |
| Minimum In-seam Wash Recovery | 40% to 50% (case-by-case) | Case-by-case exceptions based on mining height, haul distance, seam quality, etc. |
| Wash Recovery Factor | Based on arithmetic average of all holes in reserve area | Recovery estimated for core holes within reserve area that lack washability data. (Based on 1.30 coal specific gravity, 2.25 reject specific gravity, 95% recovery of ”clean" coal.) |
| Preparation Plant Efficiency | 95% | |
| Moisture | 8% for washed product | |
| Product Tons | Moist, in-seam undiluted, washed basis | |
| Minimum Cover | 100 feet | |
| Mine Barrier | 200 feet | Applied around old underground mines or sealed-off sections, augered or high-wall mined areas |
| | 100 feet | Where certified mine maps available |
| | 50 feet | Where mine intends to penetrate existing mine works. |
| Mine Recovery | 49% to 68% | Mine recovery varies depending on geology, mine plan, and depth of cover; mine recovery indicates average mine in the LOM plan panel recovery. |
| Minimum Interval between Seams | 40 feet | Normal mine recovery. Reduced mine recovery on a by seam basis if less than 40 feet. |
| | <40 feet | Mine recovery reduced or not considered Coal Reserve, case-by-case |
| Areas Considered for Underground-mineable Tonnage | Permitted and/or potential permit areas identified by Corsa | |
| • **Surface-Mineable** | | |
| Mining Type | Surface mining | |
| | Auger/Highwall mining | |
| Coal Density | Used laboratory apparent specific gravity data where available. Otherwise use raw ash formula: Sp. Gr. = (% Raw Ash/100) +1.25 | |
| | Used estimated specific gravity based on 1.30 specific gravity for coal and 2.25 specific gravity for reject where no lab data was available. This is also referred to as EVR or Estimated Visual Recovery method. | EXCEPTION: Used 1800 tons per acre foot for seams with no quality data on surface reserve calculations |
| Surface Property Control | Controlled | Surface-mineable coal considered for coal reserve where mineral rights are controlled |
| | Uncontrolled | Surface-mineable coal considered for coal resource (not considered for coal reserve) |
| Basis for Coal Tonnage | Thickness of recoverable coal less removable partings | Minimum thickness of removable parting for surface-mineable seam is 0.25-foot generally. |
| Product Tons | 4.25% moisture added to raw, direct ship product tons and 8.0% moisture added to washed product tons | |
| Maximum Overall Strip Ratio | Target 16:1 to 20:1 | Higher ratios may be encountered occasionally |
| Product Quality | Dry, in-seam basis raw quality | Dry, in-seam washed basis for auger miner quality |
| Minimum Total Coal Thickness for Single Cut Surface Mine | 2.0 feet (*) | Local exceptions considered for high-quality coal seams |
| Minimum Thickness of Principal Seam in Multi-Seam Areas | 2.0 foot | Local exceptions considered for high-quality coal seams |
| Minimum Thickness of Secondary Seam | 0.5 foot | Secondary seam is within 2.5 feet of principal seam |
| Mineable Recovery | Surface mining 90% (**) | |
| | Previously underground mined 25% | |
| | Previously augered | Not considered |

| | Parameter | Technical Notes |
|---|---|---|
| Minimum In-seam Wash Recovery | 30% for highwall miner | |
| Wash Recovery Factor | Based on arithmetic average of all holes in mineral resource area | Recovery estimated for core holes within reserve area that lack washability data. (Based on 1.30 coal specific gravity, 2.25 reject specific gravity, 95% recovery of "clean" coal.) |
| Areas Considered for Surface-mineable Tonnage | Permitted and/or potential permit areas identified by Corsa | |

* Practical exceptions based on well-demonstrated mining success were made as warranted.
**Lower overall mine recovery percent will be noted in the coal reserve tables as a result of various mine recoveries in previously augered or underground mined areas.

## 15.7 Coal Reserve Estimate Summary

The coal reserves reported in *Table 15-2* below represent the economically viable coal tonnage controlled by Corsa on a moist recoverable basis. The coal reserves are based on an independent evaluation of the coal geology and a pre-feasibility study of the coal reserve deposits. Mine depletion for fourth quarter 2022 was supplied by Corsa, and MM&A deducted this historical production from the mapped reserves in order to estimate reserves as of December 31, 2022.

**Table 15-2: Coal Reserves Summary (Moist, Recoverable Basis)**

| | Total Demonstrated Tons | | | By Permit Status | |
|---|---|---|---|---|---|
| Type/seam | Proven | Probable | Total | Permitted | Not Permitted |
| **Surface-mineable** | | | | | |
| Upper Freeport | 10,800 | 0 | 10,800 | 10,800 | 0 |
| Lower Freeport | 457,800 | 0 | 457,800 | 457,800 | 0 |
| Upper Kittanning | 661,600 | 0 | 661,600 | 661,600 | 0 |
| Middle Kittanning | 51,300 | 0 | 51,300 | 51,300 | 0 |
| Lower Kittanning | 89,100 | 0 | 89,100 | 89,100 | 0 |
| **Total** | **1,270,700** | **0** | **1,270,600** | **1,270,700** | **0** |
| **Auger-mineable** | | | | | |
| Upper Freeport | 6,900 | 0 | 6,900 | 6,900 | 0 |
| Upper Kittanning | 8,400 | 0 | 8,400 | 8,400 | 0 |
| Middle Kittanning | 13,400 | 0 | 13,400 | 13,400 | 0 |
| Lower Kittanning | 13,800 | 0 | 13,800 | 13,800 | 0 |
| **Total** | **42,500** | **0** | **42,500** | **42,500** | **0** |
| **Highwall-mineable** | | | | | |
| Upper Kittanning | 199,800 | 0 | 199,800 | 199,800 | 0 |
| **Total** | **199,800** | **0** | **199,800** | **199,800** | **0** |
| **Underground-mineable** | | | | | |
| Upper Freeport | 5,682,400 | 1,496,400 | 7,178,800 | 5,452,900 | 1,725,900 |
| Lower Freeport | 1,593,500 | 235,700 | 1,829,200 | 1,829,200 | 0 |
| Upper Kittanning | 7,852,200 | 1,526,100 | 9,378,300 | 0 | 9,378,300 |
| Middle Kittanning | 3,752,100 | 986,300 | 4,738,400 | 4,737,700 | 700 |
| Lower Kittanning | 8,464,900 | 4,733,800 | 13,198,700 | 0 | 13,198,700 |
| Brookville | 5,589,300 | 810,400 | 6,399,700 | 6,399,600 | 0 |
| **Total** | **32,934,300** | **9,788,700** | **42,723,100** | **18,419,400** | **24,303,600** |

| Type/seam | Total Demonstrated Tons | | | By Permit Status | |
|---|---|---|---|---|---|
| | Proven | Probable | Total | Permitted | Not Permitted |
| **Grand Total** | | | | | |
| Upper Freeport | 5,700,100 | 1,496,400 | 7,196,500 | 5,470,600 | 1,725,900 |
| Lower Freeport | 2,051,300 | 235,700 | 2,287,000 | 2,287,000 | 0 |
| Upper Kittanning | 8,722,000 | 1,526,100 | 10,248,100 | 869,800 | 9,378,300 |
| Middle Kittanning | 3,816,800 | 986,300 | 4,803,100 | 4,802,400 | 700 |
| Lower Kittanning | 8,567,800 | 4,733,800 | 13,301,600 | 102,900 | 13,198,700 |
| Brookville | 5,589,300 | 810,400 | 6,399,700 | 6,399,600 | 0 |
| **Grand Total** | **34,447,200** | **9,788,700** | **44,236,000** | **19,932,300** | **24,303,600** |

Notes: Proven and probable coal reserves were derived from the defined coal resources considering relevant processing, economic (including independent estimates of capital, revenue, and cost), marketing, legal, environmental, socio-economic, and regulatory factors.

Totals may not add due to rounding.

In summary, Corsa controls 44.2 million moist, recoverable proven and probable coal reserve tons, of which 78% is considered proven and 22% is considered probable, after the application of all mining factors. Of the total coal reserve, 1.3 million moist, recoverable tons are surface-mineable, 0.04 million moist, recoverable are auger-mineable, 0.2 million moist, recoverable tons are highwall-mineable, and 42.7 million moist, recoverable tons are underground-mineable. Of the total coal reserve, 19.9 million tons are permitted for mining by appropriate federal and state regulatory authorities with the responsibility for oversight of mining operations in the USA and in Pennsylvania. The remaining 24.3 million reserve tons are not permitted.

The extent to which the coal reserves may be affected by any known environmental, permitting, legal, title, variation, socio-economic, marketing, political, or other relevant issues has been reviewed rigorously for estimation of coal reserves. Similarly, the extent to which the estimates of coal reserves may be materially affected by mining, metallurgical, infrastructure, and other relevant factors has also been considered. MM&A is not aware of any of these factors that impede classification of the reserves.

*Table 15-3* below summarizes the washed in-seam coal quality for each reserve area included in this TR. *Table 15-4* summarizes the reserves and anticipated product quality by mine.

**Table 15-3: Summary of Coal Reserve Quality by Seam by Property – Proximate Analysis**

| Reserve Area | Seam | Weighted Composite (Moist Basis) | | | | |
|---|---|---|---|---|---|---|
| | | Recovery% | Ash% | Sulfur% | Btu | VM |
| **Surface-Mineable** | | | | | | |
| Rhoads | Upper Kittanning | 94.0 | 8.0 | 0.5 | 12,400 | 19.0 |
| Rhoads | Middle Kittanning | 75.0 | 14.0 | 1.6 | 12,200 | 15.0 |
| Rhoads | Lower Kittanning | 82.0 | 11.0 | 2.1 | 12,700 | 16.0 |
| Schrock Run | Lower Freeport | 96.0 | 7.0 | 0.7 | 13,300 | 17.0 |
| Schrock Run | Upper Kittanning | 91.0 | 10.0 | 1.5 | 12,900 | 17.0 |
| Shaffer | Lower Freeport | 96.0 | 7.0 | 0.8 | 13,400 | 18.0 |
| Hamer-Byers | Upper Freeport | 83.0 | 13.0 | 1.1 | - | 19.0 |
| Hart | Upper Kittanning | 77.0 | 15.0 | 1.2 | 12,300 | - |
| **Total** | | **88.1** | **10.3** | **1.1** | **12,800** | **17.4** |

| Reserve Area | Seam | Weighted Composite (Moist Basis) | | | | |
|---|---|---|---|---|---|---|
| | | Recovery% | Ash% | Sulfur% | Btu | VM |
| **Auger-mineable** | | | | | | |
| Rhoads | Upper Kittanning | 94.0 | 8.0 | 0.5 | 12,400 | 19.0 |
| Rhoads | Middle Kittanning | 75.0 | 14.0 | 1.6 | 12,200 | 15.0 |
| Rhoads | Lower Kittanning | 82.0 | 11.0 | 2.1 | 12,700 | 16.0 |
| Hamer-Byers | Upper Freeport | 83.0 | 13.0 | 1.1 | 0 | 19.0 |
| **Total** | | **82.1** | **11.8** | **1.5** | **12,400** | **16.7** |
| **Highwall Miner** | | | | | | |
| Schrock Run | Upper Kittanning | 91.0 | 10.0 | 1.5 | 12,900 | 17.0 |
| **Total** | | **91.0** | **10.0** | **1.5** | **12,900** | **17.0** |
| **Underground-Mineable** | | | | | | |
| Casselman North | Upper Freeport | 80.0 | 9.0 | 1.1 | - | 20.0 |
| Casselman South | Upper Freeport | 82.0 | 8.0 | 1.1 | 14,600 | 21.0 |
| Acosta | Upper Kittanning | 79.0 | 10.0 | 1.8 | 14,100 | 21.0 |
| Acosta | Middle Kittanning | 63.0 | 12.0 | 1.3 | 13,700 | 17.0 |
| Acosta | Lower Kittanning | 65.0 | 11.0 | 2.0 | 13,900 | 19.0 |
| Horning | Lower Freeport | 75.0 | 10.0 | 1.3 | 14,100 | 18.0 |
| Keyser | Lower Kittanning | 74.0 | 7.0 | 1.5 | 14,600 | 20.0 |
| A Seam | Brookville | 55.0 | 11.0 | 0.8 | 13,700 | 19.0 |
| **Total** | | **69.9** | **9.8** | **1.4** | **14,100** | **19.5** |
| **Total** | | | | | | |
| Surface Mineable | | 88.1 | 10.3 | 1.1 | 12,800 | 17.4 |
| Auger Mineable | | 82.1 | 11.8 | 1.5 | 12,400 | 16.7 |
| Highwall Mineable | | 91.0 | 10.0 | 1.5 | 12,900 | 17.0 |
| Underground Mineable | | 69.9 | 9.8 | 1.4 | 14,100 | 19.5 |
| **Total** | | **70.4** | **9.8** | **1.4** | **14,100** | **19.5** |

Note: Reserve quality based on production forecast of metallurgical and thermal coal.

**Table 15-4: Summary of Coal Reserve Quality by Mine– Proximate Analysis**

| | Weighted Composite (Moist Basis) | | | | |
|---|---|---|---|---|---|
| | Recovery | Ash | Sulfur | Btu | VM |
| Rhoads | 85.0 | 10.6 | 1.3 | 12,500 | 16.9 |
| Schrock Run | 92.0 | 9.3 | 1.3 | 13,000 | 17.0 |
| Shaffer | 96.0 | 7.0 | 0.8 | 13,400 | 18.0 |
| Hamer-Byers | 62.0 | 9.7 | 0.8 | - | 14.2 |
| Hart | 77.0 | 15.0 | 1.2 | 12,300 | - |
| Casselman (South) | 82.0 | 9.0 | 1.1 | 14,600 | 20.0 |
| Casselman (North) | 80.0 | 9.0 | 1.1 | - | 20.0 |
| Horning | 75.0 | 10.0 | 1.3 | 14,100 | 18.0 |
| Acosta | 71.0 | 10.8 | 1.7 | 13,900 | 19.3 |
| Keyser | 74.0 | 7.0 | 1.5 | 14,600 | 20.0 |
| A Seam | 55.0 | 11.0 | 0.8 | 13,700 | 19.0 |
| **Total** | **70.0** | **9.8** | **1.4** | **14,000** | **19.5** |

Note: Reserve quality based on production forecast of metallurgical and thermal coal. Moist coal quality basis includes 8% moisture.

A summary of each surface and underground mineable reserve area is provided below. Properties listed as “inactive” include both those properties that are currently idle and those properties that have not yet been developed or started.

## 15.8 Underground Reserve Areas

### 15.8.1 Casselman – Upper Freeport Seam Reserve (*Map 2*)

Casselman underground mine is an active mine in Garrett County, Maryland within the USGS Grantsville 7.5-Minute quadrangle. The mine produces from the Upper Freeport seam using two continuous miner sections, with the screened ROM product being hauled by truck to the Cambria preparation plant. Information from Corsa indicated that the production from the mine goes to the metallurgical market. The property is controlled through lease. In 2018, Corsa received approval for a mine permit expansion. Low-cover barriers exist along the streams within the property that exclude mining. Crossing exceptions through these barriers have been approved at specific locations to access additional resources. First mining only is allowed in these crossings. Average seam thickness for the Casselman reserve is 3.1 feet.

**Table 15-5: Casselman Underground Coal Reserve Summary (Moist Recoverable Basis)**

| | Total Demonstrated | | | By Permit Status | |
|---|---|---|---|---|---|
| Seam | Proven | Probable | Total | Permitted | Not Permitted |
| Upper Freeport | 2,326,000 | 310,300 | 2,636,300 | 2,636,200 | 0 |

Note: Totals may not add due to rounding.

### 15.8.2 Casselman North – Upper Freeport (*Map 2*)

Corsa has acquired several scattered leases totaling approximately 1,899 acres north of the current Casselman mine and Interstate Highway I68. At Casselman, Corsa drilled 12 exploration holes North of Interstate 68 in 2017 & 2018 to collect Upper Freeport seam data with the intent of future development. Eleven of the twelve exploration holes are located within the Proposed North Permit Expansion boundary. Seam thickness for nine of the twelve holes ranges from 2.50 to 3.95 feet with an average of 3.03 feet, and the average raw and washed coal quality for these nine holes is very consistent with seam quality data of the Casselman mine, south of the interstate (see *Table 11Q* in *Appendix 4*). Three of the exploration holes have Upper Freeport seam thickness heights less than 2.5 feet. These three holes are located in the east and northeast portion of the Proposed North Permit extension. Additional drill hole exploration is needed here, in the North Expansion, to further define coal thickness trends. A reserve estimate was not prepared for all of the Casselman North leases herein since they are not all contiguous enough for development at this time; however, a projected mine plan was prepared for those leases which were contiguous (see Block A on *Map 2*), and those reserves are included in the following table. Casselman North is partially permitted. Corsa plans include a new portal which will provide access to northern reserve areas.

**Table 15-6: Casselman North Underground Coal Reserve Summary (Moist Recoverable Basis)**

| | Total Demonstrated | | | By Permit Status | |
|---|---|---|---|---|---|
| Seam | Proven | Probable | Total | Permitted | Not Permitted |
| Upper Freeport | 3,356,400 | 1,186,200 | 4,542,600 | 2,816,700 | 1,725,900 |

Note: Totals may not add due to rounding.

### 15.8.3 Acosta - Upper Kittanning Seam Reserve (*Map 3A*)

Acosta is located in Somerset County, Pennsylvania within the USGS Somerset 7.5-Minute quadrangle. The larger portion of the property is controlled through ownership while the extreme northern portion of the property is leased. The Upper Kittanning seam at Acosta is not permitted and is classified as an inactive underground mine property. This reserve will be accessed via inter-seam slope from the active mine workings in the Middle Kittanning seam. Acosta's Upper Kittanning seam reserve has been incorporated with the former Wells Creek property in the south (owned property). It has been projected that this coal is viable for sale on the metallurgical coal market. Underground mine workings exist in the north, west and east side of the reserve area. The average seam thickness of the reserve is 3.3 feet. First mining only is projected for the Upper Kittanning seam since it is underlain by the mineable Middle Kittanning seam at approximately 39 feet.

**Table 15-7: Acosta UK Underground Coal Reserve Summary (Moist Recoverable Basis)**

| | Total Demonstrated | | | By Permit Status | |
|---|---|---|---|---|---|
| Seam | Proven | Probable | Total | Permitted | Not Permitted |
| Upper Kittanning | 7,852,200 | 1,526,100 | 9,378,300 | 0 | 9,378,300 |

Note: Totals may not add due to rounding.

### 15.8.4 Acosta - Middle Kittanning Seam (*Map 3B*)

Acosta's Middle Kittanning seam reserve is a permitted, active underground mine property and encompasses the same property boundary as Acosta's Upper Kittanning seam. The mine operates two to three continuous miner sections. The run-of-mine (*ROM*) product is trucked to the Preparation Plant for processing.

The Middle Kittanning seam lies on average 39 feet below the Upper Kittanning seam, and first mining only is projected. The largest portion of the property is controlled through ownership while the extreme northern portion of the property is leased. Approximately two thirds of the northern portion of the Acosta Middle Kittanning seam is permitted. In the northwestern portion of the property, a small area of highwall mining in the Middle Kittanning seam has occurred. This is the only previous mining in the Middle Kittanning seam within the property.

A face-up area for the underground reserve was completed in the extreme northwestern portion of the property; production began in June 2017. Coal quality characteristics of this coal are sufficient for shipment into the current metallurgical coal market. Overlying underground mine workings in the Upper Kittanning exist in the north, west and east side of the reserve area; in the northern area, the Middle Kittanning permit includes reserves beneath the previously mined Upper Kittanning. Average seam thickness is 3.0 feet.

**Table 15-8: Acosta MK Underground Coal Reserve Summary (Moist Recoverable Basis)**

| Seam | Total Demonstrated | | | By Permit Status | |
|---|---|---|---|---|---|
| | Proven | Probable | Total | Permitted | Not Permitted |
| Middle Kittanning | 3,752,100 | 986,300 | 4,738,400 | 4,737,700 | 700 |

Note: Totals may not add due to rounding.

### 15.8.5 Acosta – Lower Kittanning Seam Reserve (*Map 3C*)

Acosta's Lower Kittanning seam property encompasses the same boundary as the Acosta Upper and Middle Kittanning seam. This reserve will be accessed via inter-seam slope from the active mine workings in the Middle Kittanning seam, or alternately via a new box cut. The Lower Kittanning seam lies on average 44 feet below the Middle Kittanning seam, as a result, first mining only is projected. The largest portion of the property is controlled through lease while the extreme southern portion of the property is owned. The Acosta Lower Kittanning seam is not permitted. No previous mining in the Lower Kittanning seam has occurred within the boundary of the property. It has been projected that this coal to likely to be viable for sale on the thermal coal market. Acosta's Lower Kittanning reserve is classified as an inactive underground mine property. Overlying underground mine workings in the Upper Kittanning exist in the north, west and east side of the reserve area. Mine plans have not been projected underneath these mine works and therefore coal resources have not been included in the tonnage estimate. The average seam thickness is 3.6 feet.

**Table 15-9: Acosta LK Underground Coal Reserve Summary (Moist Recoverable Basis)**

| Seam | Total Demonstrated | | | By Permit Status | |
|---|---|---|---|---|---|
| | Proven | Probable | Total | Permitted | Not Permitted |
| Middle Kittanning | 3,630,900 | 1,236,400 | 4,867,300 | 0 | 4,867,300 |

Note: Totals may not add due to rounding.

### 15.8.6 Horning – Lower Freeport Seam (*Map 4*)

Horning D is in Somerset County, Pennsylvania, within the USGS Berlin 7.5-Minute quadrangle. Horning D is an active underground mine producing metallurgical-grade coal operating one continuous miner section. The property consists of owned and leased coal with lesser areas of internal uncontrolled coal, and it is fully permitted. The mine plans have been extended further north toward Schrock Run into an area that, in the 2014 TR, identified an existing underground mine in the Lower Freeport seam. Further review by Corsa, along with drilling, reveals that if this mine exists in this location it is not in the Lower Freeport or overlying seams. Average seam thickness is 2.9 feet.

**Table 15-10: Horning Underground Coal Reserve Summary (Moist Recoverable Basis)**

| Seam | Total Demonstrated | | | By Permit Status | |
|---|---|---|---|---|---|
| | Proven | Probable | Total | Permitted | Not Permitted |
| Lower Freeport | 1,593,500 | 235,700 | 1,829,200 | 1,829,200 | 0 |

Note: Totals may not add due to rounding.

### 15.8.7 A-Seam – Brookville Seam Reserve (*Map 5*)

The A Seam property is in Somerset County, Pennsylvania within portions of the USGS Berlin and Murdock 7.5-Minute quadrangles. Based on information provided by Corsa, MM&A has estimated that approximately 100 percent of coal production from this property could potentially enter the metallurgical coal market. The A Seam is classified as an inactive underground mine property. As other underground mining operations exhaust their reserves, the A Seam reserve is planned for future development. The A-Seam mine plan contains three distinct areas separated by an Absent-Low Coal Zone as identified on the resource map. Average seam thickness is 6.6 feet. The A-Seam property consists of permitted and not permitted reserve areas.

**Table 15-11: A-Seam Underground Coal Reserve Summary (Moist Recoverable Basis)**

| | Total Demonstrated | | | By Permit Status | |
|---|---|---|---|---|---|
| Seam | Proven | Probable | Total | Permitted | Not Permitted |
| Brookville | 5,589,300 | 810,400 | 6,399,700 | 6,399,700 | 0 |

Note: Totals may not add due to rounding.

### 15.8.8 Keyser – Lower Kittanning Seam Reserve (*Map 7*)

Keyser is in Somerset County, Pennsylvania, within the USGS Boswell and Hooversville 7.5-Minute quadrangles. Keyser is an inactive underground property with the potential to produce metallurgical and/or thermal-grade coal. The property is controlled largely through both coal leases and ownership and is not permitted but in the permit process. The reserve area occurs entirely within the owned property. The Lower Kittanning seam has an average thickness of 4.4 feet and underlies the Middle Kittanning seam at an interval of 53 feet. The water pool elevation in the overmined Upper Kittanning seam acts as a mine barrier to northward expansion of the Lower Kittanning resource area. A hydraulic barrier to the south prohibits the mineable resource from extending beyond the 1,750 feet seam elevation which is the bottom of the box cut elevation. These two barriers have reduced the area of mineable coal as originally projected by Wilson Creek Energy. The proposed Keyser LK mine is scheduled to begin construction in 2028 and to commence production in 2029.

**Table 15-12: Keyser LK Underground Coal Reserve Summary (Moist Recoverable Basis)**

| | Total Demonstrated | | | By Permit Status | |
|---|---|---|---|---|---|
| Seam | Proven | Probable | Total | Permitted | Not Permitted |
| Lower Kittanning | 4,834,000 | 3,497,400 | 8,331,400 | 0 | 8,331,400 |

Note: Totals may not add due to rounding.

## 15.9 Surface Reserve Areas

### 15.9.1 Hamer-Byers – Upper Freeport Seam Surface Reserve (*Map 11*)

Hamer-Byers is in Somerset County, Pennsylvania within the USGS Somerset 7.5-Minute quadrangle. The property contains surface and associated auger mineable reserves. The Hamer mine is complete; however, mining on the Byers permit is active. Surface mining rights are reported as controlled on this property, and the mineral is controlled through lease and the reserves are permitted. Based on

information provided by Corsa, it has been estimated that approximately 100 percent of the Upper Freeport auger production could potentially enter the metallurgical coal market, with 50 percent of the surface production going to the steam market. The property is projected to produce a metallurgical grade product. Surface mining ratios within the reserve area are approximately 7.8:1.

**Table 15-13: Hamer-Byers Surface Reserve Summary**

| Type/seam | Total Demonstrated | | | By Permit Status | |
|---|---|---|---|---|---|
| | Proven | Probable | Total | Permitted | Not Permitted |
| **Surface-mineable** | | | | | |
| Upper Freeport | 10,800 | 0 | 10,800 | 10,800 | 0 |
| **Auger -mineable** | | | | | |
| Upper Freeport | 6,900 | 0 | 6,900 | 6,900 | 0 |
| **Grand Total** | | | | | |
| **Total** | **17,700** | **0** | **17,700** | **17,700** | **0** |

Note: Totals may not add due to rounding.

### 15.9.2 Rhoads II – Upper, Middle and Lower Kittanning Seams Reserve (*Maps 9A, B and C*)

Rhoads is in Somerset County, Pennsylvania within the USGS Boswell 7.5-Minute quadrangle. Based on information provided by Corsa, it has been estimated that approximately 70 percent of coal production from this property could potentially enter the metallurgical coal market, with the remainder going to the steam market. The Rhoads property is classified as an active surface mine property along with associated auger mining. Surface mining rights are reported as controlled on this property, the mineral is controlled through lease and the reserves are permitted. Surface mining ratios of approximately 11.2:1 are estimated within the reserve area. The Lower Freeport seam, previously addressed in the 2014 TR, has since been exhausted by auger mining.

**Table 15-14: Rhoads II Surface Coal Reserve Summary (Moist Recoverable Basis)**

| Type/seam | Total Demonstrated | | | By Permit Status | |
|---|---|---|---|---|---|
| | Proven | Probable | Total | Permitted | Not Permitted |
| **Surface-mineable** | | | | | |
| Upper Kittanning | 95,100 | 0 | 95,100 | 95,100 | 0 |
| Middle Kittanning | 51,300 | 0 | 51,300 | 51,300 | 0 |
| Lower Kittanning | 89,100 | 0 | 89,100 | 89,100 | 0 |
| **Total** | **235,500** | **0** | **235,500** | **235,500** | **0** |
| **Auger-mineable** | | | | | |
| Upper Kittanning | 8,400 | 0 | 8,400 | 8,400 | 0 |
| Middle Kittanning | 13,400 | 0 | 13,400 | 13,400 | 0 |
| Lower Kittanning | 13,800 | 0 | 13,800 | 13,800 | 0 |
| **Total** | **35,600** | **0** | **35,600** | **35,600** | **0** |
| **Grand Total** | | | | | |
| **Total** | **271,100** | **0** | **271,100** | **271,100** | **0** |

Note: Totals may not add due to rounding.

### 15.9.3 Schrock Run – Lower Freeport and Upper Kittanning Seams Reserve (*Maps 10A and B*)

Schrock Run (and the associated Schrock Run Extension area) is located in Somerset County, Pennsylvania within portions of the USGS Stoystown and Berlin 7.5-Minute quadrangles. This property

is immediately west of the Cambria Preparation Plant. The Lower Freeport seam has been previously surface and underground mined within the project boundary of this property. Lower Freeport reserve tonnage will include some surface remining of existing underground mine workings. The Upper Kittanning seam reserves include highwall mining tons. The highwall mining area was previously designated for auger mining. Based on information provided by Corsa, it has been estimated that approximately 55 percent of coal production from this property could potentially enter the metallurgical coal market, with the remainder going to the steam market.

The Schrock Run (including the associated Schrock Run Extension area) property is active. Surface mining rights are reported as controlled on this property, the mineral is controlled through lease and ownership and the reserves are permitted. Surface mining ratios are 27.4: 1 within the reserve area.

**Table 15-15: Schrock Run/Schrock Run Extension Surface Coal Reserve Summary (Moist Recoverable Basis)**

| | Total Demonstrated | | | By Permit Status | |
|---|---|---|---|---|---|
| Type/seam | Proven | Probable | Total | Permitted | Not Permitted |
| **Surface-mineable** | | | | | |
| Lower Freeport | 66,200 | 0 | 66,200 | 66,200 | 0 |
| Upper Kittanning | 137,200 | 0 | 137,200 | 137,200 | 0 |
| **Total** | **203,400** | **0** | **203,400** | **203,400** | **0** |
| **Highwall Mineable** | | | | | |
| Lower Freeport | 0 | 0 | 0 | 0 | 0 |
| Upper Kittanning | 199,800 | 0 | 199,800 | 199,800 | 0 |
| **Total** | **199,800** | **0** | **199,800** | **199,800** | **0** |
| **Grand Total** | | | | | |
| **Total** | **403,200** | **0** | **403,200** | **403,200** | **0** |

Note: Totals may not add due to rounding.

### 15.9.4 Shaffer – Lower Freeport Seam Reserve (*Map 10A*)

Shaffer is located in Somerset County, Pennsylvania within portions of the USGS Stoystown and Berlin 7.5-Minute quadrangles. This property is adjacent to the Schrock Run Extension area. Approximately 77 percent of coal production from this property could potentially enter the metallurgical coal market, with the remainder going to the steam market.

The Shaffer property is proposed as replacement production upon depletion of the Schrock Run/Schrock Run Extension operations. Surface mining rights are reported as controlled on this property, the mineral is controlled through lease and ownership and the reserves are not permitted. Surface mining ratios are 27.1: 1 within the reserve area.

**Table 15-16: Shaffer Surface Coal Reserve Summary (Moist Recoverable Basis)**

| | Total Demonstrated | | | By Permit Status | |
|---|---|---|---|---|---|
| Type/seam | Proven | Probable | Total | Permitted | Not Permitted |
| **Surface-mineable** | | | | | |
| Lower Freeport | 391,600 | 0 | 391,600 | 0 | 391,600 |
| **Auger-mineable** | | | | | |
| Lower Freeport | 0 | 0 | 0 | 0 | 0 |
| **Grand Total** | | | | | |
| **Total** | **391,600** | **0** | **391,600** | **0** | **391,600** |

Note: Totals may not add due to rounding.

### 15.9.5 Hart – Upper Kittanning Seam Resource (*Map 13B*)

Hart is in Somerset County, Pennsylvania within the USGS Stoystown 7.5-Minute quadrangle. Based on information provided by Corsa, it has been estimated that 100% of the coal production from this property will be sold into the thermal coal market due to oxidation. Hart is classified as an idle surface mine property with resources in the Upper Kittanning seam. Surface mining rights are reported as controlled on this property, the mineral is owned, and the resources are permitted.

**Table 15-17: Hart Surface Coal Reserve Summary (Moist Recoverable Basis)**

| | Total Demonstrated | | | By Permit Status | |
|---|---|---|---|---|---|
| Type/seam | Proven | Probable | Total | Permitted | Not Permitted |
| **Surface-mineable** | | | | | |
| Upper Kittanning | 429,300 | 0 | 429,300 | 429,300 | 0 |
| **Auger -mineable** | | | | | |
| Upper Kittanning | 0 | 0 | 0 | 0 | 0 |
| **Grand Total** | | | | | |
| **Total** | **429,300** | **0** | **429,300** | **429,300** | **0** |

Note: Totals may not add due to rounding.

## 15.10 Comparison of Previous and Current Estimates

Reserve tonnage estimates reported herein (as of December 31, 2022) were compared to previous estimates (from 1997 to 2022). The following are contributing factors in understanding the nature of any differences that may exist between current and previous tonnage estimates.

1. Changes in mineral control.
2. Changes in surface control.
3. Changes in mine plans.
4. Changes in market conditions.
5. Changes in permitting requirements from state and/or federal regulatory agencies.
6. Updated/revised reserve parameters.
7. Depletion / sterilization of reserves associated with mining operations, or previously undefined limits of abandoned mines.

8. Limited information from which data could be extracted (digital map files, geologic models, and spreadsheets).
9. Incorporation of results from recent exploration, coal quality testing, and active mining.
10. Updated economic analysis.
11. Classification of reserves and resources according to NI 43-101 guidelines.

# 16 Mining Methods

## 16.1 Introduction

The resource base for the properties consists of eight coal seams extending from the Sewickley coal seam at the top of the stratigraphic column down through the Brookville coal seam (see *Figure 7-1*). The majority of the resource tons occurs in the coal seams from the Upper Freeport to the Lower Kittanning. The topographic location of the many coal seams and the physical characteristics of the coal seams provide abundant opportunities to apply several of the coal mining methods routinely employed in Northern Appalachia.

Coal seams that outcrop along the hillside or that are located near the surface may be considered for surface mining methods including contour and/or area removal. The surface mining methods allow recovery of resources that lie close to the surface and are not suitable for safe underground mining. Coal seams that are too thin to be underground mined economically can often be recovered successfully with surface mining methods. Contour mines advance along the coal seam outcrops with overburden back-stacked in the pit to eliminate the highwall. The proposed mine plan and financial model forecast approximately 2.3 million surface/auger tons; however, only 1.5 million surface/highwall/auger-mineable tons were determined to be economical for inclusion as reserves.

Underground reserves are mined using continuous mining room and pillar methods. Production sections are configured as single-unit sections, employing one continuous miner and one or two roof bolters per section; many are configured as continuous haulage units. The basic production design employed at the active mines was applied to projected operations where possible. The mine plan and financial model includes approximately 1.0 million underground tons in 2023, ramping up to approximately 1.6 million tons per year in 2033 and up to a maximum of 2.0 million tons in 2036.

A summary of each mine is provided in *Appendices 2 and 3*. Mine plans and projected timing by seam are shown in *Maps 2 through 17*. The appendix descriptions are classified by underground mines or surface mines including auger mining. Details provided for each mine include the location, coal lease(s) mined, mine equipment configuration, personnel, distance to the plant and load-out, production schedule, capital expenditures schedule, and financial highlights.

## 16.2 Surface Mining Methods

Schrock Run (including the associated Schrock Run Extension North and South Pits), Hamer-Byers and Rhoads are currently the only active surface mining operations on the Property; however, Corsa has numerous planned surface mines within its operational plan.

The proposed surface mines are planned to be operated by a mobile equipment spread built around Hitachi EX3600 or Komatsu PC 2000 shovels as the principal excavators. The surface mine operations are linked in the financial model by the progression of equipment spreads and crews from resource area to resource area. The configuration of this equipment spread, or fleet is projected to be maintained for the future mine projections. Surface-mining activities are projected to occur from 2022 through 2038 at annual production rates up to 213,000 tons. Equipment replacements are scheduled at appropriate times over the period for the equipment.

The Hitachi and Komatsu shovels are supported with a fleet of equipment including:

> Caterpillar 785 and 777 Rock Trucks;

> Caterpillar D11 Tractors;

> Caterpillar 16M Road Graders; and

> Other support equipment including backhoes and service trucks.

The mine model generally targeted overburden strip ratio limits of 16 to 20 bcy of overburden per ton. Higher ratios may be encountered occasionally, and the stripping ratios for each mine for each year is presented in *Appendix 3*. Tractor contribution to production may drop due to shorter panel lengths and rock truck haul distances are likely to increase to provide void space for highwall miner activity in the Upper Kittanning seam. Productivity will also be impacted by the excavation of a "box cut" to expose the Upper Kittanning in the southern portion of the Schrock Rock extension.

Direct mining operating costs for financial model include:

**Table 16-1: Direct Mining Operating Costs (Excluding Labor)**

| Cost Category | Cost ($/bcy) |
|---|---|
| Drilling and Blasting | $0.34 |
| Diesel Fuel and Lubes | $0.80 |
| Repairs and Maintenance Supplies | $0.36 |
| Other Operating Supplies/Misc. | $0.30 |
| **Total** | **$1.81** |

## 16.3 Underground Mining Methods

### 16.3.1 Introduction

There are currently three active underground mines operated by Corsa: Acosta, Horning and Casselman. The Keyser underground mine is expected to begin production in 2029. Production in Acosta will be expanded to include up to 3 seams, with generally no more than 2 of the 3 seams being mined simultaneously at any given time.

Projected annual production peaks at approximately 2.0 million clean tons. Mine plans are designed to project operating each resource area to depletion. Crews and equipment are scheduled to move to subsequent resource areas as depletion occurs.

The projected mines are assumed to operate similarly to the active mines, using the same equipment, crews, and methodology. Each mine is scheduled to operate one or two production sections, each configured as a single continuous miner section, most using continuous haulage. In all cases, mines are forecasted to produce coal two shifts each day and reserve the third shift for maintenance, as well as belt and power moves. Production is scheduled for two shifts Monday through Friday each week, and one shift every Saturday.

All of the mines can be accessed by box cut openings or highwall exposed by surface mining operations. Pillar extraction is not assumed for any of the current or future operations since no such plans have been approved by the appropriate regulatory agencies for those operations.

A brief description of each mine plan, financial model highlights, and the capital expenditures schedule is included in *Appendix 2*. Financial highlights for each year list production, sales price, total cash cost, total cost of operations, and profit or loss. The capital expenditures schedule detail costs for production equipment and conveyor belt terminal groups. "Other" costs include expenditures for mine access and construction, mine extension capital, and miscellaneous costs.

### 16.3.2 General Mine Plan

Individual coal mines are projected with one or two production sections. The production sections are configured as single continuous miner sections. Mine ventilation system design includes 2 to 4 intake airways per section. Upon sweeping the production faces, the return air is carried away from the section in the 2 to 3 return entries. Each production section is equipped with one continuous miner. Two roof bolters are provided to install roof support on the section soon after the mine roof is exposed during production. Coal is transported from the face to the section feeder-breaker by means of continuous haulage systems or by as many as three electric shuttle cars. It is then conveyed to the surface through the section belt, followed by the main belt. Two battery-powered scoops are provided for support services on each section.

Mine conveyor belts range in width from 42 inches for section belts to 48 inches within mains and sub-mains. The mine fans are located on the surface and are arranged for blowing or exhausting ventilation.

Production and mine development timing were based upon coal seam characteristics and continuous miner cutting heights of 42 to 60 inches. Mine productivity was projected based on expected geological conditions, coal seam height, and production section configuration. Coal pillar sizes were tested using the Analysis of Coal Pillar Stability (*ACPS*) software program developed by the **National Institute for Occupational Safety and Health (*NIOSH*)**. Because the mining heights assigned in the model are often greater than coal seam heights, roof or floor material must be mined, and the OSD affects the ultimate clean coal recovery from the coal preparation plant. Underground production is transported by trucks to a Corsa preparation plant for washing. The table below presents the in-seam wash recovery for the in-situ coal and the plant recovery reflecting the impact of OSD, along with a plant efficiency of 95%.

**Table 16-2: Coal Seam Thickness and Wash Recovery**

| Mine | Seam Thickness (Feet) | Recovery % (In-Seam) | Recovery % (Plant) |
|---|---|---|---|
| A-Seam | 6.64 | 55.48 | 47.7 |
| Casselman | 3.03 | 81.70 | 60.0 |
| Casselman North | 3.29 | 80.18 | 62.0 |
| Horning | 3.00 | 89.1 | 63.0 |
| Acosta (UK) | 3.34 | 78.63 | 58.9 |
| Acosta (MK) | 3.00 | 63.20 | 46.7 |
| Acosta (LK) | 3.47 | 65.32 | 50.6 |
| Keyser (LK) | 4.35 | 74.06 | 61.7 |

Direct mining cost inputs to the financial model are supported by schedules for labor, roof support, maintenance and repairs, supplies, indirect mining costs, and sales variable costs, including royalties and state coal severance taxes. Coal transportation costs are based upon unit costs for coal truck haulage and the distance to the preparation plant. Productivity rates are based on historical information provided by Corsa, and in some cases, were adjusted to reflect uncertainty around possible future mining conditions.

**Table 16-3: Mine Productivity and Selected Mine Costs**

| Mine | Productivity (feet/unit-shift) | Roof Support ($ per ft.) | Mine Supplies ($ per ft.) | M&R ($ per raw ton) |
|---|---|---|---|---|
| A-Seam | 150 | $18.76 | $19.43 | $5.14 |
| Horning | 150 | $18.76 | $19.43 | $5.14 |
| Casselman | 180 | $20.80 | $22.85 | $5.77 |
| Casselman North | 180 | $18.76 | $19.43 | $5.14 |
| Keyser (LK) | 180 | $18.76 | $19.43 | $5.14 |
| Acosta (UK) | 210 | $14.46 | $15.90 | $4.14 |
| Acosta (MK) | 210 | $14.46 | $15.90 | $4.14 |
| Acosta (LK) | 210 | $14.46 | $15.90 | $4.14 |

# 17 Recovery Methods

## 17.1 Materials Handling and Coal Preparation

### 17.1.1 Raw Coal Transport

Raw coal produced from the mine is currently delivered by truck to the Cambria coal preparation facility. The Shade Creek coal preparation plant is temporarily idled and is on care-and-maintenance status. In addition, Corsa has the Rockwood plant on care-and-maintenance status which can be reactivated in the future when production level exceeds the capacity at the Cambria plant.

Some raw coal produced from the mine is shipped directly to the customer on a raw basis or blended with processed or purchased coal, depending on coal quality and specific customer requirements. Corsa preparation facilities have raw coal handling systems consisting of a rotary breaker and screen used to remove large rock and size raw coal. Raw coal is then shipped on a raw basis or blended with washed coals from the preparation plant.

Raw coal to be processed is stockpiled, then loaded by a wheel-loader into a hopper for conveyor transport into the coal preparation plant.

Raw stockpile capacity includes approximately 70,000 tons of raw coal ground storage at the Shade Creek plant and 60,000 tons of raw coal ground storage at the Cambria plant.

### 17.1.2 Coal Preparation

Corsa currently operates one preparation plant, the Cambria Preparation Plant.

The Cambria Preparation Plant is designed for 325-tons per hour (*tph*) raw coal feed. It was relocated from its original site in 2009 incorporating design upgrades at that time. Raw coal at the Cambria plant is crushed screened to provide sized material to each of the following process circuits.

**Table 17-1: Summary of Sized material and Cleaning Circuits – Cambria Preparation Plant**

| Fraction | Size | Feed % | Circuit |
|---|---|---|---|
| Coarse | 2 in x 1 mm | 70.0 | Heavy Media Cyclone |
| Fine | 1 mm x 100 mesh | 20.0 | Water-only Cyclone/Spirals |
| Ultra-fine | 100 mesh x 0 | 10.0 | Column Flotation & SCI Solid Bowl |

The Cambria complex has the capacity to store 120,000 tons of clean coal. The plant is serviced by CSX and has a unit-train loading capacity of 2,000 tph and can load a 130-car unit train. The power requirement for the Cambria plant as currently configured averages approximately 5,500 kilovolt-ampere (*kVA*). Water consumption at the plant averages approximately 100 gallons per minute (*gpm*).

The Shade Creek Preparation Plant is designed for 450 tph raw coal feed. Currently the plant is temporarily idled on care-and-maintenance status.

The Shade Creek plant was updated in 2008 with improvements including: increase in heavy media cyclone clean coal and reject drain and rinse screen capacity, addition of the Teeter Bed Separator circuit, the addition of the column flotation circuit, increase in fine clean coal centrifuge capacity, and addition of a high-capacity thickener. Raw coal is crushed and screened to provide sized material to each of the following process circuits.

**Table 17-2: Summary of Sized material and Cleaning Circuits – Shade Creek Preparation Plant**

| Fraction | Size | Feed % | Circuit |
|---|---|---|---|
| Coarse | 3 in x 3/8 in. | 10.0 | Heavy Media Vessel |
| Intermediate | 3/8 in x 1 mm | 60.0 | Heavy Media Cyclone |
| Fine | 1 mm x 100 mesh | 20.0 | Teeter Bed Separator |
| Ultra-fine | 100 mesh x 0 | 10.0 | Column Flotation |

The Shade Creek complex has the capacity to store 120,000 tons of clean coal, including 10,000-ton storage building and a 5,000-ton capacity silo. The plant is serviced by the NS, with a unit-train loading capacity of 2,000 tph and can load a 100-car unit train. The power requirement for the Shade Creek plant, as currently configured, averages approximately 6,500 kVA. Water consumption at the plant averages approximately 160 gpm.

Clean coal and refuse products are dewatered with vibratory screens, sieve screens, and centrifugal dryers. The thickener underflow is concentrated by belt presses and is transported to the combined refuse disposal facility by off-road trucks. Coarse coal refuse is trucked from the plant to the combined refuse disposal facility.

Corsa acquired the Rockwood plant from Wilson Creek Energy. This plant is a heavy-media type plant with a rated capacity of 325 tph, with three primary circuits.

**Table 17-3: Summary of Sized material and Cleaning Circuits – Rockwood Preparation Plant**

| Fraction | Size | Feed % | Circuit |
|---|---|---|---|
| Coarse | 2 in x 1 mm | 70.0 | Heavy Media Cyclone |
| Fine | 1 mm x 100 mesh | 20.0 | Spirals |
| Ultra-fine | 100 mesh x 0 | 10.0 | Column Flotation |

The Rockwood plant currently has the capacity to store 24,000 tons of clean coal, with a permitted area for expansion. The plant is connected to high voltage power through four transformers that total 5,000 kVA. Make-up water consumption is estimated at 85 to 90 gpm.

Historical data indicates that in previous years, the Cambria preparation plant processed in excess of 1.5 million raw tons of coal with an average annual plant recovery of over 62%, while the Shade Creek

preparation plant processed over 2.6 million tons with an average recovery of 68%. Given this range of plant recoveries, the projected plant recoveries in *Table 16-2* appear reasonable and achievable for future production from the Corsa properties, and Corsa has the preparation plant capacity to achieve the production levels projected by MM&A's plan. In addition, Corsa has existing loadouts on both the NS and CSX rail lines, giving it access to a wide range of markets and customers.

Corsa has 5 million cubic yards of refuse storage capacity both under permit and developed, along with another 25 million cubic yards under permit and not developed. At projected production levels, approximately 10 years of refuse capacity is under permit and developed, with another 50 years of capacity under permit and not developed.

# 18 Project Infrastructure

Existing project infrastructure includes: one operating preparation plant facility operated by Corsa, including raw and clean coal storage, unit-train rail load-out, and refuse disposal (Cambria); one temporarily idled preparation plant (Shade Creek); one idle preparation plant on care and maintenance (Rockwood); three active underground mines and associated surface support facilities (Acosta, Casselman and Horning), one idle underground mine and associated support facilities, three active surface mines (Schrock Run/Schrock Run Extension North and South Pits, Rhoads and Hamer-Byers). Coal can be shipped to various customers via rail through both the CSX (Cambria or Rockwood) and Norfolk Southern (Shade Creek) rail network.

# 19 Market Studies and Contracts

Metallurgical and thermal coal price information was provided by Corsa and assessed for reasonableness by MM&A for use in the financial model. Coal produced from the properties from Corsa's mines is projected to be sold into the domestic and international metallurgical markets and domestic thermal market. For metallurgical coal, pricing penalties were applied to each respective coal seam in accordance with their dry sulfur contents. A $3.00-penalty per saleable ton was assumed for each one-tenth percentage of sulfur above 1.0-percent. Thermal prices were adjusted to reflect a premium or penalty for higher or lower BTU coals. Sales price assumptions used in the economic analysis presented in *Item 22*.

Corsa is a reliable supplier of high-quality thermal coal and metallurgical coal to the Mid-Atlantic region and metallurgical coal to international customers in Asia, Europe, and South America, via export terminals in Baltimore, Maryland and Norfolk, Virginia.

# 20 Environmental Studies, Permitting and Social or Community Impact

## 20.1 Environmental Studies

MM&A is not aware of any recent environmental study conducted on the properties. Corsa reports not having conducted such a study since 1998. In 2008, as part of the report *Independent Technical Report Coal Reserves and Mining Operations, PBS Coals, Inc.,* Boyd reports that a limited investigation utilizing federal, state and local agencies did not identify environmental hindrances preventing future development of the properties, however investigations do not extend indefinitely and should be conducted on a regular basis. MM&A recommends at minimum Corsa conduct a Limited Phase I Environmental Site Assessment (*ESA*) of the operations associated with the properties. The assessment should include a site inspection, review of historical records, a database search of State and Federal regulatory records and interviews to identify potential recognized environmental conditions (*RECs*) that may create environmental liability for the sites.

Based on data provided by Corsa and reviewed by MM&A, it is MM&A's opinion that Corsa has a generally typical coal industry record of compliance with applicable mining, water quality, and environmental laws.

## 20.2 Permitting and Social or Community Impacts

All mining operations are subject to federal and state laws and must obtain permits to operate underground and surface mines, coal preparation and related facilities, haul roads, and other incidental surface disturbances necessary for mining to occur. Permits generally require that the permittee post a performance bond in an amount established by the regulatory program to provide assurance that any disturbance or liability created during mining operations is properly restored to an approved post-mining land use and that all regulations and requirements of the permits are fully satisfied before the bond is returned to the permittee. Significant penalties exist for any permittee who fails to meet the obligations of the permits including cessation of mining operations, which can lead to potential forfeiture of the bond. Any company, and its directors, owners, and officers, which are subject to bond forfeiture can be denied future permits under the program.[6]

New permits or permit revisions will occasionally be necessary to facilitate the expansion or addition of new mining areas on the properties, such as amendments to existing permits and new permits for mining of reserve areas. Exploration permits also are required. Property under lease includes provisions for exploration among the terms of the lease. New or modified mining permits are subject to a public advertisement process and comment period, and the public is provided an opportunity to

[6] Monitored under the Applicant Violator System (AVS) by the Federal Office of Surface Mining.

raise objections to any proposed mining operation. MM&A is not aware of any specific prohibition of mining on the subject property and given sufficient time and planning, Corsa should be able to secure new permits to maintain its planned mining operations within the context of current regulations. Necessary permits are in place to support current production on the properties, but future permits are required to maintain and expand production.

Recent EPA intervention in the surface mine permitting process has resulted in lengthy delays in issuance of Section 401, 402 and 404 permits required under the Clean Water Act. However, Corsa's ability to operate without the need for valley fills has minimized the impact of such delays in their permitting efforts. Residential and public concerns such as blasting, view shed, or transportation are not expected to prevent the issuance of future permits.

Portions of the properties are located near local communities. Regulations prohibit mining activities within 300 feet of a residential dwelling, school, church, or similar structure unless written consent is first obtained from the owner of the structure. Where required, such consents have been obtained where mining is proposed beyond the regulatory limits.

## 20.3 Mine Closure and Reclamation

Applicable regulations require that mines be properly closed, and reclamation commenced immediately upon abandonment. In general, site reclamation includes removal of structures, backfilling, regrading, and revegetation of disturbed areas. For surface mines, the majority of the expense for backfilling and regrading is completed as part of ongoing mining operations, with only reclamation of final pits required at end-of-mine life. Sediment control is required during the establishment of vegetation, and bond release generally requires a minimum five-year period of site maintenance, water sampling, and sediment control following mine completion. This requirement is reduced to two years for certain operations involving re-mining. Reclamation of underground mines includes closure and sealing of mine openings such as portals and shafts in addition to the items listed above.

Federal and State law states that reclamation bonds cannot be released for mining sites where long-term water treatment is necessary. Water treatment issues, which have been identified on the properties, could result in long-term financial obligations. Sites with perpetual water treatment requirements have been identified by regulatory agencies, and trust funds have been, or are currently being implemented to ensure money is available to operate these sites in perpetuity.

Long-term water treatment liabilities exist for 18 of the PBS/Wilson Creek properties. These liabilities are covered under three separate Consent Order & Agreements (*COA*) between PBS/Wilson Creek and the PA DEP. Under these COAs, three trust funds designed to cover operating and capital expenses associated with the treatment of the 18 perpetual water treatment sites were established. The first, dated March 17, 1999, for the Clear Run watershed Permits (#s 56813006, 56840107, 56920112 and

56663112) is currently fully funded. Based on the last PA DEP cost review of March 2, 2022, the Clear Run Trust target ($3.51 million) including the sub-account ($0.77 million) is $5.28 million. The Clear Run Trust account value as of March 31, 2022, was $4.84 million and $2.65 million in bonds are posted for a total of $7.49 million. Clear Run costs were submitted for the April 1, 2021 to March 31, 2022 reporting period of $0.252 million; however, as of the date of this TR Corsa had not received as response from PA DEP.

The second fund, The Global Treatment Trust under the COA dated March 22, 2012, covers 12 properties:

**Table 20-1: Permits Included in Global Treatment Trust**

| Property | Permit # |
|---|---|
| Acosta Mine | 56960107 |
| Cambria Fuels Refuse Area | 56773707 |
| Garrett | 4074AM28 |
| Goodtown Prep Plant | 56841605 |
| Job 21 | 40A77AM12 |
| Job 10 Refuse Area | 56910701 |
| Jolin Strip | no longer exists |
| Magnetto | 3366BSM2 |
| Roberts | 56813104 |
| Job 12 Expansion | 56900701 |
| Cambria Refuse (Job 93) | 56950702 |
| Barbara B | 56851303 |

The Global Trust was established on March 30, 2012, with a $1.0-million payment, and PBS continued to deposit funds into the account each year as required. The 2021 end of year trust target valuation was $16.78 million along with a capital improvement account of $1.58 million. According to the May 31, 2022 letter from PA DEP to Corsa, the value of the trust as of December 31, 2021 was $19.76 million and the capital account was $1.59 million, therefore the trust is currently fully funded.

The third trust, the Trent and Acosta 2 Treatment Trust, established in December 2018, includes two additional surface mines: Trent Mine and Acosta 2 Mine. The permit numbers are #56070103 and #56980103 respectively. At the end of 2021, the current trust target was $3.68 million along with a capital improvement account of $0.19 million. Based on the April 15, 2022 letter from PA DEP to Corsa, the trust value at the end of 2021 was $4.16 million and the capital account was $0.19 million, therefore the trust is currently fully funded.

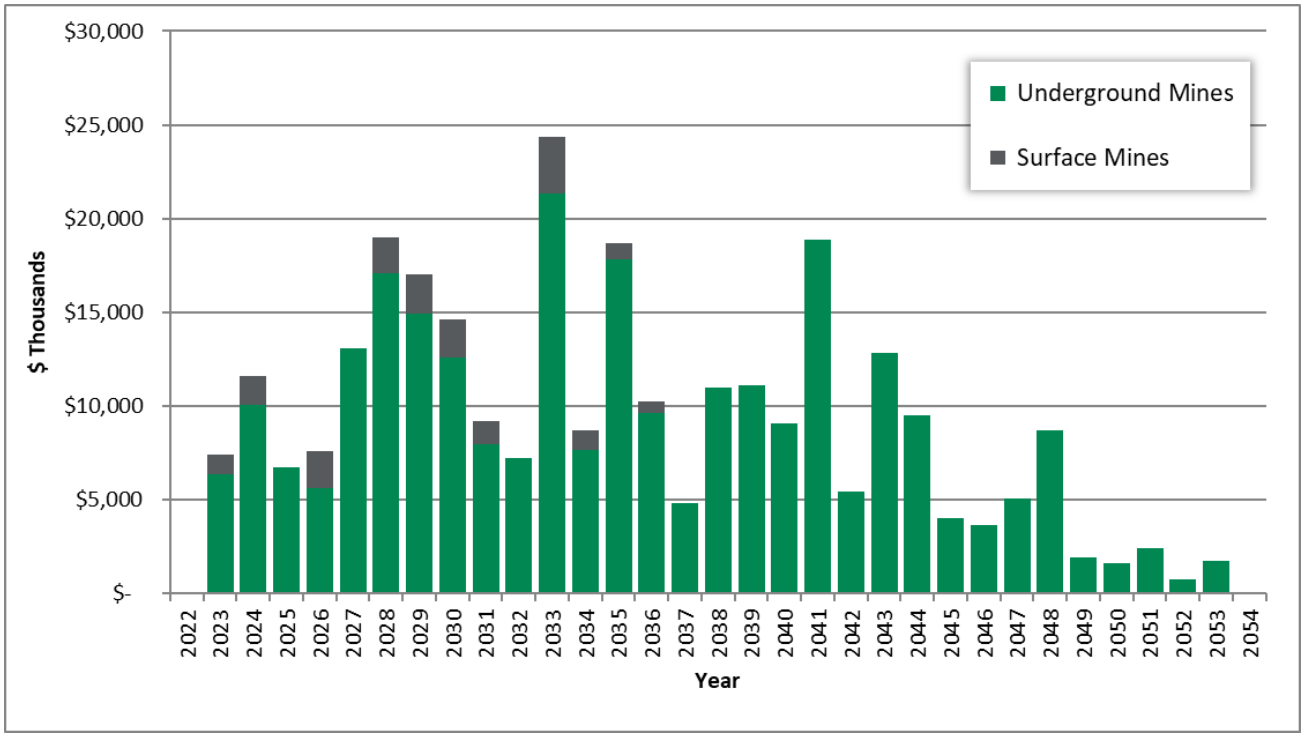
# 21 Capital and Operating Costs

Capital expenditures total $46.4 million during the first five years (through 2027) and $287.9 million over the project's life. Underground mine capital is projected by mine and includes the purchase and

rebuilds of major equipment such as continuous miners, roof bolters, continuous haulage systems, and shuttle cars, as well as construction and development capital. Surface mine capital is projected for equipment owned by Corsa, which move to the various reserve areas, including the Hitachi EX3600 excavator. Surface mine capital also includes the related dozers, overburden haulers, and coal haulers, as well as the necessary support equipment. Projected capital also includes the necessary replacement expenditures in subsequent years.

Capital expenditures are detailed in tabular form in *Appendices 2 and 3* and summarized in the chart below:

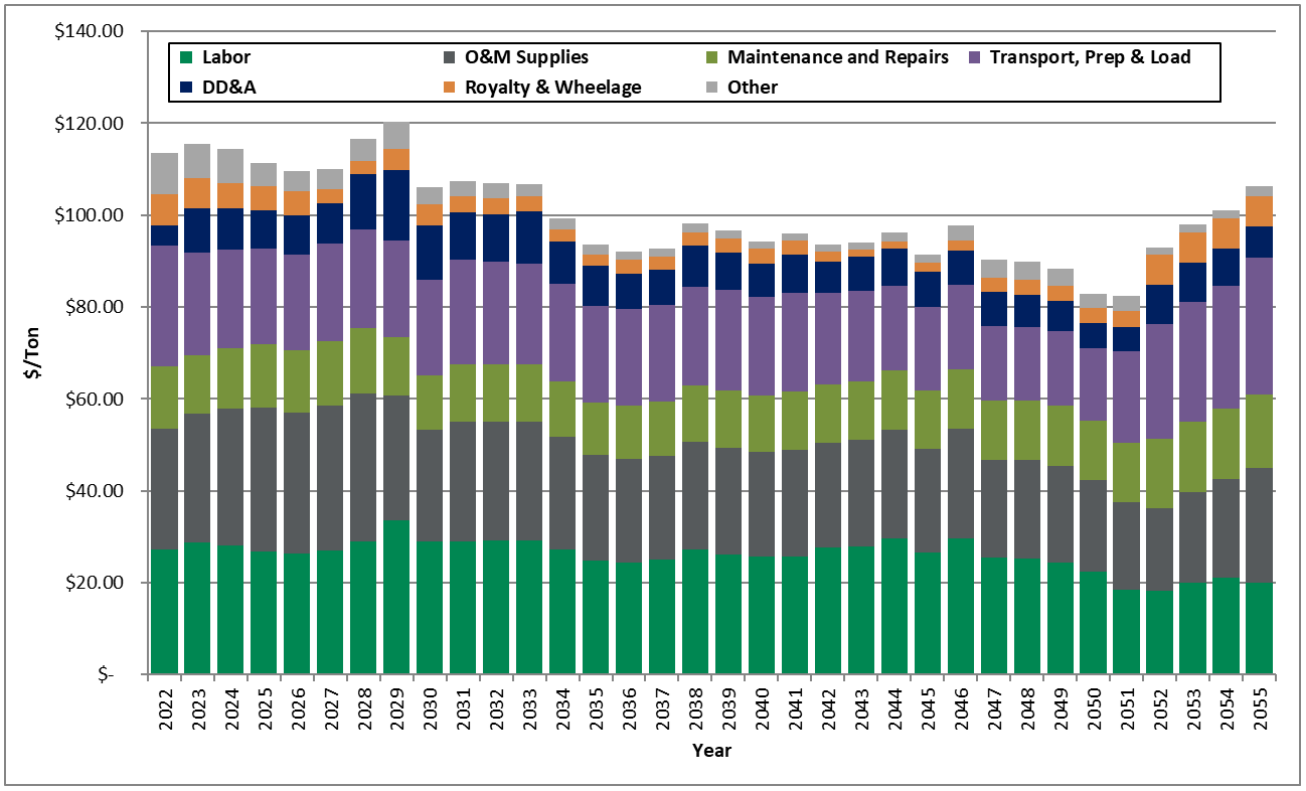
**Figure 21-1: Consolidated Annual Capital Expenditures**




Operating costs are projected for each mine, taking into account projected annual tonnage, overburden moved, and feet of advance, as appropriate. Operating cost projections are based on MM&A estimates of staffing, wage and salary levels, employee benefits, operating and maintenance (*O&M*), and supply costs per yard of overburden, per foot of advance, and per ton produced or processed. Key operating cost assumptions are provided in *Tables 16-1 and 16-3*, and a summary of the operating costs for each proposed mine is provided in *Appendices 2 and 3*.

A breakdown of the projected total costs per ton before interest expense is shown in the chart below for the consolidated entity.

**Figure 21-2: Operating Costs (Total Costs per Ton Excluding Interest)**




Note: Results shown for 2022 are for fourth quarter only.

# 22 Economic Analysis

## 22.1 Economic Evaluation

### 22.1.1 Introduction

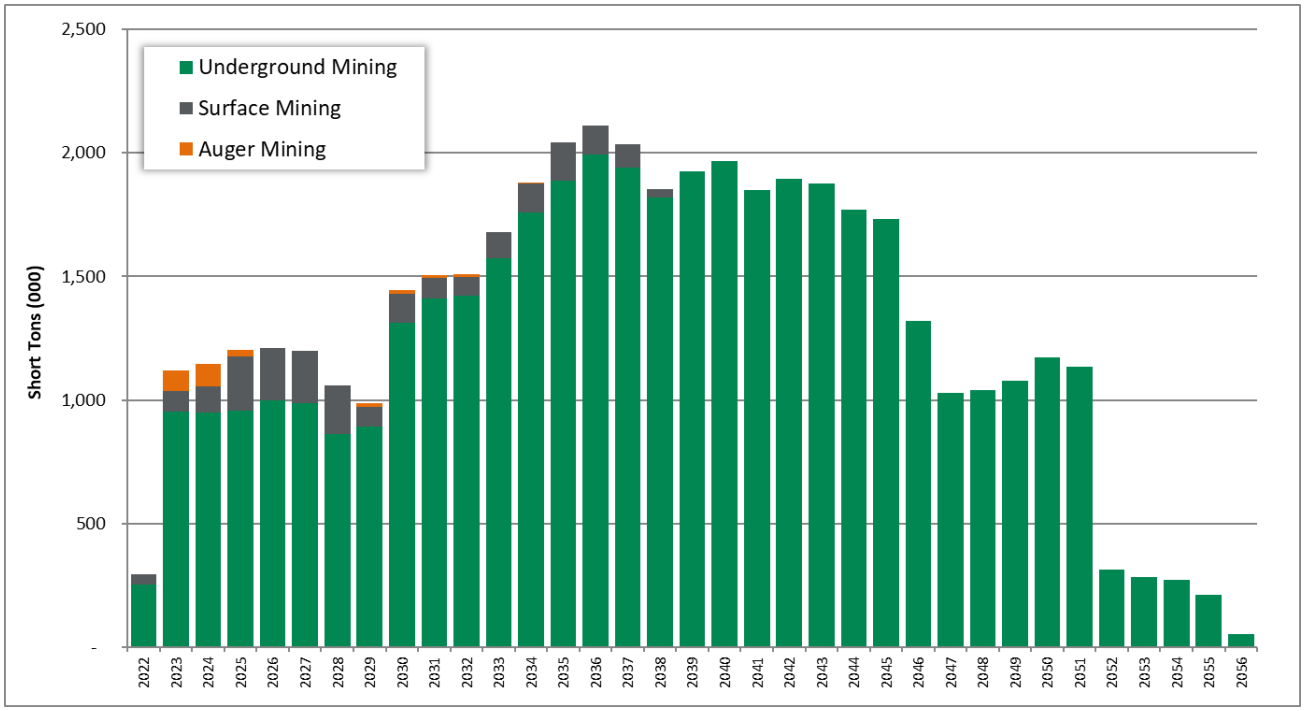
The pre-feasibility financial model prepared for this TR was developed to test the economic viability of each coal resource area. The results of this financial model are not intended to represent a bankable feasibility study, required for financing of any current or future mining operations contemplated for the Corsa properties, but are intended to establish the economic viability of the estimated coal reserves. Cash flows are simulated on an annual basis based on projected production from the coal reserves. The discounted cash flow analysis presented herein is based on an effective date of December 31, 2022.

On an un-levered basis, the NPV of the project cash flow after taxes represents the Enterprise Value of the project. The project cash flow, excluding debt service, is calculated by subtracting direct and indirect operating expenses and capital expenditures from revenue. Direct costs include labor, drilling and blasting, operating supplies, maintenance and repairs, facilities costs for materials handling, coal preparation, refuse disposal, coal loading, sampling and analysis services, reclamation, and general and administrative costs. Indirect costs include statutory and legally agreed upon fees related to direct

extraction of the mineral. The indirect costs are the Federal black lung tax, Federal and State reclamation taxes, property taxes, coal production royalties, and income taxes. The Corsa mines' historical costs provided a useful reference for MM&A's cost estimates.

The operations are projected on a calendar year basis. MM&A's projection of annual sales tonnage is summarized in the chart below. While all Corsa coal resources properties deemed by MM&A to have potential for classification as coal reserves were evaluated as part of the economic model, some of those resource areas were determined to be uneconomical in the current market and were therefore excluded from coal reserves as discussed below.

**Figure 22-1: Projection of Sales Tons**




Note: Results shown for 2022 are for fourth quarter only.
Auger Mining includes Highwall Miner.

Sales revenue is based on the metallurgical and thermal coal price information provided to MM&A by Corsa. Only the revenue from Corsa's captive mining operations is included in the financial model used for this TR.

The P&L projections of the individual mines of Corsa are then aggregated by mining method and ultimately consolidated into a P&L and cash flow schedule for further testing of the economics. Projected debt service is excluded from the P&L and cash flow model in order to determine Enterprise Value of the aggregated entity.

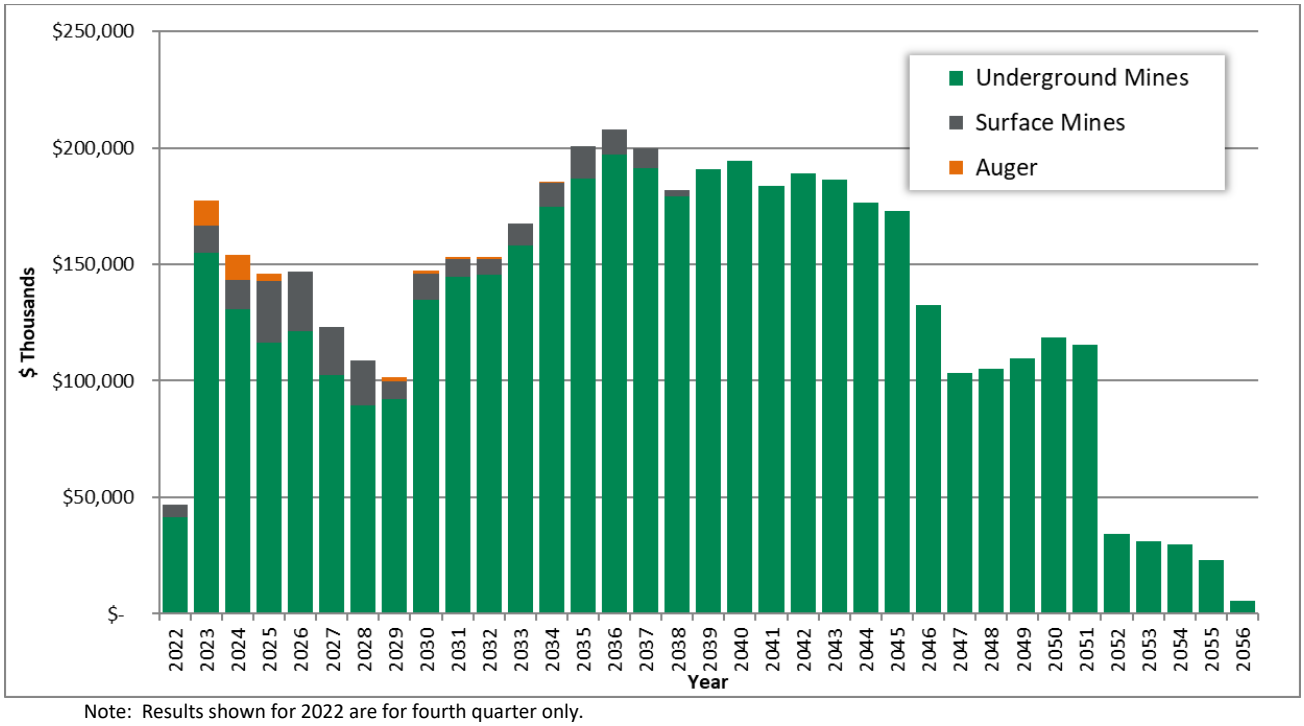
The financial model expresses coal sales prices, operating costs, and capital expenditures in current day dollars without adjustment for inflation. Capital expenditures and reclamation costs are included based on engineering estimates for each mine by year. The Corsa NAPP Division's existing allocations of administrative costs are continued in the future projections.

Corsa will pay royalties for the various current and projected operations. The royalty rates vary by mining method and location. Typical mineral royalty rates range from 5% to 6% of the gross sales price. For surface reserves the combined surface and mineral royalties are as high as 16%.

The projection model also includes consolidated income tax calculations at the Corsa level, incorporating statutory depletion calculations, as well as state income taxes, and a federal tax rate of either 20% or 35%, depending on whether the alternative minimum tax applies. To the extent the Corsa mines generate net operating losses for tax purposes, the losses are carried over to offset future taxable income from Corsa mines. The terms "cash flows" and "project cash flows" used in this report refer to after tax cash flows.

Corsa's projected consolidated annual revenue, broken down by mining method is shown in the chart below:

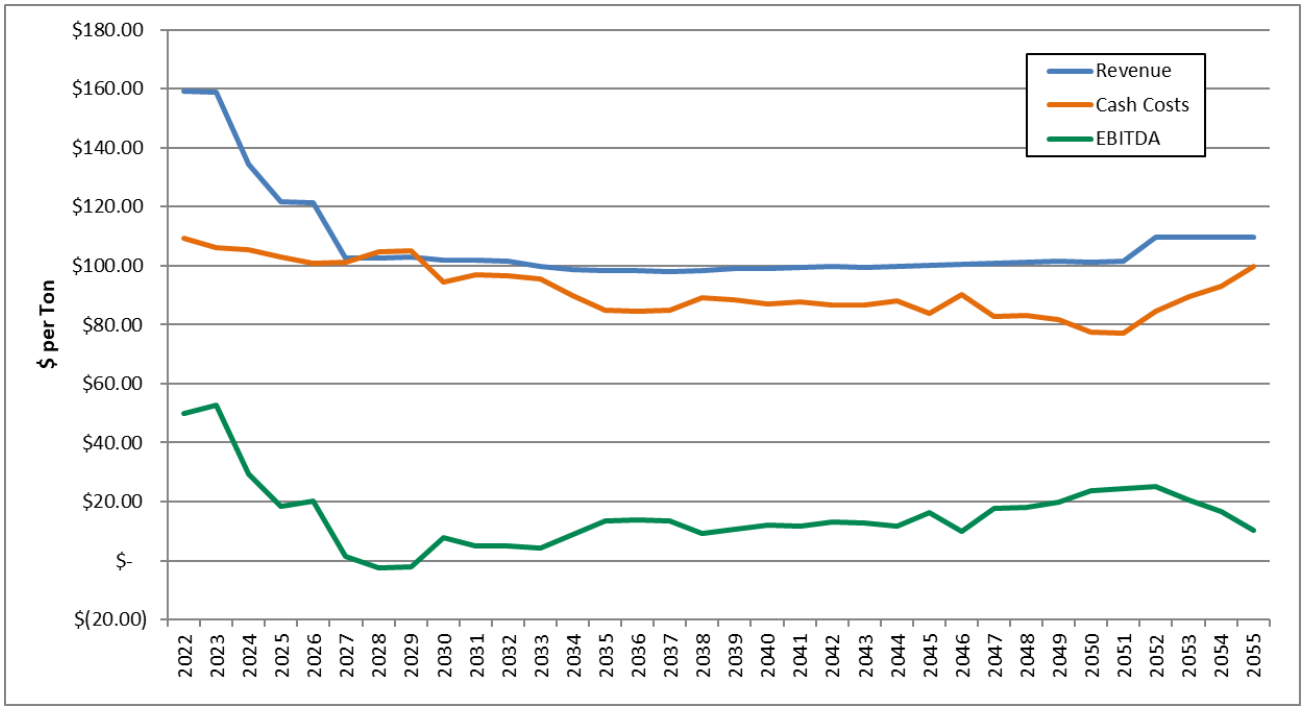
**Figure 22-2: Consolidated Annual Revenue**




Note: Results shown for 2022 are for fourth quarter only.
Auger Mining includes Highwall Miner.

Corsa projected consolidated revenue, cash costs, and EBITDA, are expressed in dollars per ton in the graph below.

**Figure 22-3: Revenue, Cash Costs, and EBITDA**




Note: Results shown for 2022 are for fourth quarter only.

The above chart shows 2023 revenue of $158.61 per ton, cash costs of $105.97 per ton and EBITDA of $52.64 per ton. Margins vary thereafter due to changes in overburden ratios, coal processing recovery rates, and the mix of tons from surface and underground mining methods. Beginning in 2039, all tonnage for the remainder of the project period results from the underground mines. Positive EBITDA per ton averages $13.54 per ton over the life of the operations. A P&L and EBITDA Summary is shown in *Table 22-1* below.

*Table 22-1* shows LOM tonnage, P&L, and EBITDA for each Corsa mine.

**Table 22-1: Life-of-Mine Tonnage (1,000's), P&L before Tax, and EBITDA**

| | LOM Tonnage | LOM Pre Tax P&L | P&L Per Ton | LOM EBITDA | EBITDA Per Ton |
|---|---|---|---|---|---|
| **Underground Mines** | | | | | |
| A Seam | 6,400 | $64,874 | $10.14 | $112,067 | $17.51 |
| Horning D | 1,846 | $20,072 | $10.87 | $39,779 | $21.55 |
| Casselman | 2,709 | $22,360 | $8.25 | $44,755 | $16.52 |
| Casselman North | 4,543 | ($14,993) | ($3.30) | $26,400 | $5.81 |
| Keyser LK | 8,331 | $39,940 | $4.79 | $110,075 | $13.21 |
| Acosta UK | 9,378 | $63,880 | $6.81 | $132,000 | $14.08 |
| Acosta MK | 4,821 | $10,307 | $2.14 | $49,414 | $10.25 |
| Acosta LK | 4,867 | $6,396 | $1.31 | $45,753 | $9.40 |
| **Consolidated Deep Mines** | **42,895** | **$212,836** | **$4.96** | **$560,242** | **$13.06** |

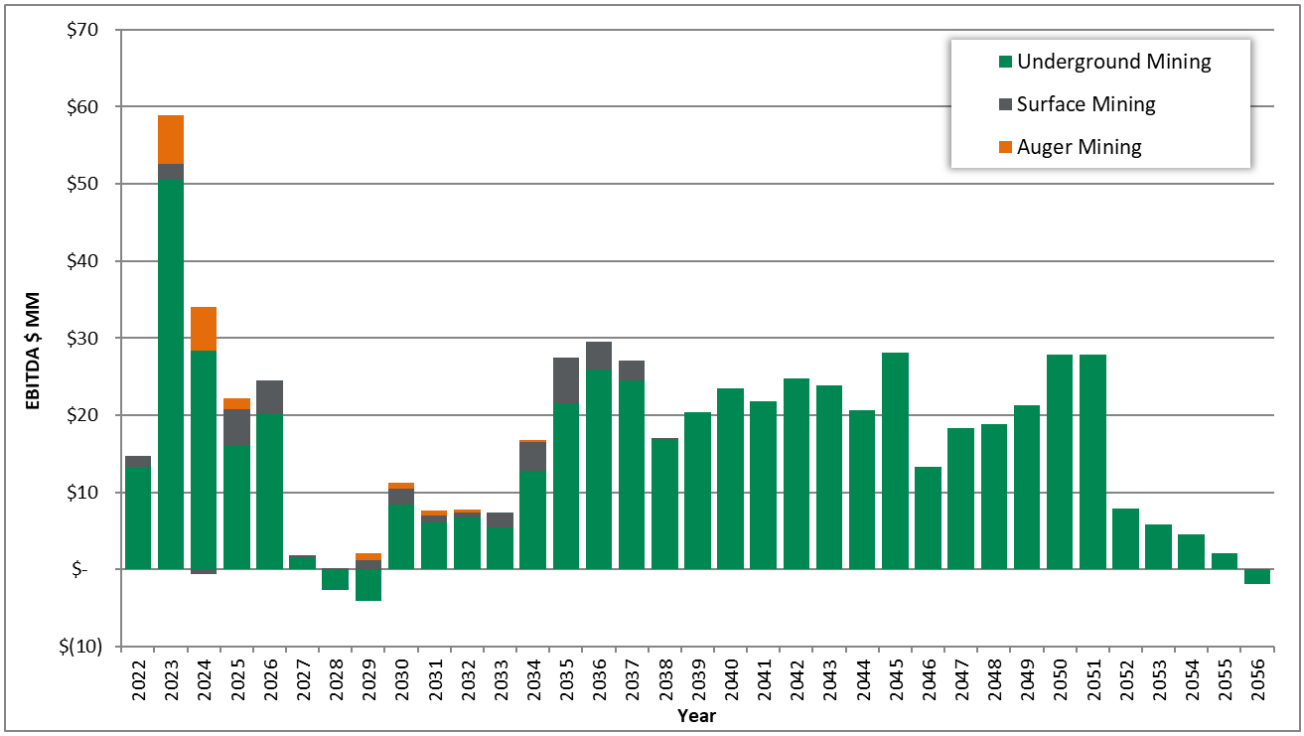
| | LOM Tonnage** | LOM Pre Tax P&L | P&L Per Ton | LOM EBITDA | EBITDA Per Ton |
|---|---|---|---|---|---|
| **Surface Mines** | | | | | |
| Bassett* | 52 | ($3,195) | ($61.31) | $108 | $2.07 |
| Shaffer | 392 | $2,830 | $7.23 | $7,755 | $19.80 |
| Gaz* | 241 | ($2,806) | ($11.63) | $3,392 | $14.06 |
| Will Farm* | 453 | ($3,668) | ($8.10) | $2,190 | $4.84 |
| Hart | 429 | $9,488 | $22.10 | $15,085 | $35.14 |
| Rhoads | 235 | ($1,011) | ($4.29) | $3,817 | $16.21 |
| Schrock Run | 224 | ($5,708) | ($25.52) | $2,577 | $11.52 |
| Hamer | 16 | $258 | $16.03 | $424 | $26.32 |
| **Consolidated Surface Mines** | **2,042** | **($3,811)** | **($1.87)** | **$35,348** | **$17.31** |
| | | | | | |
| **Auger/HWM Operations** | | | | | |
| Gaz HWM* | 13 | $550 | $41.67 | $576 | $43.66 |
| Rhoads HWM | 36 | $1,622 | $45.56 | $1,696 | $47.64 |
| Schrock Run HWM | 200 | $13,251 | $66.32 | $13,475 | $67.44 |
| Hamer HWM | 7 | $371 | $51.29 | $385 | $53.28 |
| **Consolidated HWMs** | **256** | **$15,792** | **$61.73** | **$16,132** | **$63.06** |
| | | | | | |
| **Grand Total** | **45,193** | **$222,917** | **$4.97** | **$611,722** | **$13.54** |

Notes: *This resource area failed to achieve positive P&L in the economic evaluation. Therefore, the coal tons forecasted from this mine have been excluded from the estimate of coal reserves in this TR.
**LOM tonnage evaluated in the financial model includes 0.759 million tons for Bassett, Gaz, and Will Farm surface mines, which failed to achieve positive economic results, as well as 4th quarter 2022 production (0.197 million clean tons) which was subtracted from coal reserves in order to make the effective date of reserves December 31, 2022.

As shown in *Table 22-1,* all of the mines show positive EBITDA over the LOM. Regarding the surface mines, all of the mines analyzed show positive P&L over the LOM with the exception of the Bassett, Gaz, and Will Farm surface mines. Based on the negative P&L as shown in the results summarized above, the Bassett, Gaz and Will Farm surface mine resource areas have been excluded from the estimate of coal reserves. The negative financial results for these areas are included in the consolidated results presented herein. Casselman North underground mine and Schrock Run/Schrock Run Extension surface mine show a negative LOM P&L; however, these mines are either active or (in the case of Casselman North) part of an active complex that shows positive LOM P&L and are therefore considered reserve. Overall, Corsa consolidated shows positive LOM P&L and EBITDA of $222.9 million and $611.7 million, respectively.

A breakdown of projected EBITDA by mining method is shown in the chart below:

**Figure 22-4: Annual EBITDA**




Note: Results shown for 2022 are for fourth quarter only.
Auger Mining includes Highwall Miner.

### 22.1.2 Cash Flow Summary

Corsa's Consolidated Cash Flow Summary in constant dollars, excluding debt service, is shown in *Table 22-2* below.

**Table 22-2: Project Cash Flow Summary (000)**

| | Total | YE 12/31 2022 | YE 12/31 2023 | YE 12/31 2024 | YE 12/31 2025 | YE 12/31 2026 | YE 12/31 2027 |
|---|---|---|---|---|---|---|---|
| Production & Sales tons | 45,193 | 294 | 1,118 | 1,145 | 1,201 | 1,211 | 1,199 |
| Total Revenue | $4,704,971 | $46,787 | $177,335 | $154,094 | $145,977 | $146,785 | $123,140 |
| EBITDA | $611,722 | $14,686 | $58,859 | $33,468 | $22,230 | $24,545 | $1,826 |
| Net Income | $172,362 | $10,115 | $37,486 | $19,345 | $9,885 | $11,598 | ($8,768) |
| Net Cash Provided by Operating Activities | $565,079 | $12,542 | $24,508 | $33,783 | $22,434 | $21,502 | $7,503 |
| Purchases of Property, Plant, and Equipment | ($287,902) | $0 | ($7,400) | ($11,590) | ($6,726) | ($7,591) | ($13,103) |
| Net Cash Flow | $277,177 | $12,542 | $17,108 | $22,193 | $15,708 | $13,910 | ($5,600) |
| | | | | | | | |
| | YE 12/31 2028 | YE 12/31 2029 | YE 12/31 2030 | YE 12/31 2031 | YE 12/31 2032 | YE 12/31 2033 | YE 12/31 2034 |
| Production & Sales tons | 1,060 | 987 | 1,446 | 1,504 | 1,508 | 1,678 | 1,879 |
| Total Revenue | $108,529 | $101,526 | $147,517 | $153,374 | $153,166 | $167,432 | $185,563 |
| EBITDA | ($2,482) | ($2,029) | $11,205 | $7,587 | $7,696 | $7,375 | $16,760 |
| Net Income | ($15,121) | ($17,133) | ($5,942) | ($8,155) | ($8,032) | ($11,675) | ($827) |
| Net Cash Provided by Operating Activities | ($503) | ($653) | $3,640 | $6,158 | $8,038 | $4,752 | $12,680 |
| Purchases of Property, Plant, and Equipment | ($18,978) | ($17,053) | ($14,591) | ($9,169) | ($7,228) | ($24,349) | ($8,700) |
| Net Cash Flow | ($19,481) | ($17,706) | ($10,951) | ($3,011) | $810 | ($19,597) | $3,980 |

| | YE 12/31 2035 | YE 12/31 2036 | YE 12/31 2037 | YE 12/31 2038 | YE 12/31 2039 | YE 12/31 2040 | YE 12/31 2041 |
|---|---|---|---|---|---|---|---|
| Production & Sales tons | 2,043 | 2,111 | 2,037 | 1,852 | 1,927 | 1,966 | 1,849 |
| Total Revenue | $200,805 | $207,842 | $199,905 | $182,029 | $190,741 | $194,627 | $183,772 |
| EBITDA | $27,425 | $29,554 | $27,093 | $16,990 | $20,350 | $23,485 | $21,808 |
| Net Income | $9,374 | $13,040 | $10,680 | $75 | $4,279 | $8,876 | $5,732 |
| Net Cash Provided by Operating Activities | $23,963 | $27,543 | $28,801 | $20,218 | $18,426 | $22,382 | $23,491 |
| Purchases of Property, Plant, and Equipment | ($18,691) | ($10,266) | ($4,849) | ($10,973) | ($11,133) | ($9,065) | ($18,861) |
| Net Cash Flow | $5,272 | $17,277 | $23,952 | $9,245 | $7,293 | $13,317 | $4,630 |
| | | | | | | | |
| | YE 12/31 2042 | YE 12/31 2043 | YE 12/31 2044 | YE 12/31 2045 | YE 12/31 2046 | YE 12/31 2047 | YE 12/31 2048 |
| Production & Sales tons | 1,896 | 1,875 | 1,772 | 1,732 | 1,321 | 1,029 | 1,039 |
| Total Revenue | $189,261 | $186,451 | $176,688 | $173,099 | $132,608 | $103,535 | $105,065 |
| EBITDA | $24,790 | $23,892 | $20,609 | $28,115 | $13,322 | $18,302 | $18,899 |
| Net Income | $11,282 | $9,661 | $5,923 | $13,667 | $3,091 | $7,582 | $8,452 |
| Net Cash Provided by Operating Activities | $22,828 | $23,931 | $22,106 | $27,672 | $19,833 | $19,262 | $15,247 |
| Purchases of Property, Plant, and Equipment | ($5,420) | ($12,811) | ($9,489) | ($4,011) | ($3,643) | ($5,046) | ($8,689) |
| Net Cash Flow | $17,408 | $11,119 | $12,617 | $23,661 | $16,190 | $14,216 | $6,558 |
| | | | | | | | |
| | YE 12/31 2049 | YE 12/31 2050 | YE 12/31 2051 | YE 12/31 2052 | YE 12/31 2053 | YE 12/31 2054 | YE 12/31 2055 |
| Production & Sales tons | 1,079 | 1,171 | 1,135 | 312 | 284 | 271 | 211 |
| Total Revenue | $109,428 | $118,614 | $115,299 | $34,236 | $31,210 | $29,741 | $23,148 |
| EBITDA | $21,237 | $27,792 | $27,838 | $7,881 | $5,816 | $4,515 | $2,136 |
| Net Income | $10,335 | $16,116 | $16,285 | $3,776 | $2,364 | $1,553 | $346 |
| Net Cash Provided by Operating Activities | $16,759 | $20,735 | $22,981 | $20,185 | $5,390 | $4,082 | $3,020 |
| Purchases of Property, Plant, and Equipment | ($1,920) | ($1,600) | ($2,442) | ($762) | ($1,751) | $0 | $0 |
| Net Cash Flow | $14,839 | $19,135 | $20,539 | $19,423 | $3,639 | $4,082 | $3,020 |
| | YE 12/31 2056 | YE 12/31 2057 | YE 12/31 2058 | YE 12/31 2059 | YE 12/31 2060 | YE 12/31 2061 | YE 12/31 2062 |
| Production & Sales tons | 51 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Revenue | $5,644 | $0 | $0 | $0 | $0 | $0 | $0 |
| EBITDA | ($1,854) | $0 | $0 | $0 | $0 | $0 | $0 |
| Net Income | ($2,864) | ($19) | ($8) | ($4) | ($2) | ($1) | $0 |
| Net Cash Provided by Operating Activities | $2,138 | ($1,387) | ($454) | ($227) | ($113) | ($120) | ($0) |
| Purchases of Property, Plant, and Equipment | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Net Cash Flow | $2,138 | ($1,387) | ($454) | ($227) | ($113) | ($120) | ($0) |

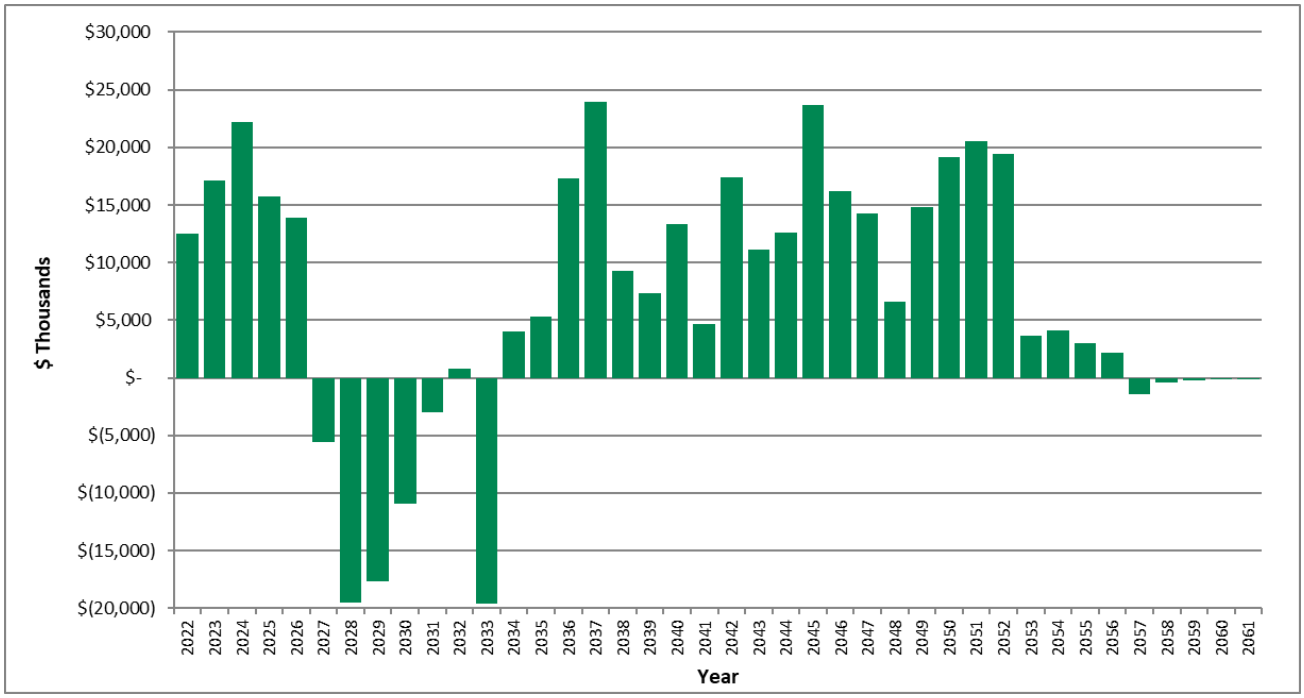
Note: * Results shown for 2022 are for fourth quarter only.
** LOM tonnage evaluated in the financial model includes 0.759 million tons for Bassett, Gaz, and Will Farm surface mines, which failed to achieve positive economic results, as well as 4th quarter 2022 production (0.197 million clean tons) which was subtracted from coal reserves in order to make the effective date of reserves December 31, 2022.

Consolidated cash flows are driven by annual sales tonnage, which grows from 1.1 million tons in 2023 to a peak of 2.1 million tons in 2036. Between years 2037 and 2051, sales range from 1.0 million to 2.0 million tons and between years 2052-2056, sales range from 0.05 million tons to 0.3 million tons. Projected consolidated revenue peaks at $207.8 million in 2036 and totals $4.7 billion for the project's life.

Consolidated cash flow from operations is positive throughout most of the projected operating period, with the exception of post-production years, due to end-of-mine reclamation spending. Consolidated cash flow from operations peaks at $33.8 million in 2024 and totals $565.1 million over the project life. Capital expenditures total $46.4 million during the first five years and $287.9 million over the project's life.

Consolidated net cash flow after tax, but before debt service, is shown by year in the chart below:

**Figure 22-5: Net Cash Flow after Tax (Before Debt Service)**




Note: Results shown for 2022 are for fourth quarter only.

LOM Net cash flow is positive for this project. The cash flows in years 2057-2061 are end of mine reclamation expenditures, which are accrued over the life of the mines.

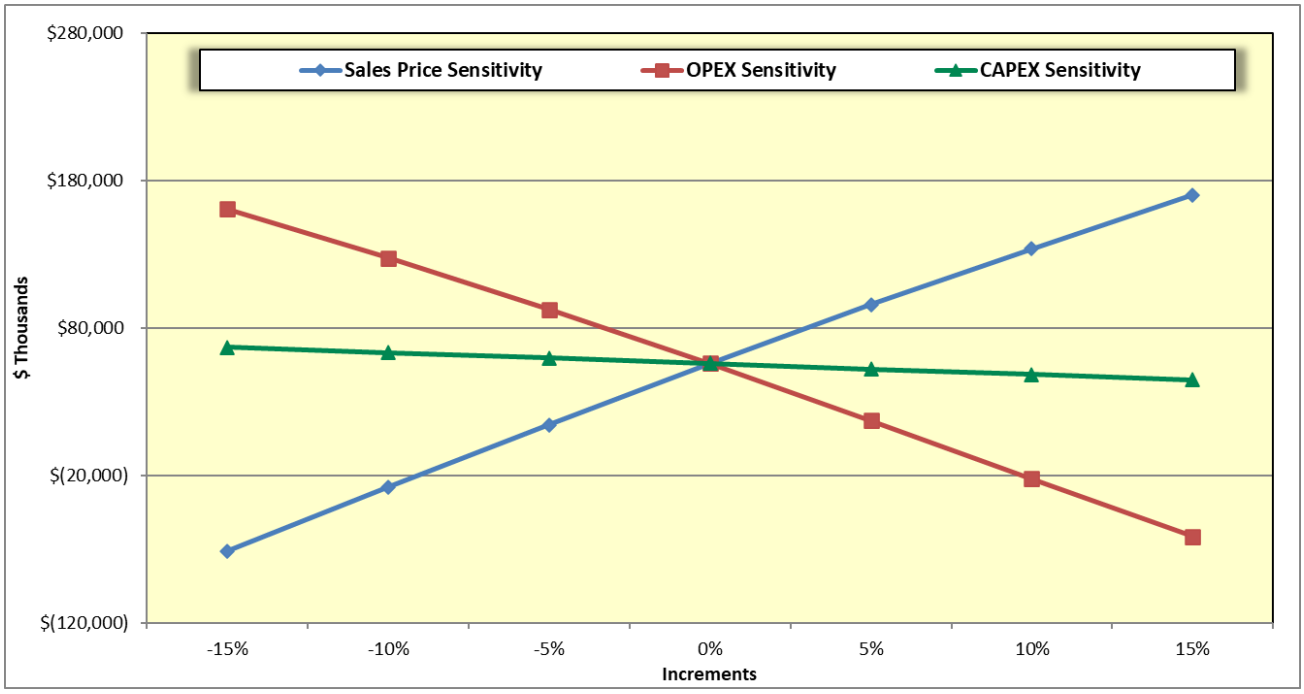
### 22.1.3 Discounted Cash Flow Analysis

Cash flow after tax, but before debt service, generated over the life of the project was discounted to NPV at a 15.04% discount rate, which represents MM&A's estimate of the constant dollar, risk adjusted WACC for likely market participants if the subject reserves were offered for sale. On an un-levered basis, the NPV of the project cash flows represents the Enterprise Value of the project and amounts to $55.8 million. Corsa is an active producer, and the financial model shows positive net cash flow for each year of the operating life of the reserves. Therefore, internal rate-of-return (*IRR*) and project payback were not calculated as there was no initial investment considered in the financial model. The pre-feasibility financial model prepared for the TR was developed to test the economic viability of each coal resource area. The NPV estimate was made for the purpose of confirming the economics for classification of coal reserves and not for purposes of valuing Corsa or its assets. Mine plans were not optimized, and actual results of the operations may be different, but in all cases, the mine production plan assumes the properties are under competent management.

### 22.1.4 Sensitivity Analysis

Sensitivity of the NPV results to changes in the key drivers is presented in the chart below. The sensitivity study shows the NPV at the 15.04% discount rate when Base Case sales prices, operating costs, and capital costs are increased and decreased in increments of 5% within a +/- 15% range.

**Figure 22-6: Sensitivity of NPV**




As shown, NPV is quite sensitive to changes in sales price and operating cost estimates, and slightly sensitive to changes in capital cost estimates.

# 23 Adjacent Properties

Information for the adjacent properties was not included in the evaluation, unless provided by Corsa. Furthermore, the TR does not include any estimates of coal resources or coal reserves associated with the adjacent properties.

# 24 Other Relevant Data and Information

Independent verification of leases, deeds, surveys, or property-control instruments pertinent to the subject coal resources and coal reserves was beyond the scope of work for this TR. Corsa has

represented to MM&A that it controls mining rights to the properties as shown on its property maps, and MM&A has accepted these as being a true and accurate depiction of such rights.

Economic viability of the coal reserves is based on a preliminary feasibility study prepared by MM&A (discussed in *Item 22*). Mine projections were prepared for each reserve area and mining costs and production were forecasted based upon productivity assumptions determined to be reasonable by MM&A. Capital requirements were forecast for the LOM plans, which were extended through depletion of the coal reserves. Economic performance of the current and projected mining operations that make up the reserves may improve or worsen based on changes in sales realization, mining costs, and/or capital requirements.

MM&A has not conducted an independent assessment of the current financial condition of Corsa, and MM&A expresses no opinion as to matters of a financial nature other than those considered in its assessment of the coal reserves.

Corsa, along with all mining companies in the USA operating underground mines, has been affected by the implementation of the Mine Improvement and New Emergency Response Act of 2006 (*MINER Act*). The MINER Act was passed by Congress and signed by President George W. Bush on June 15, 2006, in the wake of two tragic coal-mining accidents in early 2006. The MINER Act amended the Mine Safety and Health Act of 1997 and is intended to improve safety and health in USA coal mines. Requirements of the MINER Act have increased mining costs. The accompanying change in the regulatory enforcement environment has adversely affected mining productivity. Costs will continue to increase as all sections of the MINER Act are implemented. MSHA has proposed more stringent respirable dust standards, and compliance requirements for underground mines may adversely affect mining plans and productivity. Congress is expected to amend the MINER Act in the future, which could further affect underground mining productivity and cost. The impact of the MINER Act on productivity and cost, as currently enforced by Federal and State regulatory authorities, is reflected in the financial model and economic analysis.

Recent EPA intervention in the surface mine permitting process has resulted in lengthy delays in issuance of Section 401, 402 and 404 permits required under the Clean Water Act. However, Corsa's ability to operate without the need for valley fills has minimized the impact of such delays in their permitting efforts. Residential and public concerns such as blasting, visual appearance (as observed from publicly accessible areas), or transportation are not expected to prevent the issuance of future permits.

The development of new coal mines in Northern Appalachia is occurring while many experienced miners are retiring. Possible related outcomes include intense competition for skilled miners, a short-term adverse impact on productivity, and an increase in the price of labor.

# 25 Interpretation and Conclusions

## 25.1 Interpretation

Sufficient data has been obtained through various exploration and sampling programs and mining operations to support the geological interpretations of seam structure and thickness for coal horizons situated on the properties. The data is of sufficient quantity and reliability to reasonably support the coal resource and coal reserve estimates in this TR under guidelines established by the CIMDS.

The geological data and preliminary feasibility study, which consider mining plans, revenue, and operating and capital cost estimates are sufficient to support the classification of coal resources and coal reserves provided herein.

## 25.2 Conclusion

This geologic evaluation conducted in accordance with CIMDS and in conjunction with the preliminary feasibility study is sufficient to conclude that the 44.2 million tons of surface and underground coal reserves identified on the properties are economically mineable under reasonable expectations of market prices for thermal and metallurgical coal products, estimated operation costs, and capital expenditures.

# 26 Recommendations

Recommendations based on the conclusions of this TR are listed below.

1. MM&A highly recommends additional exploration including quality analyses relevant to the qualification of the coals as metallurgical grade, along with geotechnical data for use in assessing the mineability or potential mining conditions of the operations. There are limitations to determining the mineability or mining conditions of the seams from interpretation of the drill hole data as provided. A large portion of the drill hole data contains only rock-coal descriptions, no driller or geologist log and only a minority of the drill holes contain downhole geophysical logs. The majority of the available coal sample analyses do not have qualitative assurance of complete and representative coal core sample recovery. This weakness in the data set of verifiable and accurate coal seam thickness from geophysical logs, quality and detailed lithologic composition of the roof and floor material from limited core sample analysis makes for less accurate predictions of coal classification, recovery and other factors associated with mining conditions.
2. Coal resources deemed to have insufficient geologic definition due to a lack of drill or quality data to justify inclusion in the reserve estimates may reasonably become the target of future exploration programs. With sufficient drill data, some identified resources may demonstrate

reserve potential in the future. Exploration should include the collection of core samples to be analyzed for metallurgical coal quality. An example of such an area is the Keyser Middle Kittanning underground coal resource.

3. MM&A recommends further exploration be pursued at Casselman North, north of Interstate Highway I68 to further establish seam thickness and coal quality trends in this area thereby increasing the probable reserves to the proven classification.

4. MM&A recommends further evaluation of the Agustus resources, including evaluation of the potential for resource area expansion through negotiations with adjacent lessor Berwind/Wilmore.

5. MM&A recommends further evaluation of the Mega Mine Lower Kittanning resources. Definition core drilling is required it increase the confidence of the seam continuity and to define low and no coal zones. Coal analysis is need defining quality variations and trends.

6. MM&A is aware of no conditions that presently would prevent permitting of the surface-mineable reserves, however, the time required to acquire surface mining permits continues to increase. MM&A recommends that Corsa dedicate continuing efforts to permit mining areas well ahead of current mining to better assure that production will not be interrupted.

# 27 References

1. Standardized Coal Resource/Reserve Reporting System used by the Geological Survey of Canada.

2. National Instrument 43-101 Standards of Disclosure for Mineral Projects, Form 43-101F1 (effective June 30, 2011) and Companion Policy 43-101CP.

3. CIM Definition Standards – On Mineral Resources and Mineral Reserves – adopted May 10, 2014 – Canadian Institute of Mining, Metallurgy and Petroleum (*CIM*) (10 pp).

4. Standards and Guidelines for Valuation of Mineral Properties Special Committee of the Canadian Institute of Mining, Metallurgy and Petroleum Valuation of Mineral Properties (*CIMVAL*) February 2003 (final version), 33 pp.

5. Exploration Best Practices Guidelines, Canadian Institute of Mining, Metallurgy and Petroleum (*CIM*), March 9, 2003.

6. Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines, Canadian Institute of Mining, Metallurgy and Petroleum (*CIM*): Adopted by CIM Council on November 23, 2003.

7. A Standardized Coal Resource/Reserve Reporting System for Canada, Geological Survey of Canada Paper 88-21, 46 pp.

8. All previously completed work as noted in *Items 6.3 & 2.4*.

APPENDIX

# 1

GLOSSARY OF ABBREVIATIONS AND DEFINITIONS

# Appendix 1. Glossary of Abbreviations and Definitions

| Abbreviation | Definition |
|---|---|
| ACPS | Analysis of Coal Pillar Stability |
| ASTM | ASTM International |
| AVS | Applicant Violator System |
| bcy | Bank cubic yards |
| Btu/lb. | British Thermal Unit per pound |
| C.P.G. | Certified Professional Geologist |
| Cardno MM&A or Cardno | Cardno, Inc. (previous owner of Marshall Miller & Associates, Inc.'s mining group) |
| Carlson | Carlson Mining – formerly SurvCADD® – a prevalent software package used for modeling in the Appalachian region |
| CFR | Code of Federal Regulations |
| CIMDS | Canadian Institute of Mining's Definition Standards on Mineral Resources and Mineral Reserves |
| Corsa | Corsa Coal Corp. |
| CSR | Codes of State Rules |
| CSX | CSX Corporation, a rail-based freight transportation company |
| Demonstrated reserves | Demonstrated reserves are the sum of proven and probable reserves. |
| DEP | Department of Environmental Protection |
| Earthtech | Earthtech, Inc. |
| EBITDA | Earnings before Interest, Taxes, Depreciation, and Amortization |
| EOM | End-of-mine reclamation |
| EPA | United States Environmental Protection Agency |
| ESA | Limited Phase I Environmental Site Assessment |
| EVR | Estimated Visual Recovery |
| Feasibility Study | "…a comprehensive technical and economic study of the selected development option for a mineral project that includes appropriately detailed assessments of applicable Modifying Factors together with any other relevant operational factors and detailed financial analysis that are necessary to demonstrate, at the time of reporting, that extraction is reasonably justified (economically mineable). The results of the study may reasonably serve as the basis for a final decision by a proponent or financial institution to proceed with, or finance, the development of the project. The confidence level of the study will be higher than that of a Pre-Feasibility Study." |
| GSC | Geological Survey of Canada |
| IHS | IHS Markit |
| In situ | Its natural position; said specific of a rock, soil, or fossil when in the situation in which was originally formed or deposited |
| Indicated Resources | Indicated resources are those lying between ¼-mile and ¾-mile radius from such an observation point and reported herein as in-situ mineral resources. |
| Inferred Resources | Inferred resources lie more than a ¾-mile radius from a valid point of measurement but less than 3 miles from one and reported herein as in-situ mineral resources. |

| Abbreviation | Definition |
|---|---|
| lb. $SO_2$ / mm Btu | Pounds per sulfur dioxide per million British thermal units |
| LJ Hughes | LJ Hughes & Sons, Inc. - drilling Company |
| LOM | Life-of-mine |
| M&R | Maintenance and repair |
| M.B.A. | Master of Business Administration |
| Measured Resources | Measured resources are those lying within ¼-mile radius from a valid point of measurement and reported herein as in-situ mineral resources. |
| MINER Act | Mine Improvement and New Emergency Response Act of 2006 |
| Mineral Reserve | "…the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes dilution materials and allowances for losses, which occur when the material is mined or extracted and is defined by studies at Preliminary Feasibility or Feasibility level as appropriate that include Modifying Factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified." |
| Mineral Resource | "…a concentration or occurrence of solid material of economic interest or on the Earth's crust in such form, grade or quality that there are reasonable prospects for eventual economic extraction. The location, quantity, grade, continuity and other geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling." |
| MM&A | Marshall Miller & Associates, Inc. |
| Modifying Factors | "…considerations used to convert Mineral Resources to Mineral Reserves. These include, but are not restricted to, mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social and governmental factors." |
| MSHA | United States Department of Labor Mine Safety and Health Administration |
| MSL | Mean sea level |
| NAIP | National Agricultural Imagery Program |
| NI43-101 | National Instrument 43-101 |
| NIOSH | National Institute for Occupational Safety and Health |
| NPV | Net Present Value |
| NS | Norfolk Southern Corporation, a rail-based freight transportation company |
| O&M | Operating and maintenance |
| OSD | Out-of-seam dilution |
| OSM | U.S. Office of Surface Mining Reclamation and Enforcement |
| P&L | Profit and loss before tax |
| PBS | PBS Coals, Inc. |
| P.E. | Professional Engineer |
| Preliminary Feasibility Study | "…a comprehensive study of a range of options for technical and economic viability of a mineral project that has advanced to a stage where a preferred mining method, in the case of underground mining, or the pit configuration, in the case of an open pit, is established and an effective method of mineral processing is determined. It includes a financial analysis based on reasonable assumptions on the Modifying Factors and the evaluation of other relevant factors which are sufficient for a Qualified Person, acting reasonably, to determine if all or part of the Mineral Resource may be converted to a Mineral Reserve at the time of reporting. A Pre-feasibility Study is at a lower confidence level than a Feasibility Study" |

| Abbreviation | Definition |
|---|---|
| Property | Bituminous coal deposits located in Cambria, Fayette, Indiana and Somerset Counties, Pennsylvania and in Garrett County, Maryland either owned or leased by Corsa. |
| QP | Qualified Person |
| Rec. | Recovery |
| RECs | Recognized Environmental Conditions |
| Reserve | As strictly defined by the CIMDS, are those coal deposits that exhibit:<br>(1) Geological assurance of existence and continuity, and<br>(2) Economic feasibility of recovery, as demonstrated by at least a Preliminary Feasibility Study |
| Resource Database | The Resource Database is established by the collection, validation, recording, storing and processing of data and forms the foundation necessary for the estimation of Mineral Resource and Mineral Reserve.<br><br>A quality assurance and quality control program are essential and must be established to govern the collection of all data. In reporting, a Mineral Resource must meet the minimum requirement of "reasonable prospects for economic extraction". This will require the concurrent collection and storage of preliminary economic, mining, metallurgical, environmental, legal and social data and other information for use in the estimation of MRMR.<br><br>The Resource Database will include both "primary" (observation and measurement) and "interpreted" data. It is recommended that data be stored digitally, using a documented, standard format and a reliable storage medium that allows for easy and complete retrieval of the data. |
| ROM | Run-of-mine |
| SCM | Solid and Chemical Materials |
| SEC | U.S. Securities and Exchange Commission |
| Severstal | Severstal Resources, prior owner of PBS |
| SMCRA | Surface Mining Control and Reclamation Act of 1977 is the primary federal law that regulates the environmental effects of coal mining in the United States. |
| Strip Ratio | Represented by bcy of overburden to recoverable coal tons |
| TNI | The NELAC Institute |
| tph | tons per hour |
| TR | Technical Report |
| TSXV | TSX Venture Exchange |
| USA | United States of America |
| USGS | United States Geologic Survey |
| Vulcan™ | Vulcan™ software is a product of Maptek™, a provider of software for the global mining industry. |
| WACC | Weighted average cost of capital |
| Wilson Creek | Wilson Creek Energy, LLC |

APPENDIX

# 2

UNDERGROUND MINE SUMMARIES

# Appendix 2. Underground Mine Summaries

## 2.1 Introduction

In the fourth quarter of 2022, underground mine operations were active at the Acosta (MK), Horning and Casselman operations with one or two active mining sections at each location. Underground mining operations are expected to expand to seven sections in 2030. Annual deep mine production peaks at approximately 2.0 million tons in 2036. Eight underground-mineable surface resource areas were modeled and tested economically. Mine plans have been designed to project operating each resource area to depletion, with crews and equipment scheduled to move to subsequent mining areas as depletion occurs. Beginning in 2052, underground mine operations are projected to begin winding down before finally exhausting the underground reserves in 2056. The projected mines are set up similarly to present operations. Each mine is scheduled to operate one to two production sections. The production sections are configured with a single continuous miner in each section. In all cases, mines are forecasted to produce coal two shifts each day and reserve the third shift for maintenance and belt and power moves. Production is scheduled Monday through Friday each week.

All of the mines can be accessed by box cut openings, by highwall drift access left behind by surface mining operations, or by an inter-seam slope. Following is a brief description of each mine plan, financial model highlights, and the capital expenditures schedule. Financial highlights list production, sales price, total cash cost, total cost of operations and profit or loss for each year of production. The capital expenditures schedule details costs for production equipment and conveyor belt terminal groups. "Other" costs include expenditures for mine access and construction, mine extension capital and miscellaneous costs.

**Table A-2-1: Underground Mine Production Schedule (x 1,000 Saleable Tons)**

| Mine Name | Q4 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 |
|---|---|---|---|---|---|---|---|---|
| A Seam | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Horning D | 38 | 154 | 174 | 164 | 168 | 171 | 184 | 189 |
| Horning E | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Casselman North | 0 | 0 | 0 | 0 | 0.0 | 0 | 94 | 121 |
| Casselman | 109 | 372 | 393 | 402 | 415 | 429 | 215 | 182 |
| Acosta UK | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Acosta LK | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Acosta MK | 106 | 426 | 382 | 391 | 416 | 386 | 372 | 365 |
| Keyser LK | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 |
| **Total** | **253** | **952** | **950** | **958** | **999** | **986** | **863** | **893** |

| Mine Name | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 | 2037 |
|---|---|---|---|---|---|---|---|---|
| A Seam | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Horning D | 188 | 184 | 173 | 58 | 0 | 0 | 0 | 0 |
| Horning E | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Casselman North | 187 | 401 | 391 | 386 | 383 | 412 | 439 | 353 |
| Casselman | 192 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Acosta UK | 0 | 0 | 0 | 305 | 514 | 519 | 515 | 507 |
| Acosta LK | 0 | 0 | 0 | 0 | 0 | 359 | 497 | 513 |
| Acosta MK | 410 | 381 | 395 | 381 | 372 | 38 | 0 | 0 |
| Keyser LK | 335 | 446 | 461 | 445 | 490 | 561 | 544 | 567 |
| **Total** | **1,314** | **1,412** | **1,421** | **1,575** | **1,758** | **1,889** | **1,995** | **1,941** |
| | | | | | | | | |
| **Mine Name** | **2038** | **2039** | **2040** | **2041** | **2042** | **2043** | **2044** | **2045** |
| A Seam | 0 | 0 | 0 | 216 | 470 | 423 | 462 | 499 |
| Horning D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Horning E | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Casselman North | 307 | 425 | 437 | 206 | 0 | 0 | 0 | 0 |
| Casselman | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Acosta UK | 455 | 450 | 458 | 434 | 476 | 498 | 510 | 533 |
| Acosta LK | 495 | 456 | 459 | 436 | 443 | 510 | 393 | 308 |
| Acosta MK | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Keyser LK | 563 | 596 | 611 | 557 | 507 | 444 | 407 | 392 |
| **Total** | **1,818** | **1,927** | **1,966** | **1,849** | **1,896** | **1,875** | **1,772** | **1,732** |
| | | | | | | | | |
| **Mine Name** | **2046** | **2047** | **2048** | **2049** | **2050** | **2051** | **2052** | **2053** |
| A Seam | 454 | 483 | 518 | 553 | 596 | 596 | 312 | 284 |
| Horning D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Horning E | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Casselman North | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Casselman | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Acosta UK | 500 | 545 | 520 | 526 | 575 | 539 | 0 | 0 |
| Acosta LK | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Acosta MK | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Keyser LK | 368 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | **1,321** | **1,029** | **1,039** | **1,079** | **1,171** | **1,135** | **312** | **284** |
| **Mine Name** | **2054** | **2055** | **2056** | **2057** | **2058** | **2059** | **2060** | **2061** |
| A Seam | 271 | 211 | 51 | 0 | 0 | 0 | 0 | 0 |
| Horning D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Horning E | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Casselman North | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Casselman | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Acosta UK | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Acosta LK | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Acosta MK | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Keyser LK | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | **271** | **211** | **51** | **0** | **0** | **0** | **0** | **0** |

## 2.2 Mine: A-Seam

The proposed A-Seam mine is scheduled to begin production in 2041. The Brookville A seam is accessed via box cut entry along the outcrop. This mine is projected to be a metallurgical coal operation on leased mineral property.

Production is scheduled for 255 days each year, which represents production on Monday through Friday. On each day, two production sections are scheduled to produce coal on two shifts; the third shift is reserved for maintenance and mine conveyor belt and power moves. The sections are configured as regular sections with one continuous miner available for production on each section. Productivity is planned at the rate of 150 feet of advance per shift of operation. A total of 96 employees have been assigned to the mine.

Principal production equipment includes two continuous miners, four roof bolters, six shuttle cars, and two scoops. Coal is extracted from the production face with the continuous miner and hauled to the mine conveyor in shuttle cars. At the conveyor belt, the coal is discharged from the shuttle cars onto a feeder breaker for transfer onto the conveyor. The conveyors carry the coal outside, where it is stacked on the ground to await truck transport to the preparation plant and load-out. The truck haul distance is approximately 10 miles.

Expected annual production averages approximately 506,000 marketable tons at steady state. Following are financial highlights:

**Table A-2-2: A-Seam Mine Financial Summary**

| Item | 2040 | 2041 | 2042 | 2043 | 2044 |
|---|---|---|---|---|---|
| Production (000 tons) | 0 | 216 | 470 | 423 | 462 |
| Sales Price ($ per ton) | $109.78 | $109.78 | $109.78 | $109.78 | $109.78 |
| Total Cash Cost ($ per ton) | $0.00 | $89.51 | $94.47 | $101.35 | $95.69 |
| Total Cost of Production ($ per ton) | $0.00 | $98.91 | $99.87 | $109.29 | $103.29 |
| EBITDA ($ per ton) | $0.00 | $20.27 | $15.31 | $8.43 | $14.09 |
| Income from Operations ($ per ton) | $0.00 | $10.87 | $9.91 | $0.49 | $6.49 |
| Capital Expenditures ($000) | $1,000 | $10,061 | $0 | $6,425 | $500 |
| | | | | | |

| Mine Name | 2045 | 2046 | 2047 | 2048 | 2049 |
|---|---|---|---|---|---|
| Production (000 tons) | 499 | 454 | 483 | 518 | 553 |
| Sales Price ($ per ton) | $109.78 | $109.78 | $109.78 | $109.78 | $109.78 |
| Total Cash Cost ($ per ton) | $93.24 | $98.81 | $93.34 | $90.43 | $88.13 |
| Total Cost of Production ($ per ton) | $101.03 | $107.98 | $102.27 | $97.37 | $94.89 |
| EBITDA ($ per ton) | $16.54 | $10.97 | $16.44 | $19.35 | $21.65 |
| Income from Operations ($ per ton) | $8.75 | $1.80 | $7.51 | $12.41 | $14.89 |
| Capital Expenditures ($000) | $2,100 | $2,563 | $1,700 | $4,503 | $500 |
| | | | | | |
| **Mine Name** | **2050** | **2051** | **2052** | **2053** | **2054** |
| Production (000 tons) | 596 | 596 | 312 | 284 | 271 |
| Sales Price ($ per ton) | $109.78 | $109.78 | $109.78 | $109.78 | $109.78 |
| Total Cash Cost ($ per ton) | $84.47 | $86.85 | $84.51 | $89.32 | $93.12 |
| Total Cost of Production ($ per ton) | $89.63 | $92.48 | $92.84 | $97.86 | $101.09 |
| EBITDA ($ per ton) | $25.31 | $22.93 | $25.27 | $20.46 | $16.66 |
| Income from Operations ($ per ton) | $20.15 | $17.30 | $16.94 | $11.92 | $8.69 |
| Capital Expenditures ($000) | $1,200 | $2,442 | $762 | $1,751 | $0 |
| | | | | | |
| **Mine Name** | **2055** | **2056** | **2057** | **2058** | **2059** |
| Production (000 tons) | 211 | 51 | 0 | 0 | 0 |
| Sales Price ($ per ton) | $109.78 | $109.78 | $0.00 | $0.00 | $0.00 |
| Total Cash Cost ($ per ton) | $99.65 | $145.85 | $0.00 | $0.00 | $0.00 |
| Total Cost of Production ($ per ton) | $106.27 | $165.46 | $0.00 | $0.00 | $0.00 |
| EBITDA ($ per ton) | $10.13 | ($36.07) | $0.00 | $0.00 | $0.00 |
| Income from Operations ($ per ton) | $3.51 | ($55.68) | $0.00 | $0.00 | $0.00 |
| Capital Expenditures ($000) | $0 | $0 | $0 | $0 | $0 |

The mine is scheduled to operate from 2041 and terminate during 2056.

**Table A- 2-3: A-Seam Mine Capital Expenditures Schedule ($000)**

| Item | Total | 2040 | 2041 | 2042 | 2043 |
|---|---|---|---|---|---|
| Continuous Miner Purchase | **$4,000** | $0 | $2,000 | $0 | $2,000 |
| Continuous Miner Rebuild | **$3,600** | $0 | $0 | $0 | $0 |
| Roof Bolter Purchase | **$2,600** | $0 | $1,300 | $0 | $1,300 |
| Roof Bolter Rebuild | **$2,730** | $0 | $0 | $0 | $0 |
| Shuttle Car Purchase | **$3,810** | $0 | $1,905 | $0 | $1,905 |
| Shuttle Car Rebuild | **$4,191** | $0 | $0 | $0 | $0 |
| Continuous Haulage Purchase | **$0** | $0 | $0 | $0 | $0 |
| Continuous Haulage Rebuild | **$0** | $0 | $0 | $0 | $0 |
| Feeder Breaker Purchase | **$800** | $0 | $400 | $0 | $400 |
| Feeder Breaker Rebuild | **$720** | $0 | $0 | $0 | $0 |
| Scoop Purchase | **$2,000** | $0 | $400 | $0 | $400 |
| Conveyor Terminals | **$3,500** | $0 | $0 | $0 | $0 |
| Conveyor Purchase | **$2,666** | $0 | $2,666 | $0 | $0 |
| Conveyor Replace | **$1,600** | $0 | $0 | $0 | $0 |
| Mantrips | **$960** | $0 | $240 | $0 | $240 |
| Power centers | **$360** | $0 | $180 | $0 | $180 |
| Belt Storage Unit Purchase | **$220** | $0 | $220 | $0 | $0 |
| Fan & Accessories | **$750** | $0 | $750 | $0 | $0 |
| Other | **$1,000** | $1,000 | $0 | $0 | $0 |
| **Total** | **$35,507** | **$1,000** | **$10,061** | **$0** | **$6,425** |

| Mine Name | 2044 | 2045 | 2046 | 2047 | 2048 |
|---|---|---|---|---|---|
| Continuous Miner Purchase | $0 | $0 | $0 | $0 | $0 |
| Continuous Miner Rebuild | $0 | $1,200 | $0 | $1,200 | $0 |
| Roof Bolter Purchase | $0 | $0 | $0 | $0 | $0 |
| Roof Bolter Rebuild | $0 | $0 | $780 | $0 | $780 |
| Shuttle Car Purchase | $0 | $0 | $0 | $0 | $0 |
| Shuttle Car Rebuild | $0 | $0 | $1,143 | $0 | $1,143 |
| Continuous Haulage Purchase | $0 | $0 | $0 | $0 | $0 |
| Continuous Haulage Rebuild | $0 | $0 | $0 | $0 | $0 |
| Feeder Breaker Purchase | $0 | $0 | $0 | $0 | $0 |
| Feeder Breaker Rebuild | $0 | $0 | $240 | $0 | $240 |
| Scoop Purchase | $0 | $400 | $400 | $0 | $0 |
| Conveyor Terminals | $500 | $500 | $0 | $500 | $500 |
| Conveyor Purchase | $0 | $0 | $0 | $0 | $0 |
| Conveyor Replace | $0 | $0 | $0 | $0 | $1,600 |
| Mantrips | $0 | $0 | $0 | $0 | $240 |
| Power centers | $0 | $0 | $0 | $0 | $0 |
| Belt Storage Unit Purchase | $0 | $0 | $0 | $0 | $0 |
| Fan & Accessories | $0 | $0 | $0 | $0 | $0 |
| Other | $0 | $0 | $0 | $0 | $0 |
| **Total** | **$500** | **$2,100** | **$2,563** | **$1,700** | **$4,503** |

| Mine Name | 2049 | 2050 | 2051 | 2052 | 2053 |
|---|---|---|---|---|---|
| Continuous Miner Purchase | $0 | $0 | $0 | $0 | $0 |
| Continuous Miner Rebuild | $0 | $1,200 | $0 | $0 | $0 |
| Roof Bolter Purchase | $0 | $0 | $0 | $0 | $0 |
| Roof Bolter Rebuild | $0 | $0 | $780 | $0 | $390 |
| Shuttle Car Purchase | $0 | $0 | $0 | $0 | $0 |
| Shuttle Car Rebuild | $0 | $0 | $762 | $762 | $381 |
| Continuous Haulage Purchase | $0 | $0 | $0 | $0 | $0 |
| Continuous Haulage Rebuild | $0 | $0 | $0 | $0 | $0 |
| Feeder Breaker Purchase | $0 | $0 | $0 | $0 | $0 |
| Feeder Breaker Rebuild | $0 | $0 | $0 | $0 | $240 |
| Scoop Purchase | $0 | $0 | $400 | $0 | $0 |
| Conveyor Terminals | $500 | $0 | $500 | $0 | $500 |
| Conveyor Purchase | $0 | $0 | $0 | $0 | $0 |
| Conveyor Replace | $0 | $0 | $0 | $0 | $0 |
| Mantrips | $0 | $0 | $0 | $0 | $240 |
| Power centers | $0 | $0 | $0 | $0 | $0 |
| Belt Storage Unit Purchase | $0 | $0 | $0 | $0 | $0 |
| Fan & Accessories | $0 | $0 | $0 | $0 | $0 |
| Other | $0 | $0 | $0 | $0 | $0 |
| **Total** | **$500** | **$1,200** | **$2,442** | **$762** | **$1,751** |

## 2.3 Mine: Horning D

The Horning D mine is an active mine with a single production section. The Lower Freeport D seam is accessed via an existing boxcut along the outcrop. This mine is a metallurgical coal operation with approximately 75% of production on leased mineral property and the remaining 25% on mineral property owned by Corsa.

Production is scheduled for 255 days each year, which represents production on Monday through Friday. On each day, a single production section is scheduled to produce coal on two shifts; the third shift is reserved for maintenance and mine conveyor belt and power moves. The section is configured as regular sections with one continuous miner available for production. Productivity is planned at the rate of 150 feet of advance per shift of operation. A total of 41 employees are assigned to the mine.

Principal production equipment includes a continuous miner, two roof bolters, a continuous haulage system, and one scoop. Coal is extracted from the production face with the continuous miner and hauled to the mine conveyor via continuous haulage. At the conveyor belt, the coal is discharged from the haulage system onto a feeder breaker for transfer onto the conveyor. The conveyors carry the coal outside, where it is stacked on the ground to await truck transport to the preparation plant and load-out. The truck haul distance is approximately 2 miles.

Expected annual production averages approximately 175,000 marketable tons. Following are financial highlights:

**Table A-2-4: Horning D Mine Financial Summary**

| Item | 2022 | 2023 | 2024 | 2025 | 2026 |
|---|---|---|---|---|---|
| Production (000 tons) | 38 | 154 | 174 | 164 | 168 |
| Sales Price ($ per ton) | $163.13 | $163.13 | $137.52 | $121.64 | $121.64 |
| Total Cash Cost ($ per ton) | $118.06 | $110.77 | $96.89 | $94.85 | $94.72 |
| Total Cost of Production ($ per ton) | $120.21 | $119.01 | $105.24 | $103.58 | $103.31 |
| EBITDA ($ per ton) | $45.07 | $52.36 | $40.63 | $26.79 | $26.92 |
| Income from Operations ($ per ton) | $42.92 | $44.12 | $32.28 | $18.06 | $18.33 |
| Capital Expenditures ($000) | $0 | $1,380 | $3,559 | $600 | $360 |
| | | | | | |
| **Mine Name** | **2027** | **2028** | **2029** | **2030** | **2031** |
| Production (000 tons) | 171 | 184 | 189 | 188 | 184 |
| Sales Price ($ per ton) | $103.78 | $103.78 | $103.78 | $103.78 | $103.78 |
| Total Cash Cost ($ per ton) | $95.49 | $92.27 | $90.34 | $87.70 | $90.69 |
| Total Cost of Production ($ per ton) | $105.72 | $104.85 | $103.02 | $99.54 | $100.97 |
| EBITDA ($ per ton) | $8.29 | $11.51 | $13.44 | $16.08 | $13.09 |
| Income from Operations ($ per ton) | ($1.94) | ($1.07) | $0.76 | $4.24 | $2.81 |
| Capital Expenditures ($000) | $2,180 | $4,079 | $600 | $360 | $1,380 |
| | | | | | |
| **Mine Name** | **2032** | **2033** | **2034** | **2035** | **2036** |
| Production (000 tons) | 173 | 58 | 0 | 0 | 0 |
| Sales Price ($ per ton) | $103.78 | $103.78 | $0.00 | $0.00 | $0.00 |
| Total Cash Cost ($ per ton) | $94.24 | $89.05 | $0.00 | $0.00 | $0.00 |
| Total Cost of Production ($ per ton) | $104.53 | $114.86 | $0.00 | $0.00 | $0.00 |
| EBITDA ($ per ton) | $9.54 | $14.73 | $0.00 | $0.00 | $0.00 |
| Income from Operations ($ per ton) | ($0.75) | ($11.08) | $0.00 | $0.00 | $0.00 |
| Capital Expenditures ($000) | $0 | $0 | $0 | $0 | $0 |

The mine is scheduled to terminate during 2033.

**Table A- 2-5: Horning D Mine Capital Expenditures Schedule**

| Item | Total | 2023 | 2024 | 2025 | 2026 |
|---|---|---|---|---|---|
| Continuous Miner Purchase | **$2,000** | $0 | $0 | $0 | $0 |
| Continuous Miner Rebuild | **$2,400** | $1,200 | $0 | $0 | $0 |
| Roof Bolter Purchase | **$1,300** | $0 | $0 | $0 | $0 |
| Roof Bolter Rebuild | **$780** | $0 | $780 | $0 | $0 |
| Shuttle Car Purchase | **$0** | $0 | $0 | $0 | $0 |
| Shuttle Car Rebuild | **$0** | $0 | $0 | $0 | $0 |
| Continuous Haulage Purchase | **$0** | $0 | $0 | $0 | $0 |
| Continuous Haulage Rebuild | **$2,359** | $0 | $1,180 | $0 | $0 |
| Feeder Breaker Purchase | **$0** | $0 | $0 | $0 | $0 |
| Feeder Breaker Rebuild | **$480** | $0 | $0 | $240 | $0 |
| Scoop Purchase | **$0** | $0 | $0 | $0 | $0 |
| Conveyor Terminals | **$0** | $0 | $0 | $0 | $0 |
| Conveyor Purchase | **$0** | $0 | $0 | $0 | $0 |
| Conveyor Replace | **$3,199** | $0 | $1,600 | $0 | $0 |
| Mantrips | **$1,440** | $0 | $0 | $360 | $360 |
| Power centers | **$541** | $180 | $0 | $0 | $0 |
| Belt Storage Unit Purchase | **$0** | $0 | $0 | $0 | $0 |
| Fan & Accessories | **$0** | $0 | $0 | $0 | $0 |
| Other | **$0** | $0 | $0 | $0 | $0 |
| **Total** | **$14,499** | **$1,380** | **$3,559** | **$600** | **$360** |
| | | | | | |
| **Mine Name** | **2027** | **2028** | **2029** | **2030** | **2031** |
| Continuous Miner Purchase | $2,000 | $0 | $0 | $0 | $0 |
| Continuous Miner Rebuild | $0 | $0 | $0 | $0 | $1,200 |
| Roof Bolter Purchase | $0 | $1,300 | $0 | $0 | $0 |
| Roof Bolter Rebuild | $0 | $0 | $0 | $0 | $0 |
| Shuttle Car Purchase | $0 | $0 | $0 | $0 | $0 |
| Shuttle Car Rebuild | $0 | $0 | $0 | $0 | $0 |
| Continuous Haulage Purchase | $0 | $0 | $0 | $0 | $0 |
| Continuous Haulage Rebuild | $0 | $1,180 | $0 | $0 | $0 |
| Feeder Breaker Purchase | $0 | $0 | $0 | $0 | $0 |
| Feeder Breaker Rebuild | $0 | $0 | $240 | $0 | $0 |
| Scoop Purchase | $0 | $0 | $0 | $0 | $0 |
| Conveyor Terminals | $0 | $0 | $0 | $0 | $0 |
| Conveyor Purchase | $0 | $0 | $0 | $0 | $0 |
| Conveyor Replace | $0 | $1,600 | $0 | $0 | $0 |
| Mantrips | $0 | $0 | $360 | $360 | $0 |
| Power centers | $180 | $0 | $0 | $0 | $180 |
| Belt Storage Unit Purchase | $0 | $0 | $0 | $0 | $0 |
| Fan & Accessories | $0 | $0 | $0 | $0 | $0 |
| Other | $0 | $0 | $0 | $0 | $0 |
| **Total** | **$2,180** | **$4,079** | **$600** | **$360** | **$1,380** |

## 2.4 Mine: Casselman

The Casselman mine is an active mine in the Upper Freeport seam. This mine is a metallurgical coal operation on leased mineral property.

Production is scheduled for 255 days each year, which represents production on Monday through Friday. On each day, two production sections are scheduled to produce coal on two shifts; the third shift is reserved for maintenance and mine conveyor belt and power moves. The sections are configured as regular sections with one continuous miner available for production on each section. Productivity is planned at the rate of 180 feet of advance per shift of operation. A total of 79 employees are assigned to the mine.

Principal production equipment includes two continuous miners, four roof bolters, three shuttle cars, a continuous haulage system, and two scoops. Coal is extracted from the production face with the continuous miner and hauled to the mine conveyor in shuttle cars or via continuous haulage. At the conveyor belt, the coal is discharged onto a feeder breaker for transfer onto the conveyor. The conveyors carry the coal outside, where it is stacked on the ground to await truck transport to the preparation plant and load-out.

Expected annual production averages approximately 404,000 marketable tons. Following are financial highlights:

**Table A- 2-6: Casselman Mine Financial Summary**

| Item | 2022 | 2023 | 2024 | 2025 | 2026 |
|---|---|---|---|---|---|
| Production (000 tons) | 109 | 372 | 393 | 402 | 415 |
| Sales Price ($ per ton) | $166.13 | $166.13 | $140.52 | $124.64 | $124.64 |
| Total Cash Cost ($ per ton) | $113.88 | $119.99 | $113.29 | $110.01 | $107.51 |
| Total Cost of Production ($ per ton) | $114.89 | $126.80 | $120.37 | $117.12 | $115.05 |
| EBITDA ($ per ton) | $52.25 | $46.14 | $27.23 | $14.63 | $17.13 |
| Income from Operations ($ per ton) | $51.24 | $39.33 | $20.15 | $7.52 | $9.59 |
| Capital Expenditures ($000) | $0 | $2,900 | $4,486 | $2,466 | $2,800 |
| | | | | | |
| **Mine Name** | **2027** | **2028** | **2029** | **2030** | **2031** |
| Production (000 tons) | 429 | 215 | 182 | 192 | 0 |
| Sales Price ($ per ton) | $106.78 | $106.78 | $106.78 | $106.78 | $0.00 |
| Total Cash Cost ($ per ton) | $104.46 | $110.12 | $118.98 | $106.13 | $0.00 |
| Total Cost of Production ($ per ton) | $112.19 | $122.73 | $133.43 | $117.66 | $0.00 |
| EBITDA ($ per ton) | $2.32 | ($3.34) | ($12.20) | $0.65 | $0.00 |
| Income from Operations ($ per ton) | ($5.41) | ($15.95) | ($26.65) | ($10.88) | $0.00 |
| Capital Expenditures ($000) | $1,800 | $0 | $0 | $0 | $0 |

The mine is scheduled to terminate during 2030.

**Table A- 2-7: Casselman Mine Capital Expenditures Schedule**

| Item | Total | 2023 | 2024 | 2025 | 2026 |
|---|---|---|---|---|---|
| Continuous Miner Purchase | **$2,000** | $0 | $0 | $0 | $2,000 |
| Continuous Miner Rebuild | **$1,200** | $1,200 | $0 | $0 | $0 |
| Roof Bolter Purchase | **$1,300** | $0 | $0 | $0 | $0 |
| Roof Bolter Rebuild | **$780** | $780 | $0 | $0 | $0 |
| Shuttle Car Purchase | **$0** | $0 | $0 | $0 | $0 |
| Shuttle Car Rebuild | **$0** | $0 | $0 | $0 | $0 |
| Continuous Haulage Purchase | **$3,932** | $0 | $1,966 | $1,966 | $0 |
| Continuous Haulage Rebuild | **$0** | $0 | $0 | $0 | $0 |
| Feeder Breaker Purchase | **$0** | $0 | $0 | $0 | $0 |
| Feeder Breaker Rebuild | **$480** | $240 | $240 | $0 | $0 |
| Scoop Purchase | **$800** | $0 | $0 | $0 | $800 |
| Conveyor Terminals | **$2,000** | $500 | $500 | $500 | $0 |
| Conveyor Purchase | **$0** | $0 | $0 | $0 | $0 |
| Conveyor Replace | **$1,600** | $0 | $1,600 | $0 | $0 |
| Mantrips | **$0** | $0 | $0 | $0 | $0 |
| Power centers | **$360** | $180 | $180 | $0 | $0 |
| Belt Storage Unit Purchase | **$0** | $0 | $0 | $0 | $0 |
| Fan & Accessories | **$0** | $0 | $0 | $0 | $0 |
| Other | **$0** | $0 | $0 | $0 | $0 |
| **Total** | **$14,452** | **$2,900** | **$4,486** | **$2,466** | **$2,800** |
| | | | | | |
| **Mine Name** | **2027** | **2028** | **2029** | **2030** | **2031** |
| Continuous Miner Purchase | $0 | $0 | $0 | $0 | $0 |
| Continuous Miner Rebuild | $0 | $0 | $0 | $0 | $0 |
| Roof Bolter Purchase | $1,300 | $0 | $0 | $0 | $0 |
| Roof Bolter Rebuild | $0 | $0 | $0 | $0 | $0 |
| Shuttle Car Purchase | $0 | $0 | $0 | $0 | $0 |
| Shuttle Car Rebuild | $0 | $0 | $0 | $0 | $0 |
| Continuous Haulage Purchase | $0 | $0 | $0 | $0 | $0 |
| Continuous Haulage Rebuild | $0 | $0 | $0 | $0 | $0 |
| Feeder Breaker Purchase | $0 | $0 | $0 | $0 | $0 |
| Feeder Breaker Rebuild | $0 | $0 | $0 | $0 | $0 |
| Scoop Purchase | $0 | $0 | $0 | $0 | $0 |
| Conveyor Terminals | $500 | $0 | $0 | $0 | $0 |
| Conveyor Purchase | $0 | $0 | $0 | $0 | $0 |
| Conveyor Replace | $0 | $0 | $0 | $0 | $0 |
| Mantrips | $0 | $0 | $0 | $0 | $0 |
| Power centers | $0 | $0 | $0 | $0 | $0 |
| Belt Storage Unit Purchase | $0 | $0 | $0 | $0 | $0 |
| Fan & Accessories | $0 | $0 | $0 | $0 | $0 |
| Other | $0 | $0 | $0 | $0 | $0 |
| **Total** | **$1,800** | **$0** | **$0** | **$0** | **$0** |

## 2.5 Mine: Casselman North

The Casselman North mine is scheduled to begin production in 2028. This mine is a metallurgical coal operation on leased mineral property.

Production is scheduled for 255 days each year, which represents production on Monday through Friday. On each day, two production sections are scheduled to produce coal on two shifts; the third shift is reserved for maintenance and mine conveyor belt and power moves. The sections are configured as regular sections with one continuous miner available for production on each section. Productivity is planned at the rate of 180 feet of advance per shift of operation. A total of 79 employees are assigned to the mine.

Principal production equipment includes two continuous miners, four roof bolters, three shuttle cars, a continuous haulage system, and two scoops. Coal is extracted from the production face with the continuous miner and hauled to the mine conveyor in shuttle cars or via continuous haulage. At the conveyor belt, the coal is discharged onto a feeder breaker for transfer onto the conveyor. The conveyors carry the coal outside, where it is stacked on the ground to await truck transport to the preparation plant and load-out.

Expected annual production averages approximately 397,000 marketable tons. Following are financial highlights:

**Table A- 2-8: Casselman North Mine Financial Summary**

| Item | 2027 | 2028 | 2029 | 2030 | 2031 |
|---|---|---|---|---|---|
| Production (000 tons) | 0.0 | 94 | 121 | 187 | 401 |
| Sales Price ($ per ton) | $0.00 | $106.78 | $106.78 | $106.78 | $106.78 |
| Total Cash Cost ($ per ton) | $0.00 | $120.59 | $116.21 | $99.96 | $101.10 |
| Total Cost of Production ($ per ton) | $0.00 | $140.27 | $134.75 | $113.67 | $109.79 |
| EBITDA ($ per ton) | $0.00 | ($13.81) | ($9.43) | $6.82 | $5.68 |
| Income from Operations ($ per ton) | $0.00 | ($33.49) | ($27.97) | ($6.89) | ($3.01) |
| Capital Expenditures ($000) | $8,503 | $2,400 | $2,392 | $1,300 | $3,328 |
| | | | | | |
| **Mine Name** | **2032** | **2033** | **2034** | **2035** | **2036** |
| Production (000 tons) | 391 | 386 | 383 | 412 | 439 |
| Sales Price ($ per ton) | $106.78 | $106.78 | $106.78 | $106.78 | $106.78 |
| Total Cash Cost ($ per ton) | $101.52 | $103.39 | $103.06 | $98.88 | $95.89 |
| Total Cost of Production ($ per ton) | $111.25 | $114.14 | $111.25 | $106.95 | $103.56 |
| EBITDA ($ per ton) | $5.26 | $3.39 | $3.72 | $7.90 | $10.89 |
| Income from Operations ($ per ton) | ($4.47) | ($7.36) | ($4.47) | ($0.17) | $3.22 |
| Capital Expenditures ($000) | $2,728 | $2,509 | $1,417 | $3,328 | $2,280 |
| | | | | | |
| **Mine Name** | **2037** | **2038** | **2039** | **2040** | **2041** |
| Production (000 tons) | 353 | 307 | 425 | 437 | 206 |
| Sales Price ($ per ton) | $106.78 | $106.78 | $106.78 | $106.78 | $106.78 |
| Total Cash Cost ($ per ton) | $103.53 | $109.57 | $99.39 | $96.89 | $84.02 |
| Total Cost of Production ($ per ton) | $112.44 | $118.63 | $106.26 | $102.80 | $93.37 |
| EBITDA ($ per ton) | $3.25 | ($2.79) | $7.39 | $9.89 | $22.76 |
| Income from Operations ($ per ton) | ($5.66) | ($11.85) | $0.52 | $3.98 | $13.41 |
| Capital Expenditures ($000) | $909 | $1,417 | $2,028 | $0 | $0 |

The mine is scheduled to terminate during 2041.

## Table A- 2-9: Casselman North Mine Capital Expenditures Schedule

| Item | Total | 2027 | 2028 | 2029 | 2030 |
|---|---|---|---|---|---|
| Continuous Miner Purchase | **$2,000** | $0 | $2,000 | $0 | $0 |
| Continuous Miner Rebuild | **$6,000** | $0 | $0 | $0 | $0 |
| Roof Bolter Purchase | **$1,120** | $0 | $0 | $0 | $0 |
| Roof Bolter Rebuild | **$2,688** | $0 | $0 | $672 | $0 |
| Shuttle Car Purchase | **$0** | $0 | $0 | $0 | $0 |
| Shuttle Car Rebuild | **$0** | $0 | $0 | $0 | $0 |
| Continuous Haulage Purchase | **$0** | $0 | $0 | $0 | $0 |
| Continuous Haulage Rebuild | **$5,899** | $0 | $0 | $0 | $1,180 |
| Feeder Breaker Purchase | **$800** | $400 | $400 | $0 | $0 |
| Feeder Breaker Rebuild | **$1,440** | $0 | $0 | $0 | $0 |
| Scoop Purchase | **$1,620** | $0 | $0 | $0 | $0 |
| Conveyor Terminals | **$0** | $0 | $0 | $0 | $0 |
| Conveyor Purchase | **$0** | $0 | $0 | $0 | $0 |
| Conveyor Replace | **$3,199** | $0 | $0 | $1,600 | $0 |
| Mantrips | **$1,200** | $0 | $0 | $120 | $120 |
| Power centers | **$469** | $0 | $0 | $0 | $0 |
| Belt Storage Unit Purchase | **$0** | $0 | $0 | $0 | $0 |
| Fan & Accessories | **$103** | $103 | $0 | $0 | $0 |
| Other | **$8,000** | $8,000 | $0 | $0 | $0 |
| **Total** | **$34,538** | **$8,503** | **$2,400** | **$2,392** | **$1,300** |
| | | | | | |
| **Mine Name** | **2031** | **2032** | **2033** | **2034** | **2035** |
| Continuous Miner Purchase | $0 | $0 | $0 | $0 | $0 |
| Continuous Miner Rebuild | $1,200 | $1,200 | $0 | $0 | $1,200 |
| Roof Bolter Purchase | $0 | $1,120 | $0 | $0 | $0 |
| Roof Bolter Rebuild | $0 | $0 | $672 | $0 | $0 |
| Shuttle Car Purchase | $0 | $0 | $0 | $0 | $0 |
| Shuttle Car Rebuild | $0 | $0 | $0 | $0 | $0 |
| Continuous Haulage Purchase | $0 | $0 | $0 | $0 | $0 |
| Continuous Haulage Rebuild | $1,180 | $0 | $0 | $1,180 | $1,180 |
| Feeder Breaker Purchase | $0 | $0 | $0 | $0 | $0 |
| Feeder Breaker Rebuild | $288 | $288 | $0 | $0 | $288 |
| Scoop Purchase | $540 | $0 | $0 | $0 | $540 |
| Conveyor Terminals | $0 | $0 | $0 | $0 | $0 |
| Conveyor Purchase | $0 | $0 | $0 | $0 | $0 |
| Conveyor Replace | $0 | $0 | $1,600 | $0 | $0 |
| Mantrips | $120 | $120 | $120 | $120 | $120 |
| Power centers | $0 | $0 | $117 | $117 | $0 |
| Belt Storage Unit Purchase | $0 | $0 | $0 | $0 | $0 |
| Fan & Accessories | $0 | $0 | $0 | $0 | $0 |
| Other | $0 | $0 | $0 | $0 | $0 |
| **Total** | **$3,328** | **$2,728** | **$2,509** | **$1,417** | **$3,328** |
| | | | | | |

| Mine Name | 2036 | 2037 | 2038 | 2039 | 2040 |
|---|---|---|---|---|---|
| Continuous Miner Purchase | $0 | $0 | $0 | $0 | $0 |
| Continuous Miner Rebuild | $1,200 | $0 | $0 | $1,200 | $0 |
| Roof Bolter Purchase | $0 | $0 | $0 | $0 | $0 |
| Roof Bolter Rebuild | $672 | $672 | $0 | $0 | $0 |
| Shuttle Car Purchase | $0 | $0 | $0 | $0 | $0 |
| Shuttle Car Rebuild | $0 | $0 | $0 | $0 | $0 |
| Continuous Haulage Purchase | $0 | $0 | $0 | $0 | $0 |
| Continuous Haulage Rebuild | $0 | $0 | $1,180 | $0 | $0 |
| Feeder Breaker Purchase | $0 | $0 | $0 | $0 | $0 |
| Feeder Breaker Rebuild | $288 | $0 | $0 | $288 | $0 |
| Scoop Purchase | $0 | $0 | $0 | $540 | $0 |
| Conveyor Terminals | $0 | $0 | $0 | $0 | $0 |
| Conveyor Purchase | $0 | $0 | $0 | $0 | $0 |
| Conveyor Replace | $0 | $0 | $0 | $0 | $0 |
| Mantrips | $120 | $120 | $120 | $0 | $0 |
| Power centers | $0 | $117 | $117 | $0 | $0 |
| Belt Storage Unit Purchase | $0 | $0 | $0 | $0 | $0 |
| Fan & Accessories | $0 | $0 | $0 | $0 | $0 |
| Other | $0 | $0 | $0 | $0 | $0 |
| **Total** | **$2,280** | **$909** | **$1,417** | **$2,028** | **$0** |

## 2.6 Mine: Acosta UK

The proposed Acosta UK mine is scheduled to begin production in the second quarter of 2033. The Upper Kittanning seam is accessed via inter-seam slope from the active underlying Acosta MK mine. This mine is projected to be a metallurgical coal operation on owned and leased mineral property.

Production is scheduled for 255 days each year, which represents production on Monday through Friday. On each day, two production sections are scheduled to produce coal on two shifts; the third shift is reserved for maintenance and mine conveyor belt and power moves. The sections are configured as regular sections with one continuous miner available for production on each section. Productivity is planned at the rate of 210 feet of advance per shift of operation. A total of 96 employees have been assigned to the mine.

Principal production equipment includes two continuous miners, four roof bolters, two continuous haulage units, and two scoops. Coal is extracted from the production face with the continuous miner and hauled to the mine conveyor via continuous haulage. At the conveyor belt, the coal is discharged from the haulage units onto a feeder breaker for transfer onto the conveyor. The conveyors carry the coal outside, where it is stacked on the ground to await truck transport to the preparation plant and load-out.

Expected annual production averages approximately 502,000 marketable tons at steady state production levels. Following are financial highlights:

## Table A- 2-10: Acosta UK Mine Financial Summary

| Item | 2032 | 2033 | 2034 | 2035 | 2036 |
|---|---|---|---|---|---|
| Production (000 tons) | 0 | 305 | 514 | 519 | 515 |
| Sales Price ($ per ton) | $0.00 | $92.55 | $92.55 | $92.55 | $92.55 |
| Total Cash Cost ($ per ton) | $0.00 | $87.26 | $79.01 | $78.18 | $79.88 |
| Total Cost of Production ($ per ton) | $0.00 | $97.65 | $86.00 | $85.26 | $87.14 |
| EBITDA ($ per ton) | $0.00 | $5.29 | $13.54 | $14.37 | $12.67 |
| Income from Operations ($ per ton) | $0.00 | ($5.10) | $6.55 | $7.29 | $5.41 |
| Capital Expenditures ($000) | $2,000 | $15,809 | $0 | $500 | $500 |
| | | | | | |
| **Mine Name** | **2037** | **2038** | **2039** | **2040** | **2041** |
| Production (000 tons) | 507 | 455 | 450 | 458 | 434 |
| Sales Price ($ per ton) | $92.55 | $92.55 | $92.55 | $92.55 | $92.55 |
| Total Cash Cost ($ per ton) | $80.31 | $86.38 | $86.76 | $84.52 | $88.47 |
| Total Cost of Production ($ per ton) | $88.10 | $96.97 | $98.10 | $91.00 | $95.79 |
| EBITDA ($ per ton) | $12.24 | $6.17 | $5.79 | $8.03 | $4.08 |
| Income from Operations ($ per ton) | $4.45 | ($4.42) | ($5.55) | $1.55 | ($3.24) |
| Capital Expenditures ($000) | $1,600 | $6,776 | $4,059 | $740 | $1,840 |
| | | | | | |
| **Mine Name** | **2042** | **2043** | **2044** | **2045** | **2046** |
| Production (000 tons) | 476 | 498 | 510 | 533 | 500 |
| Sales Price ($ per ton) | $92.55 | $92.55 | $92.55 | $92.55 | $92.55 |
| Total Cash Cost ($ per ton) | $81.91 | $79.45 | $75.78 | $73.97 | $78.58 |
| Total Cost of Production ($ per ton) | $89.30 | $87.30 | $83.89 | $80.18 | $84.21 |
| EBITDA ($ per ton) | $10.64 | $13.10 | $16.77 | $18.58 | $13.97 |
| Income from Operations ($ per ton) | $3.25 | $5.25 | $8.66 | $12.37 | $8.34 |
| Capital Expenditures ($000) | $2,280 | $2,926 | $2,986 | $640 | $1,080 |
| | | | | | |
| **Mine Name** | **2047** | **2048** | **2049** | **2050** | **2051** |
| Production (000 tons) | 545 | 520 | 526 | 575 | 539 |
| Sales Price ($ per ton) | $92.55 | $92.55 | $92.55 | $92.55 | $92.55 |
| Total Cash Cost ($ per ton) | $73.56 | $75.51 | $74.95 | $70.44 | $66.26 |
| Total Cost of Production ($ per ton) | $79.58 | $82.36 | $81.51 | $76.00 | $71.26 |
| EBITDA ($ per ton) | $18.99 | $17.04 | $17.60 | $22.11 | $26.29 |
| Income from Operations ($ per ton) | $12.97 | $10.19 | $11.04 | $16.55 | $21.29 |
| Capital Expenditures ($000) | $3,346 | $4,186 | $1,420 | $400 | $0 |

The mine is scheduled to operate beginning in 2033 and terminate during 2051.

## Table A- 2-11: Acosta UK Mine Capital Expenditures Schedule

| Item | Total | 2032 | 2033 | 2034 | 2035 |
|---|---|---|---|---|---|
| Continuous Miner Purchase | **$4,000** | $0 | $4,000 | $0 | $0 |
| Continuous Miner Rebuild | **$7,200** | $0 | $0 | $0 | $0 |
| Roof Bolter Purchase | **$2,600** | $0 | $2,600 | $0 | $0 |
| Roof Bolter Rebuild | **$4,680** | $0 | $0 | $0 | $0 |
| Shuttle Car Purchase | **$0** | $0 | $0 | $0 | $0 |
| Shuttle Car Rebuild | **$0** | $0 | $0 | $0 | $0 |
| Continuous Haulage Purchase | **$11,797** | $0 | $3,932 | $0 | $0 |
| Continuous Haulage Rebuild | **$2,359** | $0 | $0 | $0 | $0 |
| Feeder Breaker Purchase | **$0** | $0 | $0 | $0 | $0 |
| Feeder Breaker Rebuild | **$0** | $0 | $0 | $0 | $0 |
| Scoop Purchase | **$4,000** | $0 | $800 | $0 | $0 |
| Conveyor Terminals | **$3,500** | $0 | $0 | $0 | $500 |
| Conveyor Purchase | **$2,666** | $0 | $2,666 | $0 | $0 |
| Conveyor Replace | **$1,600** | $0 | $0 | $0 | $0 |
| Mantrips | **$1,920** | $0 | $480 | $0 | $0 |
| Power centers | **$1,081** | $0 | $360 | $0 | $0 |
| Belt Storage Unit Purchase | **$220** | $0 | $220 | $0 | $0 |
| Fan & Accessories | **$750** | $0 | $750 | $0 | $0 |
| Other | **$4,716** | $2,000 | $0 | $0 | $0 |
| **Total** | **$53,089** | **$2,000** | **$15,809** | **$0** | **$500** |

| Mine Name | 2036 | 2037 | 2038 | 2039 | 2040 |
|---|---|---|---|---|---|
| Continuous Miner Purchase | $0 | $0 | $0 | $0 | $0 |
| Continuous Miner Rebuild | $0 | $1,200 | $1,200 | $0 | $0 |
| Roof Bolter Purchase | $0 | $0 | $0 | $0 | $0 |
| Roof Bolter Rebuild | $0 | $0 | $780 | $780 | $0 |
| Shuttle Car Purchase | $0 | $0 | $0 | $0 | $0 |
| Shuttle Car Rebuild | $0 | $0 | $0 | $0 | $0 |
| Continuous Haulage Purchase | $0 | $0 | $0 | $0 | $0 |
| Continuous Haulage Rebuild | $0 | $0 | $1,180 | $1,180 | $0 |
| Feeder Breaker Purchase | $0 | $0 | $0 | $0 | $0 |
| Feeder Breaker Rebuild | $0 | $0 | $0 | $0 | $0 |
| Scoop Purchase | $0 | $400 | $400 | $0 | $0 |
| Conveyor Terminals | $500 | $0 | $500 | $500 | $500 |
| Conveyor Purchase | $0 | $0 | $0 | $0 | $0 |
| Conveyor Replace | $0 | $0 | $0 | $1,600 | $0 |
| Mantrips | $0 | $0 | $0 | $0 | $240 |
| Power centers | $0 | $0 | $0 | $0 | $0 |
| Belt Storage Unit Purchase | $0 | $0 | $0 | $0 | $0 |
| Fan & Accessories | $0 | $0 | $0 | $0 | $0 |
| Other | $0 | $0 | $2,716 | $0 | $0 |
| **Total** | **$500** | **$1,600** | **$6,776** | **$4,059** | **$740** |

| Mine Name | 2041 | 2042 | 2043 | 2044 | 2045 |
|---|---|---|---|---|---|
| Continuous Miner Purchase | $0 | $0 | $0 | $0 | $0 |
| Continuous Miner Rebuild | $1,200 | $1,200 | $0 | $0 | $0 |
| Roof Bolter Purchase | $0 | $0 | $0 | $0 | $0 |
| Roof Bolter Rebuild | $0 | $0 | $780 | $780 | $0 |
| Shuttle Car Purchase | $0 | $0 | $0 | $0 | $0 |
| Shuttle Car Rebuild | $0 | $0 | $0 | $0 | $0 |
| Continuous Haulage Purchase | $0 | $0 | $1,966 | $1,966 | $0 |
| Continuous Haulage Rebuild | $0 | $0 | $0 | $0 | $0 |
| Feeder Breaker Purchase | $0 | $0 | $0 | $0 | $0 |
| Feeder Breaker Rebuild | $0 | $0 | $0 | $0 | $0 |
| Scoop Purchase | $400 | $400 | $0 | $0 | $400 |
| Conveyor Terminals | $0 | $500 | $0 | $0 | $0 |
| Conveyor Purchase | $0 | $0 | $0 | $0 | $0 |
| Conveyor Replace | $0 | $0 | $0 | $0 | $0 |
| Mantrips | $240 | $0 | $0 | $240 | $240 |
| Power centers | $0 | $180 | $180 | $0 | $0 |
| Belt Storage Unit Purchase | $0 | $0 | $0 | $0 | $0 |
| Fan & Accessories | $0 | $0 | $0 | $0 | $0 |
| Other | $0 | $0 | $0 | $0 | $0 |
| **Total** | **$1,840** | **$2,280** | **$2,926** | **$2,986** | **$640** |
| | | | | | |
| **Mine Name** | **2046** | **2047** | **2048** | **2049** | **2050** |
| Continuous Miner Purchase | $0 | $0 | $0 | $0 | $0 |
| Continuous Miner Rebuild | $0 | $1,200 | $1,200 | $0 | $0 |
| Roof Bolter Purchase | $0 | $0 | $0 | $0 | $0 |
| Roof Bolter Rebuild | $0 | $0 | $780 | $780 | $0 |
| Shuttle Car Purchase | $0 | $0 | $0 | $0 | $0 |
| Shuttle Car Rebuild | $0 | $0 | $0 | $0 | $0 |
| Continuous Haulage Purchase | $0 | $1,966 | $1,966 | $0 | $0 |
| Continuous Haulage Rebuild | $0 | $0 | $0 | $0 | $0 |
| Feeder Breaker Purchase | $0 | $0 | $0 | $0 | $0 |
| Feeder Breaker Rebuild | $0 | $0 | $0 | $0 | $0 |
| Scoop Purchase | $400 | $0 | $0 | $400 | $400 |
| Conveyor Terminals | $500 | $0 | $0 | $0 | $0 |
| Conveyor Purchase | $0 | $0 | $0 | $0 | $0 |
| Conveyor Replace | $0 | $0 | $0 | $0 | $0 |
| Mantrips | $0 | $0 | $240 | $240 | $0 |
| Power centers | $180 | $180 | $0 | $0 | $0 |
| Belt Storage Unit Purchase | $0 | $0 | $0 | $0 | $0 |
| Fan & Accessories | $0 | $0 | $0 | $0 | $0 |
| Other | $0 | $0 | $0 | $0 | $0 |
| **Total** | **$1,080** | **$3,346** | **$4,186** | **$1,420** | **$400** |

## 2.7 Mine: Acosta MK

The Acosta MK mine is an active mine in the Middle Kittanning seam which is accessed via box cut entry along the outcrop. This mine is a metallurgical coal operation on leased mineral property.

Production is scheduled for 255 days each year, which represents production on Monday through Friday. On each day, two production sections are scheduled to produce coal on two shifts; the third

shift is reserved for maintenance and mine conveyor belt and power moves. The sections are configured as regular sections with one continuous miner available for production on each section. Productivity is planned at the rate of 210 feet of advance per shift of operation. A total of 96 employees are assigned to the mine during steady state production.

Principal production equipment includes two continuous miners, four roof bolters, two continuous haulage systems, and two scoops. Coal is extracted from the production face with the continuous miner and hauled to the mine conveyor via continuous haulage. At the conveyor belt, the coal is discharged from the haulage units onto a feeder breaker for transfer onto the conveyor. The conveyors carry the coal outside, where it is stacked on the ground to await truck transport to the preparation plant and load-out.

Expected annual production averages approximately 391,000 marketable tons at steady state production levels. Following are financial highlights:

**Table A- 2-12: Acosta MK Mine Financial Summary**

| Item | 2022 | 2023 | 2024 | 2025 | 2026 |
|---|---|---|---|---|---|
| Production (000 tons) | 106 | 426 | 382 | 391 | 416 |
| Sales Price ($ per ton) | $160.13 | $160.13 | $134.52 | $118.64 | $118.64 |
| Total Cash Cost ($ per ton) | $104.84 | $100.85 | $106.90 | $103.92 | $98.08 |
| Total Cost of Production ($ per ton) | $105.52 | $107.35 | $113.97 | $111.72 | $105.44 |
| EBITDA ($ per ton) | $55.29 | $59.28 | $27.62 | $14.72 | $20.56 |
| Income from Operations ($ per ton) | $54.61 | $52.78 | $20.55 | $6.92 | $13.20 |
| Capital Expenditures ($000) | $0 | $2,100 | $2,000 | $3,660 | $2,460 |
| | | | | | |
| **Mine Name** | **2027** | **2028** | **2029** | **2030** | **2031** |
| Production (000 tons) | 386 | 372 | 365 | 410 | 381 |
| Sales Price ($ per ton) | $100.78 | $100.78 | $100.78 | $100.78 | $100.78 |
| Total Cash Cost ($ per ton) | $103.11 | $108.29 | $105.79 | $96.21 | $104.95 |
| Total Cost of Production ($ per ton) | $110.64 | $116.57 | $114.82 | $105.16 | $114.56 |
| EBITDA ($ per ton) | ($2.33) | ($7.51) | ($5.01) | $4.57 | ($4.17) |
| Income from Operations ($ per ton) | ($9.86) | ($15.79) | ($14.04) | ($4.38) | ($13.78) |
| Capital Expenditures ($000) | $620 | $2,600 | $1,880 | $4,526 | $2,746 |
| | | | | | |
| **Mine Name** | **2032** | **2033** | **2034** | **2035** | **2036** |
| Production (000 tons) | 395 | 381 | 372 | 38 | 0 |
| Sales Price ($ per ton) | $100.78 | $100.78 | $100.78 | $100.78 | $0.00 |
| Total Cash Cost ($ per ton) | $100.06 | $102.06 | $103.58 | $103.14 | $0.00 |
| Total Cost of Production ($ per ton) | $108.67 | $110.33 | $111.71 | $135.11 | $0.00 |
| EBITDA ($ per ton) | $0.72 | ($1.28) | ($2.80) | ($2.36) | $0.00 |
| Income from Operations ($ per ton) | ($7.89) | ($9.55) | ($10.93) | ($34.33) | $0.00 |
| Capital Expenditures ($000) | $2,000 | $1,440 | $0 | $0 | $0 |

The mine is scheduled to terminate during 2035.

## Table A- 2-13: Acosta MK Mine Capital Expenditures Schedule

| Item | Total | 2023 | 2024 | 2025 | 2026 |
|---|---|---|---|---|---|
| Continuous Miner Purchase | **$0** | $0 | $0 | $0 | $0 |
| Continuous Miner Rebuild | **$7,200** | $0 | $1,200 | $1,200 | $0 |
| Roof Bolter Purchase | **$0** | $0 | $0 | $0 | $0 |
| Roof Bolter Rebuild | **$3,120** | $0 | $0 | $780 | $780 |
| Shuttle Car Purchase | **$0** | $0 | $0 | $0 | $0 |
| Shuttle Car Rebuild | **$0** | $0 | $0 | $0 | $0 |
| Continuous Haulage Purchase | **$3,932** | $0 | $0 | $0 | $0 |
| Continuous Haulage Rebuild | **$2,359** | $0 | $0 | $1,180 | $1,180 |
| Feeder Breaker Purchase | **$800** | $800 | $0 | $0 | $0 |
| Feeder Breaker Rebuild | **$720** | $0 | $0 | $0 | $0 |
| Scoop Purchase | **$3,200** | $800 | $800 | $0 | $0 |
| Conveyor Terminals | **$2,500** | $500 | $0 | $500 | $500 |
| Conveyor Purchase | **$0** | $0 | $0 | $0 | $0 |
| Conveyor Replace | **$1,600** | $0 | $0 | $0 | $0 |
| Mantrips | **$240** | $0 | $0 | $0 | $0 |
| Power centers | **$360** | $0 | $0 | $0 | $0 |
| Belt Storage Unit Purchase | **$0** | $0 | $0 | $0 | $0 |
| Fan & Accessories | **$0** | $0 | $0 | $0 | $0 |
| Other | **$0** | $0 | $0 | $0 | $0 |
| **Total** | **$26,032** | **$2,100** | **$2,000** | **$3,660** | **$2,460** |

| Mine Name | 2027 | 2028 | 2029 | 2030 | 2031 |
|---|---|---|---|---|---|
| Continuous Miner Purchase | $0 | $0 | $0 | $0 | $0 |
| Continuous Miner Rebuild | $0 | $1,200 | $1,200 | $0 | $0 |
| Roof Bolter Purchase | $0 | $0 | $0 | $0 | $0 |
| Roof Bolter Rebuild | $0 | $0 | $0 | $780 | $780 |
| Shuttle Car Purchase | $0 | $0 | $0 | $0 | $0 |
| Shuttle Car Rebuild | $0 | $0 | $0 | $0 | $0 |
| Continuous Haulage Purchase | $0 | $0 | $0 | $1,966 | $1,966 |
| Continuous Haulage Rebuild | $0 | $0 | $0 | $0 | $0 |
| Feeder Breaker Purchase | $0 | $0 | $0 | $0 | $0 |
| Feeder Breaker Rebuild | $0 | $480 | $0 | $0 | $0 |
| Scoop Purchase | $0 | $800 | $0 | $0 | $0 |
| Conveyor Terminals | $500 | $0 | $500 | $0 | $0 |
| Conveyor Purchase | $0 | $0 | $0 | $0 | $0 |
| Conveyor Replace | $0 | $0 | $0 | $1,600 | $0 |
| Mantrips | $120 | $120 | $0 | $0 | $0 |
| Power centers | $0 | $0 | $180 | $180 | $0 |
| Belt Storage Unit Purchase | $0 | $0 | $0 | $0 | $0 |
| Fan & Accessories | $0 | $0 | $0 | $0 | $0 |
| Other | $0 | $0 | $0 | $0 | $0 |
| **Total** | **$620** | **$2,600** | **$1,880** | **$4,526** | **$2,746** |

| Mine Name | 2032 | 2033 | 2034 | 2035 | 2036 |
|---|---|---|---|---|---|
| Continuous Miner Purchase | $0 | $0 | $0 | $0 | $0 |
| Continuous Miner Rebuild | $1,200 | $1,200 | $0 | $0 | $0 |
| Roof Bolter Purchase | $0 | $0 | $0 | $0 | $0 |
| Roof Bolter Rebuild | $0 | $0 | $0 | $0 | $0 |
| Shuttle Car Purchase | $0 | $0 | $0 | $0 | $0 |
| Shuttle Car Rebuild | $0 | $0 | $0 | $0 | $0 |
| Continuous Haulage Purchase | $0 | $0 | $0 | $0 | $0 |
| Continuous Haulage Rebuild | $0 | $0 | $0 | $0 | $0 |
| Feeder Breaker Purchase | $0 | $0 | $0 | $0 | $0 |
| Feeder Breaker Rebuild | $0 | $240 | $0 | $0 | $0 |
| Scoop Purchase | $800 | $0 | $0 | $0 | $0 |
| Conveyor Terminals | $0 | $0 | $0 | $0 | $0 |
| Conveyor Purchase | $0 | $0 | $0 | $0 | $0 |
| Conveyor Replace | $0 | $0 | $0 | $0 | $0 |
| Mantrips | $0 | $0 | $0 | $0 | $0 |
| Power centers | $0 | $0 | $0 | $0 | $0 |
| Belt Storage Unit Purchase | $0 | $0 | $0 | $0 | $0 |
| Fan & Accessories | $0 | $0 | $0 | $0 | $0 |
| Other | $0 | $0 | $0 | $0 | $0 |
| **Total** | **$2,000** | **$1,440** | **$0** | **$0** | **$0** |

## 2.8 Mine: Acosta LK

The proposed Acosta LK mine is scheduled to begin production in 2035. The Lower Kittanning seam is accessed via inter-seam slope from the proposed overlying Middle Kittanning seam mine, or alternately via a new box cut. This mine is projected to be a metallurgical coal operation on leased mineral property.

Production is scheduled for 255 days each year, which represents production on Monday through Friday. On each day, two production sections are scheduled to produce coal on two shifts; the third shift is reserved for maintenance and mine conveyor belt and power moves. The sections are configured as regular sections with one continuous miner available for production on each section. Productivity is planned at the rate of 210 feet of advance per shift of operation. A total of 96 employees are assigned to the mine during steady state production.

Principal production equipment includes two continuous miners, four roof bolters, two continuous haulage systems, and two scoops. Coal is extracted from the production face with the continuous miner and hauled to the mine conveyor via continuous haulage. At the conveyor belt, the coal is discharged from the haulage units onto a feeder breaker for transfer onto the conveyor. The conveyors carry the coal outside, where it is stacked on the ground to await truck transport to the preparation plant and load-out.

Expected annual production averages approximately 476,000 marketable tons at steady state levels. Following are financial highlights:

**Table A- 2-14: Acosta LK Mine Financial Summary**

| Item | 2034 | 2035 | 2036 | 2037 | 2038 |
|---|---|---|---|---|---|
| Production (000 tons) | 0 | 359 | 497 | 513 | 495 |
| Sales Price ($ per ton) | $0.00 | $97.64 | $97.64 | $97.64 | $97.64 |
| Total Cash Cost ($ per ton) | $0.00 | $96.11 | $86.56 | $85.14 | $86.79 |
| Total Cost of Production ($ per ton) | $0.00 | $102.89 | $93.76 | $92.32 | $94.32 |
| EBITDA ($ per ton) | $0.00 | $1.54 | $11.09 | $12.50 | $10.85 |
| Income from Operations ($ per ton) | $0.00 | ($5.25) | $3.88 | $5.32 | $3.32 |
| Capital Expenditures ($000) | $2,000 | $9,722 | $6,086 | $500 | $500 |
| | | | | | |
| **Mine Name** | **2039** | **2040** | **2041** | **2042** | **2043** |
| Production (000 tons) | 456 | 459 | 436 | 443 | 510 |
| Sales Price ($ per ton) | $97.64 | $97.64 | $97.64 | $97.64 | $97.64 |
| Total Cash Cost ($ per ton) | $91.11 | $91.12 | $94.23 | $90.54 | $82.43 |
| Total Cost of Production ($ per ton) | $99.67 | $100.95 | $105.15 | $98.42 | $88.29 |
| EBITDA ($ per ton) | $6.53 | $6.52 | $3.42 | $7.10 | $15.21 |
| Income from Operations ($ per ton) | ($2.02) | ($3.31) | ($7.51) | ($0.78) | $9.35 |
| Capital Expenditures ($000) | $1,780 | $4,240 | $4,059 | $740 | $1,620 |
| | | | | | |
| **Mine Name** | **2044** | **2045** | **2046** | **2047** | **2048** |
| Production (000 tons) | 393 | 308 | 0 | 0 | 0 |
| Sales Price ($ per ton) | $97.64 | $97.64 | $0.00 | $0.00 | $0.00 |
| Total Cash Cost ($ per ton) | $92.81 | $72.79 | $0.00 | $0.00 | $0.00 |
| Total Cost of Production ($ per ton) | $101.04 | $82.52 | $0.00 | $0.00 | $0.00 |
| EBITDA ($ per ton) | $4.84 | $24.85 | $0.00 | $0.00 | $0.00 |
| Income from Operations ($ per ton) | ($3.40) | $15.13 | $0.00 | $0.00 | $0.00 |
| Capital Expenditures ($000) | $3,840 | $0 | $0 | $0 | $0 |

The mine is scheduled to operate beginning in 2035 and terminate during 2045.

## Table A- 2-15: Acosta LK Mine Capital Expenditures Schedule

| Item | Total | 2034 | 2035 | 2036 | 2037 |
|---|---|---|---|---|---|
| Continuous Miner Purchase | **$4,000** | $0 | $2,000 | $2,000 | $0 |
| Continuous Miner Rebuild | **$4,800** | $0 | $0 | $0 | $0 |
| Roof Bolter Purchase | **$2,600** | $0 | $1,300 | $1,300 | $0 |
| Roof Bolter Rebuild | **$2,340** | $0 | $0 | $0 | $0 |
| Shuttle Car Purchase | **$0** | $0 | $0 | $0 | $0 |
| Shuttle Car Rebuild | **$0** | $0 | $0 | $0 | $0 |
| Continuous Haulage Purchase | **$3,932** | $0 | $1,966 | $1,966 | $0 |
| Continuous Haulage Rebuild | **$3,539** | $0 | $0 | $0 | $0 |
| Feeder Breaker Purchase | **$0** | $0 | $0 | $0 | $0 |
| Feeder Breaker Rebuild | **$0** | $0 | $0 | $0 | $0 |
| Scoop Purchase | **$1,600** | $0 | $400 | $400 | $0 |
| Conveyor Terminals | **$3,000** | $0 | $0 | $0 | $500 |
| Conveyor Purchase | **$2,666** | $0 | $2,666 | $0 | $0 |
| Conveyor Replace | **$1,600** | $0 | $0 | $0 | $0 |
| Mantrips | **$960** | $0 | $240 | $240 | $0 |
| Power centers | **$1,081** | $0 | $180 | $180 | $0 |
| Belt Storage Unit Purchase | **$220** | $0 | $220 | $0 | $0 |
| Fan & Accessories | **$750** | $0 | $750 | $0 | $0 |
| Other | **$2,000** | $2,000 | $0 | $0 | $0 |
| **Total** | **$35,088** | **$2,000** | **$9,722** | **$6,086** | **$500** |

| Mine Name | 2038 | 2039 | 2040 | 2041 | 2042 |
|---|---|---|---|---|---|
| Continuous Miner Purchase | $0 | $0 | $0 | $0 | $0 |
| Continuous Miner Rebuild | $0 | $1,200 | $1,200 | $0 | $0 |
| Roof Bolter Purchase | $0 | $0 | $0 | $0 | $0 |
| Roof Bolter Rebuild | $0 | $0 | $780 | $780 | $0 |
| Shuttle Car Purchase | $0 | $0 | $0 | $0 | $0 |
| Shuttle Car Rebuild | $0 | $0 | $0 | $0 | $0 |
| Continuous Haulage Purchase | $0 | $0 | $0 | $0 | $0 |
| Continuous Haulage Rebuild | $0 | $0 | $1,180 | $1,180 | $0 |
| Feeder Breaker Purchase | $0 | $0 | $0 | $0 | $0 |
| Feeder Breaker Rebuild | $0 | $0 | $0 | $0 | $0 |
| Scoop Purchase | $0 | $400 | $400 | $0 | $0 |
| Conveyor Terminals | $500 | $0 | $500 | $500 | $500 |
| Conveyor Purchase | $0 | $0 | $0 | $0 | $0 |
| Conveyor Replace | $0 | $0 | $0 | $1,600 | $0 |
| Mantrips | $0 | $0 | $0 | $0 | $240 |
| Power centers | $0 | $180 | $180 | $0 | $0 |
| Belt Storage Unit Purchase | $0 | $0 | $0 | $0 | $0 |
| Fan & Accessories | $0 | $0 | $0 | $0 | $0 |
| Other | $0 | $0 | $0 | $0 | $0 |
| **Total** | **$500** | **$1,780** | **$4,240** | **$4,059** | **$740** |

| Mine Name | 2043 | 2044 | 2045 | 2046 | 2047 |
|---|---|---|---|---|---|
| Continuous Miner Purchase | $0 | $0 | $0 | $0 | $0 |
| Continuous Miner Rebuild | $1,200 | $1,200 | $0 | $0 | $0 |
| Roof Bolter Purchase | $0 | $0 | $0 | $0 | $0 |
| Roof Bolter Rebuild | $0 | $780 | $0 | $0 | $0 |
| Shuttle Car Purchase | $0 | $0 | $0 | $0 | $0 |
| Shuttle Car Rebuild | $0 | $0 | $0 | $0 | $0 |
| Continuous Haulage Purchase | $0 | $0 | $0 | $0 | $0 |
| Continuous Haulage Rebuild | $0 | $1,180 | $0 | $0 | $0 |
| Feeder Breaker Purchase | $0 | $0 | $0 | $0 | $0 |
| Feeder Breaker Rebuild | $0 | $0 | $0 | $0 | $0 |
| Scoop Purchase | $0 | $0 | $0 | $0 | $0 |
| Conveyor Terminals | $0 | $500 | $0 | $0 | $0 |
| Conveyor Purchase | $0 | $0 | $0 | $0 | $0 |
| Conveyor Replace | $0 | $0 | $0 | $0 | $0 |
| Mantrips | $240 | $0 | $0 | $0 | $0 |
| Power centers | $180 | $180 | $0 | $0 | $0 |
| Belt Storage Unit Purchase | $0 | $0 | $0 | $0 | $0 |
| Fan & Accessories | $0 | $0 | $0 | $0 | $0 |
| Other | $0 | $0 | $0 | $0 | $0 |
| **Total** | **$1,620** | **$3,840** | **$0** | **$0** | **$0** |

## 2.9 Mine: Keyser LK

The proposed Keyser LK mine is scheduled to begin construction in 2028 and to commence production in 2029. The Lower Kittanning seam is accessed via a proposed box cut. This mine is projected to be a metallurgical coal operation on owned and leased mineral property.

Production is scheduled for 255 days each year, which represents production on Monday through Friday. On each day, two production sections are scheduled to produce coal on two shifts; the third shift is reserved for maintenance and mine conveyor belt and power moves. The sections are configured as regular sections with one continuous miner each available for production. Productivity is planned at the rate of 180 feet of advance per shift of operation. A total of 96 employees are assigned to the mine during steady state production.

Principal production equipment includes two continuous miners, four roof bolters, six shuttle cars, and two scoops. Coal is extracted from the production face with the continuous miner and hauled to the mine conveyor in shuttle cars. At the conveyor belt, the coal is discharged from the shuttle cars onto a feeder breaker for transfer onto the conveyor. The conveyors carry the coal outside, where it is stacked on the ground to await truck transport to the preparation plant and load-out.

Expected annual production averages approximately 506,000 marketable tons at steady state levels. Following are financial highlights:

## Table A- 2-16: Keyser LK Mine Financial Summary

| Item | 2028 | 2029 | 2030 | 2031 | 2032 |
|---|---|---|---|---|---|
| Production (000 tons) | 0 | 35 | 335 | 446 | 461 |
| Sales Price ($ per ton) | $0.00 | $99.32 | $99.32 | $99.32 | $99.32 |
| Total Cash Cost ($ per ton) | $0.00 | $139.65 | $93.15 | $92.60 | $93.45 |
| Total Cost of Production ($ per ton) | $0.00 | $216.42 | $105.88 | $102.79 | $103.46 |
| EBITDA ($ per ton) | $0.00 | ($40.33) | $6.17 | $6.72 | $5.87 |
| Income from Operations ($ per ton) | $0.00 | ($117.10) | ($6.56) | ($3.47) | ($4.14) |
| Capital Expenditures ($000) | $8,000 | $10,061 | $6,425 | $500 | $500 |
| | | | | | |
| **Mine Name** | **2033** | **2034** | **2035** | **2036** | **2037** |
| Production (000 tons) | 445 | 490 | 561 | 544 | 567 |
| Sales Price ($ per ton) | $99.32 | $99.32 | $99.32 | $99.32 | $99.32 |
| Total Cash Cost ($ per ton) | $94.59 | $88.16 | $80.82 | $82.57 | $80.36 |
| Total Cost of Production ($ per ton) | $105.40 | $99.41 | $89.94 | $89.47 | $85.91 |
| EBITDA ($ per ton) | $4.73 | $11.16 | $18.50 | $16.75 | $18.96 |
| Income from Operations ($ per ton) | ($6.08) | ($0.09) | $9.38 | $9.85 | $13.41 |
| Capital Expenditures ($000) | $1,600 | $4,263 | $4,263 | $740 | $1,840 |
| | | | | | |
| **Mine Name** | **2038** | **2039** | **2040** | **2041** | **2042** |
| Production (000 tons) | 563 | 596 | 611 | 557 | 507 |
| Sales Price ($ per ton) | $99.32 | $99.32 | $99.32 | $99.32 | $99.32 |
| Total Cash Cost ($ per ton) | $82.36 | $79.82 | $78.89 | $82.30 | $80.81 |
| Total Cost of Production ($ per ton) | $88.39 | $86.29 | $85.60 | $89.13 | $87.60 |
| EBITDA ($ per ton) | $16.96 | $19.50 | $20.43 | $17.02 | $18.51 |
| Income from Operations ($ per ton) | $10.93 | $13.03 | $13.72 | $10.19 | $11.72 |
| Capital Expenditures ($000) | $2,280 | $3,265 | $3,085 | $2,900 | $2,400 |
| | | | | | |
| **Mine Name** | **2043** | **2044** | **2045** | **2046** | **2047** |
| Production (000 tons) | 444 | 407 | 392 | 368 | 0 |
| Sales Price ($ per ton) | $99.32 | $99.32 | $99.32 | $99.32 | $0.00 |
| Total Cash Cost ($ per ton) | $85.72 | $90.35 | $93.41 | $95.61 | $0.00 |
| Total Cost of Production ($ per ton) | $93.54 | $98.81 | $101.77 | $103.12 | $0.00 |
| EBITDA ($ per ton) | $13.60 | $8.97 | $5.91 | $3.71 | $0.00 |
| Income from Operations ($ per ton) | $5.78 | $0.51 | ($2.45) | ($3.80) | $0.00 |
| Capital Expenditures ($000) | $1,840 | $2,163 | $1,271 | $0 | $0 |

The mine is scheduled to operate beginning in 2029 and terminate during 2046.

## Table A- 2-17: Keyser LK Mine Capital Expenditures Schedule

| Item | Total | 2028 | 2029 | 2030 | 2031 |
|---|---|---|---|---|---|
| Continuous Miner Purchase | **$8,000** | $0 | $2,000 | $2,000 | $0 |
| Continuous Miner Rebuild | **$4,800** | $0 | $0 | $0 | $0 |
| Roof Bolter Purchase | **$2,600** | $0 | $1,300 | $1,300 | $0 |
| Roof Bolter Rebuild | **$4,290** | $0 | $0 | $0 | $0 |
| Shuttle Car Purchase | **$7,620** | $0 | $1,905 | $1,905 | $0 |
| Shuttle Car Rebuild | **$3,810** | $0 | $0 | $0 | $0 |
| Continuous Haulage Purchase | **$0** | $0 | $0 | $0 | $0 |
| Continuous Haulage Rebuild | **$0** | $0 | $0 | $0 | $0 |
| Feeder Breaker Purchase | **$1,600** | $0 | $400 | $400 | $0 |
| Feeder Breaker Rebuild | **$480** | $0 | $0 | $0 | $0 |
| Scoop Purchase | **$3,200** | $0 | $400 | $400 | $0 |
| Conveyor Terminals | **$4,000** | $0 | $0 | $0 | $500 |
| Conveyor Purchase | **$2,666** | $0 | $2,666 | $0 | $0 |
| Conveyor Replace | **$3,199** | $0 | $0 | $0 | $0 |
| Mantrips | **$1,440** | $0 | $240 | $240 | $0 |
| Power centers | **$721** | $0 | $180 | $180 | $0 |
| Belt Storage Unit Purchase | **$220** | $0 | $220 | $0 | $0 |
| Fan & Accessories | **$750** | $0 | $750 | $0 | $0 |
| Other | **$8,000** | $8,000 | $0 | $0 | $0 |
| **Total** | **$57,396** | **$8,000** | **$10,061** | **$6,425** | **$500** |

| Mine Name | 2032 | 2033 | 2034 | 2035 | 2036 |
|---|---|---|---|---|---|
| Continuous Miner Purchase | $0 | $0 | $0 | $0 | $0 |
| Continuous Miner Rebuild | $0 | $1,200 | $1,200 | $0 | $0 |
| Roof Bolter Purchase | $0 | $0 | $0 | $0 | $0 |
| Roof Bolter Rebuild | $0 | $0 | $780 | $780 | $0 |
| Shuttle Car Purchase | $0 | $0 | $0 | $0 | $0 |
| Shuttle Car Rebuild | $0 | $0 | $1,143 | $1,143 | $0 |
| Continuous Haulage Purchase | $0 | $0 | $0 | $0 | $0 |
| Continuous Haulage Rebuild | $0 | $0 | $0 | $0 | $0 |
| Feeder Breaker Purchase | $0 | $0 | $0 | $0 | $0 |
| Feeder Breaker Rebuild | $0 | $0 | $240 | $240 | $0 |
| Scoop Purchase | $0 | $400 | $400 | $0 | $0 |
| Conveyor Terminals | $500 | $0 | $500 | $500 | $500 |
| Conveyor Purchase | $0 | $0 | $0 | $0 | $0 |
| Conveyor Replace | $0 | $0 | $0 | $1,600 | $0 |
| Mantrips | $0 | $0 | $0 | $0 | $240 |
| Power centers | $0 | $0 | $0 | $0 | $0 |
| Belt Storage Unit Purchase | $0 | $0 | $0 | $0 | $0 |
| Fan & Accessories | $0 | $0 | $0 | $0 | $0 |
| Other | $0 | $0 | $0 | $0 | $0 |
| **Total** | **$500** | **$1,600** | **$4,263** | **$4,263** | **$740** |

| Mine Name | 2037 | 2038 | 2039 | 2040 | 2041 |
|---|---|---|---|---|---|
| Continuous Miner Purchase | $0 | $0 | $0 | $0 | $2,000 |
| Continuous Miner Rebuild | $1,200 | $1,200 | $0 | $0 | $0 |
| Roof Bolter Purchase | $0 | $0 | $0 | $0 | $0 |
| Roof Bolter Rebuild | $0 | $0 | $780 | $780 | $0 |
| Shuttle Car Purchase | $0 | $0 | $1,905 | $1,905 | $0 |
| Shuttle Car Rebuild | $0 | $0 | $0 | $0 | $0 |
| Continuous Haulage Purchase | $0 | $0 | $0 | $0 | $0 |
| Continuous Haulage Rebuild | $0 | $0 | $0 | $0 | $0 |
| Feeder Breaker Purchase | $0 | $0 | $400 | $400 | $0 |
| Feeder Breaker Rebuild | $0 | $0 | $0 | $0 | $0 |
| Scoop Purchase | $400 | $400 | $0 | $0 | $400 |
| Conveyor Terminals | $0 | $500 | $0 | $0 | $500 |
| Conveyor Purchase | $0 | $0 | $0 | $0 | $0 |
| Conveyor Replace | $0 | $0 | $0 | $0 | $0 |
| Mantrips | $240 | $0 | $0 | $0 | $0 |
| Power centers | $0 | $180 | $180 | $0 | $0 |
| Belt Storage Unit Purchase | $0 | $0 | $0 | $0 | $0 |
| Fan & Accessories | $0 | $0 | $0 | $0 | $0 |
| Other | $0 | $0 | $0 | $0 | $0 |
| **Total** | **$1,840** | **$2,280** | **$3,265** | **$3,085** | **$2,900** |

| Mine Name | 2042 | 2043 | 2044 | 2045 | 2046 |
|---|---|---|---|---|---|
| Continuous Miner Purchase | $2,000 | $0 | $0 | $0 | $0 |
| Continuous Miner Rebuild | $0 | $0 | $0 | $0 | $0 |
| Roof Bolter Purchase | $0 | $0 | $0 | $0 | $0 |
| Roof Bolter Rebuild | $0 | $0 | $780 | $390 | $0 |
| Shuttle Car Purchase | $0 | $0 | $0 | $0 | $0 |
| Shuttle Car Rebuild | $0 | $0 | $1,143 | $381 | $0 |
| Continuous Haulage Purchase | $0 | $0 | $0 | $0 | $0 |
| Continuous Haulage Rebuild | $0 | $0 | $0 | $0 | $0 |
| Feeder Breaker Purchase | $0 | $0 | $0 | $0 | $0 |
| Feeder Breaker Rebuild | $0 | $0 | $0 | $0 | $0 |
| Scoop Purchase | $400 | $0 | $0 | $0 | $0 |
| Conveyor Terminals | $0 | $0 | $0 | $500 | $0 |
| Conveyor Purchase | $0 | $0 | $0 | $0 | $0 |
| Conveyor Replace | $0 | $1,600 | $0 | $0 | $0 |
| Mantrips | $0 | $240 | $240 | $0 | $0 |
| Power centers | $0 | $0 | $0 | $0 | $0 |
| Belt Storage Unit Purchase | $0 | $0 | $0 | $0 | $0 |
| Fan & Accessories | $0 | $0 | $0 | $0 | $0 |
| Other | $0 | $0 | $0 | $0 | $0 |
| **Total** | **$2,400** | **$1,840** | **$2,163** | **$1,271** | **$0** |

APPENDIX

# 3

SURFACE MINE SUMMARIES

# Appendix 3. Surface Mine Summaries

## 3.1 Introduction

Schrock Run (including the associated Schrock Run Extension North and South Pits), Rhoads and Hamer-Byers are currently the only active surface mining operations at Corsa.

Eight surface-mineable resource areas were modeled and tested economically. Mining operations are projected to utilize area mining methods. The active Schrock Run operations, along with the adjacent Shaffer and Will Farm areas, will employ equipment capable of a combined production rate of 1,200 bcy/hr between two shovel spreads working two, 10-hour production shifts, 5 days per week. However, due to reduced panel lengths, longer truck haul distances, and need for a box cut in the extension area productivity at Schrock run is expected to only average 900 bcy/hr for the balance of the reserve. Schrock Run had benefited from longer panel lengths that provided multiple working areas for both tractors and hydraulic shovels to work unimpeded, but panel lengths are expected to be significantly shorter for the balance of the reserve. The expected introduction of a highwall miner will require leaving a void space behind the active hydraulic shovel and dozer activity to accommodate the miner and associated equipment. This will result in longer rock truck haul distances to backfill within the pit. Schrock Run extension is not contiguous to the Schrock Run pit and will require excavating a box cut to expose the coal seam and provide sufficient void space to not become spoil bound.

Shaffer and Wills Farm geometry are expected to allow productivity to return to capable levels.

Staffing is sufficient to float vacation during the year. After depletion of the Schrock Run, Shaffer and Will Farm areas the model assumes that one shovel spread is retired and the other spread is moved to subsequent reserve areas at a lower production rate of 540 bcy/hr, working one 10-hour production shift, 5 days per week. A total of 9 to 31 employees are assumed for the surface mines. Auger operations are assumed to be conducted by a contractor.

It is assumed that most of the spoil movement goes through a shovel bucket and is eventually returned to the pit for final reclamation. The dozer's primary responsibility is cutting the initial benches for the drill and shaping the reclaimed contour highwall.

Spoil for final highwall reclamation is expected to come from strategic placement of spoil on pre-existing benches by haul trucks such that they are within the push distance of the reclamation dozer.

Surface mine recovery is assumed to be 90% from solid coal.

Coals from the surface operations are hauled to the preparation plant. Saleable product from the surface operations is projected to be sold into both the metallurgical and thermal coal markets. Roughly 50% of the proposed production planned for the thermal market is assumed to be washed, while the remainder of the thermal coal product is assumed to be shipped raw to customers.

## Table A- 3-1: Surface Mine Production Schedule (x 1,000 Saleable Tons)

| Mine Name | Q4 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 |
|---|---|---|---|---|---|---|---|---|
| Bassett | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Shaffer | 0 | 0 | 6 | 216 | 169 | 0 | 0 | 0 |
| Blue Lick | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Gaz | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Will Farm | 0 | 0 | 0 | 0 | 43 | 213 | 196 | 0 |
| Hart | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rhoads | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 62 |
| Schrock Run | 41 | 85 | 97 | 0 | 0 | 0 | 0 | 0 |
| Hamer | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 |
| **Total** | **41** | **85** | **104** | **216** | **212** | **213** | **196** | **78** |

| Mine Name | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 | 2037 |
|---|---|---|---|---|---|---|---|---|
| Bassett | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 |
| Shaffer | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Blue Lick | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Gaz | 0 | 25 | 78 | 104 | 35 | 0 | 0 | 0 |
| Will Farm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Hart | 0 | 0 | 0 | 0 | 81 | 154 | 116 | 78 |
| Rhoads | 117 | 56 | 0 | 0 | 0 | 0 | 0 | 0 |
| Schrock Run | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Hamer | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | **117** | **81** | **78** | **104** | **116** | **154** | **116** | **96** |

| Mine Name | 2038 | 2039 | 2040 | 2041 | 2042 | 2043 | 2044 | 2045 |
|---|---|---|---|---|---|---|---|---|
| Bassett | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Shaffer | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Blue Lick | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Gaz | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Will Farm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Hart | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rhoads | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Schrock Run | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Hamer | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | **34** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |

## Table A- 3-2: Highwall / Auger Production Schedule (x1,000 Saleable Tons)

| Mine Name | Q4 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 |
|---|---|---|---|---|---|---|---|---|
| Rhoads HWM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 |
| Gaz HWM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Schrock Run HWM | 0 | 81 | 92 | 27 | 0 | 0 | 0 | 0 |
| Hamer HWM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| **Total** | **0** | **81** | **92** | **27** | **0** | **0** | **0** | **16** |

| Mine Name | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 | 2037 |
|---|---|---|---|---|---|---|---|---|
| Rhoads HWM | | 12 | 0 | 0 | 0 | 0 | 0 | 0 |
| Gaz HWM | 0 | 0 | 9 | 0 | 4 | 0 | 0 | 0 |
| Schrock Run HWM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Hamer HWM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | **0** | **12** | **9** | **0** | **4** | **0** | **0** | **0** |

## Table A- 3-3: Surface Capital Expenditures Schedule ($000)

| Item | Total | 2023 | 2024 | 2025 | 2026 |
|---|---|---|---|---|---|
| 777 Haul Truck | **$0** | $0 | $0 | $0 | $0 |
| 777 Haul Truck R | **$6,120** | $1,020 | $1,020 | $0 | $0 |
| 785 Haul Truck | **$0** | $0 | $0 | $0 | $0 |
| 785 Haul Truck R | **$0** | $0 | $0 | $0 | $0 |
| D11 Track Tractor | **$0** | $0 | $0 | $0 | $0 |
| D11 Track Tractor R | **$1,320** | $0 | $0 | $0 | $0 |
| DM45 Drill | **$1,100** | $0 | $0 | $0 | $0 |
| DM45 Drill R | **$1,320** | $0 | $0 | $0 | $0 |
| 988H Large Wheel Loader | **$0** | $0 | $0 | $0 | $0 |
| 988H Large Wheel Loader R | **$1,050** | $0 | $525 | $0 | $0 |
| 16M Grader | **$0** | $0 | $0 | $0 | $0 |
| 16M Grader R | **$690** | $0 | $0 | $0 | $0 |
| PC2000 Excavator | **$0** | $0 | $0 | $0 | $0 |
| PC2000 Excavator R | **$3,943** | $0 | $0 | $0 | $1,972 |
| EX2600 Excavator | **$0** | $0 | $0 | $0 | $0 |
| EX2600 Excavator R | **$0** | $0 | $0 | $0 | $0 |
| Water Truck | **$1,756** | $0 | $0 | $0 | $0 |
| **Total** | **$17,300** | **$1,020** | **$1,545** | **$0** | **$1,972** |
| | | | | | |
| **Mine Name** | **2027** | **2028** | **2029** | **2030** | **2031** |
| 777 Haul Truck | $0 | $0 | $0 | $0 | $0 |
| 777 Haul Truck R | $0 | $1,020 | $1,020 | $0 | $0 |
| 785 Haul Truck | $0 | $0 | $0 | $0 | $0 |
| 785 Haul Truck R | $0 | $0 | $0 | $0 | $0 |
| D11 Track Tractor | $0 | $0 | $0 | $0 | $0 |
| D11 Track Tractor R | $0 | $0 | $0 | $1,320 | $0 |
| DM45 Drill | $0 | $0 | $1,100 | $0 | $0 |
| DM45 Drill R | $0 | $0 | $0 | $660 | $0 |
| 988H Large Wheel Loader | $0 | $0 | $0 | $0 | $0 |
| 988H Large Wheel Loader R | $0 | $0 | $0 | $0 | $525 |
| 16M Grader | $0 | $0 | $0 | $0 | $0 |
| 16M Grader R | $0 | $0 | $0 | $0 | $690 |
| PC2000 Excavator | $0 | $0 | $0 | $0 | $0 |
| PC2000 Excavator R | $0 | $0 | $0 | $0 | $0 |
| EX2600 Excavator | $0 | $0 | $0 | $0 | $0 |
| EX2600 Excavator R | $0 | $0 | $0 | $0 | $0 |
| Water Truck | $0 | $878 | $0 | $0 | $0 |
| **Total** | **$0** | **$1,898** | **$2,120** | **$1,980** | **$1,215** |

| Mine Name | 2032 | 2033 | 2034 | 2035 | 2036 |
|---|---|---|---|---|---|
| 777 Haul Truck | $0 | $0 | $0 | $0 | $0 |
| 777 Haul Truck R | $0 | $1,020 | $1,020 | $0 | $0 |
| 785 Haul Truck | $0 | $0 | $0 | $0 | $0 |
| 785 Haul Truck R | $0 | $0 | $0 | $0 | $0 |
| D11 Track Tractor | $0 | $0 | $0 | $0 | $0 |
| D11 Track Tractor R | $0 | $0 | $0 | $0 | $0 |
| DM45 Drill | $0 | $0 | $0 | $0 | $0 |
| DM45 Drill R | $0 | $0 | $0 | $0 | $660 |
| 988H Large Wheel Loader | $0 | $0 | $0 | $0 | $0 |
| 988H Large Wheel Loader R | $0 | $0 | $0 | $0 | $0 |
| 16M Grader | $0 | $0 | $0 | $0 | $0 |
| 16M Grader R | $0 | $0 | $0 | $0 | $0 |
| PC2000 Excavator | $0 | $0 | $0 | $0 | $0 |
| PC2000 Excavator R | $0 | $1,972 | $0 | $0 | $0 |
| EX2600 Excavator | $0 | $0 | $0 | $0 | $0 |
| EX2600 Excavator R | $0 | $0 | $0 | $0 | $0 |
| Water Truck | $0 | $0 | $0 | $878 | $0 |
| **Total** | **$0** | **$2,992** | **$1,020** | **$878** | **$660** |

## 3.2 Mine: Bassett

This area was deemed uneconomical under current market conditions and cannot be qualified as a reserve. Figures and descriptions presented in this section are for informational purposes only.

Bassett is an idle surface mine scheduled to resume production in 2037 and be fully depleted in 2038. Expected production for the operations totals approximately 52,000 marketable tons. Following are financial highlights:

**Table A- 3-4: Bassett Mine Financial Summary**

| Item | 2036 | 2037 | 2038 |
|---|---|---|---|
| Ratio (Bank cubic yards per ton) | 0.00 | 19.75 | 16.81 |
| Production (000 tons) | 0 | 18 | 34 |
| Sales Price ($ per ton) | $89.88 | $89.88 | $89.88 |
| Total Cash Cost ($ per ton) | $0.00 | $91.10 | $86.03 |
| Total Cost of Production ($ per ton) | $0.00 | $152.97 | $147.77 |
| EBITDA ($ per ton) | $0.00 | ($1.22) | $3.86 |
| Income from Operations ($ per ton) | $0.00 | ($63.09) | ($57.89) |

## 3.3 Mine: Gaz

This area was deemed uneconomical under current market conditions and cannot be qualified as a reserve. Figures and descriptions presented in this section are for informational purposes only.

Gaz is a projected surface mine scheduled to be mined from 2031 to 2034. Expected production for the operations totals approximately 241,000 marketable tons. Following are financial highlights:

**Table A- 3-5: GAZ Surface Mine Financial Summary**

| Item | 2031 | 2032 | 2033 | 2034 |
|---|---|---|---|---|
| Ratio (Bank cubic yards per ton) | 21.66 | 16.32 | 12.10 | 10.88 |
| Production (000 tons) | 25 | 78 | 104 | 35 |
| Sales Price ($ per ton) | $90.62 | $90.62 | $90.62 | $90.62 |
| Total Cash Cost ($ per ton) | $89.27 | $82.74 | $71.50 | $68.80 |
| Total Cost of Production ($ per ton) | $127.37 | $108.90 | $93.19 | $95.59 |
| EBITDA ($ per ton) | $1.35 | $7.88 | $19.12 | $21.82 |
| Income from Operations ($ per ton) | ($36.75) | ($18.28) | ($2.57) | ($4.97) |

The Gaz auger operates from 2033 to 2034, and mines 13,000 marketable tons.

**Table A- 3-6: GAZ Auger Financial Summary**

| Item | 2032 | 2033 | 2034 |
|---|---|---|---|
| Production (000 tons) | 9 | 0 | 4 |
| Sales Price ($ per ton) | $79.08 | $0.00 | $79.08 |
| Total Cash Cost ($ per ton) | $35.90 | $0.00 | $34.47 |
| Total Cost of Production ($ per ton) | $37.90 | $0.00 | $36.47 |
| EBITDA ($ per ton) | $43.18 | $0.00 | $44.61 |
| Income from Operations ($ per ton) | $41.18 | $0.00 | $42.61 |

## 3.4 Mine: Hart

Hart is an idle surface mine scheduled to resume and complete production in 2034 to 2037, with 100% of the planned production being sold into the thermal coal market. Expected production for the operations totals approximately 429,000 marketable tons. Following are financial highlights:

**Table A- 3-7: Hart Mine Financial Summary**

| Item | 2034 | 2035 | 2036 | 2037 |
|---|---|---|---|---|
| Ratio (Bank cubic yards per ton) | 9.12 | 7.65 | 10.55 | 10.30 |
| Production (000 tons) | 81 | 154 | 116 | 78 |
| Sales Price ($ per ton) | $92.31 | $92.31 | $92.31 | $92.31 |
| Total Cash Cost ($ per ton) | $55.30 | $54.17 | $61.16 | $59.06 |
| Total Cost of Production ($ per ton) | $71.14 | $66.25 | $74.69 | $70.34 |
| EBITDA ($ per ton) | $37.01 | $38.14 | $31.15 | $33.25 |
| Income from Operations ($ per ton) | $21.17 | $26.06 | $17.62 | $21.97 |

## 3.5 Mine: Rhoads

Rhoads is scheduled to operate from 2029 to 2031. Expected production for the operations totals approximately 235,000 marketable tons. Following are financial highlights:

**Table A- 3-8: Rhoads Surface Mine Financial Summary**

| Item | 2029 | 2030 | 2031 |
|---|---|---|---|
| Ratio (Bank cubic yards per ton) | 12.07 | 10.51 | 11.28 |
| Production (000 tons) | 62 | 117 | 56 |
| Sales Price ($ per ton) | $96.56 | $96.52 | $96.49 |
| Total Cash Cost ($ per ton) | $83.24 | $78.68 | $80.50 |
| Total Cost of Production ($ per ton) | $108.38 | $96.68 | $100.32 |
| EBITDA ($ per ton) | $13.32 | $17.84 | $15.98 |
| Income from Operations ($ per ton) | ($11.81) | ($0.16) | ($3.84) |

Rhoads auger operates in 2029 to 2031 and mines an additional 36,000 marketable tons.

**Table A- 3-9: Rhoads Auger Financial Summary**

| Item | 2029 | 2030 | 2031 |
|---|---|---|---|
| Production (000 tons) | 9 | 15 | 12 |
| Sales Price ($ per ton) | $96.45 | $96.52 | $96.46 |
| Total Cash Cost ($ per ton) | $50.09 | $47.87 | $49.18 |
| Total Cost of Production ($ per ton) | $52.22 | $49.95 | $51.22 |
| EBITDA ($ per ton) | $46.36 | $48.65 | $47.28 |
| Income from Operations ($ per ton) | $44.23 | $46.56 | $45.24 |

## 3.6 Mine: Schrock Run

Schrock Run (including the associated Schrock Run Extension area) is an active surface mining area scheduled to be completed in 2024. Expected production for the operations totals approximately 224,000 marketable tons. Following are financial highlights:

**Table A- 3-10: Schrock Run Surface Mine Financial Summary**

| Item | 2022 | 2023 | 2024 |
|---|---|---|---|
| Ratio (Bank cubic yards per ton) | 25.03 | 23.40 | 39.56 |
| Production (000 tons) | 41 | 85 | 97 |
| Sales Price ($ per ton) | $133.93 | $133.63 | $119.58 |
| Total Cash Cost ($ per ton) | $99.46 | $108.54 | $129.62 |
| Total Cost of Production ($ per ton) | $124.43 | $157.06 | $160.31 |
| EBITDA ($ per ton) | $34.47 | $25.09 | ($10.04) |
| Income from Operations ($ per ton) | $9.51 | ($23.43) | ($40.74) |

Schrock Run highwall mining operates in 2023 to 2025 and mines an additional 200,000 marketable tons.

**Table A- 3-11: Schrock Run HWM Financial Summary**

| Item | 2023 | 2024 | 2025 |
|---|---|---|---|
| Production (000 tons) | 81 | 92 | 27 |
| Sales Price ($ per ton) | $133.77 | $119.46 | $110.34 |
| Total Cash Cost ($ per ton) | $56.83 | $56.67 | $55.72 |
| Total Cost of Production ($ per ton) | $57.41 | $58.03 | $57.72 |
| EBITDA ($ per ton) | $76.93 | $62.79 | $54.62 |
| Income from Operations ($ per ton) | $76.36 | $61.44 | $52.62 |

## 3.7 Mine: Shaffer

Shaffer is a proposed surface mining area scheduled to operate from 2024 to 2026. Expected production for the operations totals approximately 392,000 marketable tons. Following are financial highlights:

**Table A- 3-12: Shaffer Surface Mine Financial Summary**

| Item | 2024 | 2025 | 2026 |
|---|---|---|---|
| Ratio (Bank cubic yards per ton) | 21.54 | 27.03 | 27.34 |
| Production (000 tons) | 6 | 216 | 169 |
| Sales Price ($ per ton) | $134.82 | $122.26 | $121.92 |
| Total Cash Cost ($ per ton) | $80.19 | $100.47 | $105.96 |
| Total Cost of Production ($ per ton) | $35.91 | $11.34 | $12.68 |
| EBITDA ($ per ton) | $90.54 | $33.12 | $28.63 |
| Income from Operations ($ per ton) | $18.73 | $10.45 | $3.28 |

## 3.8 Mine: Will Farm

This area was deemed uneconomical under current market conditions and cannot be qualified as a reserve. Figures and descriptions presented in this section are for informational purposes only.

Will Farm is a proposed surface mining area scheduled to operate from 2026 to 2028. Expected production for the operations totals approximately 450,000 marketable tons. An adverse tract, once controlled, may add an additional 92,000 saleable tons if required. Following are financial highlights:

**Table A- 3-13: Will Farm Surface Mine Financial Summary**

| Item | 2026 | 2027 | 2028 |
|---|---|---|---|
| Ratio (Bank cubic yards per ton) | 17.20 | 27.26 | 27.01 |
| Production (000 tons) | 43 | 213 | 196 |
| Sales Price ($ per ton) | $109.59 | $97.30 | $97.30 |
| Total Cash Cost ($ per ton) | $70.84 | $95.84 | $96.25 |
| Total Cost of Production ($ per ton) | $82.78 | $107.82 | $109.84 |
| EBITDA ($ per ton) | $38.75 | $1.46 | $1.05 |
| Income from Operations ($ per ton) | $26.80 | ($10.52) | ($12.54) |

## 3.9 Mine: Hamer-Byers

Hamer-Byers is scheduled to operate and complete production in 2029. Expected production for the operations totals approximately 16,000 marketable tons. Following are financial highlights:

**Table A- 3-14: Hamer-Byers Surface Mine Financial Summary**

| Item | 2029 |
|---|---|
| Ratio (Bank cubic yards per ton) | 8.97 |
| Production (000 tons) | 16 |
| Sales Price ($ per ton) | $101.38 |
| Total Cash Cost ($ per ton) | $75.06 |
| Total Cost of Production ($ per ton) | $84.62 |
| EBITDA ($ per ton) | $26.32 |
| Income from Operations ($ per ton) | $16.76 |

The Hamer-Byers auger is planned to operate and complete production in 2029 and mines an additional 7,000 marketable tons.

**Table A- 3-15: Hamer-Byers Auger Financial Summary**

| Item | 2029 |
|---|---|
| Production (000 tons) | 7 |
| Sales Price ($ per ton) | $101.38 |
| Total Cash Cost ($ per ton) | $48.10 |
| Total Cost of Production ($ per ton) | $50.09 |
| EBITDA ($ per ton) | $53.28 |
| Income from Operations ($ per ton) | $51.29 |

APPENDIX

# 4

DETAILED COAL QUALITY TABLES

**Corsa Coal Corporation**

**43-101 Technical Report**

Deep Mineable Quality (In-Seam Quality, Dry Basis)

Casselman Area

Upper Bakerstown and Upper Freeport Seam

Table 1Q

| | Thickness (In Feet) | | | Raw Quality, Dry Basis | | | | | | | Washed Quality, Dry Basis (1.45 Float) | | | | | | Clean | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Drill Hole | Analyzed | Total Seam | Total Coal | Sp. Gr. [1] [2] | % Ash | % Sulfur | BTU/lb. | SO2/mm BTU | % Vol. | % FC | % Rec.[2] | % Ash | % Sulfur | BTU/lb. | SO2/mm BTU | % Vol. | Entry Foot[3] | Comments |
| **Upper Freeport - Cassleman** | | | | | | | | | | | | | | | | | | |
| 2-OB | | | | *1.34* | 8.90 | 1.30 | 14260 | 1.82 | 19.10 | 72.00 | | | | | | | | |
| 4-OB | | | | *1.34* | 9.00 | 1.90 | 14210 | 2.67 | 20.40 | 70.60 | | | | | | | | |
| 6-OB | | | | *1.40* | 15.10 | 2.60 | 13110 | 3.97 | 21.70 | 63.20 | | | | | | | | |
| 8-OB | | | | *1.34* | 8.70 | 0.90 | 14290 | 1.26 | 20.20 | 71.10 | | | | | | | | |
| 9-OB | | | | *1.38* | 12.90 | 4.50 | 13450 | 6.69 | 20.30 | 66.80 | | | | | | | | |
| 10-OB | | | | *1.36* | 11.00 | 2.10 | 13860 | 3.03 | 20.80 | 68.20 | | | | | | | | |
| 12-OB | | | | *1.37* | 12.00 | 3.70 | 13650 | 5.42 | 21.70 | 66.30 | | | | | | | | |
| 13-OB | | | | *1.33* | 8.20 | 1.60 | 14320 | 2.23 | 19.90 | 71.90 | | | | | | | | |
| 15-OB | | | | *1.33* | 8.20 | 1.70 | 14380 | 2.36 | 19.80 | 71.10 | | | | | | | | |
| 16-OB | | | | *1.36* | 10.60 | 1.60 | 13940 | 2.30 | 20.40 | 69.00 | | | | | | | | |
| 17-OB | | | | *1.34* | 8.70 | 1.30 | 14280 | 1.82 | 18.30 | 73.00 | | | | | | | | |
| 19-OB | | | | *1.35* | 10.20 | 2.20 | 14040 | 3.13 | 19.50 | 70.30 | | | | | | | | |
| 21-OB | | | | *1.36* | 10.50 | 1.60 | 13930 | 2.30 | 20.20 | 69.30 | | | | | | | | |
| 22-OB | | | | *1.36* | 10.70 | 1.90 | 13960 | 2.72 | 19.40 | 69.90 | | | | | | | | |
| 24-OB | | | | *1.34* | 8.70 | 0.80 | 14270 | 1.12 | 19.50 | 71.80 | | | | | | | | |
| 25-OB | | | | *1.35* | 9.60 | 2.60 | 14050 | 3.70 | 20.80 | 69.60 | | | | | | | | |
| 26-OB | | | | *1.34* | 8.90 | 1.60 | 14160 | 2.26 | 19.60 | 70.50 | | | | | | | | |
| 27-OB | | | | *1.33* | 7.70 | 1.60 | 14450 | 2.21 | 19.00 | 73.30 | | | | | | | | |
| 29-OB | | | | *1.33* | 8.30 | 1.20 | 14310 | 1.68 | 19.90 | 71.80 | | | | | | | | |
| 31-OB | | | | *1.34* | 9.30 | 1.80 | 14150 | 2.54 | 19.20 | 71.50 | | | | | | | | |
| 32-OB | | | | *1.38* | 13.40 | 1.30 | 13480 | 1.93 | 21.80 | 64.80 | | | | | | | | |
| 33-OB | | | | *1.33* | 8.00 | 0.80 | 14370 | 1.11 | 20.90 | 71.10 | | | | | | | | |
| 34-OB | | | | *1.37* | 12.10 | 1.10 | 13680 | 1.61 | 19.10 | 12.10 | | | | | | | | |
| 35-OB | | | | *1.38* | 13.00 | 1.70 | 13560 | 2.51 | 20.40 | 13.00 | | | | | | | | |
| 36-OB | | | | *1.32* | 7.10 | 0.70 | 14580 | 0.96 | 20.70 | 7.10 | | | | | | | | |
| 37-OB | | | | *1.34* | 8.70 | 1.00 | 14290 | 1.40 | 19.30 | 72.00 | | | | | | | | |
| 38-OB | | | | *1.37* | 11.80 | 0.80 | 13760 | 1.16 | 19.70 | 68.50 | | | | | | | | |
| 39-OB | | | | *1.33* | 8.10 | 1.40 | 14390 | 1.95 | 20.00 | 71.90 | | | | | | | | |
| 40-OB | | | | *1.36* | 10.90 | 1.60 | 13950 | 2.29 | 18.50 | 70.60 | | | | | | | | |
| WCE-CAS-02-11 | | 3.60 | 3.50 | *1.36* | 11.14 | | | | | | | | | | | | | |
| WCE-CAS-03-11 | | 2.40 | 2.40 | *1.45* | 19.58 | | | | | | | | | | | | | |
| WCE-CAS-04-11-E | | 3.50 | 3.40 | *1.44* | 18.66 | | | | | | | | | | | | | |
| WCE-CAS-05-11 | | 3.05 | 2.50 | *1.53* | 27.86 | | | | | | | | | | | | | |
| WCE-CAS-06-11 | | 3.40 | 3.22 | *1.39* | 13.74 | | | | | | | | | | | | | |
| WCE-CAS-09-12 | | 4.00 | 4.00 | *1.47* | 22.38 | | | | | | | | | | | | | |
| WCE-CAS-10-12 | | 3.70 | 3.70 | *1.44* | 19.01 | | | | | | 77.11 | 6.99 | 1.00 | 14620 | 1.37 | 19.9 | 2.50 | |
| WCE-CAS-11-12 | | 4.00 | 3.70 | *1.43* | 17.90 | | | | | | | | | | | | | |
| WCE-CAS-017-16 | 1.33 | 5.17 | | *1.55* | 30.04 | 1.79 | | | 18.05 | | 57.02 | 7.78 | 1.03 | | | 22.49 | 2.78 | Recovered 1.33' out of 2.70', not honored |
| WCE-CAS-018-16 | 2.80 | 4.30 | | *1.35* | 10.16 | 1.55 | | | 19.78 | | 92.62 | 8.52 | 1.29 | | | 20.01 | 3.28 | Recovered 2.8' out of 4.30', not honored |
| WCE-CAS-028-17 | 2.80 | 3.17 | 3.17 | *1.44* | 18.70 | 1.08 | | | 19.70 | | 81.98 | 7.78 | 1.16 | | | 21.6 | 2.27 | Recovered 2.8' out of 3.17' |
| WCE-CAS-029-17 | 3.60 | 3.95 | 3.95 | *1.42* | 16.86 | 1.41 | | | 20.06 | | 83.57 | 7.89 | 0.99 | | | 21.6 | 2.85 | Recovered 3.6' out of 3.95' |
| WCE-CAS-030-17 | 3.60 | 3.40 | 3.40 | *1.42* | 17.15 | 1.61 | | | 21.66 | | 81.89 | 7.42 | 1.18 | | | 20.73 | 2.41 | |
| WCE-CAS-031-17 | 2.75 | 3.51 | | *1.42* | 16.51 | 2.51 | | | 18.87 | | 76.28 | 8.22 | 1.2 | | | 20.08 | 2.31 | Recovered 2.75' out of 3.51', not honored |
| WCE-CAS-032-17 | 3.80 | 3.43 | | *1.41* | 16.19 | 1.70 | | | 18.46 | | 82.83 | 7.67 | 1.17 | | | 19.75 | 2.44 | |
| WCE-CAS-033-17 | 3.00 | 2.85 | 2.85 | *1.42* | 17.15 | 1.71 | | | 19.08 | | 79.63 | 7.79 | 1.08 | | | 20.5 | 1.96 | |

**Corsa Coal Corporation**

**43-101 Technical Report**

Deep Mineable Quality (In-Seam Quality, Dry Basis)

Casselman Area

Upper Bakerstown and Upper Freeport Seam

Table 1Q

| | Thickness (In Feet) | | | Raw Quality, Dry Basis | | | | | | | Washed Quality, Dry Basis (1.45 Float) | | | | | | Clean | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Drill Hole | Analyzed | Total Seam | Total Coal | Sp. Gr. [1] [2] | % Ash | % Sulfur | BTU/lb. | SO2/mm BTU | % Vol. | % FC | % Rec.[2] | % Ash | % Sulfur | BTU/lb. | SO2/mm BTU | % Vol. | Entry Foot[3] | Comments |
| WCE-CAS-046-21 | 2.04 | 2.05 | 2.00 | *1.39* | 14.20 | 2.72 | | | 25.37 | | 78.57 | 8.44 | 1.71 | | | 26.62 | 1.36 | Less than 2.5' mineable thickness |
| WCE-CAS-047-21 | 2.25 | 2.25 | 2.25 | *1.38* | 12.66 | 2.78 | | | 21.69 | | 82.68 | 7.00 | 1.08 | | | 22.61 | 1.56 | Less than 2.5' mineable thickness |
| WCE-CAS-049-21 | 3.75 | 4.05 | 3.70 | *1.39* | 14.00 | 1.32 | | | 17.91 | | 89.63 | 8.61 | 1.31 | | | 18.75 | 3.07 | |
| WCE-CAS-050-22 | 4.41 | 4.47 | 4.29 | *1.40* | 14.95 | 2.56 | | | 20.01 | | 77.08 | 6.85 | 0.8 | | | 21.25 | 2.94 | Composite |
| | | | **Average** | ***1.42*** | **16.75** | **1.67** | **14,039** | **2.42** | **19.92** | **63.87** | **81.72** | **7.63** | **1.09** | **14,620** | **1.37** | **20.51** | **2.56** | |
| | | | **Moist Basis (8%)** | | **15.41** | **1.54** | **12,916** | **2.23** | **18.32** | **58.76** | **75.18** | **7.02** | **1.00** | **13,450** | **1.26** | **18.87** | **2.35** | |
| | | | Maximum | 1.44 | 19.01 | 4.50 | 14,580 | 6.69 | 21.80 | 73.30 | 89.63 | 8.61 | 1.31 | 14,620 | 1.37 | 21.60 | 3.07 | |
| | | | Minimum | 1.39 | 14.00 | 0.70 | 13,110 | 0.96 | 17.91 | 7.10 | 77.08 | 6.85 | 0.80 | 14,620 | 1.37 | 18.75 | 1.96 | |
| | | | No. of Samples | 8 | 8 | 36 | 29 | 29 | 36 | 29 | 8 | 8 | 8 | 1 | 1 | 8 | 8 | |
| **Upper Freeport - Cassleman North** | | | | | | | | | | | | | | | | | | |
| WCE-CAS-034-17 | 1.50 | 2.25 | 2.07 | *1.60* | 34.68 | 1.31 | | | 18.76 | | 49.51 | 10.1 | 0.97 | | | 24.35 | 1.08 | Less than 2.5' height |
| WCE-CAS-035-R2-1 | 2.67 | 2.50 | 2.50 | *1.39* | 14.32 | 1.64 | | | 19.30 | | 88.47 | 9.6 | 1.07 | | | 20.06 | 1.88 | |
| WCE-CAS-036-18 | 3.95 | 3.95 | 3.75 | *1.39* | 14.25 | 2.11 | | | 20.46 | | 84.91 | 7.14 | 1.07 | | | 21.57 | 2.84 | |
| WCE-CAS-037-18 | NA | 3.10 | 3.00 | *1.41* | 15.98 | 1.91 | | | 19.26 | | 84.58 | 7.92 | 1.27 | | | 20.56 | 2.25 | |
| WCE-CAS-038-18 | 3.10 | 3.10 | 3.00 | *1.40* | 15.41 | 1.28 | | | 20.96 | | 83.37 | 8.00 | 0.86 | | | 22.32 | 2.21 | |
| WCE-CAS-039-18 | 3.25 | 3.25 | 3.00 | *1.54* | 29.43 | 2.11 | | | 17.70 | | 64.83 | 8.87 | 0.93 | | | 21.09 | 1.98 | |
| WCE-CAS-040-18 | 2.95 | 2.95 | 2.95 | *1.45* | 19.73 | 2.87 | | | 17.93 | | 75.29 | 8.59 | 1.34 | | | 19.46 | 1.96 | |
| WCE-CAS-041-18 | 1.75 | 1.75 | 1.75 | *1.40* | 14.73 | 0.92 | | | 18.42 | | 86.95 | 9.85 | 0.76 | | | 19.13 | 1.29 | Less than 2.5' height |
| WCE-CAS-042-18 | 2.20 | 3.00 | 2.20 | *1.48* | 22.94 | 2.00 | | | 18.19 | | 72.4 | 8.98 | 1.02 | | | 20.46 | 1.96 | Mapped thickness includes 0.80' lost core |
| WCE-CAS-043-18 | 2.85 | 2.85 | 2.60 | *1.45* | 19.67 | 1.29 | | | 17.93 | | 79.82 | 8.81 | 1.21 | | | 19.56 | 2.00 | |
| WCE-CAS-044-18 | 2.50 | 2.30 | 2.30 | *1.47* | 21.57 | 1.06 | | | 17.46 | | 77.32 | 8.33 | 0.79 | | | 19.35 | 1.59 | Less than 2.5' height |
| WCE-CAS-045-18 | 2.55 | 2.55 | 2.55 | *1.39* | 14.12 | 1.33 | | | 18.26 | | 87.95 | 9.27 | 1.1 | | | 19.04 | 1.90 | |
| | | | **Average** | ***1.43*** | **18.43** | **1.84** | | | **18.89** | | **80.18** | **8.58** | **1.10** | | | **20.46** | **2.11** | |
| | | | **Moist Basis (8%)** | | **16.95** | **1.69** | | | **17.38** | | **80.18** | **7.89** | **1.01** | | | **18.82** | | |
| | | | Maximum | 1.54 | 29.43 | 2.87 | | | 20.96 | | 88.47 | 9.60 | 1.34 | | | 22.32 | 2.84 | |
| | | | Minimum | 1.39 | 14.12 | 1.28 | | | 17.70 | | 64.83 | 7.14 | 0.86 | | | 19.04 | 1.88 | |
| | | | No. of Samples | 9 | 9 | 9 | | | 9 | | 9 | 9 | 9 | | | 9 | 9 | |
| **Upper Bakerstown Seam** | | | | | | | | | | | | | | | | | | |
| WCE-CAS-035-18 | 3.80 | 3.75 | 3.35 | *1.65* | 39.85 | 2.77 | | | 39.85 | | 31.65 | 14.52 | 1.39 | | | 21.06 | 1.19 | |
| WCE-CAS-037-18 | 3.30 | 3.50 | 3.20 | *1.64* | 39.20 | 3.33 | | | 16.79 | | 26.05 | 14.71 | 1.96 | | | 20.91 | 0.91 | |
| | | | **Average** | ***1.65*** | **39.53** | **3.05** | | | **28.32** | | **28.85** | **14.62** | **1.68** | | | **20.99** | **1.05** | |
| | | | **Moist Basis (8%)** | | **36.36** | **2.81** | | | **26.05** | | **28.85** | **13.45** | **1.54** | | | **19.31** | | |
| | | | Maximum | 1.65 | 39.85 | 3.33 | | | 39.85 | | 31.65 | 14.71 | 1.96 | | | 21.06 | 1.19 | |
| | | | Minimum | 1.64 | 39.20 | 2.77 | | | 16.79 | | 26.05 | 14.52 | 1.39 | | | 20.91 | 0.91 | |
| | | | No. of Samples | 2 | 2 | 2 | | | 2 | | 2 | 2 | 2 | | | 2 | 2.00 | |

[1] *Italics* denote specific gravity values which have been estimated based on raw coal ash content where specific gravity = 1.25+(raw ash¸100)

[2] **Bold** denotes specific gravity and/or wash recovery values which have been estimated based on Estimated Visual Recovery calculations.

[3] Entry Width = 19.5

# Corsa Coal Corporation

## 43-101 Technical Report - Wilson Creek

Underground and Surface Mineable Quality (In-Seam Quality, Dry Basis)

Acosta Area

Upper, Middle, Lower Kittanning Seams

Table 2Q

| | Thickness (In Feet) | | | Raw Quality, Dry Basis | | | | | | | Washed Quality, Dry Basis (1.55 Float) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mapped | | | | | | | | | | | | | | | | |
| Drill Hole | Corsa Rpt.[4] | Total Seam | Total Coal | Sp. Gr.[1,2](Raw ash) | % Ash | % Sulfur | BTU/lb. | SO2/mm BTU | % Vol. | % FC | % Rec.[2] | % Ash | % Sulfur | BTU/lb. | SO2/mm BTU | % Vol. | % FC | Comments |
| **Upper Kittanning Coal Quality (Deep Mine)** | | | | | | | | | | | | | | | | | | |
| JF-77-33 | | | | *1.46* | 20.63 | 2.40 | 12187 | 3.94 | | | | | | | | | | |
| ALB-2 | | | | *1.37* | 12.40 | 2.80 | 13650 | 4.10 | 20.10 | 67.50 | | | | | | | | |
| ALB-4 | | | | *1.48* | 22.90 | 2.66 | 11880 | 4.48 | 19.10 | 58.00 | | | | | | | | |
| ALB-9 | | | | *1.48* | 22.60 | 3.09 | 11950 | 5.17 | 19.20 | 58.20 | | | | | | | | |
| ALB-10 | | | | *1.44* | 18.60 | 2.64 | 12590 | 4.19 | 16.40 | 65.00 | | | | | | | | |
| ALB-11 | | | | *1.45* | 20.29 | 3.91 | 12081 | 6.47 | 20.80 | 58.91 | | | | | | | | |
| ALB-13 | | | | *1.45* | 20.31 | 3.02 | 12167 | 4.96 | 19.98 | 59.71 | | | | | | | | |
| ALB-14 | | | | *1.45* | 19.98 | 2.88 | 12188 | 4.73 | 18.53 | 61.49 | | | | | | | | |
| ALB-15 | | | | *1.44* | 19.28 | 2.42 | 12573 | 3.85 | 19.63 | 61.10 | | | | | | | | |
| ALB-16 | | | | *1.45* | 19.61 | 2.78 | 12436 | 4.47 | 21.04 | 59.35 | | | | | | | | |
| ALB-18 | | | | *1.40* | 15.08 | 1.23 | 13076 | 1.88 | 15.91 | 69.01 | | | | | | | | |
| ALB-19 | | | | *1.38* | 13.05 | 2.61 | 13381 | 3.90 | 16.82 | 70.13 | | | | | | | | |
| ALB-21 | | | | *1.41* | 15.59 | 2.59 | 13070 | 3.96 | 20.57 | 63.85 | | | | | | | | |
| ALB-22 | | | | *1.41* | 16.43 | 2.35 | 12863 | 3.65 | 20.54 | 63.03 | | | | | | | | |
| WCE-ALB-2 | | | | *1.48* | 22.94 | | | | | | 77.50 | 9.73 | 1.57 | 14137 | 2.22 | 21.90 | | |
| WCE-ALB-3 | | | | *1.44* | 19.13 | | | | | | 79.50 | 10.90 | 2.23 | 13983 | 3.19 | 22.00 | | |
| WCE-ALB-4 | | | | *1.45* | 20.44 | | | | | | 79.60 | 10.31 | 2.07 | 14045 | 2.95 | 19.84 | | |
| WCE-ALB-7 | | | | *1.46* | 20.64 | | | | | | 78.80 | 9.50 | 2.23 | 14157 | 3.15 | 23.50 | | |
| WCE-ALB-8 | | | | *1.44* | 19.48 | | | | | | 80.60 | 9.48 | 1.66 | 14205 | 2.34 | 21.37 | | |
| WCE-ALB-10 | | | | *1.39* | 13.66 | | | | | | 86.60 | 9.06 | 1.05 | 14275 | 1.47 | 20.94 | | |
| WCE-ALB-11 | | | | *1.50* | 24.52 | | | | | | 67.80 | 9.69 | 1.47 | 14128 | 2.08 | 20.53 | | |
| | | | **Average** | ***1.44*** | **18.93** | **2.67** | **12578** | **4.27** | **19.12** | **62.71** | **78.63** | **9.81** | **1.75** | **14,133** | **2.49** | **21.44** | | |
| | | | **Moist Basis (8%)** | | **17.42** | **2.46** | **11572** | **3.93** | **17.59** | **57.70** | **78.63** | **9.03** | **1.61** | **13002** | **2.29** | **19.72** | | |
| | | | **Maximum** | 1.50 | 24.52 | 3.91 | 13650 | 6.47 | 21.04 | 70.13 | 86.60 | 10.90 | 2.23 | 14,275 | 3.19 | 23.50 | | |
| | | | **Minimum** | 1.37 | 12.40 | 1.23 | 11880 | 1.88 | 15.91 | 58.00 | 67.80 | 9.06 | 1.05 | 13,983 | 1.47 | 19.84 | | |
| | | | **No. of Samples** | 21 | 21 | 14 | 14 | 14 | 13 | 13 | 7 | 7 | 7 | 7 | 7 | 7 | | |
| Notes: Consol cores - 1" top size | | | | | | | | | | | | | | | | | | |
| **Acosta #4 Surface Area (CTR & HWM) - Resource** | | | | | | | | | | | | | | | | | | |
| A4-1-19_DL | 2.67 | 2.67 | 2.67 | *1.67* | 41.84 | 0.35 | 6422 | 1.09 | 23.49 | 34.67 | | | | | | | | |

# Corsa Coal Corporation

## 43-101 Technical Report - Wilson Creek

Underground and Surface Mineable Quality (In-Seam Quality, Dry Basis)

Acosta Area

Upper, Middle, Lower Kittanning Seams

Table 2Q

| | Thickness (In Feet) | | | Raw Quality, Dry Basis | | | | | | | Washed Quality, Dry Basis (1.55 Float) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mapped | | | | | | | | | | | | | | | | |
| Drill Hole | Corsa Rpt.[4] | Total Seam | Total Coal | Sp. Gr. [1 2(Raw ash)] | % Ash | % Sulfur | BTU/lb. | S02/mm BTU | % Vol. | % FC | % Rec.[2] | % Ash | % Sulfur | BTU/lb. | S02/mm BTU | % Vol. | % FC | Comments |
| **Middle Kittanning Coal Quality (Deep Mine)** | | | | | | | | | | | | | | | | | | |
| JF-77-33 | | | | *1.45* | 20.48 | 3.26 | 11624 | 5.61 | | | | | | | | | | |
| ACOSTA20-02R | 3.55 | 3.80 | 3.80 | | 36.81 | 5.82 | | | 14.28 | | 32.99 | 10.38 | 1.52 | | | 17.58 | | 1.50 float composite; 0.25' noted as lost core, but has quality |
| ALB-4 | | | | *1.46* | 21.30 | 3.65 | 12100 | 6.03 | 16.30 | 62.40 | | | | | | | | |
| ALB-7 | | | | *1.55* | 30.40 | 4.09 | 10440 | 7.84 | 115.20 | 54.40 | | | | | | | | |
| ALB-9 | | | | *1.50* | 24.70 | 3.62 | 11520 | 6.28 | 15.90 | 59.40 | | | | | | | | |
| ALB-10 | | | | *1.51* | 25.80 | 5.19 | 11220 | 9.25 | 15.80 | 58.40 | | | | | | | | |
| ALB-11 | 2.39 | | | *1.51* | 26.32 | 3.21 | 11222 | 5.72 | | | | | | | | | | |
| ALB-13 | | | | *1.49* | 23.54 | 2.33 | 11793 | 3.95 | 16.08 | 59.96 | | | | | | | | |
| ALB-14 | | | | *1.48* | 23.16 | 3.34 | 11547 | 5.79 | 15.24 | 61.60 | | | | | | | | |
| ALB-16 | | | | *1.48* | 23.09 | 3.29 | 11749 | 5.60 | 17.22 | 59.69 | | | | | | | | |
| ALB-18 | | | | *1.60* | 34.86 | 2.89 | 9480 | 6.10 | 14.32 | 50.82 | | | | | | | | |
| ALB-19 | | | | *1.50* | 25.19 | 2.76 | 11269 | 4.90 | 16.03 | 58.78 | | | | | | | | |
| ETI-OB1 | | | | | | | | | | | 67.10 | 10.82 | 1.30 | 13,949 | 1.86 | 17.46 | | |
| ETI-OB3 | | | | | | | | | | | 60.90 | 14.19 | 1.49 | 13,348 | 2.23 | 16.56 | | |
| ETI-OB4 | | | | | | | | | | | 73.00 | 13.42 | 1.49 | 13,513 | 2.21 | 17.23 | | |
| ETI-OB5 | | | | | | | | | | | 70.00 | 10.62 | 1.10 | 13,882 | 1.58 | 16.78 | | |
| WCE-ALB-2 | 2.39 | | | *1.50* | 24.98 | | | | | | 59.40 | 14.59 | 1.03 | 13,349 | 1.54 | 14.48 | | |
| WCE-ALB-7 | | | | *1.47* | 21.65 | | | | | | 69.00 | 11.75 | 1.15 | 13,839 | 1.66 | 17.86 | | |
| WCE-ALB-8 | | | | *1.64* | 38.98 | | | | | | 51.80 | 11.35 | 1.28 | 13,875 | 1.85 | 16.85 | | |
| WCE-ALB-11 | | | | *1.60* | 34.89 | | | | | | 54.40 | 11.36 | 1.33 | 13,818 | 1.93 | 16.95 | | |
| | | | **Average** | ***1.52*** | ***26.62*** | ***3.42*** | ***11269*** | ***6.10*** | ***26.90*** | ***58.38*** | **63.20** | **12.26** | **1.27** | **13,697** | **1.86** | **16.77** | | |
| | | | **Moist Basis (8%)** | | **24.49** | **3.15** | **10368** | **5.61** | **24.75** | **53.71** | **63.20** | **11.28** | **1.17** | **12601** | **1.71** | **15.43** | | |
| | | | **Maximum** | 1.64 | 38.98 | 5.19 | 12100 | 9.25 | 115.20 | 62.40 | 73.00 | 14.59 | 1.49 | 13,949 | 2.23 | 17.86 | | |
| | | | **Minimum** | 1.45 | 20.48 | 2.33 | 9480 | 3.95 | 14.32 | 50.82 | 51.80 | 10.62 | 1.03 | 13,348 | 1.54 | 14.48 | | |
| | | | **No. of Samples** | 15 | 15 | 11 | 11 | 11 | 9 | 9 | 8 | 8 | 8 | 8 | 8 | 8 | | |
| **Acosta #4 Surface Area (CTR & HWM) - Resource** | | | | | | | | | | | | | | | | | | |
| A4-1-19_DL | 2.58 | 2.58 | 2.58 | *1.49* | 24.45 | 3.64 | | | 15.76 | | 64.85 | 11.73 | 0.93 | | | 16.88 | | |
| A4-2-19_DL | 3.33 | 3.33 | 3.33 | *1.46* | 21.19 | 4.69 | | | 16.23 | | 66.77 | 9.34 | 1.27 | | | 17.33 | | |
| A4_DH-2-DL | 3.17 | | | *1.49* | 24.08 | 5.36 | 12840 | | 16.35 | | 45.61 | 6.91 | 1.27 | 14653 | 1.73 | 17.77 | | Simulated plant 1.45 float |
| A4_DH-4_DL | 3.46 | 3.58 | 3.58 | *1.49* | 24.21 | 3.91 | 11548 | | 15.44 | | 46.46 | 7.28 | 1.48 | 14609 | 2.03 | 18.34 | | Simulated plant 1.45 float |
| | | | **Average** | ***1.48*** | ***23.48*** | ***4.40*** | ***12194*** | | ***15.95*** | | **55.92** | **8.82** | **1.24** | **14,631** | **1.88** | **17.58** | | |
| | | | **Moist Basis (8%)** | | **21.60** | **4.05** | **11218** | | **14.67** | | **55.92** | **8.11** | **1.14** | **13461** | **1.73** | **16.17** | | |
| | | | **Maximum** | 1.49 | 24.45 | 5.36 | 12840 | | 16.35 | | 66.77 | 11.73 | 1.48 | 14,653 | 2.03 | 18.34 | | |
| | | | **Minimum** | 1.46 | 21.19 | 3.64 | 11548 | | 15.44 | | 45.61 | 6.91 | 0.93 | 14,609 | 1.73 | 16.88 | | |
| | | | **No. of Samples** | 4 | 4 | 4 | 2 | | 4 | | 4 | 4 | 4 | 2 | 2 | 4 | | |

# Corsa Coal Corporation

## 43-101 Technical Report - Wilson Creek

Underground and Surface Mineable Quality (In-Seam Quality, Dry Basis)

Acosta Area

Upper, Middle, Lower Kittanning Seams

Table 2Q

| | Thickness (In Feet) | | | Raw Quality, Dry Basis | | | | | | | Washed Quality, Dry Basis (1.55 Float) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mapped | | | | | | | | | | | | | | | | |
| Drill Hole | Corsa Rpt.[4] | Total Seam | Total Coal | Sp. Gr.[1,2] (Raw ash) | % Ash | % Sulfur | BTU/lb. | S02/mm BTU | % Vol. | % FC | % Rec.[2] | % Ash | % Sulfur | BTU/lb. | S02/mm BTU | % Vol. | % FC | Comments |
| **Lower Kittanning Coal Quality (Deep Mine)** | | | | | | | | | | | | | | | | | | |
| ACOSTA20-02R | 2.90 | 2.90 | 2.90 | *1.51* | 26.06 | 0.60 | | | 15.66 | | 62.84 | 10.73 | 2.01 | | | 17.71 | | |
| ALB-2 | | | | *1.63* | 37.50 | 3.61 | 9270 | 7.79 | 15.80 | 46.70 | | | | | | | | |
| ALB-4 | | | | *1.69* | 44.30 | 2.91 | 8160 | 7.13 | 14.60 | 41.10 | | | | | | | | |
| ALB-7 | | | | *1.49* | 24.10 | 3.73 | 11570 | 6.45 | 15.60 | 60.30 | | | | | | | | |
| ALB-8 | 6.20 | | | *1.79* | 53.90 | 2.88 | 6650 | 8.66 | 13.50 | 32.60 | | | | | | | | |
| ALB-9 | | | | *1.79* | 54.40 | 2.05 | 6580 | 6.23 | 11.70 | 33.90 | | | | | | | | |
| ALB-10 | | | | *1.46* | 21.30 | 4.13 | 12040 | 6.86 | 16.60 | 62.10 | | | | | | | | |
| ALB-11 | 3.99 | | | *1.55* | 30.27 | 2.33 | 9122 | 5.11 | | | | | | | | | | |
| ALB-13 | | | | *1.48* | 23.31 | 2.41 | 11628 | 4.15 | 17.02 | 59.67 | | | | | | | | |
| ALB-14 | | | | *1.64* | 39.16 | 2.33 | 8831 | 5.28 | 14.78 | 46.06 | | | | | | | | |
| ALB-18 | | | | *1.49* | 24.44 | 4.00 | 11347 | 7.05 | 16.79 | 58.76 | | | | | | | | |
| ALB-19 | | | | *1.54* | 28.64 | 2.64 | 10529 | 5.01 | 15.21 | 56.15 | | | | | | | | |
| ETI-OB-1 | | | | | | | | | | | 73.70 | 11.11 | 2.04 | 13902 | 2.93 | 18.58 | | |
| ETI-OB-2 | | | | | | | | | | | 72.40 | 10.75 | 1.96 | 13977 | 2.80 | 19.12 | | |
| ETI-OB-3 | | | | | | | | | | | 81.50 | 10.92 | 1.95 | 13900 | 2.81 | 17.04 | | |
| ETI-OB-4 | | | | | | | | | | | 51.30 | 11.66 | 2.29 | 13806 | 3.32 | 19.27 | | |
| ETI-OB-5 | | | | | | | | | | | 66.80 | 9.70 | 2.20 | 14175 | 3.10 | 18.49 | | |
| WCE-ALB-7 | | | | *1.57* | 32.24 | | | | | | 63.20 | 12.38 | 1.55 | 13748 | 2.25 | 22.72 | | |
| WCE-ALB-8 | | | | *1.42* | 16.73 | | | | | | 50.80 | 10.92 | 1.61 | 13977 | 2.30 | 17.31 | | |
| | | | **Average** | ***1.58*** | **32.60** | **2.80** | **9612** | **6.34** | **15.21** | **49.73** | **65.32** | **11.02** | **1.95** | **13926** | **2.79** | **18.78** | | |
| | | | **Moist Basis (8%)** | | **29.99** | **2.58** | **8843** | **5.83** | **13.99** | **45.76** | **65.32** | **10.14** | **1.80** | **12812** | **2.57** | **17.28** | | |
| | | | **Maximum** | 1.79 | 54.40 | 4.13 | 12040 | 8.66 | 17.02 | 62.10 | 81.50 | 12.38 | 2.29 | 14,175 | 3.32 | 22.72 | | |
| | | | **Minimum** | 1.42 | 16.73 | 0.60 | 6580 | 4.15 | 11.70 | 32.60 | 50.80 | 9.70 | 1.55 | 13,748 | 2.25 | 17.04 | | |
| | | | **No. of Samples** | 14 | 14 | 12 | 11 | 11 | 11 | 10 | 8 | 8 | 8 | 7 | 7 | 8 | | |
| **Acosta #4 Surface Area (CTR) - Resource** | | | | | | | | | | | | | | | | | | |
| A4-2-19_DL | 5.17 | 5.16 | 4.99 | *1.48* | 23.31 | 3.37 | | | 16.39 | | 69.45 | 9.92 | 1.96 | | | 17.81 | | |
| A4-1-19_DL | 3.50 | 3.50 | 3.50 | *1.45* | 20.09 | 3.10 | | | 16.44 | | 73.87 | 10.18 | 1.78 | | | 17.39 | | |
| A4_DH-2-DL | 4.08 | 4.00 | 4.00 | *1.52* | 27.04 | 3.45 | 11083 | | 17.09 | | 46.83 | 7.92 | 1.89 | 14470 | 2.61 | 19.04 | | Simulated plant 1.45 float |
| A4_DH-4_DL | 3.71 | 3.71 | 3.71 | *1.45* | 20.16 | 2.63 | 12288 | | 15.13 | | 66.03 | 6.73 | 1.26 | | | 18.07 | | Simulated plant 1.45 float |
| | | | **Average** | **1.48** | **22.65** | **3.14** | **11686** | | **16.26** | | **64.05** | **8.69** | **1.72** | **14,470** | **2.61** | **18.08** | | |
| | | | **Moist Basis (8%)** | | **20.84** | **2.89** | **10751** | | **14.96** | | **64.05** | **7.99** | **1.58** | **13312** | **2.40** | **16.63** | | |
| | | | **Maximum** | 1.52 | 27.04 | 3.45 | 12288 | | 17.09 | | 73.87 | 10.18 | 1.96 | 14,470 | 2.61 | 19.04 | | |
| | | | **Minimum** | 1.45 | 20.09 | 2.63 | 11083 | | 15.13 | | 46.83 | 6.73 | 1.26 | 14,470 | 2.61 | 17.39 | | |
| | | | **No. of Samples** | 4 | 4 | 4 | 2 | | 4 | | 4 | 4 | 4 | 1 | 1 | 4 | | |
| **Acosta #4 Surface Area (HWM) - Resource** | | | | | | | | | | | | | | | | | | |
| A4-2-19_DL | 5.17 | 5.16 | 4.99 | *1.48* | 23.31 | 3.37 | | | 16.39 | | 69.45 | 9.92 | 1.96 | | | 17.81 | | |
| A4-1-19_DL | 3.50 | 3.50 | 3.50 | *1.45* | 20.09 | 3.10 | | | 16.44 | | 73.87 | 10.18 | 1.78 | | | 17.39 | | |
| A4_DH-2-DL | 4.08 | 4.67 | 4.00 | *1.52* | 27.04 | 3.45 | 11083 | | 17.09 | | 46.83 | 7.92 | 1.89 | 14470 | 2.61 | 19.04 | | Simulated plant 1.45 float |
| A4_DH-4_DL | 3.71 | 3.71 | 3.71 | *1.45* | 20.16 | 2.63 | 12288 | | 15.13 | | 66.03 | 6.73 | 1.26 | | | 18.07 | | Simulated plant 1.45 float |
| | | | **Average** | **1.46** | **21.19** | **3.03** | **12288** | | **15.99** | | **69.78** | **8.94** | **1.67** | | | **17.76** | | |
| | | | **Moist Basis (8%)** | | **19.49** | **2.79** | **11305** | | **14.71** | | **64.20** | **8.23** | **1.53** | | | **16.34** | | |
| | | | **Maximum** | 1.48 | 23.31 | 3.37 | 12288 | | 16.44 | | 73.87 | 10.18 | 1.96 | | | 18.07 | | |
| | | | **Minimum** | 1.45 | 20.09 | 2.63 | 12288 | | 15.13 | | 66.03 | 6.73 | 1.26 | | | 17.39 | | |
| | | | **No. of Samples** | 3 | 3 | 3 | 1 | | 3 | | 3 | 3 | 3 | | | 3 | | |

[1] *Italics* denote specific gravity values which have been estimated based on raw coal ash content where specific gravity = 1.25+(raw ash¸100)

[2] **Bold** denotes specific gravity and/or wash recovery values which have been estimated based on Estimated Visual Recovery calculations.

# Corsa Coal Corporation

## 43-101 Technical Report

Deep Mineable Quality (In-Seam Quality, Dry Basis)

Horning E Area

Upper Freeport (E) Seam

Table 3AQ

| | Thickness (In Feet) | | | Raw Quality, Dry Basis | | | | | | | Washed Quality, Dry Basis (1.55 Float) | | | | | | | | Clean | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CorsaR | Mapped Total | Total | Sp. Gr.[1] | % | % | | SO2/mm | % | % | % | % | % | | SO2/mm | % | % | | Tons/ Entry | |
| Drill Hole | pt.[4] | Seam | Coal | [2] | Ash | Sulfur | BTU/lb. | BTU | Vol. | FC | FSI | Rec.[2] | Ash | Sulfur | BTU/lb. | BTU | Vol. | FC | FSI | Foot[3] | Comments |
| **Quality for Horning Area** | | | | | | | | | | | | | | | | | | | | | |
| DH-01-21 | 3.50 | 3.70 | 3.70 | *1.54* | 28.50 | 2.96 | | | 16.44 | | 6 | 59.34 | 11.22 | 1.70 | | | 18.95 | | | 2.05 | |
| 0611-DL | 3.00 | | | *1.47* | 22.43 | 2.40 | 11,922 | 4.03 | 16.67 | | 6 | 76.59 | 10.32 | 1.28 | 14,037 | 1.82 | 17.95 | | 8 | | Lost 6" |
| 0616-DL | 3.42 | 4.10 | 3.90 | *1.46* | 20.99 | 2.52 | 12,139 | 4.15 | 16.30 | | 6 | 71.60 | 9.21 | 1.12 | 14,189 | 1.58 | 17.76 | | 8 | 2.61 | Analysis for upper bench only |
| 0619-DL | 3.50 | 4.50 | 4.10 | *1.38* | 13.16 | 1.80 | 13,460 | 2.67 | 16.50 | | 7 | 90.79 | 9.32 | 1.18 | 14,134 | 1.67 | 16.68 | | 8 | 3.44 | Analysis is for bottom bench only |
| 0622-DL | 3.04 | 3.10 | 3.10 | *1.48* | 22.67 | 3.86 | | | 18.31 | | 6 | 73.90 | 10.28 | 1.92 | 14,041 | 2.73 | 20.31 | | 8 | 2.06 | |
| 11114-DL | 2.00 | 2.00 | 2.00 | *1.65* | 40.49 | 4.00 | 8,993 | 8.90 | 15.80 | | 4 | 48.89 | 13.93 | 2.31 | 13,340 | 3.46 | 18.01 | | 8 | 0.99 | |
| 11115-DL | 2.10 | 2.10 | 2.10 | *1.44* | 18.77 | 3.14 | 12,537 | 5.01 | 18.39 | | 6 | 82.29 | 10.14 | 1.15 | 13,993 | 1.64 | 19.60 | | 7 | 1.51 | 3/4" x 16m w/Float 16m |
| 11116-DL | 3.60 | 3.60 | 3.60 | *1.46* | 20.86 | 4.23 | 12,220 | 6.92 | 17.84 | | 5 | 75.28 | 9.34 | 1.76 | 14,176 | 2.48 | 19.29 | | 7 | 2.41 | 3/4" x 16m w/Float 16m |
| 11117-DL | 4.50 | 4.50 | 4.50 | *1.52* | 27.36 | 1.72 | 10,955 | 3.14 | 14.71 | | 4 | 65.98 | 9.55 | 1.18 | 13,986 | 1.69 | 16.80 | | 6 | 2.75 | 3/4" x 16m w/Float 16m |
| 11118-DL | 4.60 | 4.60 | 4.60 | *1.47* | 22.03 | 2.99 | 11,942 | 5.01 | 16.07 | | 5 | 69.21 | 9.62 | 1.32 | 14,051 | 1.88 | 17.59 | | 7 | 2.85 | 3/4" x 16m w/Float 16m |
| 11119-DL | 3.70 | 3.70 | 3.70 | *1.48* | 23.45 | 3.21 | 11,812 | 5.44 | 17.41 | | 5 | 76.83 | 10.72 | 1.30 | 13,942 | 1.86 | 19.16 | | 7 | 2.57 | 3/4" x 16m w/Float 16m |
| 11120-DL | 3.70 | 3.00 | 3.00 | *1.46* | 20.84 | 2.32 | 12,123 | 3.83 | 15.99 | | 5 | 81.86 | 11.68 | 1.57 | 13,691 | 2.29 | 17.22 | | 6 | 2.18 | 3/4" x 16m w/Float 16m |
| 11121-DL | 4.20 | 4.00 | 4.00 | *1.45* | 19.87 | 2.25 | 12,324 | 3.65 | 16.13 | | 6 | 76.88 | 8.71 | 1.14 | 14,200 | 1.61 | 17.24 | | 8 | 2.71 | 3/4" x 16m w/Float 16m |
| 11122-DL | 2.60 | 2.60 | 2.60 | *1.47* | 22.06 | 2.00 | 11,961 | 3.34 | 16.98 | | 6 | 78.71 | 10.00 | 1.40 | 14,082 | 1.99 | 18.64 | | 8 | 1.83 | 3/4" x 16m w/Float 16m |
| 11124-DL | 3.70 | 3.66 | 3.66 | *1.40* | 15.19 | 1.37 | 13,068 | 2.10 | 16.38 | | 7 | 88.36 | 9.55 | 0.87 | 14,035 | 1.24 | 17.05 | | 8 | 2.76 | 3/4" x 16m w/Float 16m |
| 11126-DL | 4.20 | 4.20 | 4.20 | *1.47* | 21.87 | 1.74 | 11,887 | 2.93 | 16.02 | | 6 | 77.77 | 8.99 | 0.97 | 14,127 | 1.37 | 17.56 | | 8 | 2.92 | 3/4" x 16m w/Float 16m |
| 11129-DL | 1.80 | 1.80 | 1.80 | *1.57* | 32.35 | 5.97 | 10,317 | 11.57 | 17.16 | | 5 | 54.26 | 13.34 | 2.77 | 13,487 | 4.11 | 19.35 | | 8 | 0.94 | |
| 11131-DL | 4.00 | 4.40 | 4.40 | *1.47* | 22.31 | 1.88 | 11,954 | 3.15 | 15.78 | | 6 | 71.74 | 9.02 | 1.15 | 14,274 | 1.61 | 17.31 | | 8 | 2.83 | 3/4" x 16m w/Float 16m |
| 11132-DL | 3.30 | 3.60 | 3.60 | *1.45* | 20.13 | 1.68 | 12,256 | 2.74 | 16.66 | | 7 | 77.52 | 8.20 | 1.01 | 14,305 | 1.41 | 18.20 | | 8 | 2.47 | Lost 0.3' (not analyzed) |
| DH-05-22 | 1.85 | 2.30 | 2.30 | *1.46* | 21.24 | 3.76 | | | 19.31 | | 6 | 51.28 | 10.84 | 1.29 | | | 21.09 | | | 1.05 | 1.40 Float; anlaysis excldues 0.45' lost coal |
| | | **Average** | | **1.47** | **22.11** | **2.47** | **12,035** | **3.86** | **16.53** | | **6** | **75.00** | **9.80** | **1.33** | **14,073** | **1.85** | **18.09** | | **7** | **2.49** | |
| | | **Moist Basis (8%)** | | | **20.34** | **2.27** | **11,073** | **3.55** | **15.21** | | **5** | **75.00** | **9.02** | **1.22** | **12,947** | **1.89** | **16.64** | | **7** | | |
| | | Maximum | | 1.54 | 28.50 | 4.23 | 13,068 | 6.92 | 18.31 | | 7 | 88.36 | 11.68 | 1.92 | 14,305 | 2.73 | 20.31 | | 8 | 2.92 | |
| | | Minimum | | 1.40 | 15.19 | 1.37 | 10,955 | 2.10 | 14.71 | | 4 | 59.34 | 8.20 | 0.87 | 13,691 | 1.24 | 16.80 | | 6 | 1.83 | |
| | | No. of Samples | | 14 | 14 | 14 | 12 | 12 | 14 | | 14 | 14 | 14 | 14 | 13 | 13 | 14 | | 13 | 13 | |

Quality not included in statistics; may not be representative of mineable section.

[1] *Italics* denote specific gravity values which have been estimated based on raw coal ash content where specific gravity = 1.25+(raw ash¸100)

[2] **Bold** denotes specific gravity and/or wash recovery values which have been estimated based on Estimated Visual Recovery calculations.

[3] Entry Width = 19.5

[4] PBS reported thickness.

a. Where thickness was recorded on a laboratory sheet, thickness matched database and quality was verified.

b. In some cases, lost core thickness was recorded on a laboratory sheet, however, true seam thickness is unclear.

c. In some cases, thickness may only reflect total coal (excluding partings); raw quality was subjectively honored and washed quality (excluding recovery) was honored.

d. "NA" indicates that a thickness was not reported.

e. The majority of quality data was extracted from Carlson digital survcadd files and supplemented with data from various excel files.

# Corsa Coal Corporation

## 43-101 Technical Report

Deep Mineable Quality (In-Seam Quality, Dry Basis)

Horning Area

Lower Freeport (D) Seam

Table 3BQ

| | Thickness (In Feet) | | | Raw Quality, Dry Basis | | | | | | | | Washed Quality, Dry Basis (1.55 Float) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mapped | | | | | | S02/mm | | | | | | | | S02/mm | | | | Clean | |
| Drill Hole | Corsa Rpt.4 | Total Seam | Total Coal | Sp. Gr.[1] [2] | % Ash | % Sulfur | BTU/lb. | BTU | % Vol. | % FC | FSI | % Rec.[2] | % Ash | % Sulfur | BTU/lb. | BTU | % Vol. | % FC | FSI | Tons/ Entry Foot[3] | Comments |
| **Quality for Horning Area** | | | | | | | | | | | | | | | | | | | | | |
| 0610-DL | 3.33 | 3.33 | 3.33 | *1.33* | 8.08 | 1.82 | 14,485 | 2.51 | 17.96 | | 7 | 93.22 | 5.52 | 0.77 | 14,919 | 1.03 | 18.14 | | 8 | 2.51 | |
| 0611-DL | 3.00 | 3.00 | 3.00 | *1.33* | 8.34 | 1.86 | 14,333 | 2.60 | 17.00 | | | 92.26 | 5.30 | 1.04 | 14,861 | 1.40 | 17.24 | | | 2.25 | |
| 0613-DL | 2.30 | 2.33 | 2.33 | *1.36* | 11.34 | 2.94 | 13,804 | 4.26 | 17.28 | | | 86.92 | 6.54 | 1.02 | 14,552 | 1.40 | 17.59 | | | 1.68 | |
| 0615-DL | 2.20 | 2.17 | 2.17 | *1.33* | 8.37 | 2.46 | 14,332 | 3.43 | 18.04 | | | 93.06 | 5.50 | 0.74 | 14,827 | 1.00 | 18.08 | | | 1.64 | Less than 2.5' cutoff limit |
| 0614-DL | 3.70 | 3.67 | 3.67 | *1.33* | 7.99 | 2.45 | 14,483 | 3.38 | 18.42 | | | 92.25 | 5.36 | 1.10 | 14,931 | 1.47 | 18.58 | | | 2.74 | |
| 0617-DL | 1.80 | 3.20 | 3.20 | *1.35* | 9.90 | 2.77 | 14,129 | 3.92 | 18.03 | | 7 | 90.42 | 6.18 | 1.37 | 14,758 | 1.86 | 18.41 | | 7 | 2.38 | Loss of 0.70' |
| 0624-DL | 2.33 | 2.80 | 2.80 | *1.36* | 10.73 | 0.94 | 13,945 | 1.35 | 17.30 | | 7 | 89.67 | 7.22 | 0.75 | 14,554 | 1.03 | 17.69 | | 8 | 2.07 | |
| 0625-DL | 2.17 | 2.60 | 2.60 | *1.34* | 9.38 | 2.20 | 14,192 | 3.10 | 17.06 | | 7 | 92.66 | 6.61 | 1.18 | 14,661 | 1.61 | 17.26 | | 8 | 1.97 | |
| 11121-DL | 2.80 | 2.00 | 2.00 | *1.43* | 17.75 | 2.28 | 12,785 | 3.56 | 15.87 | | 6 | 82.32 | 6.14 | 0.78 | 14,632 | 1.06 | 16.96 | | 8 | 1.43 | |
| 11122-DL | 1.10 | 2.50 | 2.50 | *1.32* | 6.71 | 1.15 | 14,492 | 1.59 | 17.40 | | 7 | 94.15 | 4.55 | 0.69 | 14,865 | 0.93 | 17.58 | | 7 | 1.89 | |
| 11125-DL | 2.90 | 2.91 | 2.91 | *1.37* | 12.15 | 3.31 | 13,621 | 4.85 | 17.19 | | 7 | 89.58 | 7.51 | 1.92 | 14,428 | 2.67 | 17.57 | | 7 | 2.18 | |
| 11126-DL | 2.90 | 2.90 | 2.90 | *1.33* | 8.42 | 2.40 | 14,095 | 3.40 | 17.35 | | 7 | 91.90 | 5.17 | 0.87 | 14,700 | 1.19 | 17.56 | | 7 | 2.16 | |
| BH-1 | 3.10 | 3.08 | | *1.44* | 18.87 | 3.03 | | | 16.94 | | | 78.92 | 6.31 | 1.22 | | | 17.94 | | | 2.13 | |
| BH-2 | 2.80 | 2.83 | | *1.38* | 12.55 | 3.07 | | | 17.55 | | | 85.95 | 7.00 | 1.23 | | | 18.06 | | | 2.04 | |
| BH-3 | 3.00 | 3.00 | | *1.34* | 9.49 | 2.78 | | | 17.40 | | | 93.08 | 9.49 | 2.78 | | | 17.40 | | | 2.29 | |
| BH-4 | 3.00 | 3.17 | | *1.39* | 13.78 | 2.50 | | | 17.13 | | | 86.96 | 6.17 | 1.28 | | | 17.84 | | | 2.33 | |
| BH-6 | ? | 2.83 | | *1.40* | 14.81 | 2.02 | | | 16.76 | | | 86.23 | 6.50 | 0.76 | | | 17.70 | | | 2.08 | |
| BH-7 | 2.90 | 2.92 | | *1.45* | 19.74 | 3.31 | | | 17.96 | | | 80.25 | 6.85 | 1.52 | | | 19.61 | | | 2.06 | |
| DH-05-22 | 2.50 | 2.50 | 2.50 | *1.33* | 8.25 | 1.94 | | | 17.85 | | | 90.62 | 5.70 | 1.99 | | | 17.85 | | | 1.84 | 1.40 Float |
| | | | **Average** | **1.36** | **11.36** | **2.32** | **14,023** | **3.06** | **17.24** | | **7** | **89.07** | **6.36** | **1.16** | **14,710** | **1.38** | **17.67** | | **8** | **2.12** | |
| | | | **Moist Basis (8%)** | | **10.45** | **2.13** | **12,902** | **2.82** | **15.86** | | **6** | **89.07** | **5.85** | **1.07** | **13,533** | **1.58** | **16.26** | | **7** | | |
| | | | Maximum | 1.44 | 18.87 | 3.31 | 14,492 | 4.85 | 18.42 | | 7 | 94.15 | 9.49 | 2.78 | 14,931 | 2.67 | 18.58 | | 8 | 2.74 | |
| | | | Minimum | 1.32 | 6.71 | 0.94 | 12,785 | 1.35 | 15.87 | | 6 | 78.92 | 4.55 | 0.69 | 14,428 | 0.93 | 16.96 | | 7 | 1.43 | |
| | | | No. of Samples | 15 | 15 | 15 | 10 | 10 | 15 | | 7 | 15 | 15 | 15 | 10 | 10 | 15 | | 7 | 15 | |
| **Shipped Quality Data** | | | | | | | | | | | | | | | | | | | | | |
| Horning Clean Coal CPA# 78305 | | | | | | | | | | | | | 10.15 | 1.16 | | | | | | | See Rheological Tables |
| **Quality Outside of Area** | | | | | | | | | | | | | | | | | | | | | |
| 0620-DL | 2.17 | 2.20 | 2.20 | *1.33* | 8.18 | 2.84 | 14,278 | 3.98 | 16.64 | | 6 | 93.11 | 5.70 | 1.38 | 14,695 | 1.88 | 16.65 | | 7 | 1.66 | |
| 0622-DL | 2.29 | 2.40 | 2.40 | *1.36* | 10.90 | 2.82 | 13,927 | 4.05 | 17.13 | | 7 | 89.21 | 6.51 | 1.06 | 14,676 | 1.44 | 17.50 | | 8 | 1.77 | |
| 11115-DL | 3.80 | 3.00 | 3.00 | *1.33* | 7.99 | 1.40 | 14,335 | 1.95 | 17.18 | | 8 | 94.23 | 5.44 | 0.68 | 14,787 | 0.92 | 17.41 | | 8 | 2.29 | Mined out area |
| 11123-DL | 4.50 | 5.10 | 5.10 | *1.78* | 52.66 | 3.51 | 6,565 | 10.69 | 12.38 | | 2 | 35.55 | 14.14 | 3.82 | 13,315 | 5.74 | 16.89 | | 7 | 1.96 | In mine area; excluded from mine plan area |
| 11128-DL | 2.30 | 2.30 | 2.30 | *1.37* | 11.63 | 2.36 | 13,839 | 3.41 | 16.88 | | 7 | 85.79 | 5.78 | 0.74 | 14,804 | 1.00 | 17.60 | | 8 | 1.64 | North of area. |
| 11129-DL | 2.30 | 2.30 | 2.30 | *1.35* | 9.97 | 1.98 | 14,052 | 2.82 | 18.01 | | 7 | 89.19 | 5.44 | 0.72 | 14,776 | 0.98 | 18.62 | | 8 | 1.69 | |
| 11131-DL | 2.00 | 2.00 | 2.00 | *1.37* | 11.63 | 2.14 | 13,751 | 3.11 | 19.14 | | 7 | 84.44 | 5.38 | 1.45 | 14,753 | 1.97 | 19.91 | | 8 | 1.40 | North of area. |

Quality not included in statistics; may not be representative of mineable section.

[1] *Italics* denote specific gravity values which have been estimated based on raw coal ash content where specific gravity = 1.25+(raw ash¸100)

[2] **Bold** denotes specific gravity and/or wash recovery values which have been estimated based on Estimated Visual Recovery calculations.

[3] Entry Width = 19.5

[4] Corsa reported thickness.

a. Where thickness was recorded on a laboratory sheet, thickness matched database and quality was verified.

b. In some cases, lost core thickness was recorded on a laboratory sheet, however, true seam thickness is unclear.

c. In some cases, thickness may only reflect total coal (excluding partings); raw quality was subjectively honored and washed quality (excluding recovery) was honored.

d. "NA" indicates that a thickness was not reported.

e. The majority of quality data was extracted from Carlson digital survcadd files and supplemented with data from various excel files.

# Corsa Coal Corporation

## 43-101 Technical Report

Deep Mineable Quality (In-Seam Quality, Dry Basis)

A-Seam Underground and Job 27A Areas

Brookville (A) Seam

Table 4Q

| | Thickness (In Feet) | | | Raw Quality, Dry Basis | | | | | | | Washed Quality, Dry Basis (1.50 Float) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mapped | | | | | | | | | | | | | | | | | Clean | |
| Drill Hole | Corsa Rpt.4 | Total Seam | Total Coal | Sp. Gr.[1] [2] | % Ash | % Sulfur | BTU/lb. | S02/mm BTU | % Vol. | % FC | % Rec.[2] | % Ash | % Sulfur | BTU/lb. | S02/mm BTU | % Vol. | % FC | FSI | Tons/ Entry Foot[3] | Comments |
| **Block A (A Seam) and Blocks E and F (Job 27A Area)** | | | | | | | | | | | | | | | | | | | | |
| 10212_DP | 7.20 | 7.20 | 7.20 | *1.57* | 31.76 | 0.98 | 10,213 | 1.92 | 15.69 | | 57.13 | 10.79 | 0.68 | 13,886 | 0.98 | 18.45 | | | 3.93 | |
| 10216_DP | 5.60 | 5.60 | 5.60 | *1.59* | 34.04 | 1.42 | 9,769 | 2.91 | 16.28 | | 47.80 | 11.39 | 1.00 | 13,766 | 1.45 | 19.61 | | | 2.59 | |
| 10217_DP | 8.40 | 8.40 | 8.40 | *1.54* | 29.4 | 1.56 | 10,562 | 2.95 | 17.39 | | | 9.70 | 0.80 | 14,089 | 1.14 | 20.07 | | | | |
| 10221_DP | 5.80 | 5.80 | 5.80 | *1.62* | 36.73 | 1.94 | 9,325 | 4.16 | 17.82 | | 46.79 | 12.21 | 1.37 | 13,642 | 2.01 | 21.69 | | | 2.67 | |
| 10231_DP | 6.10 | 6.10 | 6.10 | *1.54* | 29.12 | 1.43 | 10,632 | 2.69 | 17.30 | | 62.78 | 11.00 | 0.93 | 13,853 | 1.34 | 19.73 | | | 3.59 | |
| 10232_DP | 9.10 | 9.10 | 9.10 | *1.61* | 35.64 | 0.84 | 9,537 | 1.76 | 15.45 | | 54.89 | 11.21 | 0.64 | 13,814 | 0.93 | 18.05 | | | 4.88 | |
| 10233_DP | 9.30 | 9.30 | 9.30 | *1.54* | 28.83 | 0.95 | 10,715 | 1.77 | 17.96 | | 60.05 | 10.07 | 0.85 | 14,001 | 1.21 | 20.60 | | | 5.23 | |
| 10234_DP | 5.60 | 5.60 | 5.60 | *1.61* | 36.22 | 1.71 | 9,219 | 3.71 | 17.81 | | 43.20 | 11.38 | 1.19 | 13,637 | 1.75 | 21.87 | | | 2.37 | |
| 10235_DP | 6.20 | 6.20 | 6.20 | *1.62* | 36.82 | 1.04 | 9,203 | 2.26 | 14.37 | | 45.47 | 12.24 | 0.75 | 13,512 | 1.11 | 16.82 | | | 2.78 | |
| 9190_DP | 7.90 | 7.90 | 7.90 | *1.52* | 26.65 | 1.07 | 10,955 | 1.95 | 16.92 | | 63.16 | 10.10 | 0.82 | 13,885 | 1.18 | 19.06 | | | 4.61 | |
| 9191_DP | 6.70 | 6.70 | 6.70 | *1.51* | 26.45 | 0.88 | 11,085 | 1.59 | 16.98 | | 60.63 | 9.81 | 0.69 | 14,003 | 0.99 | 19.19 | | | 3.75 | |
| 9192_DP | 7.50 | 8.10 | 8.10 | *1.54* | 29.11 | 0.78 | 10,527 | 1.48 | 16.65 | | 64.10 | 10.46 | 0.62 | 13,849 | 0.90 | 18.88 | | | 4.87 | |
| 9194_DP | 8.60 | 8.70 | 8.70 | *1.49* | 24.13 | 0.90 | 11,319 | 1.59 | 18.01 | | 69.34 | 10.22 | 0.75 | 13,826 | 1.08 | 19.91 | | | 5.48 | |
| 9195_DP | 8.60 | 9.00 | 9.00 | *1.55* | 30.15 | 1.51 | 10,429 | 2.90 | 17.01 | | 55.95 | 11.11 | 1.10 | 13,787 | 1.60 | 19.83 | | | 4.76 | |
| 9196_DP | 7.80 | 8.10 | 8.10 | *1.63* | 37.90 | 1.18 | 9,082 | 2.60 | 16.09 | | 47.47 | 8.87 | 0.78 | 14,124 | 1.10 | 20.64 | | | 3.81 | |
| 9197_DP | 8.30 | 8.10 | 8.10 | *1.59* | 33.60 | 1.55 | 9,868 | 3.14 | 15.99 | | 48.34 | 11.73 | 0.83 | 13,708 | 1.21 | 18.77 | | | 3.78 | |
| 9198_DP | 6.60 | 6.60 | 6.60 | *1.56* | 30.61 | 1.76 | 10,218 | 3.44 | 16.30 | | 55.00 | 10.65 | 0.97 | 13,855 | 1.40 | 18.84 | | | 3.44 | |
| 9199_DP | 8.00 | 8.50 | 8.50 | *1.50* | 25.23 | 1.10 | 11,243 | 1.96 | 16.58 | | 66.97 | 9.71 | 0.81 | 13,967 | 1.16 | 18.61 | | | 5.21 | |
| 9218_DP | 7.80 | 8.40 | 8.40 | *1.54* | 28.73 | 1.06 | 10,625 | 2.00 | 16.60 | | 62.40 | 10.79 | 0.72 | 13,841 | 1.04 | 18.96 | | | 4.91 | |
| 9219_DP | 7.90 | 7.90 | 7.90 | *1.51* | 26.38 | 1.73 | 10,995 | 3.15 | 17.86 | | 64.71 | 12.09 | 1.19 | 13,544 | 1.76 | 19.99 | | | 4.71 | |
| 9220_DP | 8.90 | 8.90 | 8.90 | *1.61* | 36.19 | 0.84 | 9,279 | 1.81 | 16.33 | | 49.21 | 9.60 | 0.78 | 13,987 | 1.12 | 19.81 | | | 4.30 | |
| A-Seam Core Holes DH-12-111, 12-112, 13-001, 13-002 1/17/13 CPA# 83310 | | | | | | | | | | | | 9.99 | 0.79 | 14,071 | 1.12 | 18.01 | | 7.5 | | |
| 12111 | 6.98 | 10.75 | 10.25 | *1.53* | 27.54 | 1.03 | 10,409 | 1.98 | 13.99 | | 66.04 | 10.00 | 0.74 | 13,975 | 1.06 | 17.37 | | | | Composite, Sample excludes 3.77' of mapped seam |
| Holes 13-005,13-006,13-007 2/9/13 Sample# 117716 | | | | *1.45* | 20.37 | 1.13 | 12,120 | 1.86 | | 18.25 | 71.05 | 9.42 | 0.78 | 14,096 | 1.20 | 19.64 | 70.94 | 8.00 | | 1.55 Float |
| Holes 13-010,13-011,13-012,13-013 2/15/13 Sample #117717 | | | | | | | | | | | | 9.36 | 0.85 | 14,125 | 1.20 | 20.05 | 70.59 | 7.50 | | 1.55 Float, Unknown Recovery |
| | | | **Average** | **1.56** | **30.64** | **1.24** | **10,315** | **2.44** | **16.73** | | **56.97** | **10.58** | **0.86** | **13,870** | **1.25** | **19.46** | **70.77** | **7.67** | **4.08** | |
| | | | **Moist Basis (8%)** | | **28.19** | **1.14** | **9,489** | **2.24** | **15.39** | | **56.97** | **9.73** | **0.79** | **12,760** | **1.24** | **17.90** | **65.10** | **7.05** | | |
| | | | Maximum | 1.63 | 37.90 | 1.94 | 12,120 | 4.16 | 18.01 | | 71.05 | 12.24 | 1.37 | 14,125 | 2.01 | 21.87 | 70.94 | 8.00 | 5.48 | |
| | | | Minimum | 1.45 | 20.37 | 0.78 | 9,082 | 1.48 | 14.37 | | 43.20 | 8.87 | 0.62 | 13,512 | 0.90 | 16.82 | 70.59 | 7.50 | 2.37 | |
| | | | No. of Samples | 22 | 22 | 22 | 22 | 22 | 21 | | 21 | 24 | 24 | 24 | 24 | 24 | 2 | 3 | 20 | |
| **Block B** | | | | | | | | | | | | | | | | | | | | |
| 10214_DP | 5.50 | 5.50 | 5.50 | *1.70* | 44.53 | 1.91 | 8,087 | 4.72 | 16.61 | | 44.06 | 9.99 | 1.27 | 14,050 | 1.81 | 23.39 | | | 2.50 | |
| 10224_DP | 6.00 | 6.00 | 6.00 | *1.53* | 27.51 | 1.12 | 10,880 | 2.06 | 19.26 | | 65.37 | 12.24 | 0.90 | 13,586 | 1.32 | 21.62 | | | 3.64 | |
| 10226_DP | 8.50 | 8.50 | 8.50 | *1.63* | 37.73 | 1.48 | 9,142 | 3.24 | 16.80 | | 49.31 | 12.29 | 0.84 | 13,608 | 1.23 | 20.97 | | | 4.15 | |
| 10228_DP | 7.00 | 7.00 | 7.00 | *1.54* | 29.26 | 1.47 | 10,539 | 2.79 | 18.69 | | 58.46 | 9.93 | 0.92 | 14,004 | 1.31 | 21.04 | | | 3.84 | |
| 10229_DP | 11.40 | 11.40 | 11.40 | *1.65* | 40.06 | 1.48 | 8,419 | 3.52 | 17.44 | | 41.09 | 11.51 | 0.83 | 13,767 | 1.21 | 19.38 | | | 4.71 | |
| 10242_DP | 4.30 | 4.30 | 4.30 | *1.60* | 35.49 | 0.78 | 9,514 | 1.64 | 15.24 | | 51.03 | 12.07 | 0.77 | 13,641 | 1.13 | 17.56 | | | 2.14 | |
| 10246_DP | 3.50 | 3.50 | 3.50 | *1.55* | 30.07 | 0.96 | 10,550 | 1.82 | 17.78 | | 59.12 | 12.55 | 0.77 | 13,599 | 1.13 | 20.02 | | | 1.95 | |
| | | | **Average** | **1.60** | **34.95** | **1.31** | **9,590** | **2.83** | **17.40** | | **52.63** | **11.51** | **0.90** | **13,751** | **1.31** | **20.57** | | | **3.28** | |
| | | | **Moist Basis (8%)** | | **32.15** | **1.21** | **8,823** | **2.60** | **16.01** | | **52.63** | **10.59** | **0.83** | **12,651** | **1.31** | **18.92** | | | | |
| | | | Maximum | 1.70 | 44.53 | 1.91 | 10,880 | 4.72 | 19.26 | | 65.37 | 12.55 | 1.27 | 14,050 | 1.81 | 23.39 | | | 4.71 | |
| | | | Minimum | 1.53 | 27.51 | 0.78 | 8,087 | 1.64 | 15.24 | | 41.09 | 9.93 | 0.77 | 13,586 | 1.13 | 17.56 | | | 1.95 | |
| | | | No. of Samples | 7 | 7 | 7 | 7 | 7 | 7 | | 7 | 7 | 7 | 7 | 7 | 7 | | | 7 | |

# Corsa Coal Corporation

## 43-101 Technical Report

Deep Mineable Quality (In-Seam Quality, Dry Basis)

A-Seam Underground and Job 27A Areas

Brookville (A) Seam

Table 4Q

| | Thickness (In Feet) | | | Raw Quality, Dry Basis | | | | | | | Washed Quality, Dry Basis (1.50 Float) | | | | | | | | Clean | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mapped | | | | | | | | | | | | | | | | | Tons/ Entry | |
| Drill Hole | Corsa Rpt.4 | Total Seam | Total Coal | Sp. Gr. [1] [2] | % Ash | % Sulfur | BTU/lb. | S02/mm BTU | % Vol. | % FC | % Rec.[2] | % Ash | % Sulfur | BTU/lb. | S02/mm BTU | % Vol. | % FC | FSI | Foot[3] | Comments |
| **Block C** | | | | | | | | | | | | | | | | | | | | |
| 10241_DP | 5.70 | 5.70 | 5.70 | *1.54* | 29.41 | 1.37 | 10,339 | 2.65 | 14.83 | | 60.99 | 10.68 | 0.76 | 13,678 | 1.11 | 16.53 | | | 3.27 | |
| 10250_DP | 8.70 | 8.70 | 8.70 | *1.62* | 36.90 | 0.97 | 9,405 | 2.06 | 17.99 | | 43.61 | 14.49 | 0.74 | 13,080 | 1.13 | 18.56 | | | 3.74 | |
| DH_10238_DP | 6.05 | 6.05 | 6.05 | *1.52* | 26.75 | 1.34 | 11,018 | 2.43 | 15.31 | | 64.69 | 11.02 | 0.92 | 13,797 | 1.33 | 17.09 | | | 3.62 | |
| | | | **Average** | **1.56** | **31.02** | **1.23** | **10,254** | **2.38** | **16.04** | | **56.43** | **12.06** | **0.81** | **13,518** | **1.19** | **17.39** | | | **3.54** | |
| | | | **Moist Basis (8%)** | | **28.54** | **1.13** | **9,434** | **2.19** | **14.76** | | **56.43** | **11.10** | **0.74** | **12,437** | **1.19** | **16.00** | | | | |
| | | | Maximum | 1.62 | 36.90 | 1.37 | 11,018 | 2.65 | 17.99 | | 64.69 | 14.49 | 0.92 | 13,797 | 1.33 | 18.56 | | | 3.74 | |
| | | | Minimum | 1.52 | 26.75 | 0.97 | 9,405 | 2.06 | 14.83 | | 43.61 | 10.68 | 0.74 | 13,080 | 1.11 | 16.53 | | | 3.27 | |
| | | | No. of Samples | 3 | 3 | 3 | 3 | 3 | 3 | | 3 | 3 | 3 | 3 | 3 | 3 | | | 3 | |
| **Block D** | | | | | | | | | | | | | | | | | | | | |
| DH_10118_DP | 6.70 | 6.70 | 6.70 | *1.53* | 27.76 | 0.85 | 10,814 | 1.57 | 14.57 | | 58.75 | 11.40 | 0.68 | 13,682 | 0.99 | 16.09 | | | 3.66 | |
| | | | **Average** | **1.53** | **27.76** | **0.85** | **10,814** | **1.57** | **14.57** | | **58.75** | **11.40** | **0.68** | **13,682** | **0.99** | **16.09** | | | **3.66** | |
| | | | **Moist Basis (8%)** | | **25.54** | **0.78** | **9,949** | **1.45** | **13.40** | | **58.75** | **10.49** | **0.63** | **12,587** | **0.99** | **14.80** | | | | |
| | | | Maximum | 1.53 | 27.76 | 0.85 | 10,814 | 1.57 | 14.57 | | 58.75 | 11.40 | 0.68 | 13,682 | 0.99 | 16.09 | | | 3.66 | |
| | | | Minimum | 1.53 | 27.76 | 0.85 | 10,814 | 1.57 | 14.57 | | 58.75 | 11.40 | 0.68 | 13,682 | 0.99 | 16.09 | | | 3.66 | |
| | | | No. of Samples | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | |
| Overall average of all holes: | | | **Average** | **1.57** | **31.50** | **1.25** | **10,171** | **2.49** | **16.75** | **18.25** | **56.03** | **10.94** | **0.86** | **13,803** | **1.25** | **19.45** | **70.77** | **7.75** | **3.83** | |
| | | | **Moist Basis (8%)** | | **28.98** | **1.15** | **9,357** | **2.29** | **15.41** | **16.79** | **56.03** | **10.07** | **0.79** | **12,698** | **1.25** | **17.89** | **65.10** | **7.13** | | |
| | | | Maximum | 1.70 | 44.53 | 1.94 | 12,120 | 4.72 | 19.26 | 18.25 | 71.05 | 14.49 | 1.37 | 14,125 | 2.01 | 23.39 | 70.94 | 8.00 | 5.48 | |
| | | | Minimum | 1.45 | 20.37 | 0.78 | 8,087 | 1.48 | 14.37 | 18.25 | 41.09 | 8.87 | 0.62 | 13,080 | 0.90 | 16.09 | 70.59 | 7.50 | 1.95 | |
| | | | No. of Samples | 33 | 33 | 33 | 33 | 33 | 32 | 1 | 32 | 34 | 34 | 34 | 34 | 34 | 2 | 2 | 31 | |

Quality not included in statistics; may not be representative of mineable section.

[1] *Italics* denote specific gravity values which have been estimated based on raw coal ash content where specific gravity = 1.25+(raw ash¸100)

[2] **Bold** denotes specific gravity and/or wash recovery values which have been estimated based on Estimated Visual Recovery calculations.

[3] Entry Width = 19.5

[4] Corsa reported thickness.

a. Where thickness was recorded on a laboratory sheet, thickness matched database and quality was verified.

b. In some cases, lost core thickness was recorded on a laboratory sheet, however, true seam thickness is unclear.

c. In some cases, thickness may only reflect total coal (excluding partings); raw quality was subjectively honored and washed quality (excluding recovery) was honored.

d. "NA" indicates that a thickness was not reported.

e. The majority of quality data was extracted from Carlson digital survcadd files and supplemented with data from various excel files.

_D, -D or -DL on drill hole number indicates source of Data (driller's log)

-DP detail data provided in text file from Corsa

# Corsa Coal Corporation

## 43-101 Technical Report

Deep Mineable Quality (In-Seam Quality, Dry Basis)

Keyser Area

Middle and Lower Kittanning Seams

Table 5Q

| Drill Hole | Thickness (In Feet) Analyzed | Total Seam | Total Coal | Raw Quality, Dry Basis Sp. Gr. [1,2] | % Ash | % Sulfur | BTU/lb. | S02/mm BTU | % Vol. | Composite float Washed Quality, Dry Basis (1.55,1.60,1.65 Float) % Rec.[2] | % Ash | % Sulfur | BTU/lb. | S02/mm BTU | % Vol. | FSI | OX | Clean Tons/ Entry Foot[3] | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lower Kittanning** | | | | | | | | | | | | | | | | | | | |
| FET-PIT-DH-1 | 6.30 | 6.30 | 6.30 | *1.51* | 26.00 | 3.13 | 11,165 | 5.61 | 17.02 | | | | | | | | | | |
| FET-PIT-DH-4 | 5.10 | 5.10 | 5.10 | *1.46* | 20.94 | 3.56 | 12,116 | 5.88 | 16.84 | | | | | | | | | | |
| WCE-FET-002-11 | 2.50 | 2.50 | 2.50 | *1.34* | 8.51 | 2.92 | 14,301 | 4.08 | 23.68 | 90.91 | 5.09 | 1.48 | 14,977 | 1.98 | 24.74 | 8.50 | 98.00 | 1.85 | |
| WCE-FET-03B-11 | 2.60 | 2.80 | 2.80 | *1.40* | 14.95 | 2.08 | | | 19.98 | 87.25 | 6.25 | 1.16 | 14,730 | 1.58 | 20.84 | 8.00 | 97.00 | 2.08 | |
| WCE-FET-004A-11 | 2.95 | 2.90 | 2.80 | *1.40* | 15.02 | 3.04 | | | 18.86 | 79.52 | 5.30 | 1.23 | 14,963 | 1.64 | 20.01 | | | 1.97 | |
| WCE-FET-06-11 | 3.40 | 3.40 | 3.40 | *1.40* | 14.85 | 3.70 | | | 20.25 | 81.59 | 6.56 | 1.18 | 14,729 | | 21.63 | 8.00 | 97.00 | 2.36 | Same data as below for composite |
| WCE-FET-06B-11 | NA | | | | | | | | | 81.59 | 6.56 | 1.18 | 14,729 | 1.60 | 21.63 | | | | Same data as above for composite |
| WCE-FET-008-11 | 4.90 | 4.95 | 4.80 | *1.32* | 7.26 | 2.55 | | | 18.54 | 77.58 | 7.26 | 1.24 | 14,547 | 1.70 | 17.49 | | | 3.09 | Mapped data includes 0.5' COLST |
| WCE-FET-009-11 | 3.25 | 3.00 | 3.00 | *1.45* | 20.23 | 4.69 | 12,228 | 7.67 | 16.96 | 75.44 | 8.02 | 2.55 | 14,471 | 3.52 | 18.54 | 7.50 | 97.00 | 2.00 | |
| WCE-FET-013-11 | 4.80 | 4.80 | 4.80 | *1.51* | 25.81 | 6.84 | 11,121 | 12.30 | 18.34 | 65.49 | 7.95 | 1.34 | 14,469 | 1.85 | 20.67 | 8.00 | 97.00 | 2.89 | |
| WCE-FET-014B-11 | 4.75 | 4.50 | 4.50 | *1.47* | 21.89 | 3.33 | 11,935 | 5.58 | 16.72 | 73.49 | 7.85 | 1.38 | 14,493 | 1.90 | 18.49 | 8.00 | 98.00 | 2.96 | |
| WCE-FET-016B-11 | 3.20 | 3.50 | 3.50 | *1.44* | 18.69 | 5.11 | 12,310 | 8.30 | 19.09 | 72.40 | 6.22 | 1.56 | 14,702 | 2.12 | 21.09 | 7.00 | | 2.22 | |
| WCE-FET-017-11 | 4.50 | 4.50 | 4.50 | *1.42* | 17.16 | 3.07 | 12,748 | 4.82 | 19.73 | 71.72 | 8.77 | 1.57 | 14,281 | 2.20 | 21.07 | 9.00 | 98.00 | 2.79 | |
| WCE-FET-018-11 | 4.10 | 5.10 | 5.10 | *1.67* | 41.88 | 3.26 | 8,506 | 7.67 | 15.95 | 47.23 | 10.58 | 1.89 | 13,924 | 2.71 | 20.65 | 8.50 | 98.00 | 2.45 | |
| WCE-FET-019-11 | NA | 2.30 | 2.30 | *1.37* | 11.88 | | | | | | | | | | | | | | |
| WCE-FET-023B-11 | 4.95 | 5.60 | 5.60 | *1.57* | 31.87 | 3.35 | 10,139 | 6.61 | 16.28 | 58.62 | 8.03 | 1.61 | 14,359 | 2.24 | 19.58 | 7.50 | | 3.13 | |
| WCE-KYZ-13-1-B | NA | 5.90 | 5.40 | *1.48* | 23.26 | | | | | | | | | | | | | | |
| | | | **Average** | *1.45* | **20.01** | **3.62** | **11,657** | **6.85** | **18.45** | **74.06** | **7.26** | **1.49** | **14,567** | **2.09** | **20.49** | **8.00** | **97.50** | **2.48** | |
| | | | **Moist Basis (8%)** | | **18.41** | **3.33** | **10,724** | **6.30** | **16.97** | **74.06** | **6.68** | **1.37** | **13,402** | **1.92** | **18.86** | **7.36** | **89.70** | **2.28** | |
| | | | Maximum | 1.67 | 41.88 | 6.84 | 14,301 | 12.30 | 23.68 | 90.91 | 10.58 | 2.55 | 14,977 | 3.52 | 24.74 | 9.00 | 98.00 | 3.13 | |
| | | | Minimum | 1.32 | 7.26 | 2.08 | 8,506 | 4.08 | 15.95 | 47.23 | 5.09 | 1.16 | 13,924 | 1.58 | 17.49 | 7.00 | 97.00 | 1.85 | |
| | | | No. of Samples | 16 | 16 | 14 | 10 | 10 | 14 | 13 | 13 | 13 | 13 | 12 | 13 | 10 | 8 | 12 | |

[1] *Italics* denote specific gravity values which have been estimated based on raw coal ash content where specific gravity = 1.25+(raw ash¸100)

[2] **Bold** denotes specific gravity and/or wash recovery values which have been estimated based on Estimated Visual Recovery calculations.

[3] Entry Width = 19.5

Washed Quality, Dry Basis (1.55,1.80,1.50 Float) represents a composite of three screen & float analysis - (1) 38in x 1MM screen data @ 1.55 s.g. (2) 1MM x 100 M screen data @ 1.80 s.g. ( 3) 100M x 0 @ 1.50 s.g.

# Corsa Coal Corporation

## 43-101 Technical Report

Deep Mineable Quality (In-Seam Quality, Dry Basis)

Agustus Area

Lower Freeport (D), Upper Kittanning (C') and Lower Kittanning (C )

Table 6Q

| | Thickness (In Feet) | | | Raw Quality, Dry Basis | | | | | | | Washed Quality, Dry Basis (1.50 Float) | | | | | | | Clean | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mapped | | | | | | | | | | | | | | | | Tons/ Entry | |
| Drill Hole | Corsa Rpt.4 | Total Seam | Total Coal | Sp. Gr. [1] [2] | % Ash | % Sulfur | BTU/lb. | S02/mm BTU | % Vol. | % FC | % Rec.[2] | % Ash | % Sulfur | BTU/lb. | S02/mm BTU | % Vol. | % FC | Foot[3] | Comments |
| **Upper Kittanning (C') Seam** | | | | | | | | | | | | | | | | | | | |
| **Expansion Area** | | | | | | | | | | | | | | | | | | | |
| 12-246-DL | 4.80 | 4.80 | 4.80 | *1.49* | 23.80 | 4.11 | 11,586 | 7.09 | 15.72 | | 69.63 | 8.70 | 1.25 | 14,162 | 1.77 | 17.10 | | 3.03 | |
| 12-247-DL | 3.20 | 3.20 | 3.20 | *1.41* | 16.22 | 3.07 | 12,977 | 4.73 | 16.98 | | 82.68 | 8.29 | 1.08 | 14,324 | 1.51 | 17.82 | | 2.27 | |
| | | | **Average** | **1.45** | **20.01** | **3.59** | **12,282** | **5.91** | **16.35** | | **76.16** | **8.50** | **1.17** | **14,243** | **1.64** | **17.46** | | **2.65** | |
| | | | **Moist Basis (8%)** | | **18.41** | **3.30** | **11,299** | **5.44** | **15.04** | | **76.16** | **7.82** | **1.07** | **13,104** | **1.64** | **16.06** | | | |
| | | | Maximum | 1.49 | 23.80 | 4.11 | 12,977 | 7.09 | 16.98 | | 82.68 | 8.70 | 1.25 | 14,324 | 1.77 | 17.82 | | 3.03 | |
| | | | Minimum | 1.41 | 16.22 | 3.07 | 11,586 | 4.73 | 15.72 | | 69.63 | 8.29 | 1.08 | 14,162 | 1.51 | 17.10 | | 2.27 | |
| | | | No. of Samples | 2 | 2 | 2 | 2 | 2 | 2 | | 2 | 2 | 2 | 2 | 2 | 2 | | 2 | |
| **Lower Kittanning (B) Seam** | | | | | | | | | | | | | | | | | | | |
| **Agustus B Area** | | | | | | | | | | | | | | | | | | | |
| 111002-DL | 8.60 | 2.80 | 2.80 | *1.38* | 13.10 | 2.85 | 13,452 | 4.24 | 16.67 | | 93.51 | 11.07 | 2.05 | 13,779 | 2.98 | 16.71 | | 2.20 | Analyzed thickness shows that it includes Rider and parting (2.3' CO and 3.5' Ptg) - recovery doesn't reflect this |
| 12-241-DL | NA | 7.70 | 7.70 | *1.53* | 28.08 | 2.53 | 10,728 | 4.72 | 18.23 | | 70.37 | 12.65 | 1.59 | 13,511 | 2.35 | 20.36 | | 5.05 | (5.0'/8.2' - 2.60' Lost Coal noted on dl) |
| SF-2-DL | 6.80 | 6.75 | 5.65 | *1.57* | 31.90 | 1.85 | | | | | 59.50 | 7.30 | 1.09 | 14,590 | 1.49 | 18.40 | | 3.84 | |
| SF-21-DL | 7.34 | 5.70 | 4.92 | *1.49* | 23.90 | 1.77 | | | | | 69.40 | 9.00 | 1.06 | 14,340 | 1.48 | 17.50 | | 3.59 | Analysis includes 1.64 out-of seam dilution comprised of 0.65' shale with coal streaks, 0.54' bone and 0.45' coal |
| 111000-DL | 6.00 | 6.00 | 6.00 | *1.41* | 15.60 | 2.00 | 13,030 | 3.07 | 17.16 | | 82.86 | 8.72 | 1.20 | 14,205 | 1.69 | 17.98 | | 4.26 | Hole located south of reserve area |
| 111001-DL | 4.70 | 6.00 | 6.00 | *1.48* | 23.30 | 2.00 | 11,784 | 3.39 | 19.00 | | 71.41 | 10.50 | 1.50 | 13,920 | 2.16 | 21.60 | | 3.87 | Hole located south of reserve area |
| 111007-DL | 8.00 | 8.70 | 8.70 | *1.44* | 18.61 | 1.79 | 12,443 | 2.88 | 16.07 | | 79.40 | 8.45 | 1.14 | 14,245 | 1.60 | 16.98 | | 6.04 | Hole located south of reserve area |
| 09-165 | 4.60 | 4.60 | 4.60 | *1.42* | 16.54 | 3.13 | 12,831 | 4.88 | 19.98 | | 85.59 | 11.73 | 1.39 | 13,712 | 2.03 | 20.75 | | 3.39 | Hole located south of reserve area |
| 09-167 | 3.60 | 3.60 | 3.60 | *1.47* | 22.22 | 2.15 | 11,942 | 3.60 | 19.58 | | 74.33 | 12.65 | 1.52 | 13,579 | 2.24 | 21.50 | | 2.40 | Hole located south of reserve area |
| | | | **Average** | **1.47** | **21.57** | **2.28** | **12,601** | **3.85** | **18.91** | | **75.57** | **10.10** | **1.30** | **14,022** | **1.86** | **19.66** | | **3.47** | |
| | | | **Moist Basis (8%)** | | **19.84** | **2.10** | **11,593** | **3.54** | **17.39** | | **75.57** | **9.29** | **1.20** | **12,900** | **1.85** | **18.08** | | | |
| | | | Maximum | 1.57 | 31.90 | 3.13 | 13,030 | 4.88 | 19.98 | | 85.59 | 12.65 | 1.52 | 14,590 | 2.24 | 21.50 | | 4.26 | |
| | | | Minimum | 1.41 | 15.60 | 1.85 | 11,942 | 3.07 | 17.16 | | 59.50 | 7.30 | 1.09 | 13,579 | 1.49 | 17.98 | | 2.40 | |
| | | | No. of Samples | 4 | 4 | 4 | 3 | 3 | 3 | | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | |

# Corsa Coal Corporation

## 43-101 Technical Report

Deep Mineable Quality (In-Seam Quality, Dry Basis)

Agustus Area

Lower Freeport (D), Upper Kittanning (C') and Lower Kittanning (C )

Table 6Q

| | Thickness (In Feet) | | | Raw Quality, Dry Basis | | | | | | | Washed Quality, Dry Basis (1.50 Float) | | | | | | | Clean | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mapped | | | | | | | | | | | | | | | | Tons/ Entry | |
| Drill Hole | Corsa Rpt.4 | Total Seam | Total Coal | Sp. Gr. [1] [2] | % Ash | % Sulfur | BTU/lb. | S02/mm BTU | % Vol. | % FC | % Rec.[2] | % Ash | % Sulfur | BTU/lb. | S02/mm BTU | % Vol. | % FC | Foot[3] | Comments |
| **Lower Freeport (D) Seam** | | | | | | | | | | | | | | | | | | | |
| 12-246-DL | 4.00 | 2.50 | 2.50 | *1.55* | 30.22 | 2.48 | 10,441 | 4.75 | 16.05 | | 61.27 | 6.84 | 0.98 | 14,558 | 1.35 | 19.12 | | 1.45 | |
| 12-247-DL | 2.80 | 2.80 | 2.80 | *1.71* | 45.89 | 2.08 | 7,471 | 5.57 | 12.79 | | 34.99 | 12.80 | 1.82 | 13,447 | 2.71 | 15.61 | | 1.02 | |
| 12302-DL | 1.50 | 1.50 | 1.50 | *1.46* | 21.38 | 7.51 | 12,141 | 12.37 | 19.32 | | 65.48 | 8.90 | 2.40 | 14,288 | 3.36 | 20.59 | | 0.88 | Located outside of reserve area |
| 12304-DL | 3.00 | 3.00 | 3.00 | *1.38* | 13.11 | 3.17 | 13,429 | 4.72 | 17.49 | | 87.30 | 6.71 | 1.31 | 14,495 | 1.81 | 18.01 | | 2.20 | Located outside of reserve area |
| 08-06-DL | 3.00 | 3.00 | 3.00 | *1.34* | 9.05 | 2.83 | 14,207 | 3.98 | 18.64 | | 89.36 | 5.02 | 1.39 | 14,919 | 1.86 | 18.98 | | 2.19 | Located outside of reserve area |
| 09-162-DL | 3.80 | 3.80 | 3.80 | *1.45* | 19.58 | 4.03 | 12,290 | 6.56 | 16.99 | | 74.98 | 8.90 | 1.95 | 14,145 | 2.76 | 18.15 | | 2.51 | Located outside of reserve area |
| 09-163-DL | 3.90 | 3.90 | 2.60 | *1.44* | 18.53 | 2.93 | 12,478 | 4.70 | 17.43 | | 78.48 | 7.50 | 1.65 | 14,406 | 2.29 | 18.88 | | 2.67 | Located outside of reserve area |
| 09-164-DL | 3.00 | 3.00 | 3.00 | *1.61* | 36.02 | 4.75 | 9,489 | 10.01 | 15.20 | | 41.32 | 14.46 | 2.51 | 13,267 | 3.78 | 18.09 | | 1.22 | Located outside of reserve area |
| 09-165-DL | 3.70 | 3.70 | 3.70 | *1.37* | 11.88 | 3.06 | 13,546 | 4.52 | 18.32 | | 87.91 | 6.91 | 1.38 | 14,434 | 1.91 | 18.72 | | 2.71 | Located outside of reserve area |
| 111003-DL | 3.20 | 3.20 | 3.20 | *1.39* | 13.55 | 2.66 | 13,416 | 3.97 | 17.46 | | 82.74 | 6.67 | 0.84 | 14,560 | 1.15 | 18.17 | | 2.23 | Located outside of reserve area |
| 111004 | 2.90 | 4.10 | 4.10 | *1.44* | 19.02 | 2.59 | 12,519 | 4.14 | 17.85 | | 75.39 | 6.06 | 1.30 | 14,725 | 1.77 | 19.77 | | 2.71 | Located outside of reserve area |
| 111005-DL | 3.70 | 4.90 | 4.90 | *1.46* | 20.83 | 1.87 | 12,099 | 3.09 | 16.74 | | 76.22 | 7.42 | 0.87 | 14,393 | 1.21 | 18.53 | | 3.32 | Located outside of reserve area |
| 111006-DL | 4.00 | 4.00 | 4.00 | *1.52* | 26.54 | 4.10 | 11,165 | 7.34 | 15.82 | | 56.81 | 9.24 | 1.83 | 14,172 | 2.58 | 18.17 | | 2.10 | Located outside of reserve area |
| | | | **Average** | **1.47** | **21.97** | **3.39** | **11,899** | **5.82** | **16.93** | | **70.17** | **8.26** | **1.56** | **14,293** | **2.20** | **18.52** | | **2.09** | |
| | | | **Moist Basis (8%)** | | **20.21** | **3.12** | **10,947** | **5.36** | **15.58** | | **70.17** | **7.60** | **1.43** | **13,150** | **2.18** | **17.04** | | | |
| | | | Maximum | 1.71 | 45.89 | 7.51 | 14,207 | 12.37 | 19.32 | | 89.36 | 14.46 | 2.51 | 14,919 | 3.78 | 20.59 | | 3.32 | |
| | | | Minimum | 1.34 | 9.05 | 1.87 | 7,471 | 3.09 | 12.79 | | 34.99 | 5.02 | 0.84 | 13,267 | 1.15 | 15.61 | | 0.88 | |
| | | | No. of Samples | 13 | 13 | 13 | 13 | 13 | 13 | | 13 | 13 | 13 | 13 | 13 | 13 | | 13 | |

Quality not included in statistics; may not be representative of mineable section.

[1] *Italics* denote specific gravity values which have been estimated based on raw coal ash content where specific gravity = 1.25+(raw ash¸100)

[2] **Bold** denotes specific gravity and/or wash recovery values which have been estimated based on Estimated Visual Recovery calculations.

[3] Entry Width = 19.5

[4] Corsa reported thickness.

a. Where thickness was recorded on a laboratory sheet, thickness matched database and quality was verified.

b. In some cases, lost core thickness was recorded on a laboratory sheet, however, true seam thickness is unclear.

c. In some cases, thickness may only reflect total coal (excluding partings); raw quality was subjectively honored and washed quality (excluding recovery) was honored.

d. "NA" indicates that a thickness was not reported.

e. The majority of quality data was extracted from Carlson digital survcadd files and supplemented with data from various excel files.

_D, -D or -DL on drill hole number indicates source of Data (driller's log)

-DP detail data provided in text file from Corsa

# Corsa Coal Corporation

## 43-101 Technical Report

Underground Mineable Quality (In-Seam Quality, Dry Basis)

Mega Mine Area

Lower Kittanning (B) Seam

Table 7Q

| | Thickness (In Feet) | | | Raw Quality, Dry Basis | | | | | | | Washed Quality, Dry Basis (1.55 Float) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mapped | | | | | | | | | | | | | | | | Clean | |
| Drill Hole | Rpt.[4] | Total Seam | Total Coal | Sp. Gr.[1] [2] | % Ash | % Sulfur | BTU/lb. | S02/mm BTU | % Vol. | FSI | % Rec.[2] | % Ash | % Sulfur | BTU/lb. | S02/mm BTU | % Vol. | FSI | Entry Foot[3] | Comments |
| 09521 | 2.00 | 2.00 | 2.00 | *1.49* | 24.45 | 2.76 | 11,431 | 4.82 | 15.79 | 4.08 | 69.65 | 12.98 | 0.95 | 13,445 | 1.41 | 16.58 | 5.86 | 1.27 | |
| 10204-SD | 4.90 | 4.90 | 3.65 | *1.58* | 32.77 | 2.39 | 9,750 | 4.91 | 15.01 | 4.29 | 58.00 | 7.48 | 0.86 | 14,450 | 1.20 | 17.34 | 7.40 | 2.73 | |
| 10205_MM | 5.70 | 5.70 | 5.70 | *1.56* | 31.34 | 2.65 | 10,260 | 5.17 | 14.39 | 3.24 | 60.87 | 10.58 | 1.23 | 13,849 | 1.78 | 16.17 | 5.32 | 3.30 | |
| 10206-SD | 5.00 | 8.42 | 2.65 | *1.75* | 50.20 | 2.64 | 6,892 | 7.66 | 12.92 | 2.27 | 35.19 | 10.52 | 1.16 | 13,955 | 1.66 | 18.86 | 6.45 | 3.16 | |
| 10207-SD | 4.75 | 4.75 | 3.10 | *1.48* | 23.33 | 2.58 | 11,571 | 4.45 | 15.97 | 4.26 | 67.29 | 10.57 | 0.90 | 13,827 | 1.31 | 17.06 | 5.87 | 2.89 | |
| 10208-DL | 4.20 | 4.20 | 4.10 | *1.41* | 15.68 | 2.47 | 12,835 | 3.85 | 16.56 | 5.04 | 80.63 | 8.32 | 0.94 | 14,153 | 1.32 | 17.08 | 6.25 | 2.90 | |
| 10209-SD | 4.30 | 4.30 | 4.10 | *1.46* | 21.26 | 3.18 | 12,015 | 5.29 | 16.33 | 5.65 | 72.97 | 7.51 | 1.12 | 14,439 | 1.56 | 17.34 | 7.74 | 2.79 | |
| 10210SD | 6.80 | 6.80 | 4.40 | *1.58* | 33.24 | 2.04 | 9,585 | 4.25 | 14.27 | 3.44 | 59.00 | 8.55 | 1.05 | 14,226 | 1.47 | 16.78 | 5.83 | 3.86 | |
| 11-133-D | 5.40 | 5.40 | 5.40 | *1.53* | 27.59 | 2.53 | 10,968 | 4.61 | 15.43 | 4.70 | 62.84 | 9.30 | 1.06 | 14,099 | 1.51 | 17.23 | 7.49 | 3.15 | |
| 11-141-D | 4.70 | 6.80 | 5.20 | *1.69* | 43.75 | 1.92 | 7,736 | 4.95 | 13.11 | 1.86 | 42.99 | 10.39 | 1.03 | 13,801 | 1.50 | 15.98 | 4.32 | 3.00 | |
| 11204-D | 8.20 | 8.20 | 8.20 | *1.77* | 52.45 | 1.58 | 6,594 | 4.80 | 12.35 | 2.73 | 36.47 | 10.30 | 1.02 | 14,016 | 1.46 | 18.54 | 7.48 | 3.23 | |
| 11206-D | 2.30 | 2.30 | 2.30 | *1.60* | 35.48 | 4.48 | 9,623 | 9.31 | 14.30 | 2.73 | 45.45 | 16.27 | 3.10 | 12,965 | 4.79 | 16.69 | 6.00 | 1.02 | |
| 12-137-D | 6.20 | 5.30 | 5.30 | *1.54* | 29.41 | 2.52 | 10,616 | 4.75 | 14.85 | 5.00 | 61.95 | 9.05 | 1.30 | 14,101 | 1.84 | 16.77 | 7.00 | 3.09 | |
| 12-141-D | 6.90 | 6.90 | 5.80 | *1.71* | 46.02 | 2.34 | 7,725 | 6.05 | 13.87 | 3.82 | 45.92 | 10.48 | 1.26 | 13,964 | 1.81 | 19.25 | 7.22 | 3.30 | South of the resource area |
| | | | **Average** | **1.57** | **31.99** | **2.45** | **10,052** | **5.00** | **14.80** | **3.96** | **59.25** | **9.24** | **1.04** | **14,113** | **1.47** | **17.38** | **6.65** | **3.11** | |
| | | | **Moist Basis (8%)** | | **29.43** | **2.25** | **9,248** | **4.60** | **13.62** | **3.64** | **59.25** | **8.50** | **0.96** | **12,984** | **1.47** | **15.99** | | | |
| | | | Maximum | 1.77 | 52.45 | 3.18 | 12,835 | 7.66 | 16.56 | 5.65 | 80.63 | 10.58 | 1.23 | 14,450 | 1.78 | 18.86 | 7.74 | 3.86 | |
| | | | Minimum | 1.41 | 15.68 | 1.58 | 6,594 | 3.85 | 12.35 | 2.27 | 35.19 | 7.48 | 0.86 | 13,827 | 1.20 | 16.17 | 5.32 | 2.73 | |
| | | | No. of Samples | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | |

Quality not included in statistics; may not be representative of mineable section.

[1] *Italics* denote specific gravity values which have been estimated based on raw coal ash content where specific gravity = 1.25+(raw ash¸100)

[2] **Bold** denotes specific gravity and/or wash recovery values which have been estimated based on Estimated Visual Recovery calculations.

[3] Entry Width = 19.5

[4] Corsa reported thickness.

a. Where thickness was recorded on a laboratory sheet, thickness matched database and quality was verified.

b. In some cases, lost core thickness was recorded on a laboratory sheet, however, true seam thickness is unclear.

c. In some cases, thickness may only reflect total coal (excluding partings); raw quality was subjectively honored and washed quality (excluding recovery) was honored.

d. "NA" indicates that a thickness was not reported.

e. The majority of quality data was extracted from Carlson digital survcadd files and supplemented with data from various excel files.

Gray lines indicate the benches that were composited together to show mineable section.

# Corsa Coal Corporation

## 43-101 Technical Report

Surface Mineable Quality (In-Seam Quality, Dry Basis)

GAZ Area

Upper Freeport, Lower Freeport, and Upper Kittanning Seam

Table 8Q

| | Thickness (In Feet) | | | Raw Quality, Dry Basis | | | | | | | Washed Quality, Dry Basis (1.55 Float) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mapped | | | | | | SO2/mm | | | | | | | SO2/mm | | | |
| Drill Hole | Corsa Rpt.4 | Total Seam | Total Coal | Sp. Gr. [1] [2] | % Ash | % Sulfur | BTU/lb. | BTU | % Vol. | % FC | % Rec.[2] | % Ash | % Sulfur | BTU/lb. | BTU | % Vol. | % FC | Comments |
| **Upper Kittanning Seam** | | | | | | | | | | | | | | | | | | |
| 10437_GZ | 4.33 | 4.33 | 4.33 | *1.42* | 16.62 | 0.43 | 11,050 | 0.78 | 23.24 | | | | | | | | | Source: denner property raws#1.xls |
| 10438_GZ | 4.40 | 4.41 | 4.41 | *1.38* | 13.35 | 2.34 | 13,227 | 3.54 | 19.48 | | 86.55 | 9.53 | 1.46 | 13,864 | 2.11 | 20.09 | | lost 1.6' of core (source is Lab sheet) |
| 10438_GZ | 4.42 | 4.41 | 4.41 | *1.46* | 20.59 | 1.76 | 11,742 | 3.00 | 17.75 | | | | | | | | | Source: denner property raws#1.xls |
| 10439_GZ | 4.00 | 4.00 | 4.00 | *1.43* | 18.44 | 0.39 | 9,864 | 0.79 | 26.23 | | | | | | | | | Source: denner property raws#1.xls |
| 10440_GZ | 3.60 | 3.58 | 3.58 | *1.34* | 9.41 | 1.19 | 13,776 | 1.73 | 18.69 | | 94.04 | 7.88 | 0.70 | 14,041 | 1.00 | 18.90 | | lost 1.7' of core (source is lab sheet) |
| 10440_GZ | 3.58 | 3.58 | 3.58 | *1.62* | 36.96 | 0.95 | 8,831 | 2.15 | 20.83 | | | | | | | | | Source: denner property raws#1.xls |
| 10442_GZ | 3.33 | 3.33 | 3.33 | *1.46* | 20.89 | 3.75 | 12,087 | 6.21 | 18.31 | | | | | | | | | Source: denner property raws#1.xls |
| 10443_GZ | 2.95 | | | *1.39* | 14.31 | 2.70 | 13,259 | 4.07 | 18.25 | | 85.79 | 9.92 | 1.40 | 13,982 | 2.00 | 18.79 | | Top Lift; source is lab sheet |
| 10443_GZ | 0.25 | | | *1.56* | 30.53 | 5.37 | 10,583 | 10.15 | 15.57 | | 59.78 | 18.68 | 4.87 | 12,596 | 7.73 | 17.40 | | Bottom Lift; source is lab sheet |
| 10443_GZ | 3.20 | 3.50 | 3.50 | *1.41* | 16.25 | 3.02 | 12,939 | 4.67 | 17.93 | | 82.68 | 10.97 | 1.81 | 13,816 | 2.63 | 18.62 | | Composite (composited by weights) |
| 10443 | 3.50 | 3.50 | 3.50 | *1.47* | 21.65 | 3.49 | 12,069 | 5.78 | 17.46 | | | | | | | | | Source: denner property raws#1.xls |
| 10445_GZ | 4.33 | 4.33 | 4.33 | *1.50* | 24.91 | 2.15 | 10,531 | 4.08 | 17.56 | | | | | | | | | Source: denner property raws#1.xls |
| 10446_GZ | 3.75 | 3.75 | 3.75 | *1.49* | 23.93 | 0.36 | 9,820 | 0.73 | 26.38 | | | | | | | | | Source: denner property raws#1.xls |
| 10447_GZ | 4.17 | 4.16 | 4.16 | *1.45* | 20.40 | 0.43 | 9,945 | 0.86 | 25.66 | | | | | | | | | Source: denner property raws#1.xls |
| 10448_GZ | 3.67 | 7.66 | 7.66 | *1.42* | 16.76 | 0.38 | 10,697 | 0.71 | 25.35 | | | | | | | | | Source: denner property raws#1.xls |
| 10449_GZ | 2.90 | | | *1.38* | 13.44 | 2.45 | 13,339 | 3.67 | 17.25 | | 88.96 | 9.90 | 1.25 | 13,941 | 1.79 | 17.73 | | Top Lift; source is lab sheet |
| 10449_GZ | 1.60 | | | *1.56* | 31.43 | 6.22 | 10,404 | 11.96 | 15.70 | | 33.28 | 13.30 | 5.26 | 13,496 | 7.79 | 18.85 | | Bottom Lift; lost 0.9' of core; source is lab sheet |
| 10449_GZ | 4.50 | 4.50 | 4.50 | *1.42* | 17.31 | 3.26 | 12,708 | 5.13 | 16.92 | | 76.99 | 10.63 | 2.11 | 13,845 | 3.05 | 17.97 | | Composite (composited by weights) |
| 10449_GZ | 4.50 | 4.50 | 4.50 | *1.55* | 30.38 | 4.68 | 10,349 | 9.04 | 15.03 | | | | | | | | | Source: denner property raws#1.xls |
| HOLT-1 | 3.75 | 3.75 | 3.75 | *1.50* | 24.55 | 0.67 | | | 23.48 | 51.97 | | | | | | | | |
| HOLT-2 | 4.00 | 4.00 | 4.00 | *1.57* | 32.48 | 0.62 | | | 20.36 | | 79.87 | 22.87 | 0.60 | | | 21.73 | | |
| HOLT-3 | 2.00 | 2.00 | 2.00 | *1.70* | 44.77 | | | | 13.40 | 41.83 | | | | | | | | 3' void below coal, possible coal core loss. |
| | | | **Average** | ***1.47*** | **21.82** | **2.27** | **11377** | **4.43** | **20.20** | **51.97** | **72.48** | **13.75** | **2.47** | **13613** | **4.17** | **18.73** | | |
| | | | **Moist Basis (8%)** | | **21.82** | **2.09** | **10,467** | **4.07** | **18.59** | **47.81** | **72.48** | **12.65** | **2.27** | **12,524** | **3.63** | **17.23** | | |
| | | | Maximum | 1.50 | 24.91 | 3.75 | 12,939 | 6.21 | 26.38 | 0.00 | 82.68 | 10.97 | 2.11 | 13,845 | 3.05 | 18.62 | | |
| | | | Minimum | 1.41 | 16.25 | 0.36 | 9,820 | 0.73 | 16.92 | 0.00 | 76.99 | 10.63 | 1.81 | 13,816 | 2.63 | 17.97 | | |
| | | | No. of Samples | 8 | 8 | 8 | 8 | 8 | 8 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | | |

Quality not included in statistics; may not be representative of mineable section.

[1] *Italics* denote specific gravity values which have been estimated based on raw coal ash content where specific gravity = 1.25+(raw ash¸100)

[2] **Bold** denotes specific gravity and/or wash recovery values which have been estimated based on Estimated Visual Recovery calculations.

[3] Entry Width = 19.5

[4] Corsa reported thickness.

a. Where thickness was recorded on a laboratory sheet, thickness matched database and quality was verified.

b. In some cases, lost core thickness was recorded on a laboratory sheet, however, true seam thickness is unclear.

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d. "NA" indicates that a thickness was not reported.

e. The majority of quality data was extracted from Carlson digital survcadd files and supplemented with data from various excel files.

Gray lines indicate the benches that were composited together to show mineable section.

# Corsa Coal Corporation

## 43-101 Technical Report

Surface Mineable Quality (In-Seam Quality, Dry Basis)

Rhoads Areas

Upper, Middle & Lower Kittanning Seams

Table 9Q

| | Thickness (In Feet) | | | Raw Quality, Dry Basis | | | | | | | Washed Quality, Dry Basis (1.55 Float) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mapped | | | | | | | | | | | | | | | | |
| Drill Hole | Corsa Rpt.4 | Total Seam | Total Coal | Sp. Gr. [1] [2] | % Ash | % Sulfur | BTU/lb. | SO2/mm BTU | % Vol. | % FC | % Rec. [2] | % Ash | % Sulfur | BTU/lb. | SO2/mm BTU | % Vol. | % FC | Comments |
| **Upper Kittanning Seam** | | | | | | | | | | | | | | | | | | |
| 12049_KL | 4.00 | 3.33 | 3.33 | *1.33* | 8.00 | 0.55 | 13,450 | 0.82 | 17.74 | | 95.88 | 6.84 | 0.55 | 13,655 | 0.81 | 17.83 | | Mapped thickness appeas to be total coal only |
| 12051_KL | 4.00 | 3.25 | 3.25 | *1.37* | 12.21 | 0.56 | 12,456 | 0.90 | 20.62 | | 87.87 | 7.36 | 0.58 | 13,385 | 0.87 | 19.41 | | Mapped thickness appeas to be total coal only |
| DH-11-18 | 3.00 | 4.17 | 4.17 | *1.36* | 11.47 | 0.60 | | | 22.74 | | 94.73 | 9.70 | 0.60 | | | 23.15 | | Map includes 1.00 COLST |
| | | | **Average** | **1.36** | **10.56** | **0.57** | **12,953** | **0.86** | **20.37** | | **92.83** | **7.97** | **0.58** | **13,520** | **0.84** | **20.13** | | |
| | | | **Moist Basis (8%)** | | **9.72** | **0.52** | **11,917** | **0.79** | **18.74** | | **92.83** | **7.33** | **0.53** | **12,438** | **0.85** | **18.52** | | |
| | | | Maximum | 1.37 | 12.21 | 0.60 | 13,450 | 0.90 | 22.74 | | 95.88 | 9.70 | 0.60 | 13,655 | 0.87 | 23.15 | | |
| | | | Minimum | 1.33 | 8.00 | 0.55 | 12,456 | 0.82 | 17.74 | | 87.87 | 6.84 | 0.55 | 13,385 | 0.81 | 17.83 | | |
| | | | No. of Samples | 3 | 3 | 3 | 2 | 2 | 3 | | 3 | 3 | 3 | 2 | 2 | 3 | | |
| **Middle Kittanning Seam** | | | | | | | | | | | | | | | | | | |
| DH_9884_KL | 2.80 | 2.80 | 2.80 | *1.45* | 19.78 | 2.38 | 12,226 | 3.89 | | | 78.68 | 11.27 | 0.86 | 13,816 | 1.24 | | | |
| DH_9885_KL | 2.90 | 3.00 | 3.00 | *1.47* | 21.66 | 3.04 | 11,919 | 5.10 | 15.43 | | 68.85 | 15.00 | 3.00 | 13,186 | 4.55 | 16.46 | | |
| DH_9886_KL | 3.20 | 3.20 | 3.20 | *1.47* | 22.41 | 2.26 | 11,861 | 3.81 | | | 67.56 | 11.52 | 0.82 | 13,802 | 1.19 | | | |
| DH_9889A_KL | 3.00 | 3.00 | 3.00 | *1.42* | 16.77 | 2.66 | 12,748 | 4.17 | | | 79.04 | 9.48 | 1.03 | 14,086 | 1.46 | | | |
| DH_0861_KL | 2.33 | 2.33 | 2.33 | *1.55* | 29.71 | 3.15 | 10,748 | 5.86 | 14.74 | | 52.36 | 13.29 | 1.35 | 13,505 | 2.00 | 16.21 | | Lost 8" of core |
| DH_0863 | 0.58 | | | *1.75* | 49.59 | 3.39 | 7,373 | 9.20 | 13.35 | | 11.43 | 18.46 | 2.12 | 12,707 | 3.34 | 17.29 | | Top Lift |
| DH_0863 | 1.50 | | | *1.46* | 21.01 | 2.54 | 12,179 | 4.17 | 16.06 | | 75.52 | 12.37 | 1.06 | 13,662 | 1.55 | 16.72 | | Bottom Lift; lost 3" of core |
| DH_0863 | 2.08 | 2.08 | 2.08 | *1.56* | 31.18 | 2.84 | 10,468 | 5.43 | 15.10 | | 52.71 | 14.54 | 1.44 | 13,322 | 2.16 | 16.92 | | Composite |
| DH_0867 | 0.83 | | | *1.60* | 35.36 | 4.31 | 9,701 | 8.89 | 14.73 | | 39.10 | 17.99 | 1.69 | 12,730 | 2.66 | 16.59 | | Top Lift |
| DH_0867 | 1.92 | | | *1.38* | 13.25 | 2.24 | 13,453 | 3.33 | 17.11 | | 87.53 | 7.54 | 0.83 | 14,436 | 1.15 | 17.73 | | Bottom Lift; lost 3" of core |
| DH_0867 | 2.75 | 2.75 | 2.75 | *1.47* | 21.65 | 3.03 | 12,028 | 5.03 | 16.21 | | 69.13 | 11.51 | 1.16 | 13,788 | 1.68 | 17.30 | | Composite |
| DH_0877-D | 1.21 | | | *1.63* | 37.95 | 3.05 | 9,251 | 6.59 | 13.89 | | 36.77 | 15.84 | 1.19 | 13,051 | 1.82 | 16.21 | | Top Lift |
| DH_0877-D | 1.96 | | | *1.38* | 12.53 | 2.47 | 13,556 | 3.64 | 16.94 | | 88.69 | 7.87 | 0.80 | 14,381 | 1.11 | 17.27 | | Bottom Lift |
| DH_0877-D | 3.17 | 3.16 | 3.16 | *1.49* | 23.61 | 2.72 | 11,680 | 4.66 | 15.61 | | 66.06 | 11.34 | 0.97 | 13,801 | 1.41 | 16.81 | | Composite |
| DH-06-18 | 2.67 | 2.66 | 2.66 | *1.48* | 22.73 | 2.84 | | | 15.93 | | 60.82 | 8.50 | 0.84 | | | 17.27 | | |
| DH-11-18 | 1.67 | 2.00 | 2.00 | *1.47* | 21.69 | 2.30 | | | 15.56 | | 62.20 | 8.72 | 0.90 | | | 16.82 | | Mapped 0.33' lost coal |
| U-04-18 | 2.00 | 2.25 | 2.25 | *1.50* | 24.72 | 3.41 | 11,383 | 5.99 | 16.03 | | 49.45 | 6.67 | 0.73 | 14,693 | 0.99 | 17.80 | | 1.45 float |
| | | | **Average** | **1.48** | **23.26** | **2.78** | **11,673** | **4.88** | **15.58** | | **64.26** | **11.08** | **1.19** | **13,778** | **1.85** | **16.95** | | |
| | | | **Moist Basis (8%)** | | **21.40** | **2.56** | **10,740** | **4.49** | **14.33** | | **64.26** | **10.19** | **1.10** | **12,675** | **1.73** | **15.59** | | |
| | | | Maximum | 1.56 | 31.18 | 3.41 | 12,748 | 5.99 | 16.21 | | 79.04 | 15.00 | 3.00 | 14,693 | 4.55 | 17.80 | | |
| | | | Minimum | 1.42 | 16.77 | 2.26 | 10,468 | 3.81 | 14.74 | | 49.45 | 6.67 | 0.73 | 13,186 | 0.99 | 16.21 | | |
| | | | No. of Samples | 11 | 11 | 11 | 9 | 9 | 8 | | 11 | 11 | 11 | 9 | 9 | 8 | | |

# Corsa Coal Corporation

## 43-101 Technical Report

Surface Mineable Quality (In-Seam Quality, Dry Basis)

Rhoads Areas

Upper, Middle & Lower Kittanning Seams

Table 9Q

| | Thickness (In Feet) | | | Raw Quality, Dry Basis | | | | | | | Washed Quality, Dry Basis (1.55 Float) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mapped | | | | | | | | | | | | | | | | |
| Drill Hole | Corsa Rpt.4 | Total Seam | Total Coal | Sp. Gr. [1] [2] | % Ash | % Sulfur | BTU/lb. | SO2/mm BTU | % Vol. | % FC | % Rec. [2] | % Ash | % Sulfur | BTU/lb. | SO2/mm BTU | % Vol. | % FC | Comments |
| **Lower Kittanning Seam** | | | | | | | | | | | | | | | | | | |
| 12-052-KL | 5.25 | | | *1.40* | 15.42 | 3.38 | 12,541 | 5.39 | 17.16 | | 82.38 | 7.11 | 1.31 | 13,870 | 1.89 | 17.72 | | Top Split |
| 12-052-KL | na | | | *1.49* | 23.95 | 5.12 | 11,638 | 8.80 | 16.59 | | 69.07 | 14.51 | 2.35 | 13,222 | 3.55 | 17.44 | | Bottom Split |
| 12-052-KL | na | | | *1.42* | 17.02 | 3.71 | 12,372 | 5.99 | 17.05 | | 79.88 | 8.50 | 1.51 | 13,749 | 2.19 | 17.67 | | Composite; hole location only with no data (but quality data). |
| DH_0863 | 2.67 | | | *1.47* | 21.95 | 4.18 | 11,942 | 7.00 | 16.25 | | 71.84 | 9.75 | 1.81 | 14,136 | 2.56 | 17.15 | | Top Lift |
| DH_0863 | 0.96 | | | *1.48* | 23.38 | 3.57 | 11,859 | 6.02 | 15.45 | | 70.53 | 13.42 | 2.08 | 13,553 | 3.07 | 17.04 | | Bottom Lift |
| DH_0863 | 3.63 | 5.42 | 5.42 | *1.47* | 22.38 | 4.00 | 11,917 | 6.71 | 16.01 | | 71.44 | 10.86 | 1.89 | 13,960 | 2.71 | 17.12 | | Composite |
| DH_0864 | 3.38 | | | *1.39* | 13.74 | 2.84 | 13,435 | 4.23 | 16.67 | | 83.85 | 7.84 | 1.55 | 14,457 | 2.14 | 17.22 | | Top Lift |
| DH_0864 | 0.46 | | | *1.67* | 42.42 | 5.70 | 8,270 | 13.78 | 14.08 | | 38.83 | 9.92 | 2.22 | 14,069 | 3.16 | 16.91 | | Middle Lift |
| DH_0864 | 1.00 | | | *1.53* | 28.29 | 3.98 | 10,885 | 7.31 | 14.39 | | 65.50 | 14.52 | 2.73 | 13,309 | 4.10 | 16.28 | | Bottom Lift, Lost 5" of core |
| DH_0864 | 4.83 | 5.83 | 5.83 | *1.45* | 19.90 | 3.41 | 12,337 | 5.52 | 15.97 | | 74.87 | 9.14 | 1.82 | 14,229 | 2.56 | 17.03 | | Composite |
| DH_0873-D | 0.83 | | | *1.56* | 30.74 | 1.57 | 10,530 | 2.98 | 14.47 | | 43.69 | 13.13 | 1.15 | 13,573 | 1.69 | 15.96 | | Top Lift |
| DH_0873-D | 2.83 | | | *1.38* | 13.10 | 4.33 | 13,515 | 6.41 | 17.62 | | 88.49 | 8.14 | 1.62 | 14,348 | 2.26 | 17.69 | | Bottom Lift, lost 5" of core |
| DH_0873-D | 3.67 | 3.66 | 3.66 | *1.43* | 17.70 | 3.61 | 12,736 | 5.67 | 16.80 | | 76.80 | 9.44 | 1.50 | 14,146 | 2.12 | 17.24 | | Composite |
| DH_0879_KL | 2.67 | | | *1.43* | 17.51 | 3.33 | 12,700 | 5.24 | 16.65 | | 77.22 | 7.88 | 1.60 | 14,341 | 2.23 | 17.39 | | Top Lift |
| DH_0879_KL | 0.42 | | | *1.48* | 23.40 | 6.86 | 11,572 | 11.86 | 17.18 | | 66.84 | 10.69 | 2.59 | 14,046 | 3.69 | 18.09 | | Middle Lift |
| DH_0879_KL | 1.02 | | | *1.52* | 26.54 | 2.17 | 11,333 | 3.83 | 14.36 | | 59.05 | 11.43 | 1.72 | 13,827 | 2.49 | 17.23 | | Bottom Lift |
| DH_0879_KL | 4.10 | 4.42 | 4.42 | *1.45* | 20.34 | 3.44 | 12,245 | 5.61 | 16.15 | | 71.68 | 9.05 | 1.74 | 14,184 | 2.45 | 17.43 | | Composite |
| DH_0881_KL | 3.40 | | | *1.38* | 13.11 | 3.79 | 13,528 | 5.60 | 17.41 | | 85.02 | 7.87 | 1.67 | 14,437 | 2.31 | 17.77 | | Top Lift |
| DH_0881_KL | 0.52 | | | *1.51* | 25.56 | 5.29 | 11,421 | 9.26 | 15.58 | | 57.02 | 13.81 | 3.01 | 13,396 | 4.49 | 17.12 | | Bottom Lift |
| DH_0881_KL | 3.92 | 4.58 | 4.58 | *1.40* | 14.84 | 4.00 | 13,235 | 6.04 | 17.16 | | 81.12 | 8.70 | 1.86 | 14,292 | 2.60 | 17.68 | | Composite |
| U-04-18 | 2.75 | | | *1.41* | 15.51 | 3.49 | 12,982 | 5.38 | 18.99 | | 76.54 | 6.42 | 1.22 | 14,672 | 1.66 | 19.88 | | Top Split |
| U-04-18 | 0.66 | | | *1.47* | 22.23 | 2.85 | 11,859 | 4.81 | 14.08 | | 63.96 | 9.93 | 1.06 | 14,057 | 1.51 | | | Middle Lift |
| U-04-18 | na | | | | | | | | | | | | | | | | | Bottom Split |
| U-04-18 | na | | | *1.42* | 16.83 | 3.36 | 12,762 | 5.27 | 18.03 | | 74.08 | 7.11 | 1.19 | 14,552 | 1.63 | 15.99 | | Composite; hole location only with no data (but quality data). |
| | | | **Average** | **1.44** | **19.02** | **3.52** | **12,491** | **5.64** | **16.48** | | **75.18** | **9.44** | **1.76** | **14,162** | **2.49** | **17.30** | | |
| | | | **Moist Basis (8%)** | | **17.50** | **3.24** | **11,491** | **5.19** | **15.16** | | **75.18** | **8.68** | **1.62** | **13,029** | **2.49** | **15.92** | | |
| | | | Maximum | 1.45 | 20.34 | 3.61 | 12,736 | 5.67 | 16.80 | | 81.12 | 10.86 | 1.89 | 14,292 | 2.71 | 17.68 | | |
| | | | Minimum | 1.43 | 17.70 | 3.44 | 12,245 | 5.61 | 16.15 | | 71.44 | 8.70 | 1.50 | 13,960 | 2.12 | 17.03 | | |
| | | | No. of Samples | 2 | 2 | 2 | 2 | 2 | 2 | | 5 | 5 | 5 | 5 | 5 | 5 | | |

Quality not included in statistics; may not be representative of mineable section.

[1] *Italics* denote specific gravity values which have been estimated based on raw coal ash content where specific gravity = 1.25+(raw ash¸100)

[2] **Bold** denotes specific gravity and/or wash recovery values which have been estimated based on Estimated Visual Recovery calculations.

[3] Entry Width = 19.5

[4] Corsa reported thickness.

a. Where thickness was recorded on a laboratory sheet, thickness matched database and quality was verified.

b. In some cases, lost core thickness was recorded on a laboratory sheet, however, true seam thickness is unclear.

c. In some cases, thickness may only reflect total coal (excluding partings); raw quality was subjectively honored and washed quality (excluding recovery) was honored.

e. The majority of quality data was extracted from Carlson digital survcadd files and supplemented with data from various excel files.

Gray lines indicate the benches that were composited together to show mineable section.

# Corsa Coal Corporation

## 43-101 Technical Report

Surface Mineable Quality (In-Seam Quality, Dry Basis)

Will Farm, Schrock Run and Shaffer Mine Area

Lower Freeport, Upper and Lower Kittanning Seams

Table 10Q

| | Thickness (In Feet) | | | Raw Quality, Dry Basis | | | | | | | Washed Quality, Dry Basis (1.55 Float) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mapped | | | | | | | | | | | | | | | | |
| Drill Hole | Corsa Rpt.4 | Total Seam | Total Coal | Sp. Gr. [1] [2] | % Ash | % Sulfur | BTU/lb. | S02/mm BTU | % Vol. | % FC | % Rec.[2] | % Ash | % Sulfur | BTU/lb. | S02/mm BTU | % Vol. | % FC | Comments |
| **Will Farm & Schrock Run - Lower Freeport Seam** | | | | | | | | | | | | | | | | | | |
| 05273-D | 0.42 | | | *1.43* | 18.42 | 3.39 | 12,488 | 5.43 | 17.40 | | 75.35 | 11.51 | 2.17 | 13,732 | 3.16 | 18.16 | | Top Lift |
| 05273-D | 1.67 | | | *1.36* | 10.88 | 2.56 | 13,836 | 3.70 | 17.68 | | 91.02 | 7.49 | 1.11 | 14,435 | 1.54 | 18.00 | | Bottom Lift |
| 05273-D | 2.09 | 3.50 | 3.50 | *1.37* | 12.28 | 2.71 | 13,585 | 4.00 | 17.63 | | 88.11 | 8.24 | 1.31 | 14,304 | 1.83 | 18.03 | | Composite |
| 0795-D | 2.50 | 3.42 | 3.42 | *1.32* | 7.41 | 0.69 | 14,511 | 0.95 | 17.62 | | 98.34 | 6.71 | 0.67 | 14,635 | 0.92 | 17.70 | | Located too far north of property |
| 0891-D | 0.81 | | | *1.65* | 40.08 | 1.53 | 8,539 | 3.58 | 13.68 | | 49.70 | 11.06 | 0.85 | 13,816 | 1.23 | 17.40 | | Top Lift |
| 0891-D | 2.35 | | | *1.34* | 9.20 | 1.14 | 14,048 | 1.62 | 16.55 | | 93.58 | 6.85 | 0.73 | 14,443 | 1.01 | 16.83 | | Bottom Lift |
| 0891-D | 3.16 | 3.25 | 3.25 | *1.43* | 17.63 | 1.25 | 12,544 | 1.99 | 15.77 | | 81.60 | 8.00 | 0.76 | 14,272 | 1.07 | 16.99 | | Located too far north of property |
| 0898-D | 2.33 | 4.00 | 0.00 | *1.35* | 9.86 | 1.31 | 13,822 | 1.90 | 18.33 | | 95.24 | 7.85 | 0.75 | 14,168 | 1.06 | 18.53 | | |
| 09329_WF | 3.60 | 3.67 | 3.67 | *1.32* | 7.17 | 0.53 | 14,134 | 0.75 | 17.81 | | 99.17 | 6.80 | 0.53 | 14,201 | 0.75 | 17.50 | | |
| 09346_PH | 3.15 | 3.17 | 3.17 | *1.31* | 6.39 | 0.55 | 14,487 | 0.76 | 18.38 | | 97.63 | 5.06 | 0.53 | 14,721 | 0.72 | 18.57 | | |
| 12043_MM | 2.90 | 2.90 | 2.90 | *1.30* | 4.87 | 0.57 | 14,697 | 0.78 | 18.79 | | 99.04 | 4.44 | 0.55 | 14,771 | 0.74 | 18.85 | | |
| | | | **Average** | **1.34** | **9.01** | **0.72** | **13,966** | **1.07** | **17.69** | | **94.36** | **6.51** | **0.74** | **14,454** | **1.02** | **17.99** | | |
| | | | **Moist Basis (8%)** | | **8.29** | **0.67** | **12,848** | **0.98** | **16.27** | | **94.36** | **5.99** | **0.68** | **13,298** | **1.02** | **16.55** | | |
| | | | Maximum | 1.43 | 17.63 | 1.25 | 14,697 | 1.99 | 18.79 | | 99.17 | 8.24 | 1.31 | 14,771 | 1.83 | 18.85 | | |
| | | | Minimum | 1.30 | 4.87 | 0.53 | 12,544 | 0.75 | 15.77 | | 81.60 | 4.44 | 0.53 | 14,201 | 0.72 | 16.99 | | |
| | | | No. of Samples | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | 5 | 5 | 5 | 5 | 5 | | |
| **Shaffer Mine - Lower Freeport Seam (Wash data reported at 1.40-1.60 float)** | | | | | | | | | | | | | | | | | | |
| DH20-01 | 2.17 | 2.17 | 2.17 | *1.31* | 6.18 | 0.60 | 14,788 | 0.81 | 18.23 | | 99.03 | 5.85 | 0.59 | 14,845 | 0.79 | 18.29 | | |
| DH20-02 | 1.83 | 2.00 | 2.00 | *1.37* | 11.88 | 0.94 | 13,818 | 1.36 | 17.98 | | 92.24 | 7.49 | 0.75 | 14,571 | 1.03 | 18.72 | | Analysis excludes 0.17' lost core |
| DH20-03 | 1.75 | 2.00 | 2.00 | *1.42* | 16.53 | 1.46 | 12,980 | 2.25 | 17.25 | | 86.42 | 7.83 | 0.69 | 14,504 | 0.95 | 18.48 | | Analysis excludes 0.25' lost core |
| DH20-04 | 2.08 | 2.08 | 2.08 | *1.32* | 6.55 | 0.58 | 14,525 | 0.80 | 19.45 | | 98.49 | 6.02 | 0.59 | 14,610 | 0.81 | 19.55 | | |
| DH20-05 | 2.17 | 3.00 | 3.00 | *1.32* | 6.61 | 0.64 | 14,679 | 0.87 | 19.00 | | 96.99 | 5.11 | 0.61 | 14,931 | 0.82 | 19.28 | | Analysis excldues 0.83' top split |
| DH20-06 | 2.58 | 2.58 | 2.58 | *1.34* | 9.45 | 1.70 | 14,169 | 2.40 | 20.83 | | 94.99 | 7.57 | 1.11 | 14,519 | 1.53 | 21.08 | | |
| DH20-07 | 1.58 | 2.08 | 2.08 | *1.35* | 10.26 | 1.70 | 14,001 | 2.43 | 19.62 | | 92.74 | 7.96 | 0.98 | 14,446 | 1.36 | 19.91 | | Analysis excludes 0.50' lost core |
| | | | **Average** | **1.35** | **10.12** | **1.06** | **14,056** | **1.52** | **18.75** | | **94.23** | **6.95** | **0.75** | **14,610** | **1.02** | **19.22** | | |
| | | | **Moist Basis (8%)** | | **9.31** | **0.97** | **12,932** | **1.40** | **17.25** | | **94.23** | **6.40** | **0.69** | **13,441** | **1.02** | **17.69** | | |
| | | | Maximum | 1.42 | 16.53 | 1.70 | 14,788 | 2.40 | 20.83 | | 99.03 | 7.83 | 1.11 | 14,845 | 1.53 | 21.08 | | |
| | | | Minimum | 1.31 | 6.18 | 0.58 | 12,980 | 0.80 | 17.25 | | 86.42 | 5.85 | 0.59 | 14,504 | 0.79 | 18.29 | | |
| | | | No. of Samples | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | | |

# Corsa Coal Corporation

## 43-101 Technical Report

Surface Mineable Quality (In-Seam Quality, Dry Basis)

Will Farm, Schrock Run and Shaffer Mine Area

Lower Freeport, Upper and Lower Kittanning Seams

Table 10Q

| | Thickness (In Feet) | | | Raw Quality, Dry Basis | | | | | | | Washed Quality, Dry Basis (1.55 Float) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mapped | | | | | | S02/mm | | | | | | | S02/mm | | | |
| Drill Hole | Corsa Rpt.4 | Total Seam | Total Coal | Sp. Gr. [1] [2] | % Ash | % Sulfur | BTU/lb. | BTU | % Vol. | % FC | % Rec.[2] | % Ash | % Sulfur | BTU/lb. | BTU | % Vol. | % FC | Comments |
| **Will Farm & Schrock Run - Upper Kittanning Seam** | | | | | | | | | | | | | | | | | | |
| 0652-D | 1.46 | | | *1.39* | 13.82 | 2.82 | 13,375 | 4.22 | 16.15 | | 87.76 | 9.80 | 1.32 | 1,400 | 18.86 | 16.37 | | Top Lift |
| 0652-D | 2.75 | | | *1.37* | 11.50 | 1.52 | 13,758 | 2.21 | 16.83 | | 93.05 | 8.95 | 0.83 | 14,200 | 1.17 | 17.08 | | Bottom Lift |
| 0652-D | 4.21 | 5.67 | 4.17 | *1.37* | 12.22 | 1.93 | 13,638 | 2.82 | 16.62 | | 91.40 | 9.22 | 0.98 | 10,201 | 1.93 | 16.86 | | Composite; Hole located in Spoerlin area |
| 08108_WF | 3.88 | 3.88 | 3.88 | | | | | | | | 93.76 | 8.75 | 1.18 | | | 18.98 | | Hole falls in Will Farm Area to east |
| 08115_WF | 4.58 | 4.58 | 4.58 | | | | | | | | 95.86 | 8.10 | 0.85 | | | 18.04 | | Hole falls in Will Farm Area to east |
| 08125_WF | 3.00 | | | | | | | | | | 83.45 | 9.00 | 1.69 | | | 20.21 | | Hole falls in Will Farm Area to east |
| 08138_WF | 2.00 | 2.00 | 2.00 | | | | | | | | 85.92 | 8.81 | 1.70 | | | 21.25 | | Hole falls in Will Farm Area to east |
| 09314_PH | 2.10 | 2.33 | 2.33 | *1.36* | 11.37 | 3.04 | 13,797 | 4.41 | 20.69 | | 90.17 | 8.09 | 1.12 | 14,361 | 1.56 | 21.05 | | |
| 09318_PH | 1.10 | | | *1.40* | 15.26 | 5.27 | 13,097 | 8.05 | 21.13 | | 79.21 | 7.27 | 1.70 | 14,541 | 2.34 | 22.33 | | Top Lift |
| 09318_PH | 2.55 | | | *1.36* | 11.38 | 2.09 | 13,784 | 3.03 | 19.97 | | 92.45 | 8.89 | 0.88 | 14,216 | 1.24 | 20.22 | | Bottom Lift |
| 09318_PH | 3.65 | 3.92 | 3.92 | *1.37* | 12.46 | 2.97 | 13,593 | 4.38 | 20.29 | | 88.77 | 8.44 | 1.11 | 14,306 | 1.55 | 20.81 | | Composite |
| 09321_PH | 2.10 | 2.17 | 2.17 | *1.37* | 12.19 | 3.44 | 13,565 | 5.07 | 21.09 | | 89.16 | 9.05 | 1.27 | 14,091 | 1.80 | 21.45 | | |
| 09329_WF | 1.90 | 1.92 | 1.92 | *1.37* | 12.38 | 3.37 | 13,578 | 4.96 | 20.73 | | 89.22 | 8.15 | 1.27 | 14,323 | 1.77 | 21.22 | | |
| 09342_PH | 2.70 | 2.83 | 2.83 | *1.36* | 11.03 | 2.72 | 13,854 | 3.93 | 20.57 | | 93.79 | 8.27 | 0.85 | 14,315 | 1.19 | 20.72 | | |
| 09346_PH | 2.50 | 2.67 | 2.67 | *1.38* | 12.52 | 2.02 | 13,483 | 3.00 | 17.22 | | 90.13 | 9.25 | 0.68 | 14,063 | 0.97 | 17.51 | | |
| 09350_PH | 2.40 | 2.42 | 2.42 | *1.36* | 10.90 | 2.18 | 13,776 | 3.16 | 18.00 | | 93.82 | 8.76 | 1.15 | 14,139 | 1.63 | 18.17 | | |
| 09355_PH | 2.30 | 2.33 | 2.33 | *1.35* | 10.37 | 1.74 | 13,822 | 2.52 | 17.26 | | 94.54 | 8.45 | 0.80 | 14,162 | 1.13 | 17.38 | | |
| 09357_PH | 1.35 | | | *1.41* | 15.70 | 2.54 | 12,881 | 3.94 | 15.24 | | 86.15 | 10.10 | 0.90 | 13,844 | 1.30 | 15.74 | | Top Lift |
| 09357_PH | 0.65 | | | *1.80* | 55.05 | 2.83 | 6,079 | 9.31 | 12.07 | | 37.78 | 16.02 | 3.76 | 12,976 | 5.80 | 16.83 | | Bottom Lift |
| 09357_PH | 2.00 | 3.00 | 3.00 | *1.57* | 32.48 | 2.66 | 9,980 | 5.34 | 13.89 | | 65.52 | 12.62 | 2.12 | 13,474 | 3.15 | 16.20 | | Composite |

# Corsa Coal Corporation

## 43-101 Technical Report

Surface Mineable Quality (In-Seam Quality, Dry Basis)

Will Farm, Schrock Run and Shaffer Mine Area

Lower Freeport, Upper and Lower Kittanning Seams

Table 10Q

| | Thickness (In Feet) | | | Raw Quality, Dry Basis | | | | | | | Washed Quality, Dry Basis (1.55 Float) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mapped | | | | | | | | | | | | | | | | |
| Drill Hole | Corsa Rpt.4 | Total Seam | Total Coal | Sp. Gr. [1] [2] | % Ash | % Sulfur | BTU/lb. | S02/mm BTU | % Vol. | % FC | % Rec.[2] | % Ash | % Sulfur | BTU/lb. | S02/mm BTU | % Vol. | % FC | Comments |
| 09364_PH | 2.60 | 0.60 | | *1.36* | 10.74 | 1.84 | 13,802 | 2.67 | 17.38 | | 93.82 | 8.55 | 0.98 | 14,179 | 1.38 | 17.56 | | Top Lift |
| 09364_PH | 0.65 | | | *1.81* | 56.36 | 3.06 | 5,812 | 10.53 | 11.92 | | 29.48 | 17.81 | 4.03 | 12,679 | 6.36 | 17.10 | | Bottom Lift |
| 09364_PH | 3.25 | 3.17 | 3.17 | *1.48* | 22.89 | 2.16 | 11,674 | 3.71 | 15.93 | | 76.69 | 11.02 | 1.79 | 13,780 | 2.60 | 17.44 | | Composite |
| 09366_PH | 3.80 | | | *1.38* | 13.47 | 2.12 | 13,344 | 3.18 | 16.34 | | 88.92 | 9.39 | 1.13 | 14,095 | 1.60 | 16.58 | | Top Lift |
| 09366_PH | 0.30 | | | *1.85* | 60.48 | 1.36 | 4,891 | 5.56 | 10.68 | | 8.63 | 15.81 | 2.96 | 13,012 | 4.55 | 16.17 | | Bottom Lift |
| 09366_PH | 4.10 | 4.08 | 4.08 | *1.44* | 18.53 | 2.04 | 12,434 | 3.28 | 15.73 | | 80.28 | 10.08 | 1.33 | 13,978 | 1.90 | 16.54 | | Composite |
| 09368_PH | 3.10 | | | *1.36* | 11.48 | 2.40 | 13,696 | 3.50 | 16.80 | | 91.99 | 8.84 | 1.09 | 14,155 | 1.54 | 16.95 | | Top Lift |
| 09368_PH | 0.50 | | | *1.83* | 58.00 | 2.68 | 5,507 | 9.73 | 11.30 | | 21.81 | 22.09 | 4.07 | 11,947 | 6.81 | 16.05 | | Bottom Lift |
| 09368_PH | 3.60 | 3.58 | 3.58 | *1.46* | 21.16 | 2.46 | 11,993 | 4.10 | 15.66 | | 77.39 | 11.60 | 1.71 | 13,696 | 2.50 | 16.76 | | Composite |
| 09370_PH | 3.20 | | | *1.36* | 10.62 | 1.65 | 13,874 | 2.38 | 16.94 | | 94.80 | 8.98 | 0.92 | 14,150 | 1.30 | 17.07 | | Top Lift |
| 09370_PH | 0.70 | | | *1.69* | 44.18 | 4.11 | 8,080 | 10.17 | 13.19 | | 38.06 | 17.63 | 4.53 | 12,763 | 7.10 | 17.17 | | Bottom Lift |
| 09370_PH | 3.90 | 3.92 | 3.92 | *1.44* | 18.58 | 2.23 | 12,500 | 3.57 | 16.05 | | 81.34 | 11.03 | 1.78 | 13,821 | 2.57 | 17.09 | | Composite |
| 09372_WF | 1.80 | | | *1.38* | 13.32 | 1.85 | 13,384 | 2.76 | 16.32 | | 92.65 | 11.32 | 1.11 | 13,722 | 1.62 | 16.54 | | Top Lift |
| 09372_WF | 0.90 | | | *1.68* | 42.85 | 3.16 | 8,324 | 7.59 | 13.57 | | 40.17 | 15.98 | 3.50 | 13,024 | 5.37 | 17.36 | | Bottom Lift |
| 09372_WF | 2.70 | 3.92 | 3.92 | *1.51* | 25.58 | 2.39 | 11,283 | 4.24 | 15.18 | | 70.86 | 13.25 | 2.10 | 13,432 | 3.13 | 16.88 | | Composite |
| 09375_PH | 2.75 | 2.75 | 2.75 | *1.36* | 11.13 | 2.28 | 13,917 | 3.28 | 18.21 | | 92.82 | 8.77 | 0.96 | 14,318 | 1.34 | 18.39 | | |
| 09378_PH | 2.60 | 2.58 | 2.58 | *1.35* | 10.01 | 2.16 | 14,015 | 3.08 | 17.85 | | 93.31 | 7.77 | 0.78 | 14,415 | 1.08 | 17.93 | | |
| 10141-D | 4.50 | 4.50 | 4.50 | | | | | | | | 81.04 | 9.28 | 1.53 | | | 17.97 | | |
| 10152-D | 3.60 | 3.60 | 3.60 | *1.47* | 22.22 | 2.95 | 11,840 | 4.98 | 15.44 | | 82.46 | 13.40 | 1.74 | 13,351 | 2.61 | 16.09 | | Located Pleasant Hill / Yachere Area |
| 10153-D | 3.60 | 3.60 | 3.60 | *1.49* | 24.01 | 2.89 | 11,459 | 5.04 | 15.77 | | 75.47 | 12.60 | 1.93 | 13,519 | 2.86 | 17.10 | | Located Pleasant Hill / Kimberly Run Area |
| 10154-D | 4.30 | 4.30 | 4.30 | *1.57* | 31.90 | 3.47 | 10,328 | 6.72 | 14.57 | | 61.51 | 12.23 | 2.01 | 13,751 | 2.92 | 16.92 | | Located Pleasant Hill / Kimberly Run Area |
| 11-133-D | 3.40 | 3.40 | 3.40 | | | | | | | | 74.39 | 11.12 | 1.21 | | | 16.63 | | Hole located Will Farm Area |
| 12043_MM | 2.90 | 2.90 | 2.90 | *1.56* | 31.40 | 2.37 | 10,306 | 4.60 | 14.13 | | 61.63 | 11.17 | 1.64 | 13,758 | 2.38 | 16.77 | | Hole located Mega Area |
| | | | **Average** | **1.39** | **14.08** | **2.45** | **13,262** | **3.70** | **18.08** | | **87.93** | **9.45** | **1.32** | **14,042** | **1.87** | **18.67** | | |
| | | | **Moist Basis (8%)** | | **12.95** | **2.25** | **12,201** | **3.40** | **16.63** | | **87.93** | **8.70** | **1.22** | **12,919** | **1.88** | **17.17** | | |
| | | | Maximum | 1.48 | 22.89 | 3.44 | 14,015 | 5.07 | 21.09 | | 95.86 | 13.25 | 2.12 | 14,415 | 3.15 | 21.45 | | |
| | | | Minimum | 1.35 | 10.01 | 1.74 | 11,674 | 2.52 | 15.66 | | 76.69 | 7.77 | 0.68 | 13,432 | 0.97 | 16.20 | | |
| | | | No. of Samples | 13 | 13 | 13 | 13 | 13 | 13 | | 18 | 21 | 21 | 16 | 16 | 21 | | |

# Corsa Coal Corporation

## 43-101 Technical Report

Surface Mineable Quality (In-Seam Quality, Dry Basis)

Will Farm, Schrock Run and Shaffer Mine Area

Lower Freeport, Upper and Lower Kittanning Seams

Table 10Q

| | Thickness (In Feet) | | | Raw Quality, Dry Basis | | | | | | | Washed Quality, Dry Basis (1.55 Float) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mapped | | | | | | S02/mm | | | | | | | S02/mm | | | |
| Drill Hole | Corsa Rpt.4 | Total Seam | Total Coal | Sp. Gr. [1] [2] | % Ash | % Sulfur | BTU/lb. | BTU | % Vol. | % FC | % Rec.[2] | % Ash | % Sulfur | BTU/lb. | BTU | % Vol. | % FC | Comments |
| **Will Farm - Lower Kittanning** | | | | | | | | | | | | | | | | | | |
| 08146-D | 2.75 | 3.00 | 2.75 | *1.41* | 15.64 | 2.76 | 13,020 | 4.24 | 17.10 | | 80.82 | 8.56 | 0.89 | 14,267 | 1.25 | 17.75 | | |
| 08151-D | 2.17 | 2.50 | 2.50 | *1.45* | 20.25 | 2.92 | 12,209 | 4.78 | 16.37 | | 69.36 | 8.52 | 1.14 | 14,268 | 1.60 | 17.43 | | |
| 08153-D | 1.08 | | | *1.49* | 24.40 | 2.23 | 11,546 | 3.86 | 15.25 | | 58.93 | 10.74 | 1.36 | 13,835 | 1.97 | 16.09 | | Top |
| 08153-D | 1.75 | | | *1.36* | 11.05 | 2.79 | 13,822 | 4.04 | 18.13 | | 90.37 | 7.54 | 1.28 | 14,433 | 1.77 | 18.52 | | Middle |
| 08153-D | 0.75 | | | *1.78* | 52.89 | 2.27 | 6,235 | 7.28 | 13.93 | | 34.37 | 11.01 | 2.39 | 13,892 | 3.44 | 19.01 | | Bottom |
| 08153-D | 3.58 | 3.58 | 3.58 | *1.52* | 26.88 | 2.49 | 10,988 | 4.54 | 16.15 | | 65.71 | 9.39 | 1.63 | 14,119 | 2.31 | 18.04 | | Composite |
| 09508_PH | 4.75 | | | *1.43* | 17.93 | 2.96 | 12,577 | 4.71 | 16.23 | | 78.22 | 8.38 | 0.87 | 14,173 | 1.23 | 16.69 | | Top |
| 09508_PH | 0.35 | | | *1.40* | 15.27 | 3.72 | 13,038 | 5.71 | 18.08 | | 82.42 | 7.65 | 0.84 | 14,408 | 1.17 | 18.43 | | Bottom |
| 09508_PH | 4.75 | 4.75 | 4.75 | *1.43* | 17.93 | 2.96 | 12,577 | 4.71 | 16.23 | 0.00 | 78.22 | 8.38 | 0.87 | 14,173 | 1.23 | 16.69 | | Composite |
| | | | **Average** | **1.45** | **20.18** | **2.78** | **12,199** | **4.57** | **16.46** | | **73.53** | **8.71** | **1.13** | **14,207** | **1.60** | **17.48** | | |
| | | | **Moist Basis (8%)** | | **18.56** | **2.56** | **11,223** | **4.20** | **15.14** | | **73.53** | **8.02** | **1.04** | **13,070** | **1.59** | **16.08** | | |
| | | | Maximum | 1.52 | 26.88 | 2.96 | 13,020 | 4.78 | 17.10 | | 80.82 | 9.39 | 1.63 | 14,268 | 2.31 | 18.04 | | |
| | | | Minimum | 1.41 | 15.64 | 2.49 | 10,988 | 4.24 | 16.15 | | 65.71 | 8.38 | 0.87 | 14,119 | 1.23 | 16.69 | | |
| | | | No. of Samples | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | 4 | 4 | 4 | 4 | | |

Quality not included in statistics; may not be representative of mineable section.

[1] *Italics* denote specific gravity values which have been estimated based on raw coal ash content where specific gravity = 1.25+(raw ash¸100)

[2] **Bold** denotes specific gravity and/or wash recovery values which have been estimated based on Estimated Visual Recovery calculations.

[3] Entry Width = 19.5

[4] Corsa reported thickness.

a. Where thickness was recorded on a laboratory sheet, thickness matched database and quality was verified.

b. In some cases, lost core thickness was recorded on a laboratory sheet, however, true seam thickness is unclear.

c. In some cases, thickness may only reflect total coal (excluding partings); raw quality was subjectively honored and washed quality (excluding recovery) was honored.

d. "NA" indicates that a thickness was not reported.

e. The majority of quality data was extracted from Carlson digital survcadd files and supplemented with data from various excel files.

Gray lines indicate the benches that were composited together to show mineable section.

# Corsa Coal Corporation

## 43-101 Technical Report

Surface-Highwall Mineable Quality (In-Seam Quality, Dry Basis)

Hamer Area

Upper Kittanning, Middle Kittanning and Upper Freeport Seams

Table 11Q

| | Thickness (In Feet) | | | Raw Quality, Dry Basis | | | | | | | Washed Quality, Dry Basis (1.55 Float) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Drill Hole | Analyzed | Total Seam | Total Coal | Sp. Gr. [1] [2] | % Ash | % Sulfur | BTU/lb. | SO2/mm BTU | % Vol. | % FC | % Rec.[2] | % Ash | % Sulfur | BTU/lb. | SO2/mm BTU | % Vol. | % FC | Comments |
| **Upper Freeport Seam** | | | | | | | | | | | | | | | | | | |
| Byers-2 | 3.42 | | | *1.42* | 17.30 | 1.69 | | | 19.92 | | 84.41 | 8.72 | 1.06 | | | 21.30 | | may have lost coal in it????? |
| Byers-3 | 3.25 | | | *1.55* | 29.80 | 1.57 | | | 18.36 | | 67.17 | 10.28 | 0.91 | | | 21.98 | | may have lost coal in it????? |
| | | | **Average** | ***1.49*** | **23.55** | **1.63** | | | **19.14** | | **75.79** | **9.50** | **0.99** | | | **21.64** | | |
| | | | **Moist Basis (8%)** | | **21.67** | **1.50** | | | **17.61** | | **75.79** | **8.74** | **0.91** | | | **19.91** | | |
| | | | Maximum | *1.55* | 29.80 | 1.69 | | | 19.92 | | 84.41 | 10.28 | 1.06 | | | 21.98 | | |
| | | | Minimum | *1.42* | 17.30 | 1.57 | | | 18.36 | | 67.17 | 8.72 | 0.91 | | | 21.30 | | |
| | | | No. of Samples | 2 | 2 | 2 | | | 2 | | 2 | 2 | 2 | | | 2 | | |
| **Upper Kittanning Seam** | | | | | | | | | | | | | | | | | | |
| WCE-ALB-2 | | | | *1.48* | 22.94 | | | | | | 77.50 | 9.73 | 1.57 | 14,137 | 2.22 | 21.90 | | Quallity from Acosta Property |
| WCE-ALB-7 | | | | *1.46* | 20.64 | | | | | | 78.80 | 9.50 | 2.23 | 14,157 | 3.15 | 23.50 | | Quallity from Acosta Property |
| DH 26 | 2.67 | | | *1.43* | 17.88 | 3.14 | 12,587 | 4.99 | | | 82.20 | 7.46 | 1.32 | 14,526 | 1.82 | | | |
| DH 29 | 2.75 | | | *1.40* | 15.40 | 0.97 | 12,292 | 1.58 | | | | | | | | | | |
| Byers 1 | 3.00 | | | *1.37* | 11.63 | 3.48 | | | 22.73 | | 83.50 | 7.25 | 1.82 | | | 23.59 | | |
| | | | **Average** | ***1.43*** | **17.70** | **2.53** | **12,440** | **3.28** | **22.73** | | **80.50** | **8.49** | **1.74** | **14,273** | **2.40** | **23.00** | | |
| | | | **Moist Basis (8%)** | | **16.28** | **2.33** | **11,444** | **3.02** | **20.91** | | **80.50** | **7.81** | **1.60** | **13131** | **2.20** | **21.16** | | |
| | | | Maximum | *1.48* | 22.94 | 3.48 | 12,587 | 4.99 | 22.73 | | 83.50 | 9.73 | 2.23 | 14,526 | 3.15 | 23.59 | | |
| | | | Minimum | *1.37* | 11.63 | 0.97 | 12,292 | 1.58 | 22.73 | | 77.50 | 7.25 | 1.32 | 14,137 | 1.82 | 21.90 | | |
| | | | No. of Samples | 5 | 5 | 3 | 2 | 2 | 1 | | 4 | 4 | 4 | 3 | 3 | 3 | | |
| **Middle Kittanning Seam** | | | | | | | | | | | | | | | | | | |
| Hamer-Q1-MK | 74.0'-76.8' | | | *1.48* | 23.18 | | | | | | 59.22 | 7.68 | 0.74 | 14,522 | 1.02 | 18.61 | | Clean Coal Composite |
| Hamer-Q3-MK | 74.0'-76.7' | | | *1.45* | 20.35 | | | | | | **64.47** | 7.73 | 0.70 | 14,458 | 0.97 | 17.37 | | Clean Coal Composite |
| Hamer-Q4-MK | 79.0'-82.4' | | | *1.46* | 20.89 | | | | | | **62.39** | 7.70 | 0.90 | 14,401 | 1.25 | 17.07 | | Clean Coal Composite |
| Byers-1 | | | | *1.46* | 20.87 | 3.70 | | | 16.62 | | 66.72 | 10.63 | 1.18 | | | 17.49 | | |
| | | | **Average** | ***1.46*** | **21.32** | **3.70** | | | **16.62** | | **63.20** | **8.44** | **0.88** | **14,460** | **1.08** | **17.64** | | |
| | | | **Moist Basis (8%)** | | **19.62** | **3.40** | | | **15.29** | | **63.20** | **7.76** | **0.81** | **13304** | **0.99** | **16.22** | | |
| | | | Maximum | *1.48* | 23.18 | 3.70 | | | 16.62 | | 66.72 | 10.63 | 1.18 | 14,522 | 1.25 | 18.61 | | |
| | | | Minimum | *1.45* | 20.35 | 3.70 | | | 16.62 | | 59.22 | 7.68 | 0.70 | 14,401 | 0.97 | 17.07 | | |
| | | | No. of Samples | 4 | 4 | 1 | | | 1 | | 4 | 4 | 4 | 3 | 3 | 4 | | |

[1] *Italics* denote specific gravity values which have been estimated based on raw coal ash content where specific gravity = 1.25+(raw ash,100)

[2] **Bold** denotes specific gravity and/or wash recovery values which have been estimated based on Estimated Visual Recovery calculations.

[3] Entry Width = 19.5

Washed Quality, Dry Basis (1.45,1.80,1.50 Float) represents a composite of three screen & float analysis - (1) 3/8in x 16M screen data @ 1.55 s.g. (2) 16M x 100 M screen data @ 1.80 s.g. ( 3) 100M x 0 @ 1.50 s.g.

# Corsa Coal Corporation

## 43-101 Technical Report

Surface Mineable Quality (In-Seam Quality, Dry Basis)

Blue Lick Area

Table 12Q

| Drill Hole | Thickness (In Feet) Corsa Rpt.4 | Mapped Total Seam | Mapped Total Coal | Raw Quality, Dry Basis Sp. Gr.[1] [2] | % Ash | % Sulfur | BTU/lb. | SO2/mm BTU | % Vol. | % FC | Washed Quality, Dry Basis (1.50 Float) % Rec.[2] | % Ash | % Sulfur | BTU/lb. | SO2/mm BTU | % Vol. | % FC | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sewickley Seam** | | | | | | | | | | | | | | | | | | |
| **Drill Holes** | | | | | | | | | | | | | | | | | | |
| DH_9890 | 4.80 | 4.80 | 4.80 | *1.40* | 14.78 | 1.20 | 13,134 | 1.83 | | | 90.90 | 10.57 | 1.15 | 13,904 | 1.65 | | | |
| DH_9891 | 5.35 | 5.35 | 5.35 | *1.44* | 19.00 | 2.01 | 12,352 | 3.25 | | | | | | | | | | |
| DH_9892 | 4.70 | 4.70 | 4.70 | *1.41* | 15.62 | 1.43 | 12,982 | 2.20 | | | 84.41 | 7.88 | 0.95 | 14,317 | 1.33 | | | |
| DH_9893 | 5.30 | 5.30 | 5.30 | *1.44* | 18.66 | 1.60 | 12,542 | 2.55 | | | 81.94 | 8.69 | 1.16 | 14,224 | 1.63 | | | |
| DH_9899 | 1.80 | 1.80 | 1.80 | *1.40* | 14.86 | 1.16 | 13,055 | 1.78 | | | | | | | | | | |
| | | | **Average** | **1.42** | **16.58** | **1.48** | **12,813** | **2.32** | | | **85.75** | **9.05** | **1.09** | **14,148** | **1.54** | | | |
| | | | **Moist Basis (8%)** | | **15.26** | **1.36** | **11,788** | **2.14** | | | **85.75** | **8.32** | **1.00** | **13,016** | **1.41** | | | |
| | | | Maximum | 1.44 | 19.00 | 2.01 | 13,134 | 3.25 | | | 90.90 | 10.57 | 1.16 | 14,317 | 1.65 | | | |
| | | | Minimum | 1.40 | 14.78 | 1.16 | 12,352 | 1.78 | | | 81.94 | 7.88 | 0.95 | 13,904 | 1.33 | | | |
| | | | No. of Samples | 5 | 5 | 5 | 5 | 5 | | | 3 | 3 | 3 | 3 | 3 | | | |
| **Redstone Seam** | | | | | | | | | | | | | | | | | | |
| **Drill Holes** | | | | | | | | | | | | | | | | | | |
| DH_98100 | 1.40 | | | *1.43* | 17.60 | 2.51 | 12,703 | 3.95 | | | 92.68 | 15.60 | 2.13 | 13,069 | 3.26 | | | 1.55 Float; CoalQuality.xls |
| DH_98100 | 2.60 | | | *1.41* | 15.67 | 1.45 | 13,024 | 2.23 | | | 89.28 | 11.80 | 1.17 | 13,704 | 1.71 | | | 1.55 Float; CoalQuality.xls |
| Comp | 4.00 | 4.00 | 4.00 | *1.41* | 16.35 | 1.82 | 12,912 | 2.83 | | | 90.47 | 13.13 | 1.51 | 13,482 | 2.25 | | | |
| DH_98101 | 0.90 | | | *1.44* | 18.95 | 3.46 | 12,408 | 5.58 | | | 86.39 | 15.63 | 2.68 | 13,024 | 4.12 | | | 1.55 Float; CoalQuality.xls |
| DH_98101 | 2.80 | | | *1.42* | 17.31 | 2.19 | 12,741 | 3.44 | | | 85.59 | 12.16 | 1.57 | 13,658 | 2.30 | | | 1.55 Float; CoalQuality.xls |
| Comp | 3.70 | 3.70 | 3.70 | *1.43* | 17.71 | 2.50 | 12,660 | 3.96 | | | 85.78 | 13.00 | 1.84 | 13,504 | 2.74 | | | |
| DH_98102 | 1.20 | | | *1.47* | 21.80 | 3.81 | 11,929 | 6.39 | | | 78.89 | 16.79 | 3.09 | 12,825 | 4.82 | | | 1.55 Float; CoalQuality.xls |
| DH_98102 | 3.10 | | | *1.39* | 14.06 | 1.27 | 13,285 | 1.91 | | | 91.21 | 10.73 | 1.09 | 13,854 | 1.57 | | | 1.55 Float; CoalQuality.xls |
| Comp | 4.30 | 4.30 | 4.30 | *1.41* | 16.22 | 1.98 | 12,907 | 3.16 | | | 87.77 | 12.42 | 1.65 | 13,567 | 2.48 | | | |
| DH_98104 | 1.00 | | | *1.46* | 21.01 | 3.16 | 12,084 | 5.23 | | | 81.97 | 16.03 | 2.55 | 12,977 | 3.93 | | | 1.55 Float; CoalQuality.xls |
| DH_98104 | 3.40 | | | *1.40* | 14.98 | 1.64 | 13,205 | 2.48 | | | 89.31 | 11.69 | 1.31 | 13,787 | 1.90 | | | 1.55 Float; CoalQuality.xls |
| Comp | 4.40 | 4.40 | 4.40 | *1.41* | 16.35 | 1.99 | 12,950 | 3.11 | | | 87.64 | 12.68 | 1.59 | 13,603 | 2.36 | | | |
| DH_9894 | 1.20 | | | *1.48* | 22.93 | 3.74 | 11,741 | 6.37 | | | 74.83 | 17.12 | 3.22 | 12,756 | 5.05 | | | 1.55 Float; CoalQuality.xls |
| DH_9894 | 3.00 | | | *1.42* | 16.91 | 1.93 | 12,831 | 3.01 | | | 85.62 | 11.05 | 1.25 | 13,873 | 1.80 | | | 1.55 Float; CoalQuality.xls |
| Comp | 4.20 | 4.20 | 4.20 | *1.44* | 18.63 | 2.45 | 12,520 | 3.97 | | | 82.54 | 12.78 | 1.81 | 13,554 | 2.73 | | | |
| DH_9895 | 1.20 | | | *1.46* | 21.05 | 4.06 | 12,075 | 6.72 | | | 85.22 | 16.76 | 1.81 | 12,883 | 2.81 | | | 1.55 Float; CoalQuality.xls |
| DH_9895 | 3.20 | | | *1.41* | 15.72 | 2.10 | 13,014 | 3.23 | | | 86.77 | 10.86 | 1.25 | 13,902 | 1.80 | | | 1.55 Float; CoalQuality.xls |
| Comp | 4.40 | 4.40 | 4.40 | *1.42* | 17.17 | 2.63 | 12,758 | 4.18 | | | 86.35 | 12.47 | 1.40 | 13,624 | 2.07 | | | |
| DH_9896 | 1.00 | | | *1.46* | 20.93 | 3.61 | 12,085 | 5.97 | | | 84.71 | 16.93 | 2.96 | 12,825 | 4.62 | | | 1.55 Float; CoalQuality.xls |
| DH_9896 | 3.15 | | | *1.42* | 16.89 | 1.83 | 12,783 | 2.86 | | | 86.90 | 11.82 | 1.30 | 13,659 | 1.90 | | | 1.55 Float; CoalQuality.xls |
| Comp | 4.15 | 4.15 | 4.15 | *1.43* | 17.86 | 2.26 | 12,615 | 3.61 | | | 86.37 | 13.05 | 1.70 | 13,458 | 2.56 | | | |

# Corsa Coal Corporation

## 43-101 Technical Report

Surface Mineable Quality (In-Seam Quality, Dry Basis)

Blue Lick Area

Table 12Q

| | Thickness (In Feet) | | | Raw Quality, Dry Basis | | | | | | | Washed Quality, Dry Basis (1.50 Float) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mapped | | Sp. Gr. [1] | % | % | | SO2/mm | % | % | % | % | % | | SO2/mm | % | % | |
| Drill Hole | Corsa Rpt.4 | Total Seam | Total Coal | [2] | Ash | Sulfur | BTU/lb. | BTU | Vol. | FC | Rec.[2] | Ash | Sulfur | BTU/lb. | BTU | Vol. | FC | Comments |
| DH_9899 | 1.20 | | | *1.44* | 18.92 | 2.72 | 12,481 | 4.36 | | | 87.62 | 15.51 | 2.15 | 13,100 | 3.28 | | | 1.55 Float; CoalQuality.xls |
| DH_9899 | 2.90 | | | *1.40* | 15.17 | 1.97 | 13,091 | 3.01 | | | 89.69 | 11.38 | 1.46 | 13,758 | 2.12 | | | 1.55 Float; CoalQuality.xls |
| Comp | 4.10 | 4.10 | 4.10 | *1.41* | 16.27 | 2.19 | 12,912 | 3.40 | | | 89.08 | 12.59 | 1.66 | 13,565 | 2.46 | | | |
| W1 | 1.30 | | | *1.53* | 28.28 | 9.87 | 10,913 | 18.09 | | | 61.86 | 18.50 | 4.33 | 12,646 | 6.85 | | | 1.55 Float; CoalQuality.xls |
| W1 | 3.25 | | | *1.47* | 22.01 | 3.74 | 11,938 | 6.27 | | | 77.15 | 14.20 | 2.60 | 13,254 | 3.92 | | | 1.55 Float; CoalQuality.xls |
| Comp | 4.55 | 5.70 | 5.70 | *1.49* | 23.80 | 5.49 | 11,645 | 9.64 | | | 72.78 | 15.43 | 3.09 | 13,080 | 4.76 | | | |
| | | | **Average** | **1.43** | **17.82** | **2.59** | **12,653** | **4.21** | | | **85.42** | **13.06** | **1.81** | **13,493** | **2.71** | | | |
| | | | **Moist Basis (8%)** | | **16.39** | **2.38** | **11,641** | **3.87** | | | **85.42** | **12.02** | **1.66** | **12,414** | **2.50** | | | |
| | | | Maximum | 1.49 | 23.80 | 5.49 | 12,950 | 9.64 | | | 90.47 | 15.43 | 3.09 | 13,624 | 4.76 | | | |
| | | | Minimum | 1.41 | 16.22 | 1.82 | 11,645 | 2.83 | | | 72.78 | 12.42 | 1.40 | 13,080 | 2.07 | | | |
| | | | No. of Samples | 9 | 9 | 9 | 9 | 9 | | | 9 | 9 | 9 | 9 | 9 | | | |

* Only Locations provided

** Only Quality provided

Quality not included in statistics; may not be representative of mineable section.

[1] *Italics* denote specific gravity values which have been estimated based on raw coal ash content where specific gravity = 1.25+(raw ash¸100)

[2] **Bold** denotes specific gravity and/or wash recovery values which have been estimated based on Estimated Visual Recovery calculations.

[3] Entry Width = 19.5

[4] Corsa reported thickness.

a. Where thickness was recorded on a laboratory sheet, thickness matched database and quality was verified.

b. In some cases, lost core thickness was recorded on a laboratory sheet, however, true seam thickness is unclear.

c. In some cases, thickness may only reflect total coal (excluding partings); raw quality was subjectively honored and washed quality (excluding recovery) was honored.

d. "NA" indicates that a thickness was not reported.

e. The majority of quality data was extracted from Carlson digital survcadd files and supplemented with data from various excel files.

Gray lines indicate the benches that were composited together to show mineable section.

# Corsa Coal Corporation

## 43-101 Technical Report

Surface Mineable Quality (In-Seam Quality, Dry Basis)

Hart Area

Lower Freeport and Upper Kittanning Seams

Table 13Q

| | Thickness (In Feet) | | | Raw Quality, Dry Basis | | | | | | Washed Quality, Dry Basis (1.50 Float) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Drill Hole | Corsa Rpt.4 | Mapped Total Seam | Mapped Total Coal | Sp. Gr. [1 2] | % Ash | % Sulfur | BTU/lb. | SO2/mm BTU | % Vol. | % Rec.[2] | % Ash | % Sulfur | BTU/lb. | SO2/mm BTU | % Vol. | Comments |
| **Lower Freeport Seam** | | | | | | | | | | | | | | | | |
| 06154-DL | 1.83 | 2.50 | 2.50 | *1.38* | 12.56 | 2.25 | 13,764 | 3.27 | 19.39 | 89.08 | 8.32 | 1.11 | 14,485 | 1.53 | 20.02 | Lost 8" of core |
| H-1_OP | 2.00 | 2.00 | 2.00 | *1.66* | 40.51 | 0.29 | | | | | | | | | | Total coal: 1.9'; Hart core raws March 12 |
| H-5_OP | 3.50 | 3.50 | 3.50 | *1.53* | 27.91 | 0.52 | 10,886 | 0.96 | | | | | | | | Corsa Hart Core Raws March 12 |
| H-6_OP | 3.00 | 3.00 | 3.00 | *1.65* | 39.67 | 0.34 | | | | | | | | | | Corsa Hart Core raws April 12 |
| H-7_OP | 3.30 | 3.30 | 3.30 | *1.58* | 32.53 | 2.13 | | | | | | | | | | Corsa Hart Core raws April 12 - Oxidized (Raw 71) |
| H-8_OP | 1.50 | 1.50 | 1.50 | *1.36* | 11.20 | 2.08 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 50) |
| H-12_OP | 2.10 | 2.10 | 2.10 | *1.40* | 14.76 | 2.62 | | | | 80.49 | 6.83 | 0.97 | | | | |
| H-14_OP | 2.00 | 2.00 | 2.00 | *1.32* | 6.54 | 0.50 | | | | 95.11 | 4.73 | 0.50 | | | | |
| H-17_OP | 0.70 | 0.70 | 0.70 | *1.36* | 10.52 | 1.09 | | | | | | | | | | Raw head only; no wash |
| H-18_OP | 2.60 | 2.60 | 2.60 | *1.38* | 13.11 | 0.60 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 0) |
| H-21_OP | NA | 2.50 | 2.50 | *1.44* | 19.34 | 6.56 | | | | | | | | | | Loss 1.8'; Hart core raws May 12 |
| H-22_OP | 2.50 | 2.30 | 2.30 | *1.53* | 28.41 | 4.64 | | | | | | | | | | Total coal: 1.8'; Hart core raws May 12 - Oxidized (Raw 76) |
| H-27_OP | 3.00 | 3.00 | 3.00 | *1.40* | 15.04 | 1.03 | | | | | | | | | | Total coal: 2.0'; Hart core raws May 12 - Oxidized (Raw 40) |
| H-30_OP | 2.60 | 2.10 | 2.10 | *1.46* | 20.57 | 0.38 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 0) |
| JOB#206-D | 6/1-30/12 | | | *1.40* | 15.29 | 1.93 | | | | 72.43 | 5.45 | 0.88 | 14,773 | 1.19 | | 3/8" x 0 Only |
| JOB#206-D | 7/1-31/12 | | | *1.39* | 14.08 | 1.75 | | | | 71.93 | 6.50 | 0.86 | 14,309 | 1.20 | | 3/8" x 0 Only |
| JOB#206-D (Non-Ox) | 9/1-30/12 | | | *1.41* | 15.99 | 3.15 | | | | 74.61 | 6.02 | 1.05 | 14,605 | 1.44 | | 3/8" x 0 Only |
| JOB#206-D (Ox) | 9/1-30/12 | | | *1.39* | 13.58 | 2.96 | | | | 76.63 | 5.76 | 1.05 | 14,759 | 1.42 | | 3/8" x 0 Only - Oxidized |
| JOB#206-D (Ox) | 10/1-31/12 | | | *1.54* | 28.54 | 2.94 | | | | 55.68 | 7.42 | 1.25 | 14,375 | 1.74 | | 3/8" x 0 Only - Oxidized |
| JOB#206-D (Non-Ox) | 10/1-31/12 | | | *1.47* | 22.29 | 3.59 | | | | 64.34 | 6.44 | 1.06 | 14,689 | 1.44 | | 3/8" x 0 Only |
| JOB#206-D (Ox) | 11/1-30/12 | | | *1.53* | 28.42 | 2.52 | | | | 64.09 | 7.05 | 1.09 | 14,517 | 1.50 | | 3/8" x 0 Only - Oxidized |
| JOB#206-D (Non-Ox) | 11/1-30/12 | | | *1.37* | 12.19 | 3.07 | | | | 82.80 | 6.07 | 1.04 | 14,708 | 1.41 | | 3/8" x 0 Only |
| JOB#206-D | 12/1-31/12 | | | *1.49* | 23.89 | 2.31 | | | | 65.88 | 7.14 | 0.96 | 14,470 | 1.33 | | 3/8" x 0 Only |
| | | | **Average** | **1.46** | **20.72** | **1.93** | **10,886** | **0.96** | | **73.09** | **6.31** | **0.97** | **14,578** | **1.41** | | |
| | | | **Moist Basis (8%)** | | **19.06** | **1.77** | **10,015** | **0.88** | | **73.09** | **5.81** | **0.90** | **13,412** | **1.34** | | |
| | | | Maximum | 1.66 | 40.51 | 4.64 | 10,886 | 0.96 | | 95.11 | 7.42 | 1.25 | 14,773 | 1.74 | | |
| | | | Minimum | 1.32 | 6.54 | 0.29 | 10,886 | 0.96 | | 55.68 | 4.73 | 0.50 | 14,309 | 1.19 | | |
| | | | No. of Samples | 21 | 21 | 21 | 1 | 1 | | 11 | 11 | 11 | 9 | 9 | | |
| | | | **Average Non-Ox:** | **1.45** | **20.25** | **1.78** | | | | **75.95** | **6.15** | **0.92** | **14,592** | **1.34** | | |
| **Oxidized Samples** | | | | | | | | | | | | | | | | |
| H-7_OP | 3.30 | 3.30 | 3.30 | *1.58* | 32.53 | 2.13 | | | | | | | | | | Corsa Hart Core raws April 12 - Oxidized (Raw 71) |
| H-8_OP | 1.50 | 1.50 | 1.50 | *1.36* | 11.20 | 2.08 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 50) |
| H-18_OP | 2.60 | 2.60 | 2.60 | *1.38* | 13.11 | 0.60 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 0) |
| H-22_OP | 2.50 | 2.30 | 2.30 | *1.53* | 28.41 | 4.64 | | | | | | | | | | Total coal: 1.8'; Hart core raws May 12 - Oxidized (Raw 76) |
| H-27_OP | 3.00 | 3.00 | 3.00 | *1.40* | 15.04 | 1.03 | | | | | | | | | | Total coal: 2.0'; Hart core raws May 12 - Oxidized (Raw 40) |
| H-30_OP | 2.60 | 2.10 | 2.10 | *1.46* | 20.57 | 0.38 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 0) |
| JOB#206-D (Ox) | 9/1-30/12 | | | *1.39* | 13.58 | 2.96 | | | | 76.63 | 5.76 | 1.05 | 14,759 | 1.42 | | 3/8" x 0 Only |
| JOB#206-D (Ox) | 10/1-31/12 | | | *1.54* | 28.54 | 2.94 | | | | 55.68 | 7.42 | 1.25 | 14,375 | 1.74 | | 3/8" x 0 Only |
| JOB#206-D (Ox) | 11/1-30/12 | | | *1.53* | 28.42 | 2.52 | | | | 64.09 | 7.05 | 1.09 | 14,517 | 1.50 | | 3/8" x 0 Only |
| | | | **Average** | **1.46** | **21.27** | **2.14** | | | | **65.47** | **6.74** | **1.13** | **14,550** | **1.55** | | |

# Corsa Coal Corporation

## 43-101 Technical Report

Surface Mineable Quality (In-Seam Quality, Dry Basis)

Hart Area

Lower Freeport and Upper Kittanning Seams

Table 13Q

| | Thickness (In Feet) | | | Raw Quality, Dry Basis | | | | | | Washed Quality, Dry Basis (1.50 Float) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Drill Hole | Corsa Rpt.4 | Mapped Total Seam | Mapped Total Coal | Sp. Gr. [1,2] | % Ash | % Sulfur | BTU/lb. | SO2/mm BTU | % Vol. | % Rec.[2] | % Ash | % Sulfur | BTU/lb. | SO2/mm BTU | % Vol. | Comments |
| **Upper Kittanning Seam** | | | | | | | | | | | | | | | | |
| H-1_OP | 2.50 | | | *1.53* | 27.83 | 2.42 | | | | | | | | | | Hart core raws March 12 |
| H-1_OP | 0.20 | | | *1.95* | 70.33 | 4.30 | | | | | | | | | | Hart core raws March 12 |
| H-1_OP | 2.70 | 2.70 | 2.70 | *1.56* | 30.98 | 2.56 | | | | | | | | | | Composite |
| H-3_OP | 3.70 | 3.70 | 3.70 | *1.60* | 34.57 | 0.44 | | | | | | | | | | Corsa Hart Core Raws March 12 |
| H-4_OP | 2.20 | 2.20 | 2.20 | *1.64* | 39.10 | 5.33 | | | | | | | | | | Corsa Hart Core Raws March 12 |
| H-5_OP | 3.50 | 3.50 | 3.50 | *1.52* | 27.24 | 2.94 | 11,201 | 5.25 | | | | | | | | Corsa Hart Core Raws March 12 |
| H-6_OP | 4.80 | 4.80 | 4.80 | *1.73* | 47.95 | 2.76 | | | | | | | | | | Corsa Hart Core raws April 12 |
| H-7_OP | 2.00 | 2.00 | 2.00 | *1.37* | 12.32 | 2.24 | | | | | | | | | | Corsa Hart Core raws April 12 |
| H-8_OP | 5.00 | 5.00 | 5.00 | *1.39* | 13.67 | 2.54 | | | | 83.56 | 6.59 | 1.01 | | | | |
| H-9_OP | 2.00 | 5.00 | 5.00 | *1.37* | 11.73 | 2.45 | | | | 87.30 | 7.63 | 0.92 | | | | |
| H-10_OP | 0.90 | 0.90 | 0.90 | *1.69* | 44.15 | 5.21 | | | | | | | | | | Total coal: 0.85'; Hart core raws May 12 |
| H-11_OP | 1.60 | 1.60 | 1.60 | *1.35* | 9.89 | 0.72 | | | | 90.34 | 6.23 | 0.64 | | | | |
| H-12_OP | 3.30 | | | *1.38* | 13.33 | 1.70 | | | | 83.83 | 7.65 | 0.77 | | | | Lab sheet |
| H-12_OP | 1.70 | | | *1.69* | 43.74 | 7.21 | | | | | | | | | | Hart core raws May 12 |
| H-12_OP | 5.00 | 5.00 | 5.00 | *1.49* | 23.67 | 3.57 | | | | | | | | | | |
| H-13_OP | 1.30 | | | *1.44* | 18.80 | 1.37 | | | | 73.07 | 10.98 | 0.77 | | | | Lab sheet, Hart #13 (67.8-69.1 feet) |
| H-13_OP | 2.90 | | | *1.41* | 15.65 | 1.60 | | | | 77.28 | 8.38 | 0.74 | | | | Lab sheet, Hart #13-2 (68.9-71.8 feet) |
| H-13_OP | 4.20 | 3.80 | 3.80 | *1.42* | 16.63 | 1.53 | | | | 75.98 | 9.18 | 0.75 | | | | |
| H-13_OP | 1.30 | | | *1.71* | 46.05 | 6.39 | | | | | | | | | | Hart core raws May 12 |
| H-13_OP | 0.40 | | | *1.91* | 66.49 | 4.02 | | | | | | | | | | Hart core raws May 12 |
| H-13_OP | 0.70 | | | *1.51* | 25.72 | 5.03 | | | | | | | | | | Hart core raws May 12 |
| H-13_OP | 2.40 | 3.80 | 3.80 | *1.69* | 43.53 | 5.60 | | | | | | | | | | Different from lab sheets (above) |
| H-14_OP | 3.10 | | | *1.39* | 13.50 | 1.37 | | | | 81.92 | 7.92 | 0.72 | | | | Lab sheet |
| H-14_OP | 1.10 | | | *1.73* | 47.82 | 1.08 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 0) |
| H-14_OP | 4.20 | 4.20 | 4.20 | *1.47* | 22.49 | 1.29 | | | | | | | | | | |
| H-15_OP | 2.55 | | | *1.37* | 12.48 | 1.70 | | | | 86.33 | 8.07 | 0.81 | | | | |
| H-15_OP | 0.30 | | | *1.85* | 60.00 | 3.85 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 55) |
| H-15_OP | 0.75 | | | *1.47* | 21.92 | 6.40 | | | | | | | | | | Hart core raws May 12 |
| H-15_OP | 0.50 | | | *1.82* | 57.10 | 9.99 | | | | | | | | | | Hart core raws May 12 |
| H-15_OP | 4.10 | 3.81 | 3.81 | *1.48* | 23.13 | 3.73 | | | | | | | | | | |
| H-17_OP | 3.90 | 3.90 | 3.90 | *1.49* | 23.76 | 1.90 | | | | 69.25 | 9.25 | 0.69 | | | | |
| H-18_OP | 5.00 | 5.00 | 5.00 | *1.52* | 27.18 | 0.72 | | | | 29.76 | 12.30 | 0.96 | | | | |
| H-19_OP | 1.70 | 3.70 | 3.70 | *1.62* | 36.78 | 4.21 | | | | 47.14 | 12.06 | 2.83 | | | | |
| H-22_OP | 3.30 | 3.30 | 3.30 | *1.41* | 16.39 | 3.42 | | | | 76.40 | 7.07 | 0.95 | | | | |

# Corsa Coal Corporation

## 43-101 Technical Report

Surface Mineable Quality (In-Seam Quality, Dry Basis)

Hart Area

Lower Freeport and Upper Kittanning Seams

Table 13Q

| | Thickness (In Feet) | | | Raw Quality, Dry Basis | | | | | | Washed Quality, Dry Basis (1.50 Float) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Drill Hole | Corsa Rpt.4 | Mapped Total Seam | Mapped Total Coal | Sp. Gr. [1,2] | % Ash | % Sulfur | BTU/lb. | SO2/mm BTU | % Vol. | % Rec.[2] | % Ash | % Sulfur | BTU/lb. | SO2/mm BTU | % Vol. | Comments |
| H-23_OP | 3.10 | | | *1.41* | 15.88 | 1.60 | | | | 77.16 | 7.26 | 0.74 | | | | Lab sheet |
| H-23_OP | 1.40 | | | *1.80* | 54.80 | 6.09 | | | | | | | | | | Hart core raws May 12 |
| H-23_OP | 4.50 | 4.50 | 4.50 | *1.53* | 27.99 | 3.00 | | | | | | | | | | |
| H-25_OP | 3.60 | 5.40 | 5.40 | *1.60* | 34.53 | 2.82 | | | | 59.06 | 12.27 | 1.11 | | | | |
| H-26_OP | 3.70 | 3.70 | 3.70 | *1.62* | 37.37 | 1.30 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 30) |
| H-27_OP | 3.20 | | | *1.39* | 14.36 | 1.80 | | | | 81.55 | 7.98 | 0.81 | | | | Lab sheet |
| H-27_OP | 1.70 | | | *1.78* | 52.51 | 5.96 | | | | | | | | | | Hart core raws May 12 |
| H-27_OP | 4.90 | 4.90 | 4.90 | *1.53* | 27.60 | 3.24 | | | | | | | | | | |
| H-28_OP | 4.00 | 4.00 | 4.00 | *1.56* | 30.80 | 0.57 | | | | | | | | | | |
| H-29_OP | 4.50 | 4.50 | 4.50 | *1.42* | 17.43 | 0.70 | | | | 72.24 | 12.50 | 0.64 | | | | |
| H-30_OP | 3.50 | | | *1.38* | 12.99 | 1.74 | | | | 83.29 | 7.71 | 0.80 | | | | Lab sheet |
| H-30_OP | 1.30 | | | *1.64* | 38.74 | 5.11 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 48) |
| H-30_OP | 4.80 | 4.80 | 4.80 | *1.45* | 19.96 | 2.65 | | | | | | | | | | |
| H-31_OP | 5.20 | 5.20 | 5.20 | *1.49* | 24.42 | 0.61 | | | | 88.84 | 20.32 | 0.61 | | | | |
| H-32_OP | 4.00 | 4.00 | 4.00 | *1.65* | 40.24 | 0.32 | | | | 68.50 | 27.85 | 0.38 | | | | |
| H-33_OP | 4.10 | 4.10 | 4.10 | *1.47* | 21.80 | 3.51 | | | | | 8.77 | 1.21 | | | | 60m Samples from GEO (Corsa Hart Core Raws May 12) |
| H-34_OP | 3.10 | | | *1.34* | 9.22 | 0.97 | | | | | 8.22 | 0.80 | | | | 60m Samples from GEO (Corsa Hart Core Raws May 12) - Oxidized (Raw 55, Washed 71) |
| H-34_OP | 1.30 | | | *1.78* | 52.92 | 5.68 | | | | | 15.64 | 2.64 | | | | 60m Samples from GEO (Corsa Hart Core Raws May 12) |
| H-34_OP | 4.40 | 4.40 | 4.40 | *1.47* | 22.13 | 2.36 | | | | | 10.41 | 1.34 | | | | Composite |
| H-35_OP | 4.50 | 4.49 | 4.49 | *1.49* | 24.08 | 2.06 | | | | | 11.19 | 1.05 | | | | 60m Samples from GEO (Corsa Hart Core Raws May 12) - Oxidized (Raw 66, Washed 62) |
| H-36_OP | 2.00 | | | *1.36* | 10.85 | 0.55 | | | | | 9.54 | 0.56 | | | | 60m Samples from GEO (Corsa Hart Core Raws May 12) - Oxidized (Raw 0, Washed 1) |
| H-36_OP | 2.20 | | | *1.53* | 28.46 | 3.06 | | | | | 10.05 | 1.39 | | | | 60m Samples from GEO (Corsa Hart Core Raws May 12) - Oxidized (Raw 75) |
| H-36_OP | 4.20 | 4.40 | 4.40 | *1.45* | 20.46 | 1.92 | | | | | 9.82 | 1.01 | | | | Composite |
| H-37_OP | 4.50 | 4.50 | 4.50 | *1.51* | 26.43 | 0.86 | | | | 82.77 | 19.30 | 0.78 | | | | |
| H-38_OP | 5.80 | 4.30 | 4.30 | *1.60* | 34.78 | 0.37 | | | | 72.02 | 25.87 | 0.43 | | | | |
| H-39_OP | 4.10 | 4.10 | 4.10 | *1.43* | 18.49 | 0.46 | | | | 99.34 | 18.37 | 0.46 | | | | |
| H-40_OP | 4.00 | 3.90 | 3.90 | *1.41* | 16.40 | 0.42 | | | | | | | | | | Total coal: 2.5'; Hart core raws May 12 - Oxidized (Raw 0) |
| H-42_OP | 2.00 | 3.90 | 3.90 | *1.43* | 18.13 | 0.36 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 0) |
| H-42_OP | 1.90 | | | *1.41* | 16.28 | 0.41 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 0) |
| H-42_OP | 3.90 | 3.90 | 3.90 | *1.42* | 17.23 | 0.38 | | | | | | | | | | Composite |

# Corsa Coal Corporation

## 43-101 Technical Report

Surface Mineable Quality (In-Seam Quality, Dry Basis)

Hart Area

Lower Freeport and Upper Kittanning Seams

Table 13Q

| | Thickness (In Feet) | | | Raw Quality, Dry Basis | | | | | | Washed Quality, Dry Basis (1.50 Float) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mapped | | | | | | | | | | | | | | |
| Drill Hole | Corsa Rpt.4 | Total Seam | Total Coal | Sp. Gr. [1,2] | % Ash | % Sulfur | BTU/lb. | SO2/mm BTU | % Vol. | % Rec.[2] | % Ash | % Sulfur | BTU/lb. | SO2/mm BTU | % Vol. | Comments |
| H-43_OP | 3.00 | 3.00 | 3.00 | *1.46* | 21.45 | 2.72 | | | | 83.17 | 16.01 | 1.64 | | | | |
| H-44_OP | 2.80 | 2.90 | 2.90 | *1.59* | 34.49 | 0.47 | | | | 59.13 | 18.42 | 0.51 | | | | |
| H-45_OP | 3.50 | 3.50 | 3.50 | *1.52* | 27.43 | 3.92 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 12) |
| H-46_OP | 3.00 | 3.60 | 3.60 | *1.35* | 10.02 | 0.86 | | | | 94.13 | 8.25 | 0.65 | | | | |
| H-47_OP | 3.00 | 3.00 | 3.00 | *1.57* | 32.27 | 1.71 | | | | 51.97 | 10.87 | 1.01 | | | | |
| H-49_OP | 2.10 | 2.10 | 2.10 | *1.35* | 10.48 | 0.56 | | | | | | | | | | Total Coal 1.8'; Hart core raws May 12 - Oxidized (Raw 34) |
| H-50_OP | 3.30 | 3.30 | 3.30 | *1.53* | 27.54 | 0.87 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 27) |
| H-51_OP | 4.00 | 4.00 | 4.00 | *1.52* | 27.31 | 2.92 | | | | | | | | | | Hart core raws May 12 |
| H-52_OP | 4.00 | 4.30 | 4.30 | *1.53* | 27.97 | 2.19 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 52) |
| H-53_OP | 4.20 | 4.20 | 4.20 | *1.57* | 31.79 | 2.22 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 9) |
| H-54_OP | 5.00 | 5.00 | 5.00 | *1.77* | 51.78 | 2.95 | | | | | | | | | | Hart core raws May 12 |
| H-55_OP | 4.00 | 4.00 | 4.00 | *1.62* | 36.71 | 0.62 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 0) |
| | | | | | | | | | | | | | | | | |
| H-57_OP | 1.30 | 3.10 | 3.10 | *1.36* | 11.19 | 1.11 | | | | | 8.76 | 0.89 | | | | 60m Samples from GEO (Corsa Hart Core Raws May 12) - Oxidized (Raw 14, Washed 12) |
| H-57_OP | 1.30 | | | *1.66* | 41.23 | 5.08 | | | | | 12.12 | 2.65 | | | | 60m Samples from GEO (Corsa Hart Core Raws May 12) |
| H-57_OP | 2.60 | 3.10 | 3.10 | *1.51* | 26.21 | 3.10 | | | | | 10.44 | 1.77 | | | | Composite |
| | | | | | | | | | | | | | | | | |
| H-58_OP | 3.50 | 3.50 | 3.50 | *1.40* | 15.38 | 0.61 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 0) |
| | | | | | | | | | | | | | | | | |
| H-59_OP | 1.90 | | | *1.86* | 61.35 | 2.37 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 70) |
| H-59_OP | 1.90 | | | *1.71* | 45.81 | 1.26 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 27) |
| H-59_OP | 3.80 | 3.80 | 3.80 | *1.79* | 53.58 | 1.82 | | | | | | | | | | Composite |
| | | | | | | | | | | | | | | | | |
| H-60_OP | 4.20 | 4.20 | 4.20 | *1.55* | 29.77 | 0.50 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 0) |
| | | | | | | | | | | | | | | | | |
| H-61_OP | 3.00 | | | *1.39* | 14.10 | 2.09 | | | | | | | | | | Hart core raws May 12 |
| H-61_OP | 2.40 | | | *1.67* | 42.49 | 4.30 | | | | | | | | | | Hart core raws May 12 |
| H-61_OP | 5.40 | 5.40 | 5.40 | *1.52* | 26.72 | 3.07 | | | | | | | | | | Composite |
| | | | | | | | | | | | | | | | | |
| H-62_OP | 1.40 | 1.40 | 1.40 | *1.34* | 9.29 | 0.62 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 0) |
| H-63_OP | 4.00 | 4.00 | 4.00 | *1.57* | 31.87 | 0.37 | | | | | | | | | | Total coal 3.3'; Hart core raws May 12 - Oxidized (Raw 0) |
| H-64_OP | 3.80 | 3.80 | 3.80 | *1.52* | 26.85 | 0.42 | | | | | | | | | | Total coal 2.4'; Hart core raws May 12 - Oxidized (Raw 10) |
| H-65_OP | 2.30 | 2.30 | 2.30 | *1.37* | 11.99 | 0.71 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 2) |
| H-66_OP | 4.30 | 4.30 | 4.30 | *1.43* | 18.40 | 0.42 | | | | | | | | | | Total coal: 1.5'; Hart core raws May 12 - Oxidized (Raw 0) |
| H-68_OP | 2.50 | 2.50 | 2.50 | *1.40* | 14.65 | 2.81 | | | | | | | | | | Corsa Hart core raws June 12 |
| H-69_OP | 3.50 | 3.50 | 3.50 | *1.45* | 20.10 | 2.86 | | | | | | | | | | Labeled as Hole #69C (depth and thickness matches SCAD; Corsa Hart core raws May 12 |
| H-70_OP | 3.00 | 3.00 | 3.00 | *1.42* | 17.43 | 0.52 | | | | | | | | | | Corsa Hart core raws May 12 - Oxidized (Raw 7) |
| H-71_OP | 2.60 | 2.60 | 2.60 | *1.42* | 16.51 | 2.94 | | | | | | | | | | Corsa Hart core raws May 12 |
| H-77_OP | 3.00 | 3.00 | 3.00 | *1.58* | 33.19 | 3.08 | | | | | | | | | | Total coal: 2.8'; Corsa Hart core raws June 12 |
| H-78_OP | 2.10 | 2.10 | 2.10 | *1.36* | 10.70 | 3.00 | | | | | | | | | | Corsa Hart core raws June 12 |
| H-78A_OP | 4.20 | NA | NA | *1.46* | 20.74 | 4.07 | | | | | | | | | | Data was entered as H-78; No data for H-78A but thickness is different; Corsa Hart core raws June 12 |
| H-79_OP | 2.10 | 2.10 | 2.10 | *1.50* | 25.12 | 4.23 | | | | | | | | | | Data matches Hole #79C; Corsa Hart core raws June 12 |

# Corsa Coal Corporation

## 43-101 Technical Report

Surface Mineable Quality (In-Seam Quality, Dry Basis)

Hart Area

Lower Freeport and Upper Kittanning Seams

Table 13Q

| | | Thickness (In Feet) | | Raw Quality, Dry Basis | | | | | | Washed Quality, Dry Basis (1.50 Float) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mapped | | | | | | | | | | | | | | |
| Drill Hole | Corsa Rpt.4 | Total Seam | Total Coal | Sp. Gr. [1,2] | % Ash | % Sulfur | BTU/lb. | S02/mm BTU | % Vol. | % Rec.[2] | % Ash | % Sulfur | BTU/lb. | S02/mm BTU | % Vol. | Comments |
| Job #206 "C"-Prime | | 1/1-31/12 | | *1.53* | 28.03 | 2.16 | | | | 50.76 | 7.69 | 1.12 | 14,344 | 1.56 | | 3/8" x 0 Only |
| Job #206 "C"-Prime | | 2/1-29/12 | | *1.54* | 29.01 | 2.26 | | | | 45.76 | 8.18 | 1.01 | 13,971 | 1.45 | | 3/8" x 0 Only |
| Job #206 Top "C"-Prime | OX | 3/1-31/12 | | *1.41* | 16.25 | 1.68 | | | | 60.21 | 7.63 | 0.86 | 14,156 | 1.22 | | 3/8" x 0 Only |
| Job #206 "C"-Prime | OX | 3/1-31/12 | | *1.49* | 24.42 | 1.96 | | | | 48.94 | 8.14 | 0.99 | 14,217 | 1.39 | | 3/8" x 0 Only |
| Job #206 Top "C"-Prime | OX | 4/1-30/12 | | *1.41* | 16.49 | 1.63 | | | | 60.74 | 7.62 | 0.83 | 14,089 | 1.18 | | 3/8" x 0 Only |
| Job #206 Bot "C"-Prime | | 4/1-30/12 | | *1.53* | 27.76 | 2.22 | | | | 56.14 | 10.96 | 1.13 | 13,829 | 1.63 | | 3/8" x 0 Only |
| Job #206 Top "C"-Prime | Non-Ox | 4/1-30/12 | | *1.36* | 10.63 | 2.13 | | | | 69.01 | 7.10 | 1.10 | 14,444 | 1.52 | | 3/8" x 0 Only |
| Job #206 Bot "C"-Prime | OX | 5/1-31/12 | | *1.47* | 22.24 | 1.86 | | | | 50.83 | 8.22 | 0.92 | 14,145 | 1.30 | | 3/8" x 0 Only |
| Job #206 Top "C"-Prime | OX | 5/1-31/12 | | *1.36* | 10.52 | 2.06 | | | | 55.74 | 6.47 | 1.01 | 14,437 | 1.40 | | 3/8" x 0 Only |
| Job #206 Bot "C"-Prime | | 6/1-30/12 | | *1.45* | 20.32 | 1.92 | | | | 57.57 | 7.05 | 0.87 | 14,412 | 1.21 | | 3/8" x 0 Only |
| Job #206 "C"-Prime | | 6/1-30/12 | | *1.39* | 14.09 | 1.45 | | | | 62.96 | 7.48 | 0.74 | 14,312 | 1.03 | | 3/8" x 0 Only |
| Job #206 "C"-Prime | | 7/1-31/12 | | *1.49* | 24.27 | 2.92 | | | | 47.30 | 8.25 | 1.25 | 14,248 | 1.75 | | 3/8" x 0 Only |
| Job #206 "C"-Prime | | 8/1-31/12 | | *1.46* | 20.96 | 2.73 | | | | 55.84 | 7.95 | 1.16 | 14,349 | 1.62 | | 3/8" x 0 Only |
| Job #206 Bot "C"-Prime | | 9/1-30/12 | | *1.69* | 44.48 | 4.35 | | | | 21.66 | 10.46 | 1.93 | 13,965 | 2.76 | | 3/8" x 0 Only |
| Job #206 Top "C"-Prime | | 9/1-30/12 | | *1.40* | 14.60 | 2.52 | | | | 65.48 | 6.83 | 0.87 | 14,555 | 1.20 | | 3/8" x 0 Only |
| Job #206 Bot "C"-Prime | | 10/1-31/12 | | *1.71* | 46.30 | 4.34 | | | | 27.61 | 10.42 | 1.94 | 14,021 | 2.77 | | 3/8" x 0 Only |
| Job #206 Top "C"-Prime | | 10/1-31/12 | | *1.47* | 22.41 | 3.14 | | | | 56.72 | 8.18 | 1.19 | 14,347 | 1.66 | | 3/8" x 0 Only |
| Job #206 Bot "C"-Prime | | 11/1-30/12 | | *1.77* | 51.69 | 5.36 | | | | 17.93 | 10.35 | 2.32 | 14,040 | 3.30 | | 3/8" x 0 Only |
| Job #206 Top "C"-Prime | | 11/1-30/12 | | *1.41* | 16.27 | 2.84 | | | | 62.04 | 9.80 | 1.90 | 14,078 | 2.70 | | 3/8" x 0 Only |
| | | **Average** | | **1.50** | **24.84** | **1.94** | **11,201** | **5.25** | | **65.44** | **11.19** | **0.93** | **14,216** | **1.41** | | |
| | | **Moist Basis (8%)** | | | **22.85** | **1.79** | **10,305** | **4.83** | | **65.44** | **10.29** | **0.85** | **13,078** | **1.30** | | |
| | | Maximum | | 1.79 | 53.58 | 5.33 | 11,201 | 5.25 | | 99.34 | 27.85 | 1.64 | 14,444 | 1.75 | | |
| | | Minimum | | 1.34 | 9.29 | 0.32 | 11,201 | 5.25 | | 29.76 | 6.23 | 0.38 | 13,829 | 1.03 | | |
| | | No. of Samples | | 68 | 68 | 68 | 1 | 1 | | 30 | 34 | 34 | 17 | 17 | | |
| | | **Average Non-Ox:** | | **1.51** | **25.61** | **2.34** | | | | **66.70** | **11.75** | **0.90** | **14,239** | **1.47** | | |
| **Oxidized Samples** | | | | | | | | | | | | | | | | |
| H-14_OP | 1.10 | | | *1.73* | 47.82 | 1.08 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 0) |
| H-15_OP | 0.30 | | | *1.85* | 60.00 | 3.85 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 55) |
| H-26_OP | 3.70 | 3.70 | 3.70 | *1.62* | 37.37 | 1.30 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 30) |
| H-30_OP | 1.30 | | | *1.64* | 38.74 | 5.11 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 48) |
| H-34_OP | 3.10 | | | *1.34* | 9.22 | 0.97 | | | | | 8.22 | 0.80 | | | | 60m Samples from GEO (Corsa Hart Core Raws May 12) - Oxidized (Raw 55, Washed 71) |
| H-35_OP | 4.50 | 4.49 | 4.49 | *1.49* | 24.08 | 2.06 | | | | | 11.19 | 1.05 | | | | 60m Samples from GEO (Corsa Hart Core Raws May 12) - Oxidized (Raw 66, Washed 62) |
| H-36_OP | 2.00 | | | *1.36* | 10.85 | 0.55 | | | | | 9.54 | 0.56 | | | | 60m Samples from GEO (Corsa Hart Core Raws May 12) - Oxidized (Raw 0, Washed 1) |
| H-36_OP | 2.20 | | | *1.53* | 28.46 | 3.06 | | | | | 10.05 | 1.39 | | | | 60m Samples from GEO (Corsa Hart Core Raws May 12) - Oxidized (Raw 75) |
| H-36_OP | 4.20 | 4.40 | 4.40 | *1.45* | 20.46 | 1.92 | | | | | 9.82 | 1.01 | | | | Composite |
| H-40_OP | 4.00 | 3.90 | 3.90 | *1.41* | 16.40 | 0.42 | | | | | | | | | | Total coal: 2.5'; Hart core raws May 12 - Oxidized (Raw 0) |
| H-42_OP | 2.00 | 3.90 | 3.90 | *1.43* | 18.13 | 0.36 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 0) |
| H-42_OP | 1.90 | | | *1.41* | 16.28 | 0.41 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 0) |
| H-42_OP | 3.90 | 3.90 | 3.90 | *1.42* | 17.23 | 0.38 | | | | | | | | | | Composite |

# Corsa Coal Corporation

## 43-101 Technical Report

Surface Mineable Quality (In-Seam Quality, Dry Basis)

Hart Area

Lower Freeport and Upper Kittanning Seams

Table 13Q

| | Thickness (In Feet) | | | Raw Quality, Dry Basis | | | | | | Washed Quality, Dry Basis (1.50 Float) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Drill Hole | Corsa Rpt.4 | Mapped Total Seam | Mapped Total Coal | Sp. Gr. [1 2] | % Ash | % Sulfur | BTU/lb. | SO2/mm BTU | % Vol. | % Rec.[2] | % Ash | % Sulfur | BTU/lb. | SO2/mm BTU | % Vol. | Comments |
| H-45_OP | 3.50 | 3.50 | 3.50 | *1.52* | 27.43 | 3.92 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 12) |
| H-49_OP | 2.10 | 2.10 | 2.10 | *1.35* | 10.48 | 0.56 | | | | | | | | | | Total Coal 1.8'; Hart core raws May 12 - Oxidized (Raw 34) |
| H-50_OP | 3.30 | 3.30 | 3.30 | *1.53* | 27.54 | 0.87 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 27) |
| H-52_OP | 4.00 | 4.30 | 4.30 | *1.53* | 27.97 | 2.19 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 52) |
| H-53_OP | 4.20 | 4.20 | 4.20 | *1.57* | 31.79 | 2.22 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 9) |
| H-55_OP | 4.00 | 4.00 | 4.00 | *1.62* | 36.71 | 0.62 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 0) |
| H-57_OP | 1.30 | 3.10 | 3.10 | *1.36* | 11.19 | 1.11 | | | | | 8.76 | 0.89 | | | | 60m Samples from GEO (Corsa Hart Core Raws May 12) - Oxidized (Raw 14, Washed 12) |
| | | | | | | | | | | | | | | | | |
| H-58_OP | 3.50 | 3.50 | 3.50 | *1.40* | 15.38 | 0.61 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 0) |
| | | | | | | | | | | | | | | | | |
| H-59_OP | 1.90 | | | *1.86* | 61.35 | 2.37 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 70) |
| H-59_OP | 1.90 | | | *1.71* | 45.81 | 1.26 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 27) |
| H-59_OP | 3.80 | 3.80 | 3.80 | *1.79* | 53.58 | 1.82 | | | | | | | | | | Composite |
| H-60_OP | 4.20 | 4.20 | 4.20 | *1.55* | 29.77 | 0.50 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 0) |
| H-62_OP | 1.40 | 1.40 | 1.40 | *1.34* | 9.29 | 0.62 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 0) |
| H-63_OP | 4.00 | 4.00 | 4.00 | *1.57* | 31.87 | 0.37 | | | | | | | | | | Total coal 3.3'; Hart core raws May 12 - Oxidized (Raw 0) |
| H-64_OP | 3.80 | 3.80 | 3.80 | *1.52* | 26.85 | 0.42 | | | | | | | | | | Total coal 2.4'; Hart core raws May 12 - Oxidized (Raw 10) |
| H-65_OP | 2.30 | 2.30 | 2.30 | *1.37* | 11.99 | 0.71 | | | | | | | | | | Hart core raws May 12 - Oxidized (Raw 2) |
| H-66_OP | 4.30 | 4.30 | 4.30 | *1.43* | 18.40 | 0.42 | | | | | | | | | | Total coal: 1.5'; Hart core raws May 12 - Oxidized (Raw 0) |
| H-70_OP | 3.00 | 3.00 | 3.00 | *1.42* | 17.43 | 0.52 | | | | | | | | | | Corsa Hart core raws May 12 - Oxidized (Raw 7) |
| | | | | | | | | | | | | | | | | |
| Job #206 Top "C"-Prime | OX | 3/1-31/12 | | *1.41* | 16.25 | 1.68 | | | | 60.21 | 7.63 | 0.86 | 14,156 | 1.22 | | 3/8" x 0 Only |
| Job #206 "C"-Prime | OX | 3/1-31/12 | | *1.49* | 24.42 | 1.96 | | | | 48.94 | 8.14 | 0.99 | 14,217 | 1.39 | | 3/8" x 0 Only |
| Job #206 Top "C"-Prime | OX | 4/1-30/12 | | *1.41* | 16.49 | 1.63 | | | | 60.74 | 7.62 | 0.83 | 14,089 | 1.18 | | 3/8" x 0 Only |
| Job #206 Bot "C"-Prime | OX | 5/1-31/12 | | *1.47* | 22.24 | 1.86 | | | | 50.83 | 8.22 | 0.92 | 14,145 | 1.30 | | 3/8" x 0 Only |
| Job #206 Top "C"-Prime | OX | 5/1-31/12 | | *1.36* | 10.52 | 2.06 | | | | 55.74 | 6.47 | 1.01 | 14,437 | 1.40 | | 3/8" x 0 Only |
| | | | **Average** | **1.49** | **23.88** | **1.21** | | | | **56.63** | **8.88** | **0.95** | **14,154** | **1.26** | | |

Quality not included in statistics; may not be representative of mineable section.

[1] *Italics* denote specific gravity values which have been estimated based on raw coal ash content where specific gravity = 1.25+(raw ash¸100)

[2] **Bold** denotes specific gravity and/or wash recovery values which have been estimated based on Estimated Visual Recovery calculations.

[3] Entry Width = 19.5

[4] Corsa reported thickness.

a. Where thickness was recorded on a laboratory sheet, thickness matched database and quality was verified.

b. In some cases, lost core thickness was recorded on a laboratory sheet, however, true seam thickness is unclear.

c. In some cases, thickness may only reflect total coal (excluding partings); raw quality was subjectively honored and washed quality (excluding recovery) was honored.

d. "NA" indicates that a thickness was not reported.

e. The majority of quality data was extracted from Carlson digital survcadd files and supplemented with data from various excel files.

# Corsa Coal Corporation

## 43-101 Technical Report

Surface Mineable Quality (In-Seam Quality, Dry Basis)

Bassett Area

Upper Freeport Seam

Table 14Q

| | Thickness (In Feet) | | | Raw Quality, Dry Basis | | | | | | | Washed Quality, Dry Basis (1.50 Float) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Drill Hole | Corsa Rpt.4 | Mapped Total Seam | Mapped Total Coal | Sp. Gr. [1] [2] | % Ash | % Sulfur | BTU/lb. | S02/mm BTU | % Vol. | % FC | % Rec.[2] | % Ash | % Sulfur | BTU/lb. | S02/mm BTU | % Vol. | % FC | Comments |
| **Upper Freeport** | | | | | | | | | | | | | | | | | | |
| 0904-D | 6.30 | 6.33 | | *1.50* | 24.63 | 3.19 | 11,461 | 5.57 | 15.27 | | 66.42 | 9.94 | 1.84 | 14,001 | 2.63 | 16.82 | | |
| 09384-D | 2.60 | 2.67 | | *1.56* | 30.89 | 5.64 | 10,314 | 10.93 | 15.17 | | 58.85 | 14.70 | 3.36 | 13,171 | 5.11 | 16.66 | | |
| 09386-D | 2.81 | 2.83 | | *1.57* | 32.08 | 6.22 | 10,143 | 12.26 | 16.33 | | 57.01 | 12.49 | 2.78 | 13,597 | 4.10 | 18.64 | | |
| 09388-D | 5.90 | 5.25 | | *1.52* | 27.22 | 4.88 | 10,863 | 8.99 | 14.99 | | 60.00 | 11.73 | 2.57 | 13,565 | 3.79 | 16.55 | | |
| 09389-D | 3.80 | 4.00 | | *1.42* | 16.61 | 2.93 | 12,794 | 4.58 | 16.08 | | 83.80 | 9.88 | 2.11 | 13,971 | 3.03 | 16.50 | | |
| 09390-D | 3.80 | 5.41 | | *1.49* | 24.44 | 2.39 | 11,107 | 4.30 | 15.28 | | 69.13 | 11.36 | 1.43 | 13,353 | 2.14 | 16.99 | | |
| 09392-D | 3.20 | 3.25 | | *1.53* | 27.86 | 5.72 | 10,778 | 10.62 | 16.32 | | 57.16 | 12.43 | 2.96 | 13,530 | 4.38 | 17.13 | | |
| | | | **Average** | **1.51** | **26.42** | **4.74** | **11,098** | **8.79** | **15.83** | | **64.65** | **11.89** | **2.61** | **13,654** | **3.85** | **17.15** | | |
| | | | **Moist Basis (8%)** | | **24.30** | **4.36** | **10,210** | **8.09** | **14.57** | | **64.65** | **10.94** | **2.40** | **12,562** | **3.83** | **15.78** | | |
| | | | Maximum | 1.57 | 32.08 | 6.22 | 12,794 | 12.26 | 16.33 | | 83.80 | 14.70 | 3.36 | 14,001 | 5.11 | 18.64 | | |
| | | | Minimum | 1.42 | 16.61 | 2.93 | 10,143 | 4.58 | 15.17 | | 57.01 | 9.88 | 1.84 | 13,171 | 2.63 | 16.50 | | |
| | | | No. of Samples | 5 | 5 | 5 | 5 | 5 | 5 | | 5 | 5 | 5 | 5 | 5 | 5 | | |

Quality not included in statistics; may not be representative of mineable section.

[1] *Italics* denote specific gravity values which have been estimated based on raw coal ash content where specific gravity = 1.25+(raw ash¸100)

[2] **Bold** denotes specific gravity and/or wash recovery values which have been estimated based on Estimated Visual Recovery calculations.

[3] Entry Width = 19.5

[4] Corsa reported thickness.

a. Where thickness was recorded on a laboratory sheet, thickness matched database and quality was verified.

b. In some cases, lost core thickness was recorded on a laboratory sheet, however, true seam thickness is unclear.

c. In some cases, thickness may only reflect total coal (excluding partings); raw quality was subjectively honored and washed quality (excluding recovery) was honored.

d. "NA" indicates that a thickness was not reported.

e. The majority of quality data was extracted from Carlson digital survcadd files and supplemented with data from various excel files.

APPENDIX

# 5

RÉSUMÉS OF QUALIFIED PERSONS

# Justin S. Douthat

*Current Position*
Executive Vice President

*Profession*
Engineer

*Years' Experience*
25+

*Education*
MBA - The Pennsylvania State University, University Park, PA

BS - Mining & Minerals Engineering, Virginia Tech, Blacksburg, VA

AA&S - Engineering, SVCC, Richlands, VA

*Professional Registrations*
PE - AR, CO, IL, KS, KY, LA, MS, NC, VA, WV

SME - Registered Member (4028345)

OSHA 40-Hour Health and Safety Training

OSHA 8-Hour Supervisory Health and Safety Training

MSHA Qualified Impoundment Inspector

40-Hour Radiation Safety Officer Training

**www.mma1.com**

## Summary of Experience

Mr. Douthat coordinates engineering services for the company's energy and mineral resources clients, including those in coal as well as the aggregates and industrial mineral industries. His experience includes financial modeling and management of multiple scoping, pre-feasibility and bankable feasibility studies, as well as geologic modeling, reserve calculations, mineral valuations, mine planning and production timing using Carlson Mining® computer software. In addition, he performs end-of-mine reclamation and closure cost assessments that meets the requirements of Accounting Standard Codification Topic 410 (*ASC 410*) Accounting for Asset Retirement Obligations. He administers training for the use of Carlson Mining® computer software for geologic modeling and mine planning both in the United States and abroad. Mr. Douthat also coordinates and supervises a company-wide radiation safety program that includes the safety training of geophysical logging personnel in order to maintain compliance with federal and state nuclear regulatory authorities.

## Specific Projects

> Prepared and/or served as a Qualified Person (QP) or Competent Person (CP) on multiple technical reports for the public filing of coal resources and coal reserves including those for the U.S. Securities and Exchange Commission, Canadian National Instrument 43-101 Standards for Disclosure of Mineral Projects (NI 43-101) and the Joint Ore Reserves Committee (JORC) code

> Conducted reserve estimations for both aggregates and industrial minerals clientele that included reviews of potential acquisition properties or expansion areas as well as definition of maximum reserve potential for as-configured operating properties

> Designed pits for quarries that maximized reserves with a focus on erosion and sediment control

> Completed amendments to mining permits for submittal to state agencies

> Worked closely with quarry operations personnel to produce overburden removal and disposal plans along with the associated cut and fill volume estimates for future quarry expansion areas

> Prepared multiple construction bid packages for aggregate industry clientele to include overburden removal and disposal area designs, haul road design and relocation, and all associated erosion and sediment control design construction details

> Coordinated aerial surveys for topographic mapping and stockpile inventory purposes, and prepared stockpile inventory volume calculations

> Provided detailed mine planning that included reserve/resource assessment and mine production timing for surface and underground operations utilizing Carlson Mining® computer software

# John W. Eckman

***Current Position***
Senior Geologist

***Profession***
Geologist

***Years' Experience***
30+

***Education***
Post Graduate - Hydrology, University of Delaware, Newark, DE

BS - Geosciences, Pennsylvania State University, University Park, PA

***Professional Registrations***
CPG – AIPG (11383)

PG, Commonwealth of Kentucky (169174)

SME (4197942)

MSHA 40-Hour Surface Mine Training

## Summary of Experience

Mr. Eckman has experience with mineral resource projects of both domestic and foreign locations, ranging from resource scoping studies to mineral reserve evaluations, primarily for coal mineral deposits, but also for aggregate and metal ore deposits. His practical experience includes project fieldwork, and geophysical log interpretation of mineral deposits for geologic model development of mineral resources. He manages the development of geologic computer models and process of resource estimates of mineral, ore and aggregate deposits using Vulcan™ software and is knowledgeable of developing both grid and block-type models with Vulcan™. In addition, he is competent with Carlson software for geologic models and reserve estimate, and an ArcGIS user also. Other experience includes annual mineral tax appraisals for West Virginia properties.

## Specific Projects

> **Coles Hill, VA, USA:** Developed a geologic model to estimate Uranium ore tonnage as part of a resource scoping study.

> **Frenstat/Trajanovice, Czech Republic:** Modified scoping level study of the Frenstat underground coal mining concession and prepared a geologic model with coal tonnage estimates.

> **Shanxi Province, Peoples Republic of China:** Prepared geologic model to estimate coal tonnage and coal quality for the Gaohe coal mine prospect.

> **Cashiri Mining Concession of Zulia, Venezuela, SA:** Developed a geologic model and open pit mine coal tonnage estimates for the La Carpa project.

> **Shanxi Providence, Peoples Republic of China:** Created a geologic model with coal tonnage estimates as part of a pre-feasibility study for the Daning mining venture.

> **Bluefield Quarry, Bluefield, VA:** Evaluated high-calcium limestone using computer model process.

> **Osage County, OK:** Supervisory field geologist for coalbed methane exploration of the Cherokee basin shelf.

> **Shepard Trust Property, Boone County, WV:** Prepared geologic evaluation of coal resources on subject tract.

> **Paso Diablo, Venezuela, SA:** Prepared geologic model of the Paso Diablo coal deposits for Peabody Development Co.

> **Quintette Coal Mine, British Columbia, Canada:** Developed geologic cross sections for tonnage and quality calculations in conjunction with mine development.

# Scott B. Peterson

***Current Position***

Senior Principal Geologist

***Profession***

Geologist

***Years' Experience***

35+

***Education***

BS – Geology, University of Minnesota, Duluth

SME Short Course, Safe and Cost Efficient Blasting in Surface Mines

Colorado School of Mines Continuing Education, Economic Evaluation and Decision Making Methods by Sturmal and Sturma

***Professional Registrations***

CPG – AIPG

PG - WY

Certified underground, surface and mine rescue MSHA training instructor.

Certified Wyoming and Utah underground coal mine foreman.

Past member ASTM and active in D05 committees and subcommittees.

**www.mma1.com**

## Summary of Experience

Mr. Peterson provides geologic services for energy and mineral resource projects including geologic modelling, reserve estimation, and exploration. He has a longstanding history of industrial experience pertaining to geological and engineering functions of major mining companies. Mr. Peterson's career has included all geological aspects of the mining cycle, including field exploration, characterization and resource modelling, reserve assessments, and operational assistance regarding the delineation of geological hazards and risk modelling.

## Significant Experience

> Managed engineering, geology, environmental and mine water treatment groups for major coal producers; providing the planning, organization and collaboration between groups to have permits, plans and services well-ahead of mine operations to assure no mine delays as operations develop and mining advances. Participate in executive sessions to prepare for future ventures. Experience included operations in WV, PA, VA, KY, IL, AL and the PRB.

> Insured procedures and methods in-place for environmental compliance of active and inactive operations.

> Directed and assisted mine engineering with Federal and State plans, underground mine and system design.

> Managed an environmental engineering group that secured all state and federal permits, assured NPDES outfall compliance, directed reclamation of mining-related surface subsidence, and monitored reclaimed site compliance for timely reclamation bond release.

> Provided exploration and mine geology for precious, base and specialty metals. Managed operation at an underground copper and zinc mine. Areas of experience include: NM, TX, AZ, CA, ID, MT, and MN.

> Directed and provided technical assistance for research of mine rock stability for the design of underground coal mine roof support systems in a variety of geologic and in-situ stress environments.

> Directed and provided site-specific geologic risk assessments and evaluations of mine operations through underground mapping and geologic research into depositional environments.

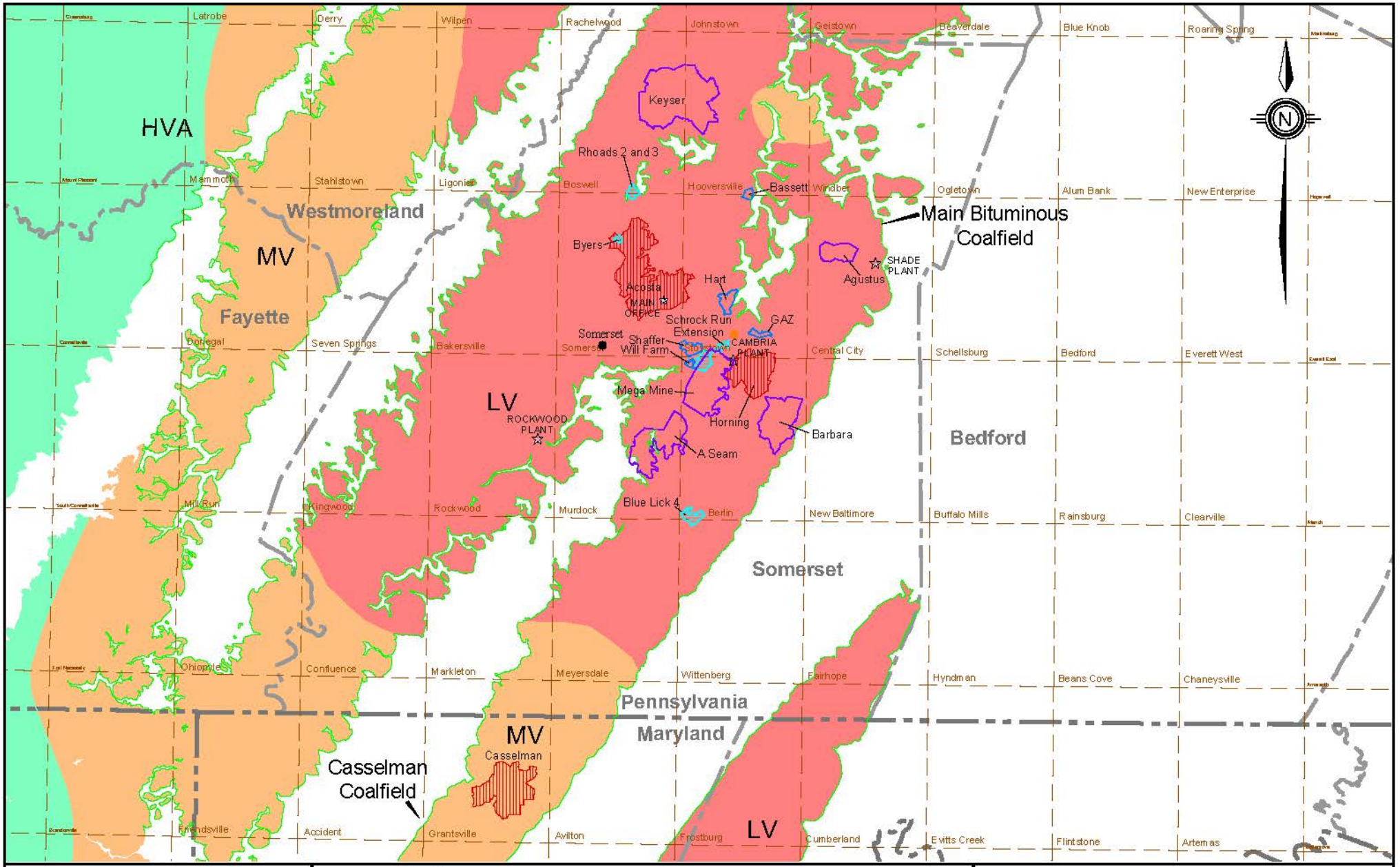
> Assisted in geologic modeling and longwall hazard predictions for mine planning optimization.

> Research on limestone and dolomite physical and chemical properties. Studied their characteristic and application methods to comply with MSHA mandated "rock dust" for the elimination of coal dust explosions in coal mining operations.

APPENDIX

# 6

MAPS




MARSHALL MILLER & ASSOCIATES

CCC117 Bluefield, VA 1/23
Index mh

State Line
Lower Kittanning Seam Outcrop
SOMERSET County Lines and Label
Stoystown / Berlin USGS 7.5 Minute Quadrangle Boundary
Deep Active
Deep Inactive
Surface Active
Surface Inactive

Regional Lower Kittanning Coal Rank Classification

| | |
|---|---|
| LV | Low-Volatile Bituminous Coal |
| MV | Medium-Volatile Bituminous Coal |
| HVA | High-Volatile A Bituminous Coal |

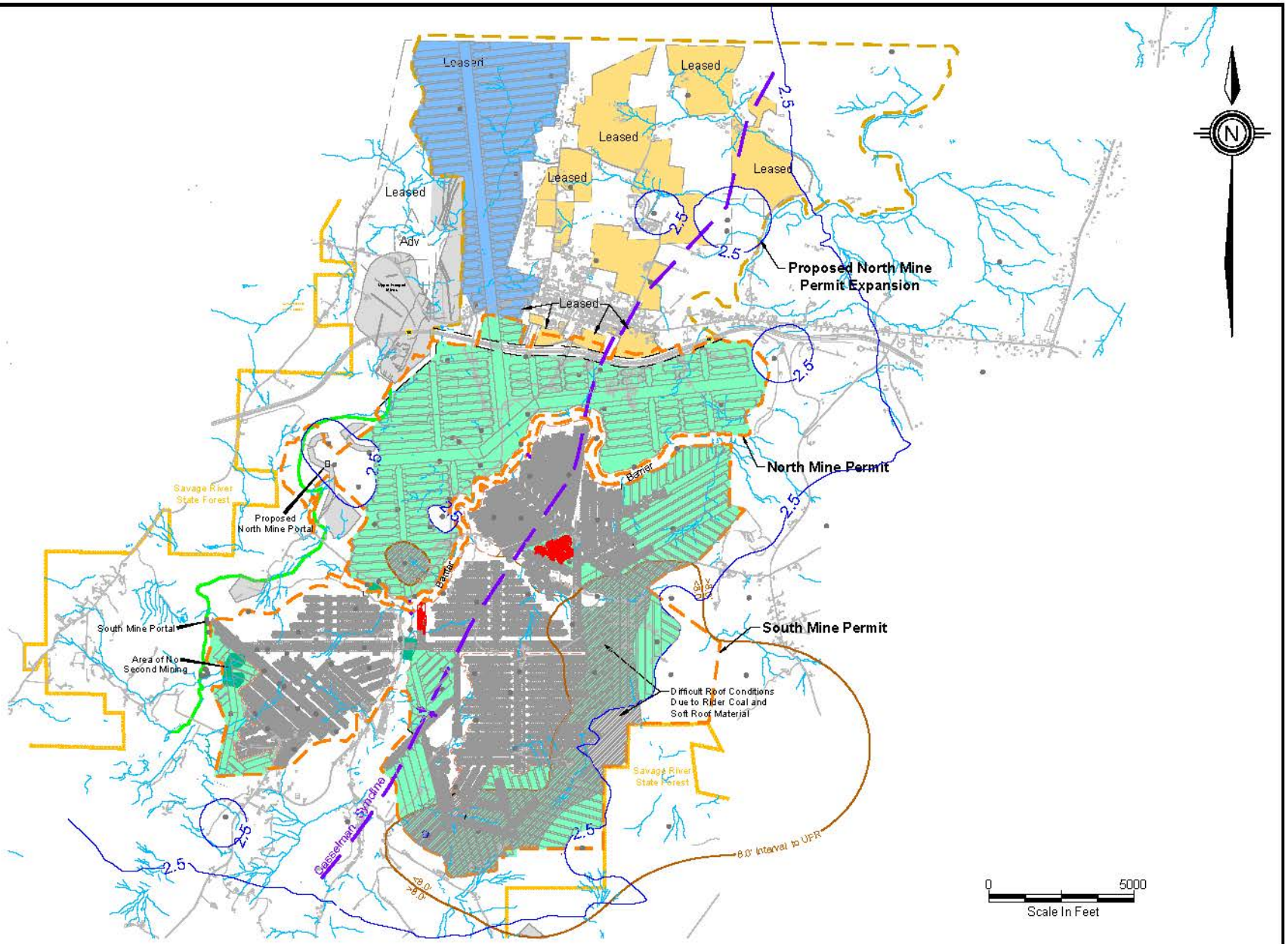
0 7
Scale In Miles

# Map 1

## Index of Corsa Operations as of 12/31/22

**Corsa Coal Corporation**
Somerset County, Pennsylvania

Coordinate System: Pennsylvania South State Plane Nad 83




MARSHALL MILLER & ASSOCIATES

CCC117 Bluefield, VA 1/23
Casselman UF mh

- Project / Permit Boundary
- Proposed Project / Permit Boundary
- Seam Outcrop
- Data Point Location
- 2.5 Total Seam Thickness Isoline In Feet
- Previous Mining
- 4th Quarter 2022 Mining (Deducted from Resource Total)
- Mine Projections

Underground Resources as of 12/31/22

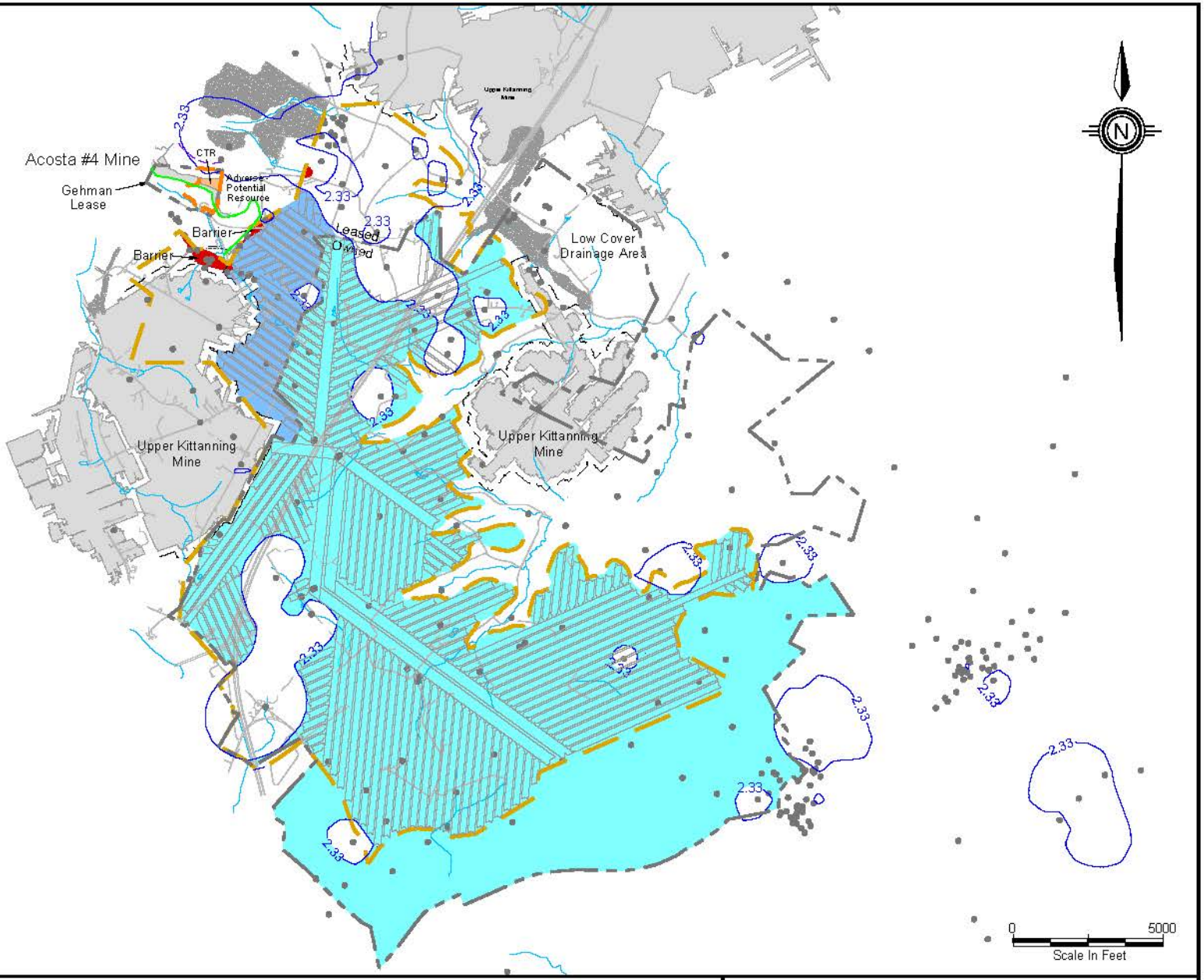
- Controlled Resource - Leased - Permitted
- Controlled Resource - Leased - Not permitted
- Controlled Resource- Not Included in Mine Plan

# Map 2

## Casselman Area
## Upper Freeport (E) Seam

**Corsa Coal Corporation**
Somerset County, Pennsylvania

Coordinate System: Maryland State Plane Nad 83




MARSHALL MILLER & ASSOCIATES

CCC117 Bluefield, VA 1/23
Acosta UK mh

Project / Permit Boundary
Proposed Project / Permit Boundary
Seam Outcrop
Data Point Location
2.5 Total Seam Thickness Isoline In Feet
Previous Mining with 200' Barrier
Mine Projections

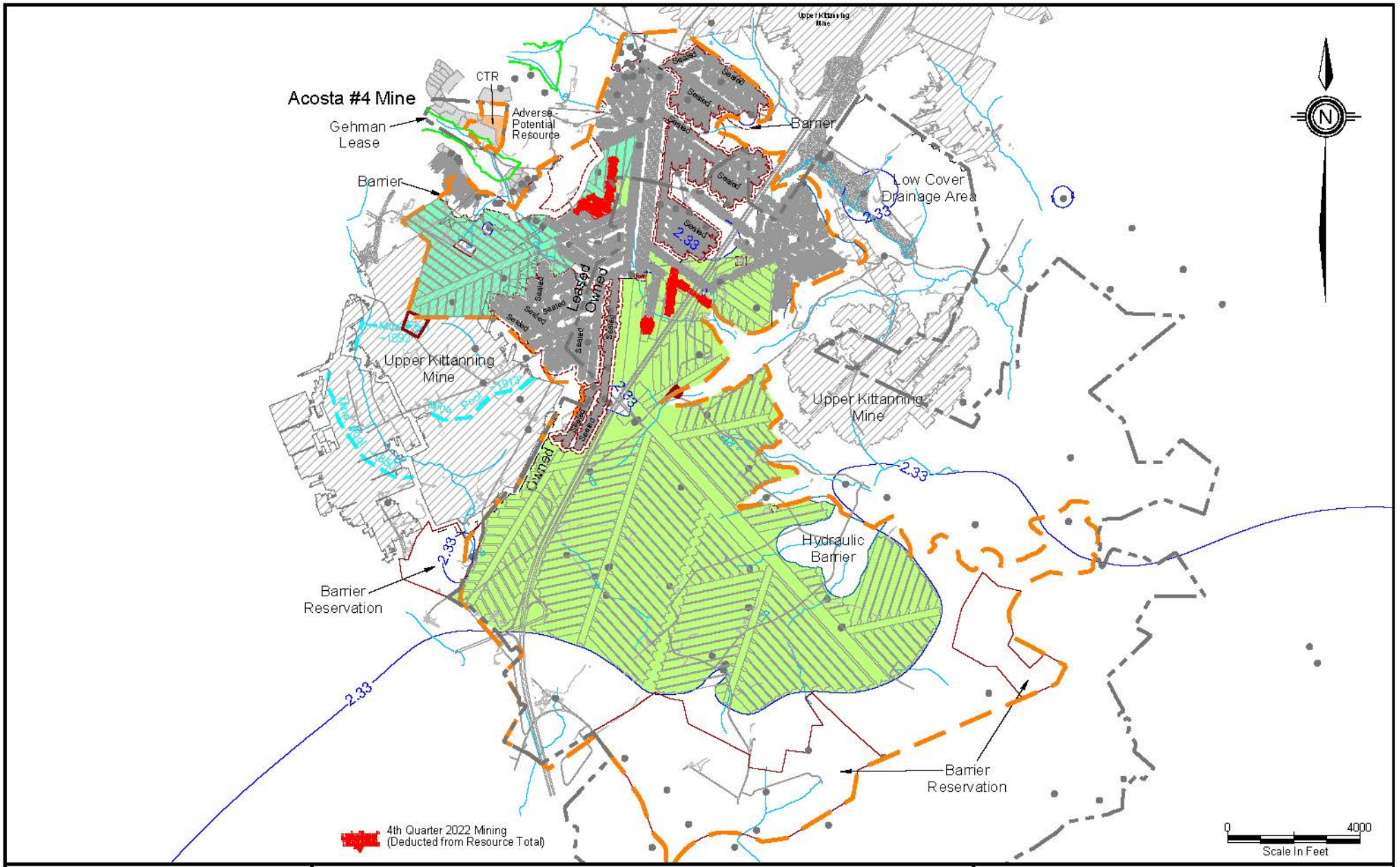
Underground Resource as of 12/31/22
Controlled Resource - Owned - Not Permitted
Controlled Resource - Leased - Not permitted
Surface Resource as of 12/31/22
Controlled Resource - Leased - Permitted

# Map 3A

## Acosta Area
## Upper Kittanning (C') Seam

**Corsa Coal Corporation**
Somerset County, Pennsylvania

Coordinate System: Pennsylvania South State Plane Nad 83




MARSHALL MILLER & ASSOCIATES

CCC117 Bluefield, VA 1/23
Acosta MK mh

- Project / Permit Boundary
- Seam Outcrop
- Data Point Location
- 2.33 Total Seam Thickness Isoline In Feet
- Previous Mining with 200' Barrier
- Mine Projections

Underground Resource as of 12/31/22

- Controlled Resource - Owned - Permitted
- Controlled Resource - Leased - Permitted

Surface Resource as of 12/31/22

- Controlled Resource - Leased - Permitted

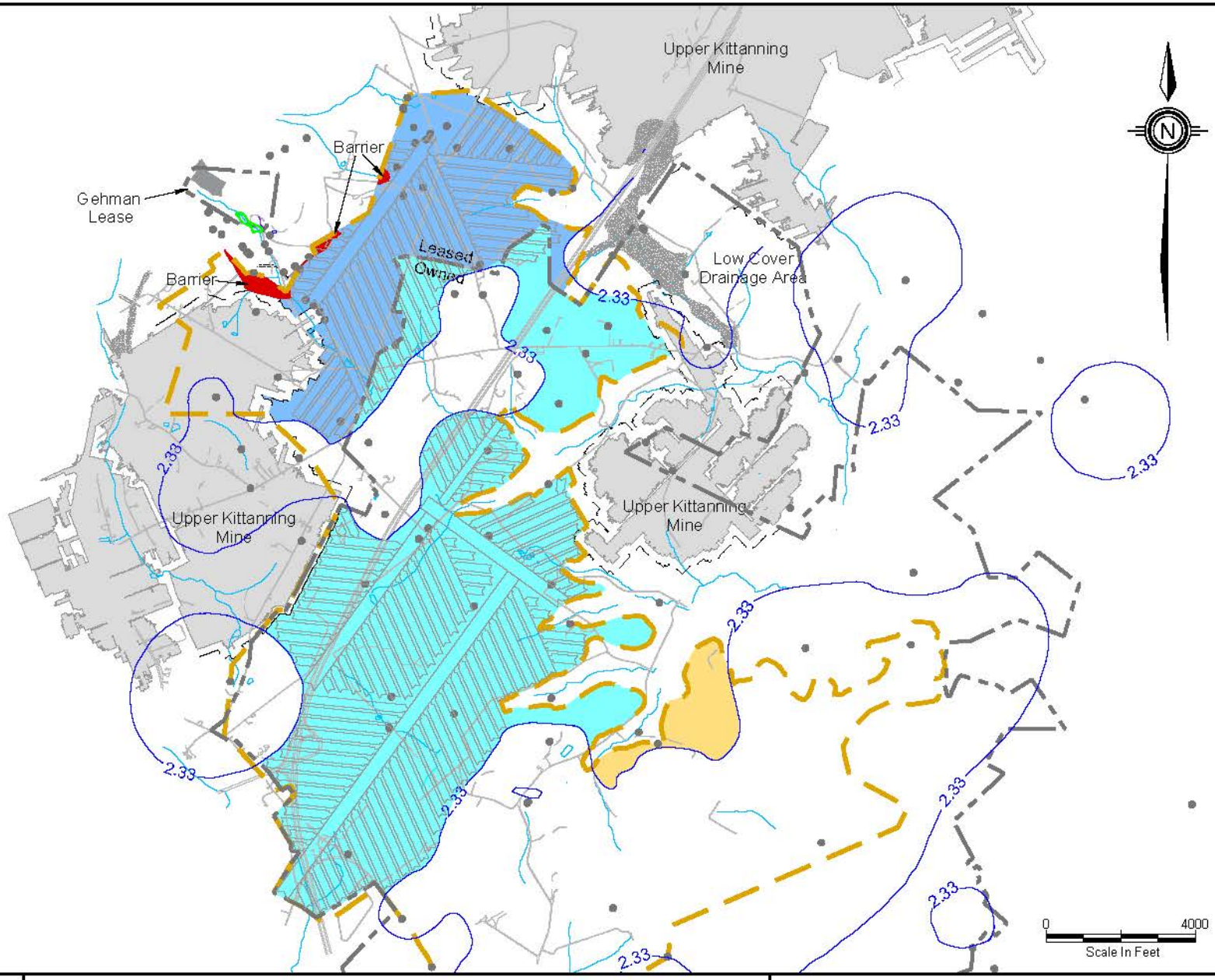
# Map 3B

## Acosta Area
## Middle Kittanning (C) Seam

**Corsa Coal Corporation**

Somerset County, Pennsylvania

Coordinate System: Pennsylvania South State Plane Nad 83




MARSHALL MILLER & ASSOCIATES

CCC117 Bluefield, VA 1/23
Acosta LK mh

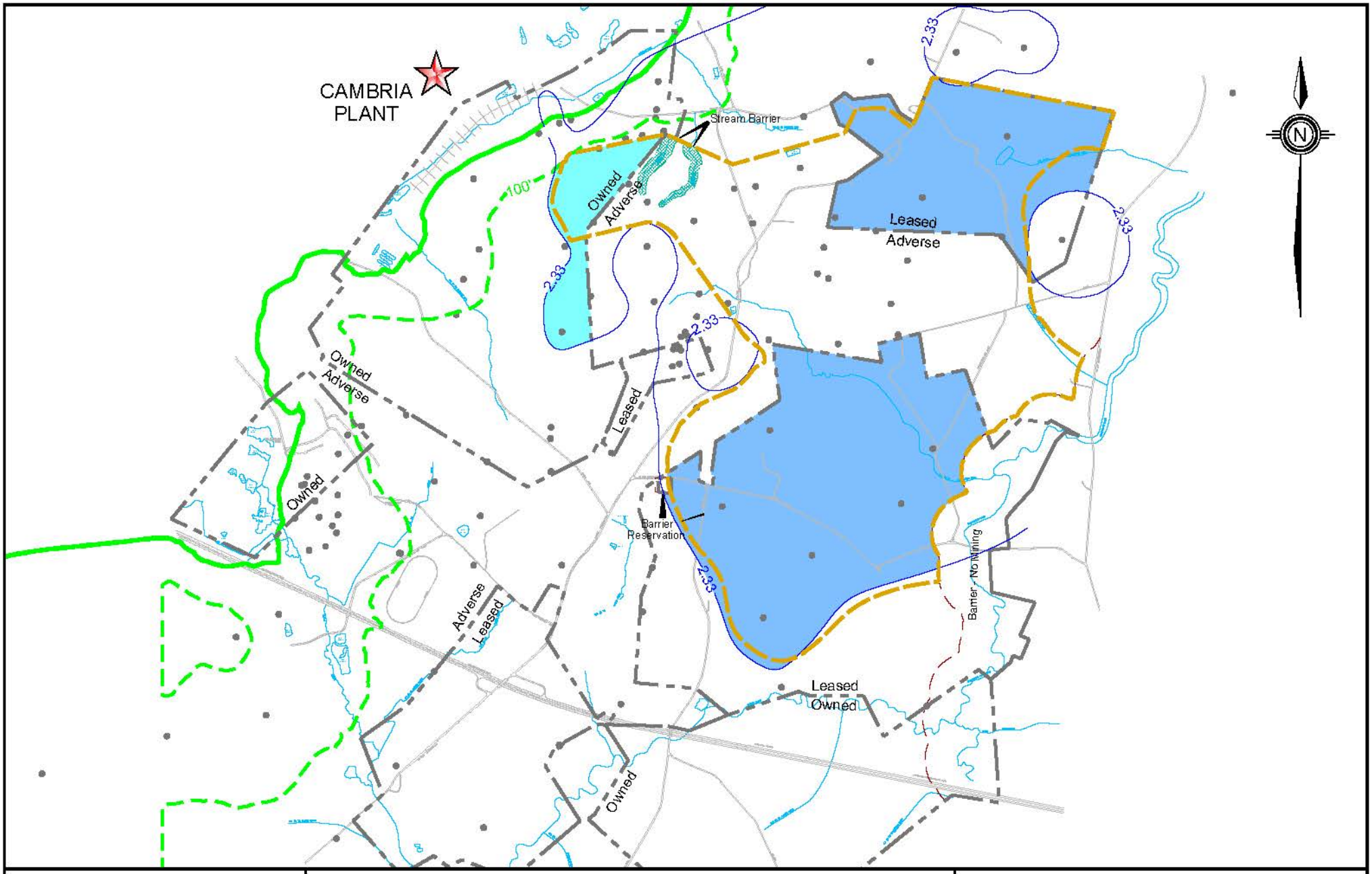
Proposed Project / Permit Boundary
Data Point Location
2.33 Total Seam Thickness Isoline In Feet
Previous Mining with 200' Barrier
Mine Projections

Underground Resource as of 12/31/22
Controlled Resource - Owned - Not permitted
Controlled Resource - Leased - Not permitted
Controlled Mineral Not Included in Resource

# Map 3C
## Acosta Area
## Lower Kittanning (B) Seam

**Corsa Coal Corporation**
Somerset County, Pennsylvania

Coordinate System: Pennsylvania South State Plane Nad 83




MARSHALL MILLER & ASSOCIATES

CCC117 Bluefield, VA 1/23
Horning–LF mh

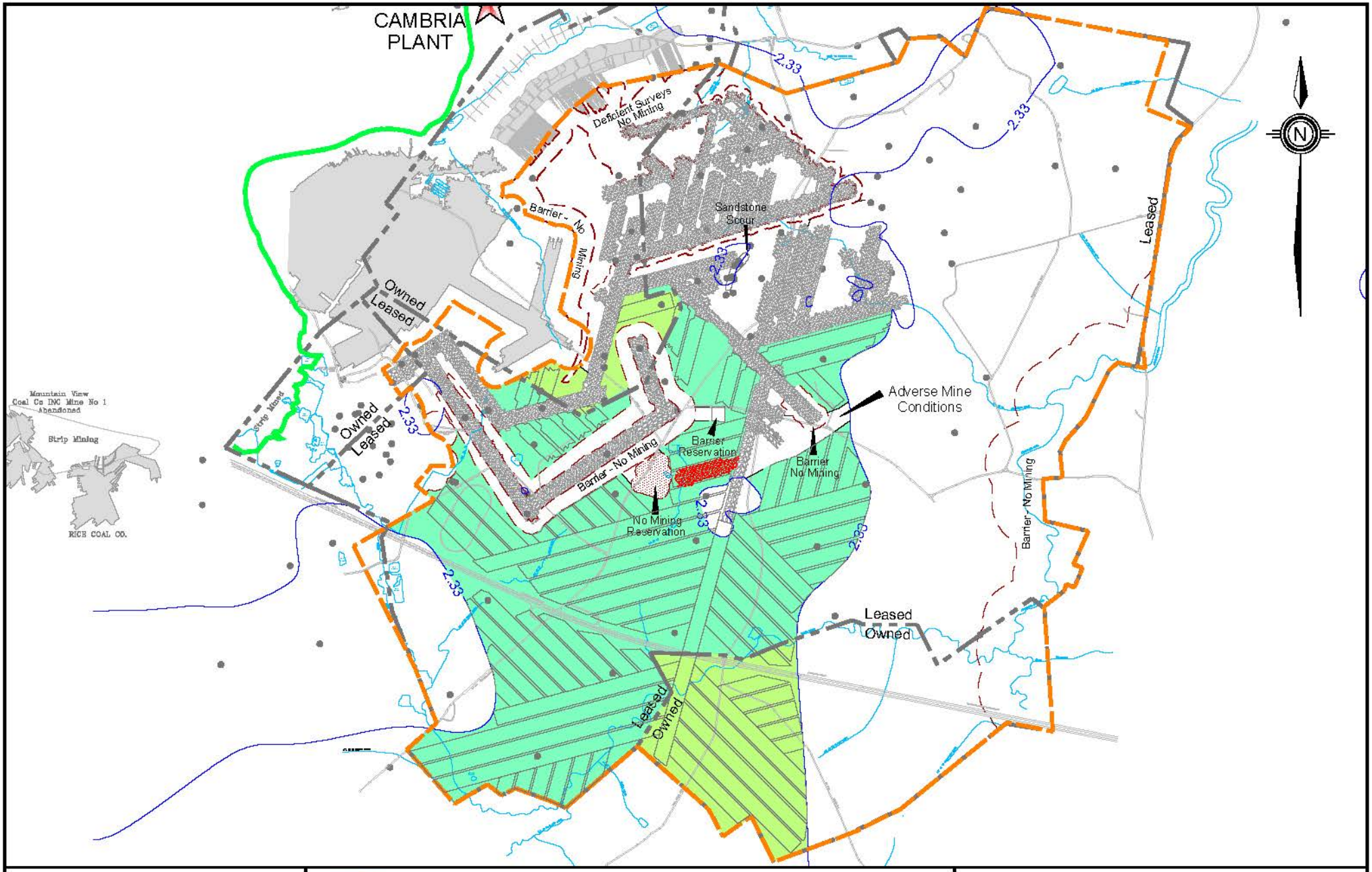
Proposed Project / Permit Boundary
Seam Outcrop
100' Overburden Line
Data Point Location
2.33 Total Seam Thickness Isoline In Feet
Mine Projections

Underground Resource as of 12/31/22
Controlled Resource - Owned - Not Permitted
Controlled Resource - Leased - Not Permitted

0 2000
Scale In Feet

# Map 4A
## Horning Area
## Upper Freeport (E) Seam

**Corsa Coal Corporation**
Somerset County, Pennsylvania
Coordinate System: Pennsylvania South State Plane Nad 83




MARSHALL MILLER & ASSOCIATES

CCC117 Bluefield, VA 1/23
Horning–LF mh

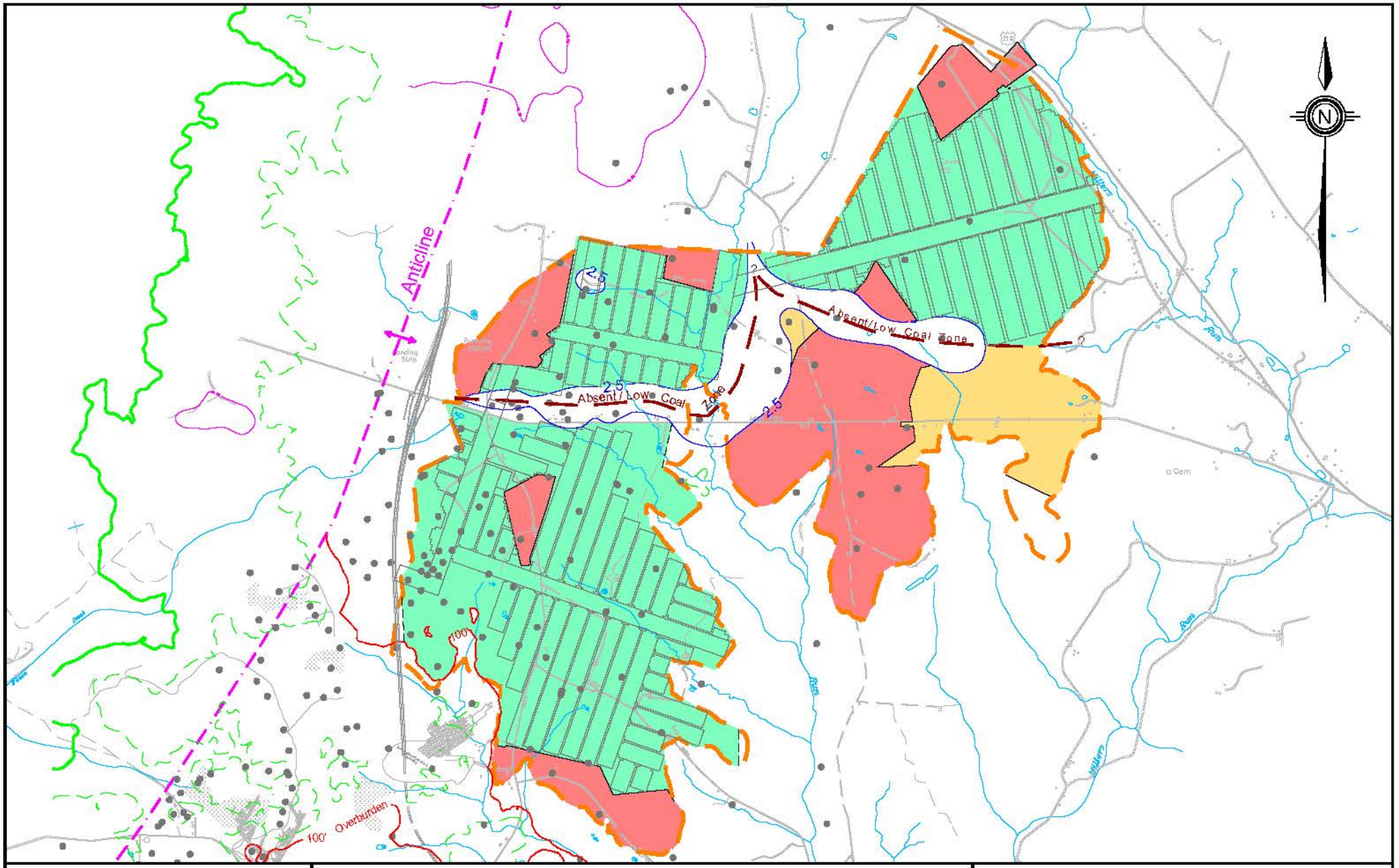
Project / Permit Boundary
Seam Outcrop
Data Point Location
2.33 Total Seam Thickness Isoline In Feet
Previous Mining
4th Quarter 2022 Mining (Deducted from Resource Total)
Mine Projections

Underground Resource as of 12/31/22
Controlled Resource - Owned - Permitted
Controlled Resource - Leased - Permitted

0 2000
Scale In Feet

# Map 4B
## Horning Area
## Lower Freeport (D) Seam

**Corsa Coal Corporation**
Somerset County, Pennsylvania
Coordinate System: Pennsylvania South State Plane Nad 83




MARSHALL MILLER & ASSOCIATES

CCC117 Bluefield, VA 1/23
A Seam–BR mh

Project / Permit Boundary
Seam Outcrop
100 Foot Overburden Line
Data Point Location
2.5 Total Seam Thickness Isoline In Feet
Previous Mining
Previous Surface Mining
Mine Projections

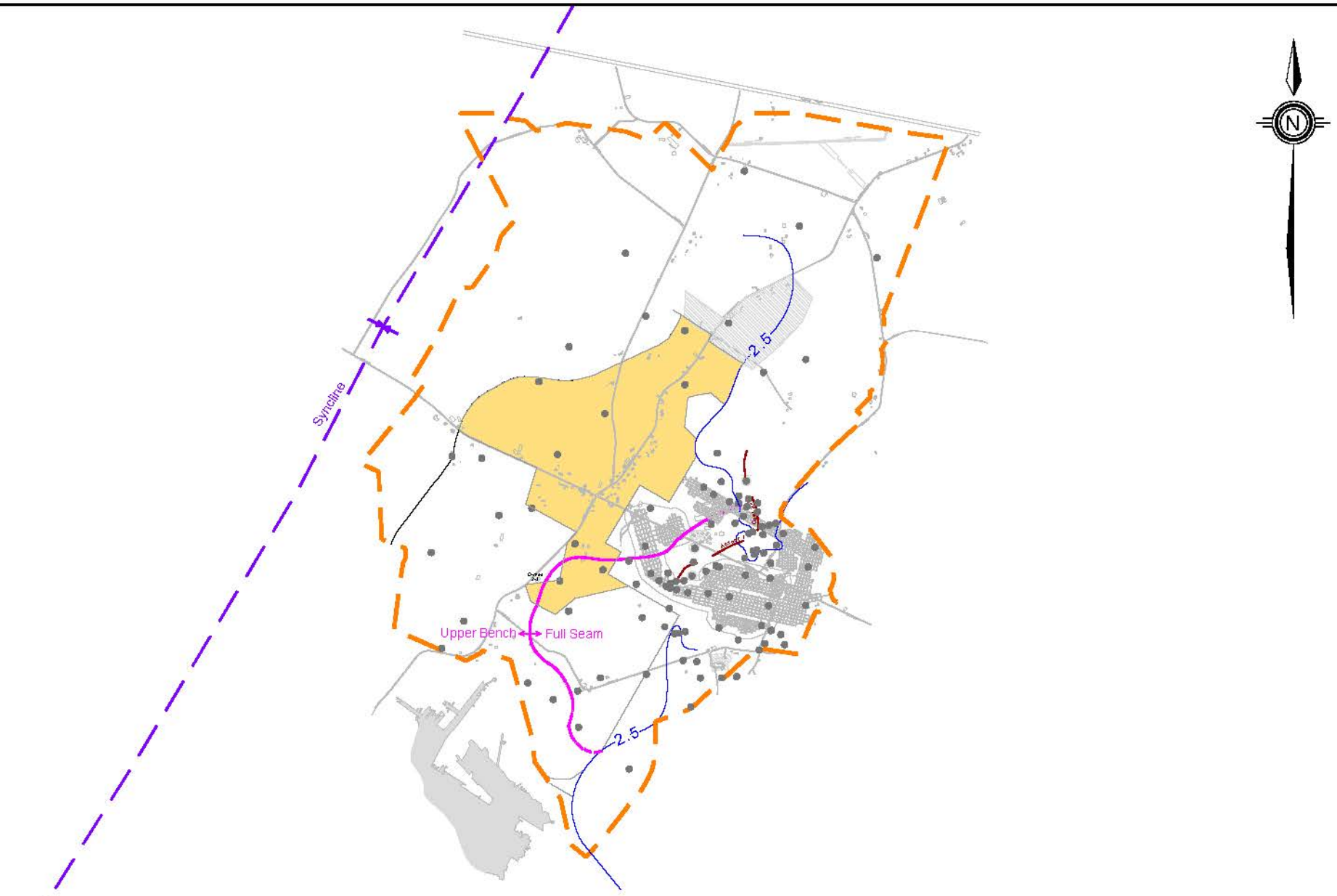
Underground Resource as of 12/31/22
Controlled Resource - Leased - Permitted
Controlled Resource not Included in Mine Plan
Adverse (Uncontrolled Mineral)

0 3000
Scale In Feet

# Map 5
## A Seam Area
## Brookville (A) Seam

**Corsa Coal Corporation**
Somerset County, Pennsylvania

Coordinate System: Pennsylvania South State Plane Nad 83




MARSHALL MILLER & ASSOCIATES

CCC117 Bluefield, VA 1/23
Barbara B LK mh

Project / Permit Boundary
Data Point Location
2.5 Total Seam Thickness Isoline In Feet
Previous Mining

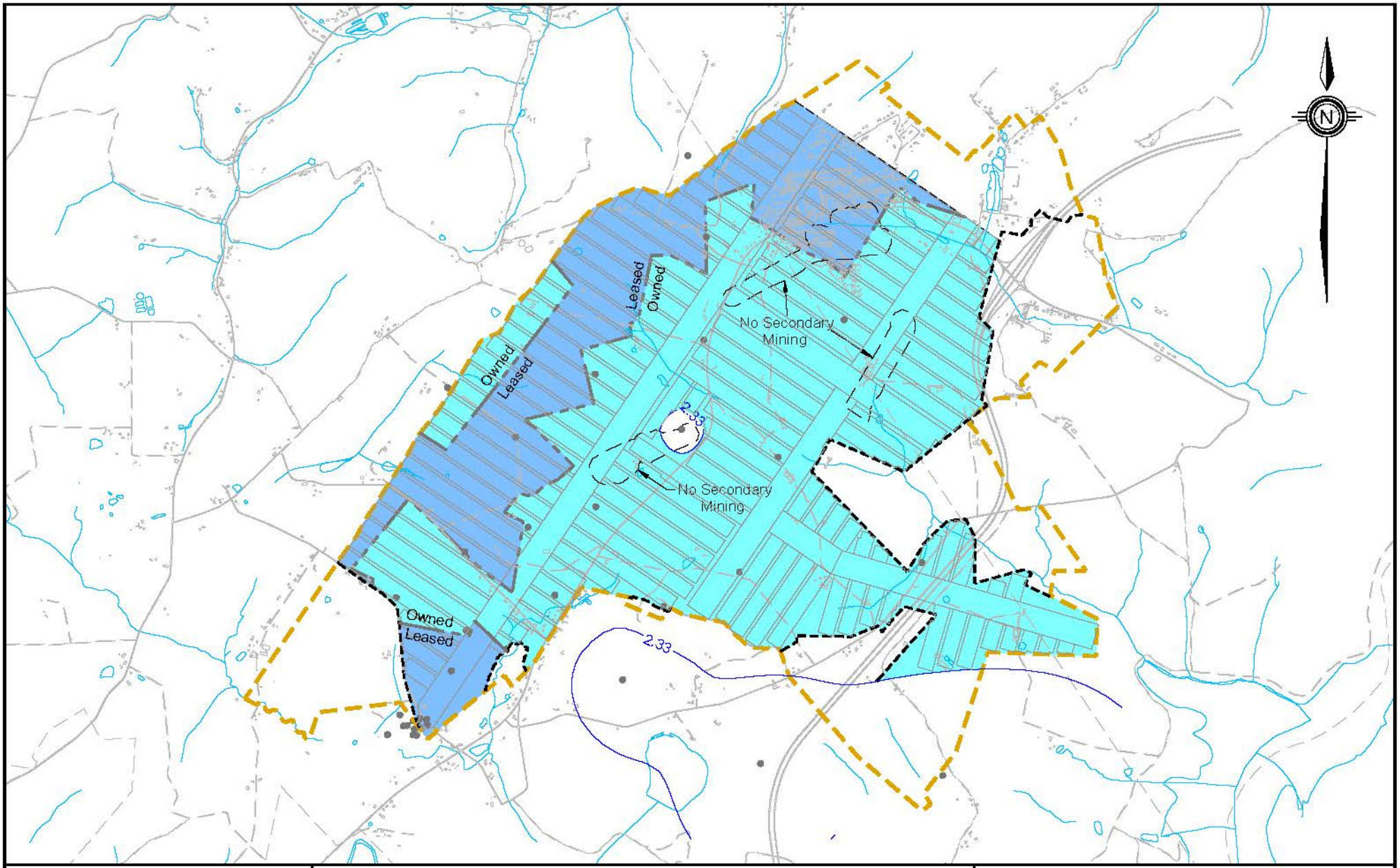
Underground Resource as of 12/31/22
Controlled Mineral - Not Included in Resource
Owned - Permitted

0 3000
Scale In Feet

# Map 6
## Barbara Area
## Lower Kittanning (B) Seam

**Corsa Coal Corporation**
Somerset County, Pennsylvania

Coordinate System: Pennsylvania South State Plane Nad 83




MARSHALL MILLER & ASSOCIATES

CCC117 Bluefield, VA 1/23
Acosta UK mh

Proposed Project / Permit Boundary
Data Point Location
2.5 Total Seam Thickness Isoline In Feet
Barrier - No Mining
Mine Projections

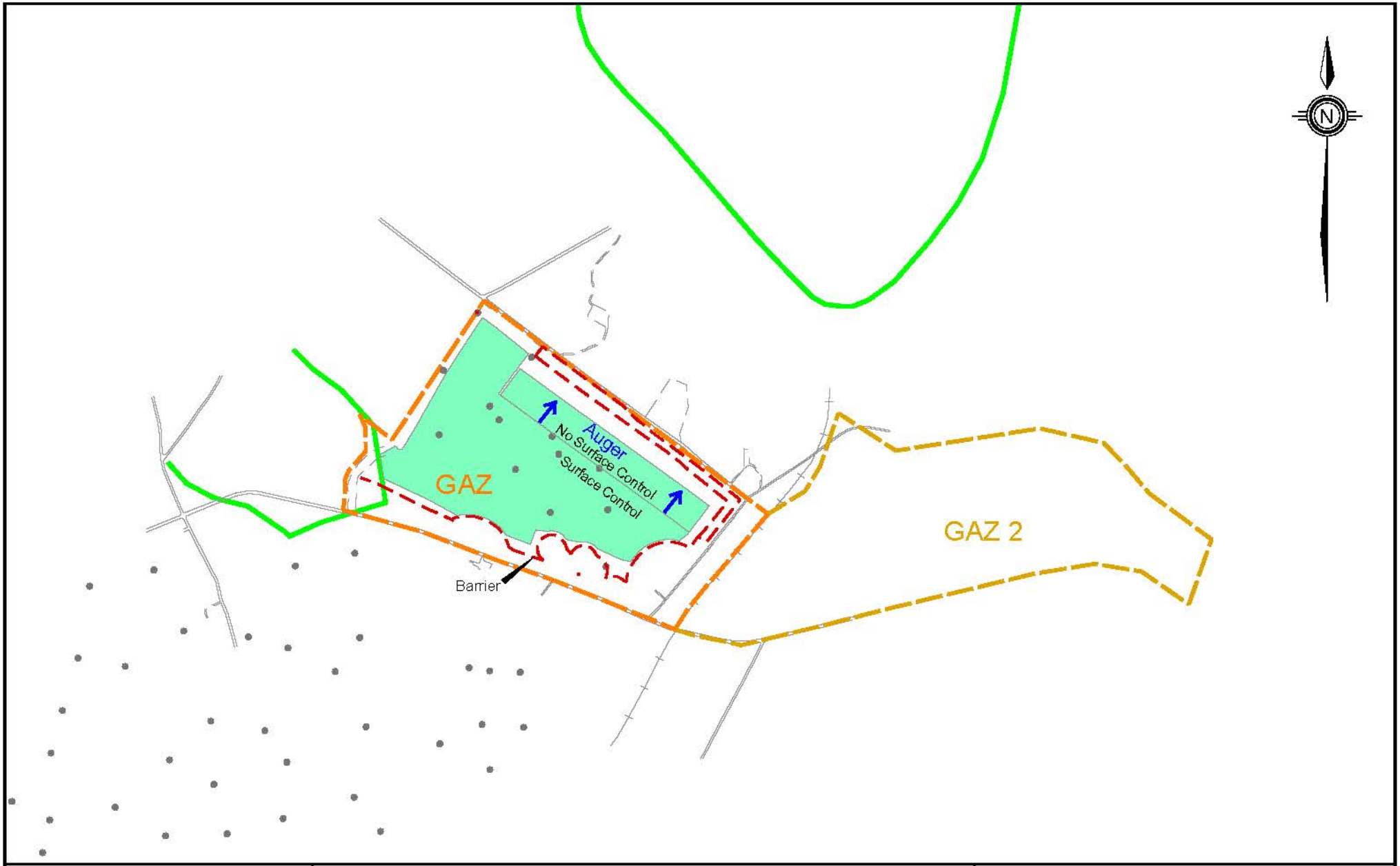
Underground Resource as of 12/31/22
Controlled Resource - Owned - Not permitted
Controlled Resource - Leased - Not permitted

0 3000
Scale In Feet

# Map 7
## Keyser Area
## Lower Kittanning (B) Seam

**Corsa Coal Corporation**
Somerset County, Pennsylvania

Coordinate System: Pennsylvania South State Plane Nad 83




MARSHALL MILLER & ASSOCIATES

CCC117 Bluefield, VA 1/23
GAZ–UK mh

Project / Permit Boundary
Proposed Project / Permit Boundary
Seam Outcrop
Data Point Location

Surface Resource as of 12/31/22
Controlled Resource - Leased - Permitted

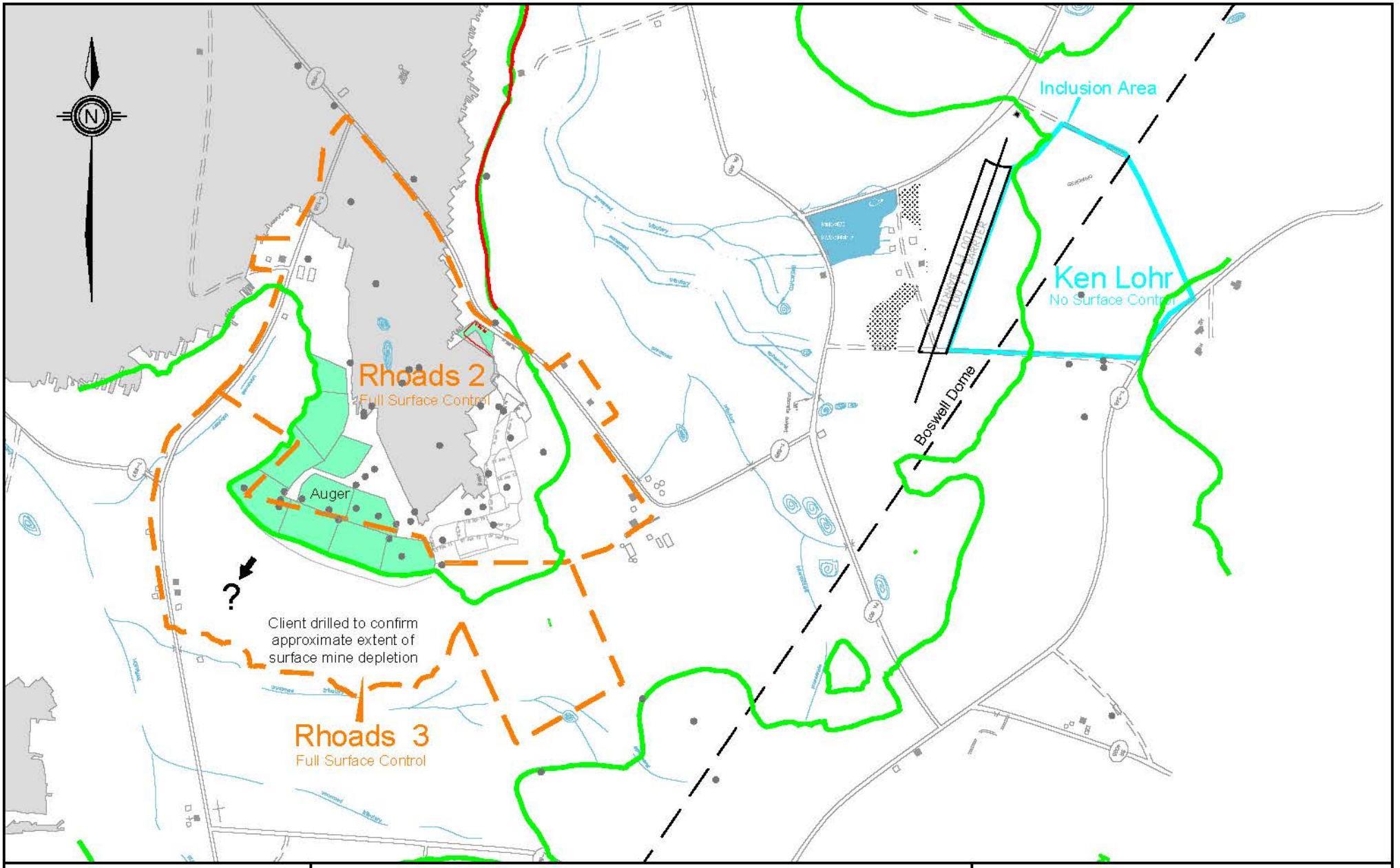
0 1000
Scale In Feet

# Map 8

## Gaz Area
## Upper Kittanning (C') Seam

**Corsa Coal Corporation**
Somerset County, Pennsylvania

Coordinate System: Pennsylvania South State Plane Nad 83




MARSHALL MILLER & ASSOCIATES

CCC117 Bluefield, VA 1/23
Rhoads–UK mh

Project / Permit Boundary
Seam Outcrop
Data Point Location
Previous Mining
4th Quarter 2022 Mining (Deducted from Resource Total)
Mine Projections

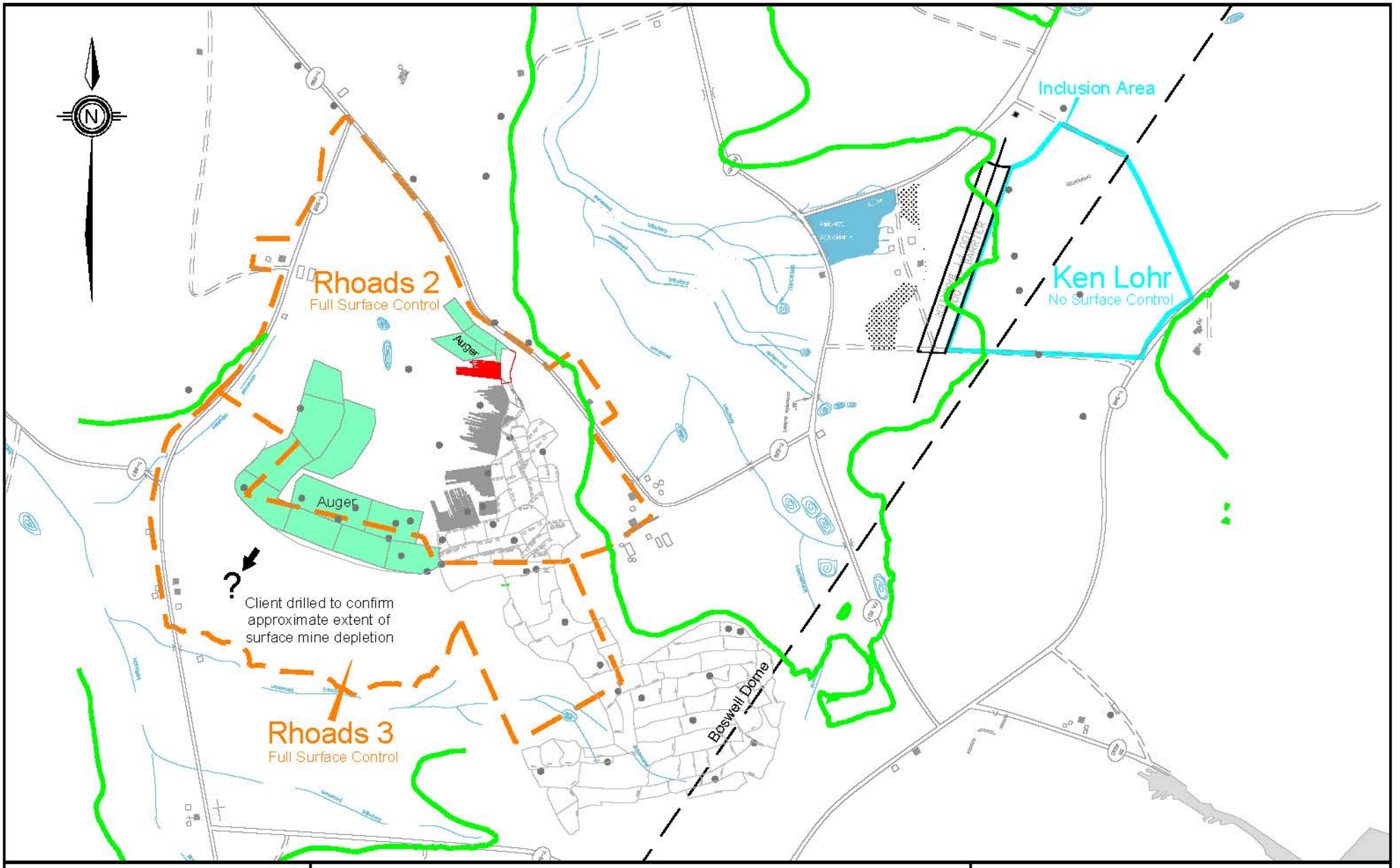
Surface Resource as of 12/31/22
Controlled Resource - Leased - Permitted

0 1000
Scale In Feet

# Map 9A
## Rhoads 2 Area
## Upper Kittanning (C') Seam

**Corsa Coal Corporation**
Somerset County, Pennsylvania

Coordinate System: Pennsylvania South State Plane Nad 83




MARSHALL MILLER & ASSOCIATES

CCC117 Bluefield, VA 1/23
Rhoads–MK mh

Project / Permit Boundary
Seam Outcrop
Data Point Location
Previous Mining
4th Quarter 2021 Mining (Deducted from Resource Total)
Mine Projections

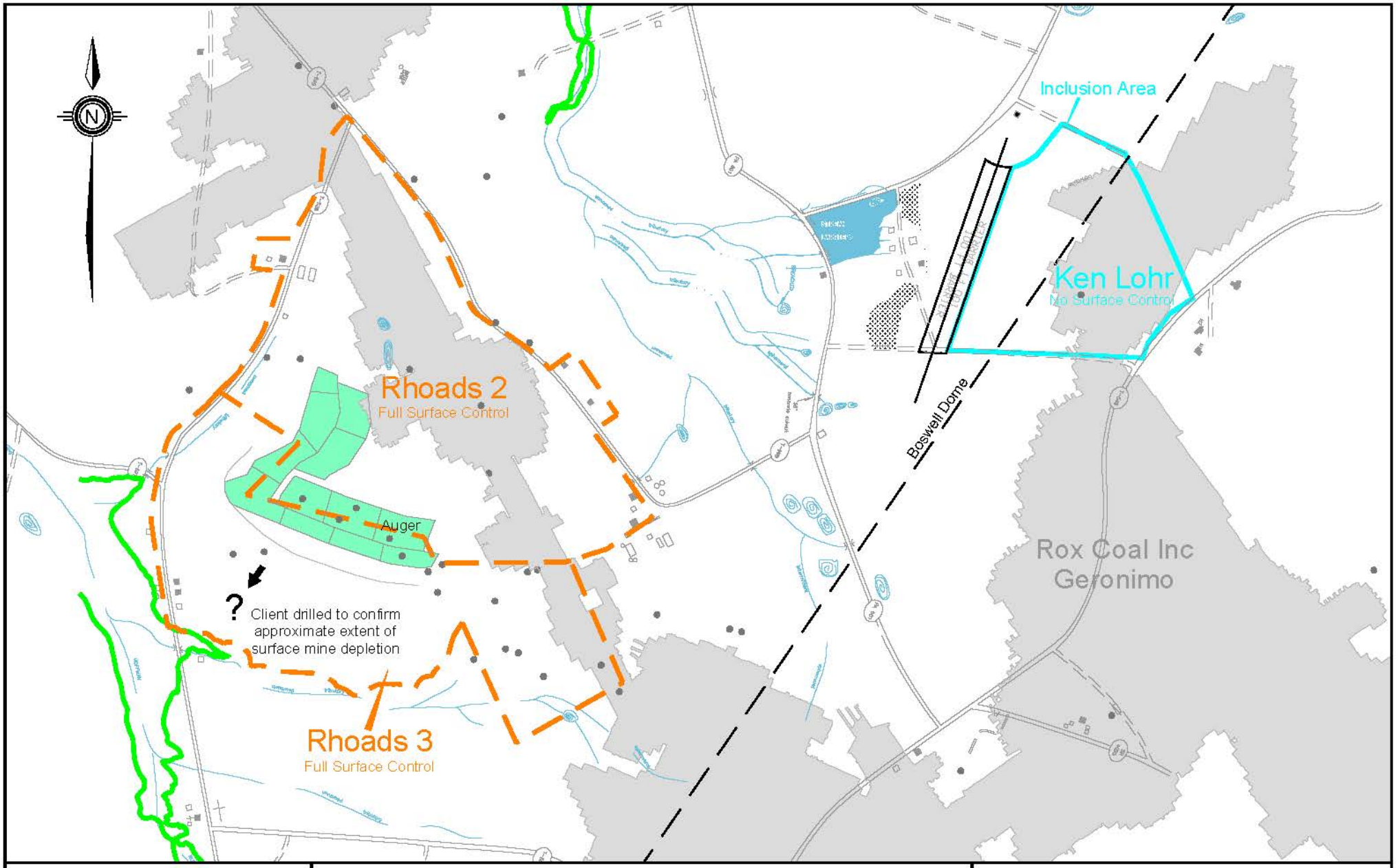
Surface Resource as of 12/31/22
Controlled Resource - Leased - Permitted

0 1000
Scale In Feet

# Map 9B
## Rhoads 2 Area
## Middle Kittanning (C) Seam

**Corsa Coal Corporation**
Somerset County, Pennsylvania

Coordinate System: Pennsylvania South State Plane Nad 83




MARSHALL MILLER & ASSOCIATES

CCC117 Bluefield, VA 1/23
Rhoads–LK mh

Project / Permit Boundary
Seam Outcrop
Data Point Location
Previous Mining
Mine Projections

Surface Resource as of 12/31/22
Controlled Resource - Leased - Permitted

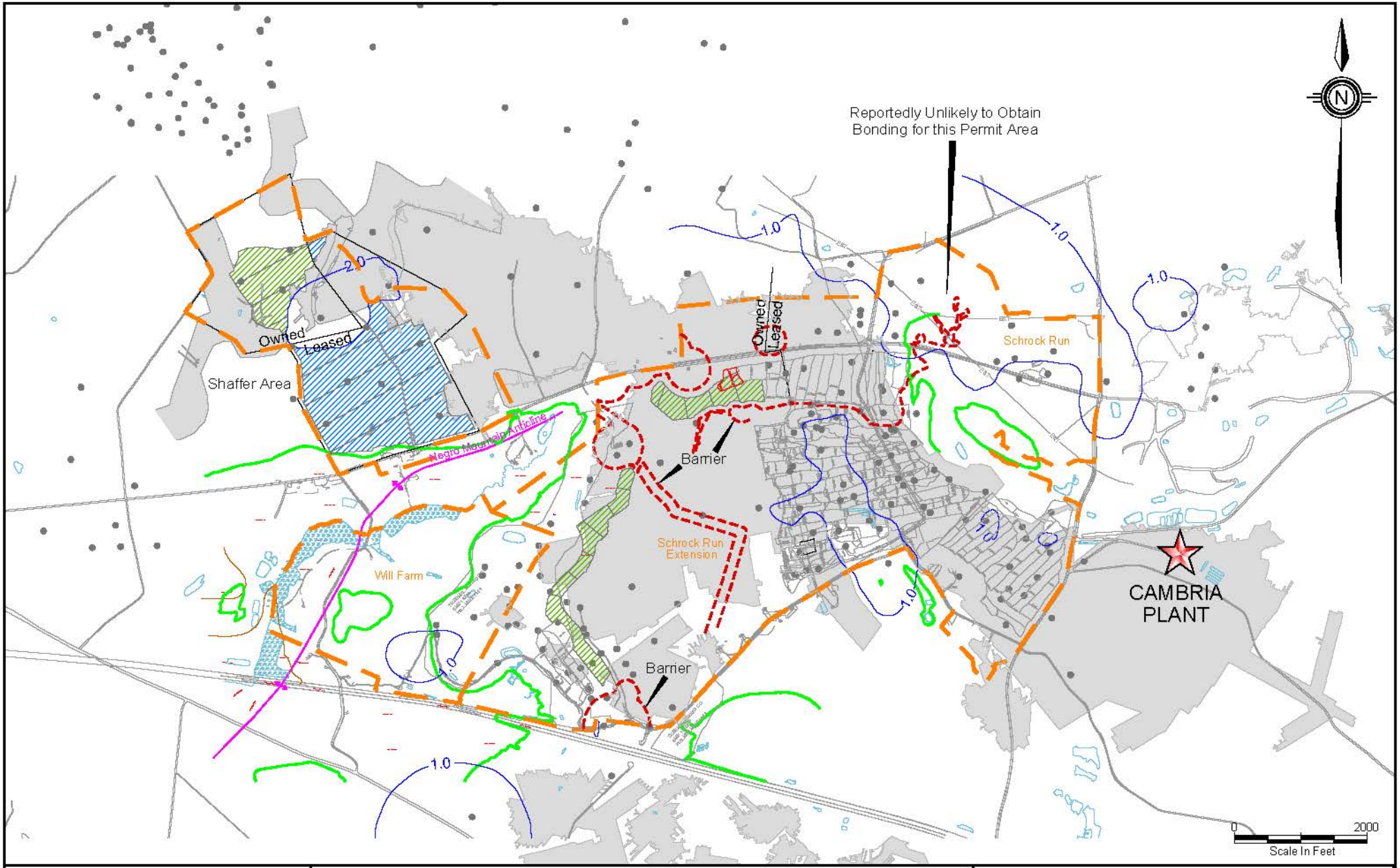
0 1000
Scale In Feet

# Map 9C

## Rhoads 2 Area
## Lower Kittanning (B) Seam

**Corsa Coal Corporation**
Somerset County, Pennsylvania

Coordinate System: Pennsylvania South State Plane Nad 83




MARSHALL MILLER & ASSOCIATES

CCC117 Bluefield, VA 1/23
Schrock LF mh

Project / Permit Boundary
Seam Outcrop
Data Point Location
1.0 Total Seam Thickness Isoline In Feet
Previous Mining
4th Quarter 2022 Mining
(Deducted from Resource Total)
Mine Projections

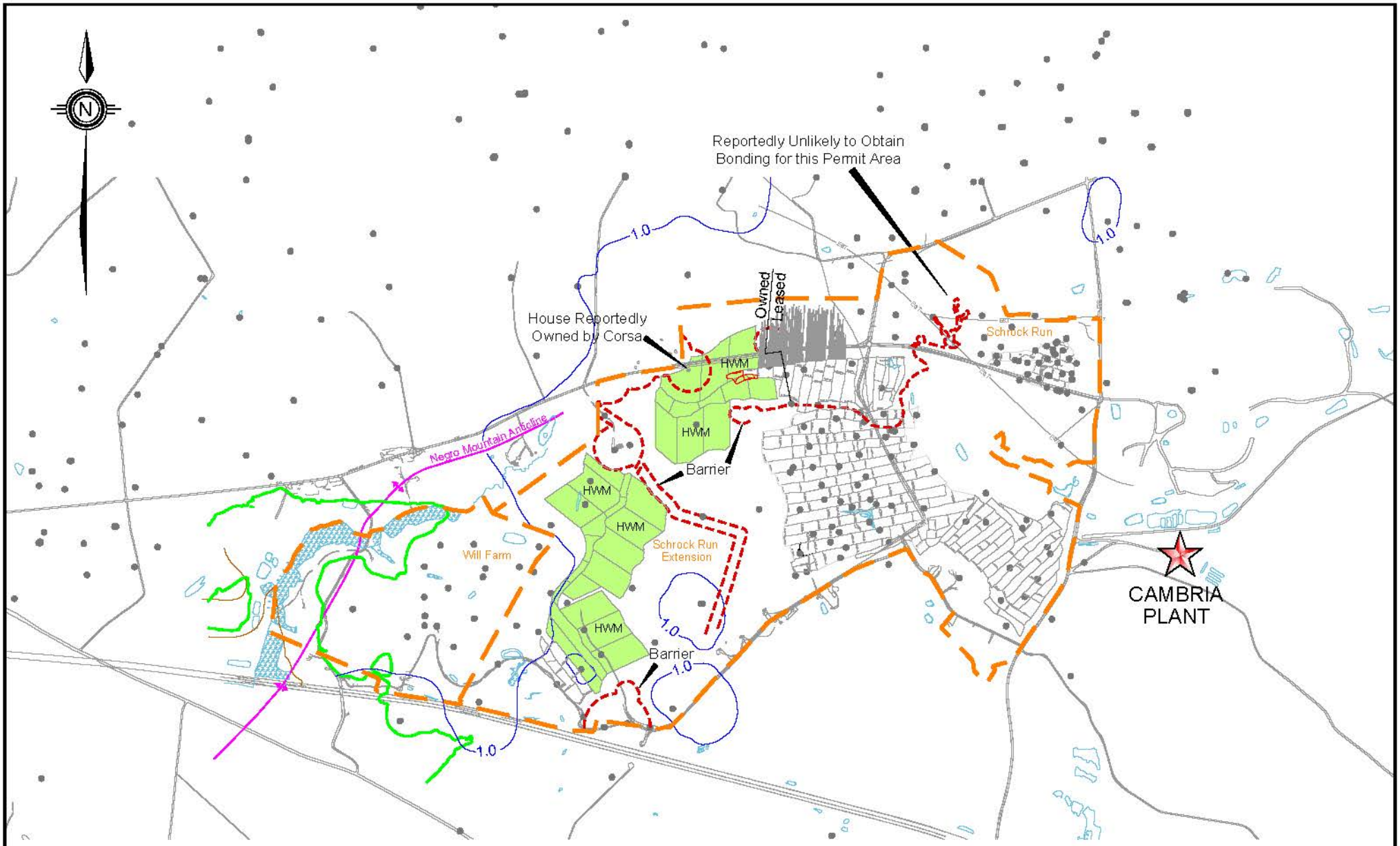
Surface Resource as of 12/31/22
Controlled Resource - Owned - Permitted
Controlled Resource - Leased - Permitted

# Map 10A

## Schrock Run Extension and Shaffer Areas
## Lower Freeport (D) Seam

**Corsa Coal Corporation**
Somerset County, Pennsylvania

Coordinate System: Pennsylvania South State Plane Nad 83




MARSHALL MILLER & ASSOCIATES

CCC117 Bluefield, VA 1/23
Schrock UK mh

Project / Permit Boundary
Seam Outcrop
Data Point Location
1.0 Total Seam Thickness Isoline In Feet
Previous Surface Mining
4th Quarter 2022 Mining
(Deducted from Resource Total)
Mine Projections

Surface Resource as of 12/31/22
Controlled Resource - Owned - Permitted

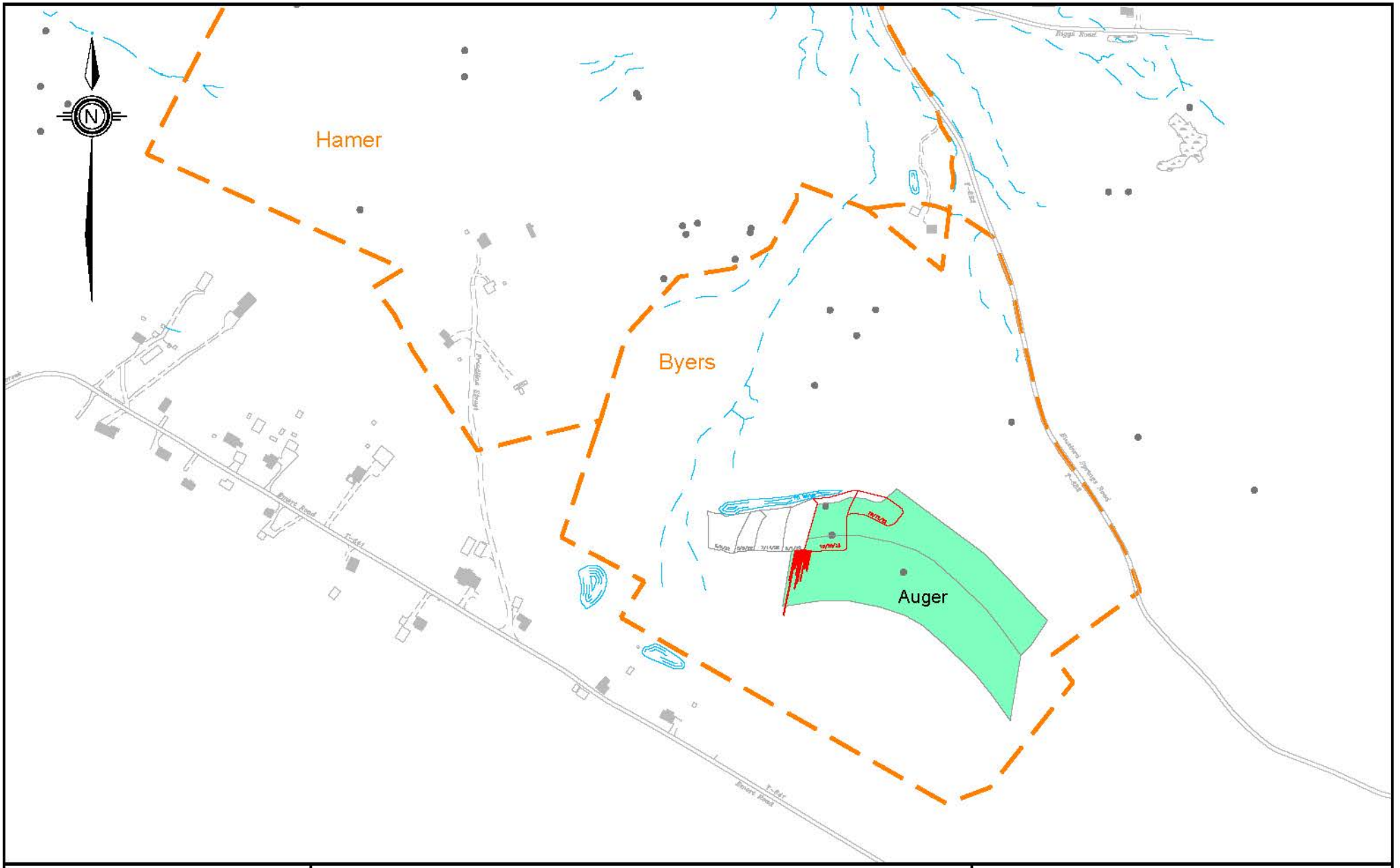
0 2000
Scale In Feet

# Map 10B

## Schrock Run Extension Area
## Upper Kittanning (C') Seam

Corsa Coal Corporation
Somerset County, Pennsylvania

Coordinate System: Pennsylvania South State Plane Nad 83




MARSHALL MILLER & ASSOCIATES

CCC117 Bluefield, VA 1/23
Hamer UF mh

Project / Permit Boundary
Data Point Location
Mine Projections
4th Quarter 2022 Mining
(Deducted from Resource Total)

Surface Resource as of 12/31/22
Controlled Resource - Leased - Permitted

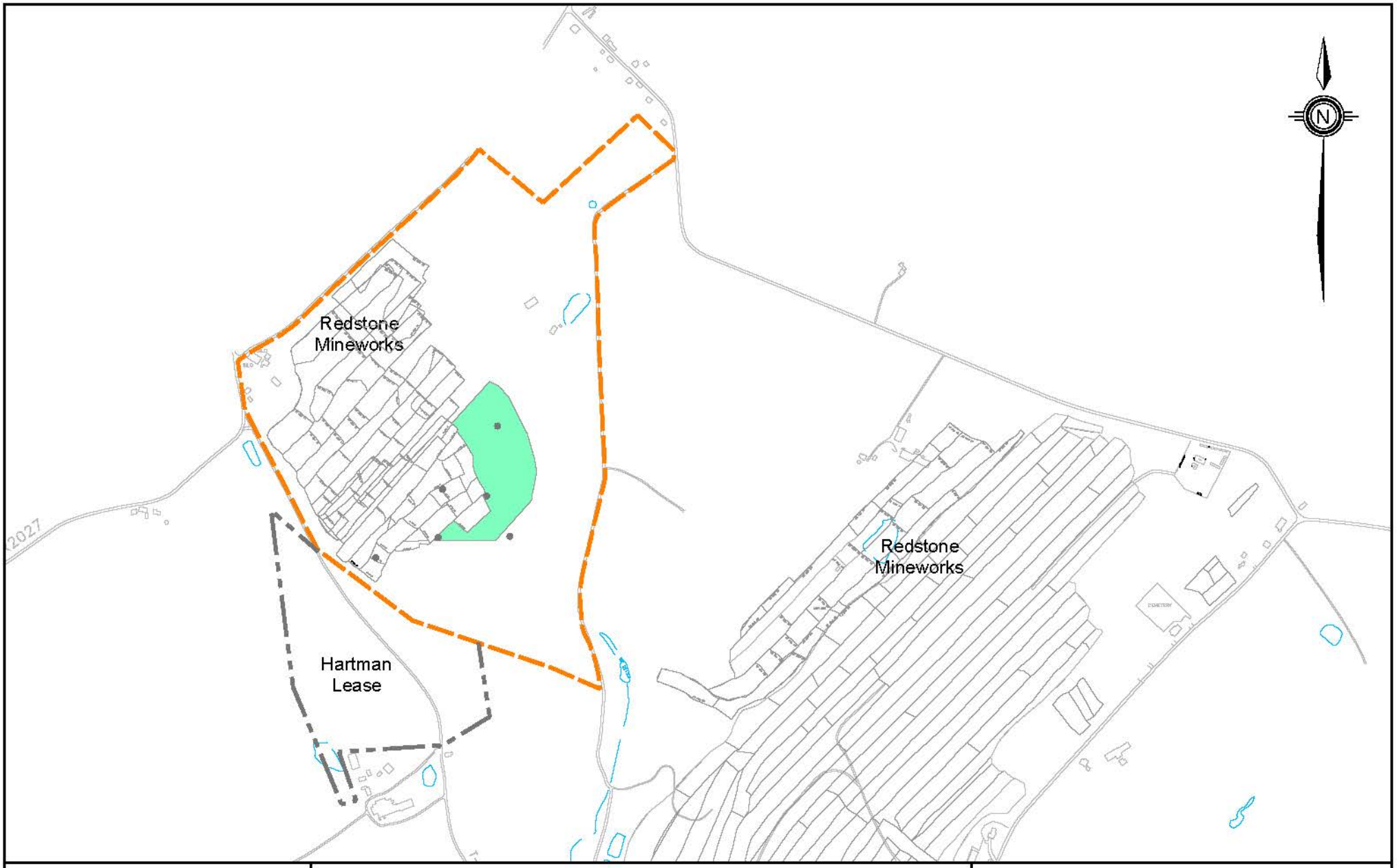
0 500
Scale In Feet

# Map 11

## Hamer - Byers Area
## Upper Freeport (E) Seam

**Corsa Coal Corporation**
Somerset County, Pennsylvania

Coordinate System: Pennsylvania South State Plane Nad 83




MARSHALL MILLER & ASSOCIATES

CCC117 Bluefield, VA 1/23
Bluelick–Fishpot LS mh

Project / Permit Boundary
Data Point Location
Redstone Seam Previous Surface Mining

Surface Resource as of 12/31/22
Controlled Resource - Leased - Permitted

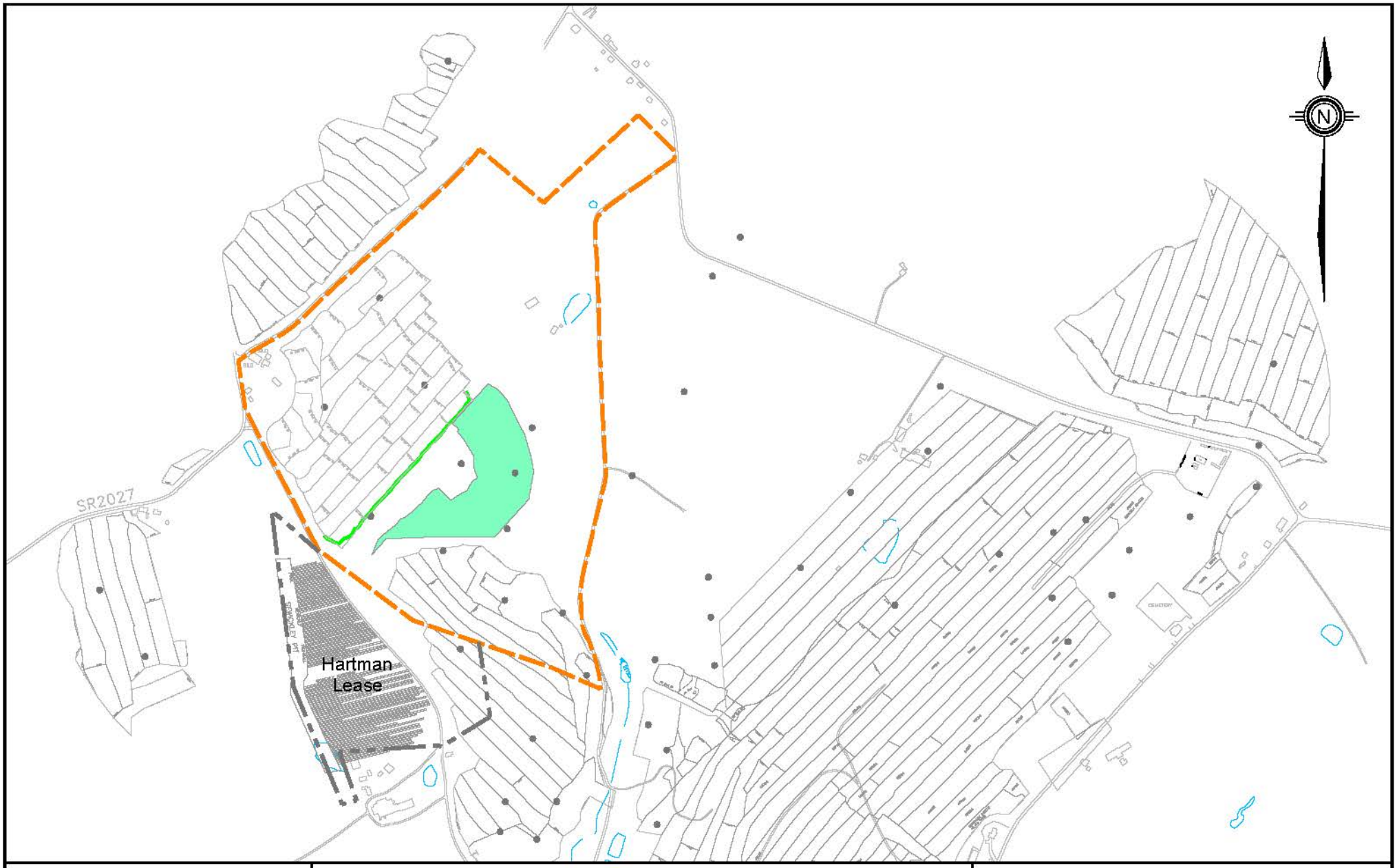
0 1000
Scale In Feet

# Map 12A

## Blue Lick 4 Area
## Fishpot Limestone

**Corsa Coal Corporation**
Somerset County, Pennsylvania

Coordinate System: Pennsylvania South State Plane Nad 83




MARSHALL MILLER & ASSOCIATES

CCC117 Bluefield, VA 1/23
Bluelick4–SW mh

Project / Permit Boundary
Seam Outcrop
Data Point Location
Previous Surface Mining

Surface Resource as of 12/31/22
Controlled Resource - Leased - Permitted

0 1000
Scale In Feet

# Map 12B

## Blue Lick 4 Area
## Sewickley Seam

**Corsa Coal Corporation**
Somerset County, Pennsylvania

Coordinate System: Pennsylvania South State Plane Nad 83


MARSHALL MILLER & ASSOCIATES

CCC117 Bluefield, VA 1/23
Bluelick4—RD mh

Project / Permit Boundary
Data Point Location
Previous Surface Mining

Surface Resource as of 12/31/22
Controlled Resource - Leased - Permitted

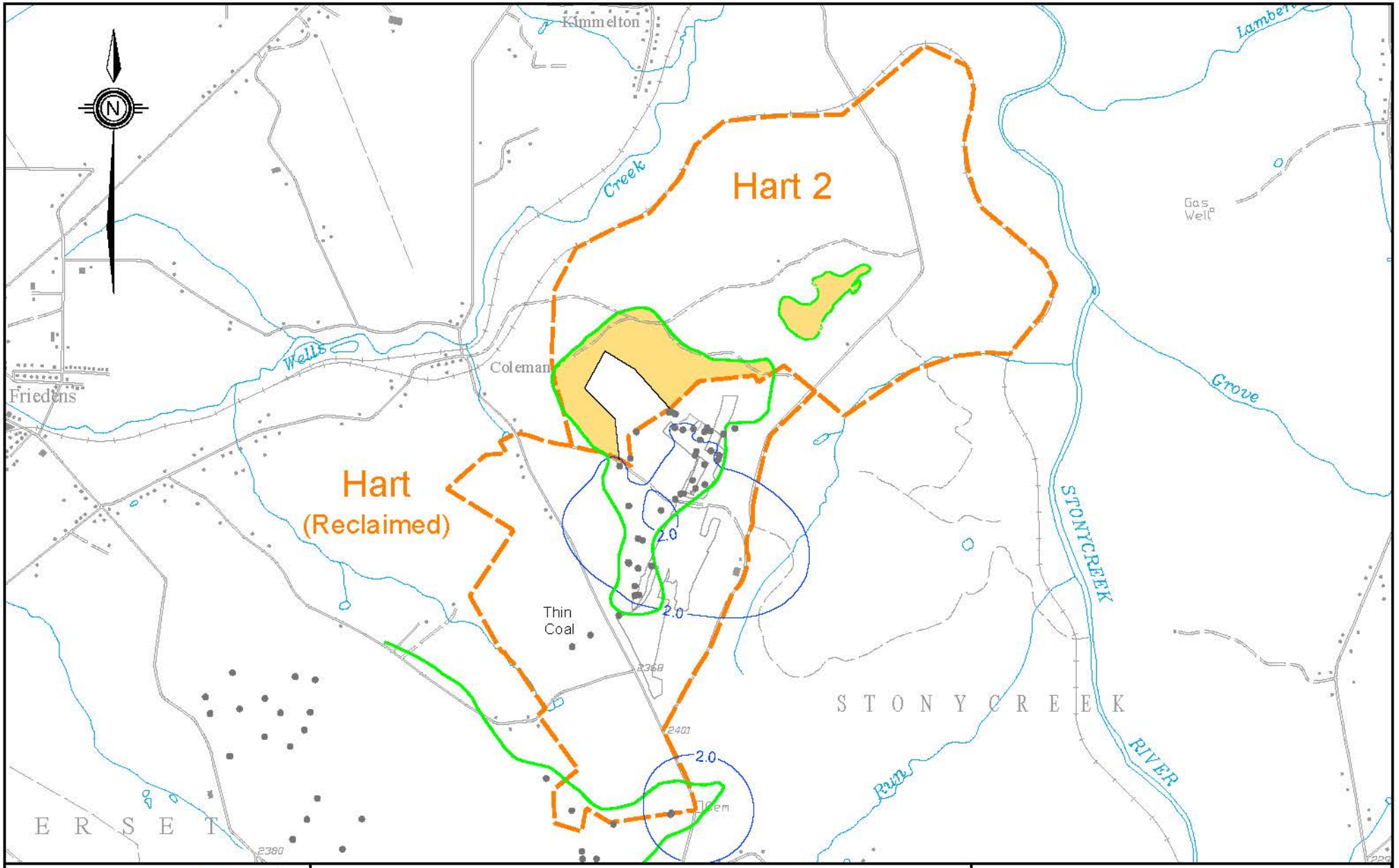
0 1000
Scale In Feet

# Map 12C

## Blue Lick 4 Area
## Redstone Seam

**Corsa Coal Corporation**
Somerset County, Pennsylvania

Coordinate System: Pennsylvania South State Plane Nad 83




MARSHALL MILLER & ASSOCIATES

CCC117 Bluefield, VA 1/23
Hart–LF mh

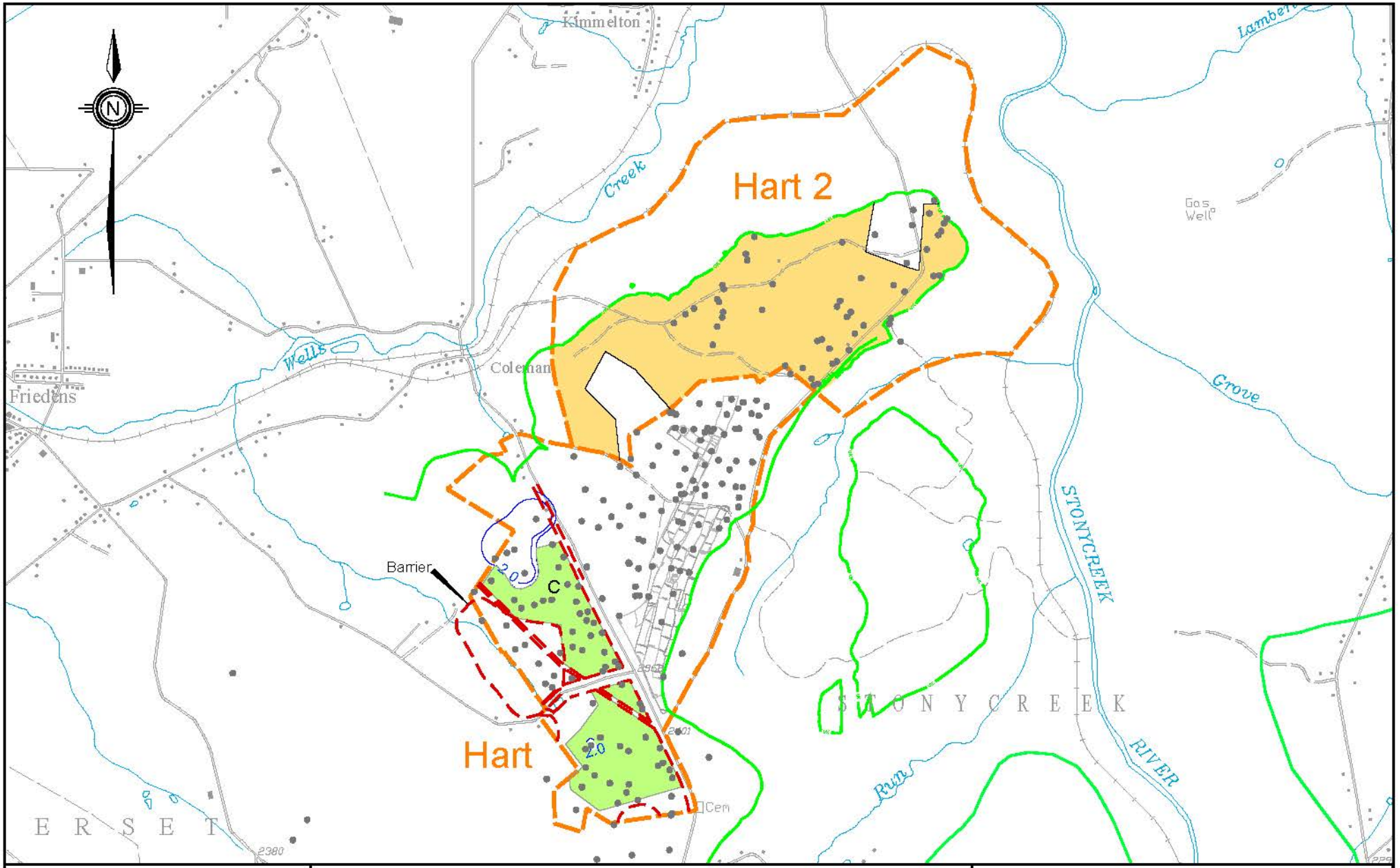
Project / Permit Boundary
Seam Outcrop
Data Point Location
2.0 Total Seam Thickness Isoline In Feet
Previous Surface Mining
Mine Projections

Surface Resource as of 12/31/22
Controlled Mineral Not Included in Resource

0 2000
Scale In Feet

# Map 13A
## Hart Area
## Lower Freeport (D) Seam

**Corsa Coal Corporation**
Somerset County, Pennsylvania
Coordinate System: Pennsylvania South State Plane Nad 83




MARSHALL MILLER & ASSOCIATES

CCC117 Bluefield, VA 1/23
Hart–UK mh

Project / Permit Boundary
Seam Outcrop
Data Point Location
2.0 Total Seam Thickness Isoline In Feet
Previous Surface Mining

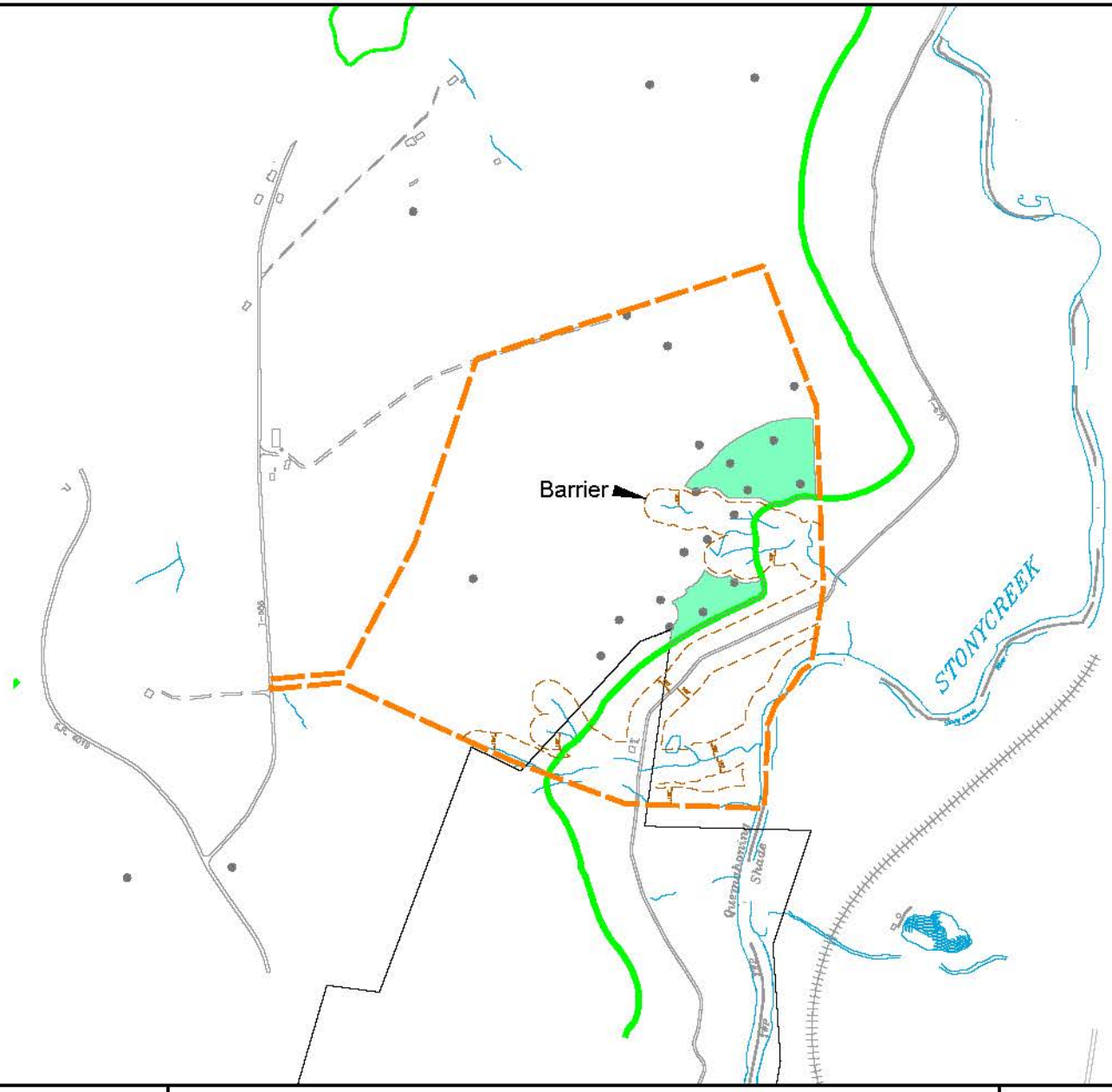
Surface Resource as of 12/31/22
Controlled Resource - Owned - Permitted
Controlled Mineral Not Included in Resource

0 2000
Scale In Feet

# Map 13B
## Hart Area
## Upper Kittanning (C') Seam

**Corsa Coal Corporation**
Somerset County, Pennsylvania

Coordinate System: Pennsylvania South State Plane Nad 83




MARSHALL MILLER & ASSOCIATES

CCC117 Bluefield, VA 1/23
Bassett–UF mh

Project / Permit Boundary
Seam Outcrop
Data Point Location

Surface Resource as of 12/31/22
Controlled Resource - Leased - Permitted

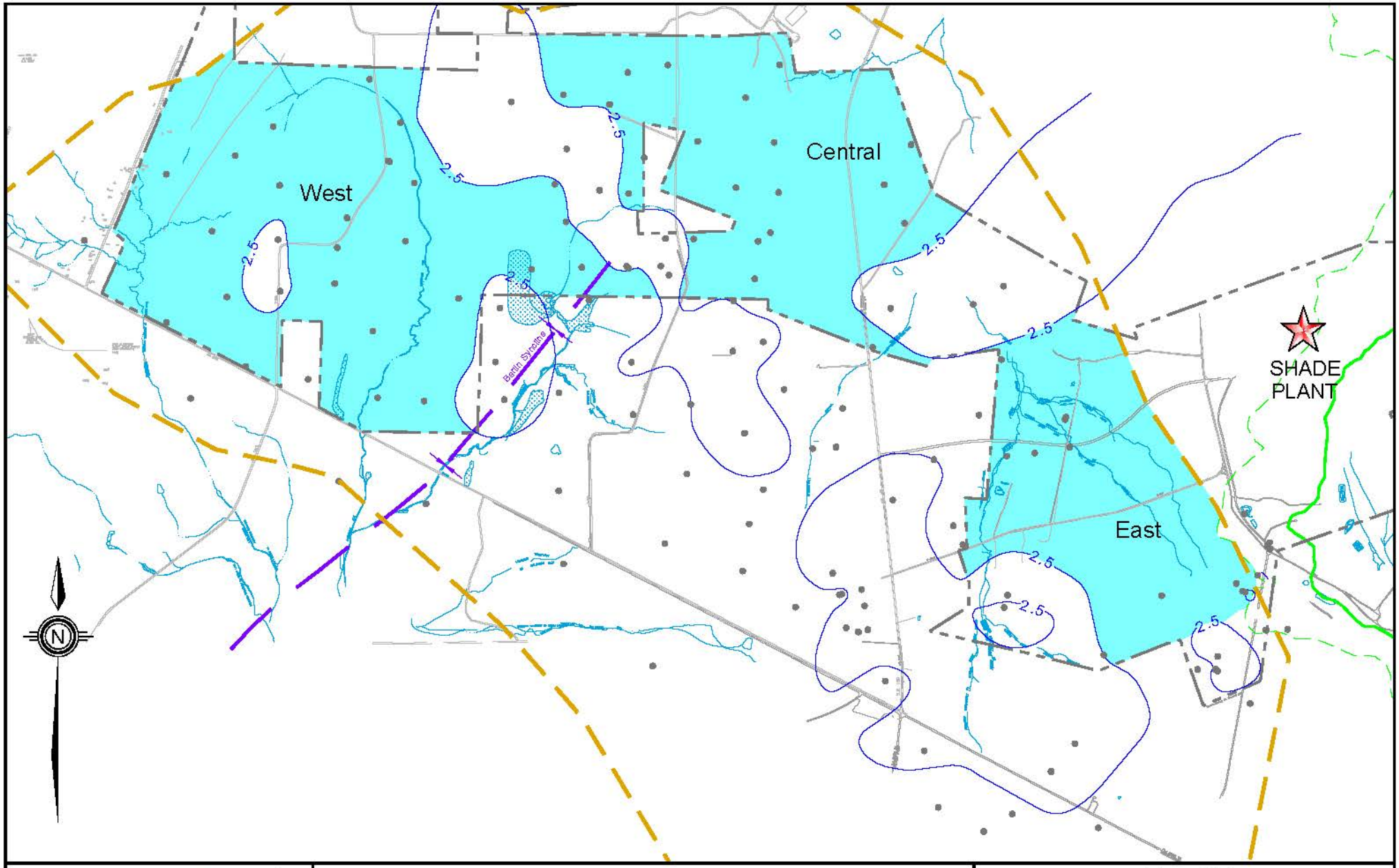
0 1000
Scale In Feet

# Map 14

## Bassett Mine Area
## Upper Freeport (E) Seam

Corsa Coal Corporation
Somerset County, Pennsylvania

Coordinate System: Pennsylvania South State Plane Nad 83




MARSHALL MILLER & ASSOCIATES

CCC117 Bluefield, VA 1/23
Augustus LF mh

Proposed Project / Permit Boundary
Seam Outcrop
100' Overburden
Data Point Location
2.5 Total Seam Thickness Isoline In Feet

Underground Resources as of 12/31/22

Controlled Resource - Owned - Not permitted

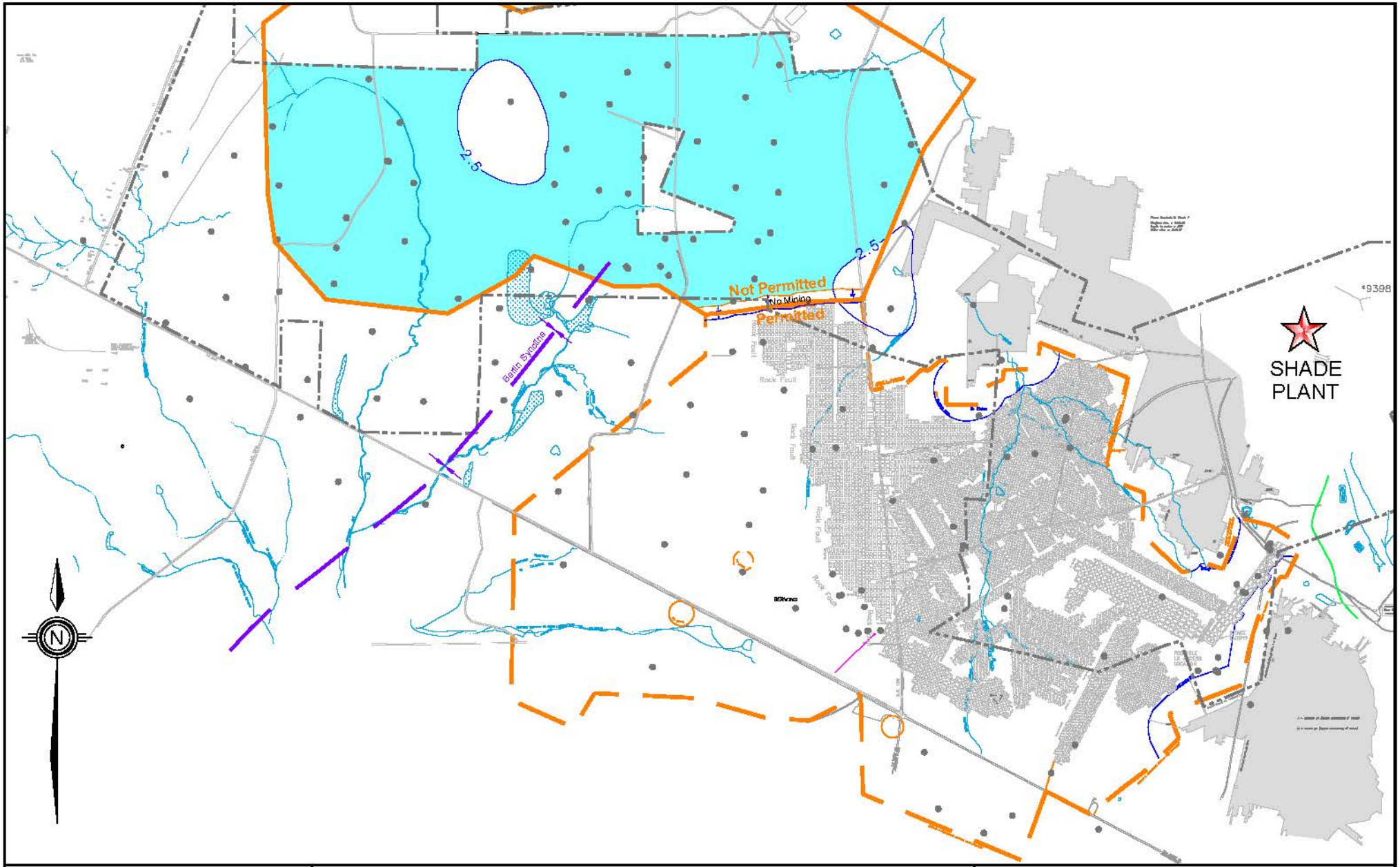
0 2000
Scale In Feet

# Map 15A

## Agustus Area
## Lower Freeport (D) Seam

**Corsa Coal Corporation**
Somerset County, Pennsylvania

Coordinate System: Pennsylvania South State Plane Nad 83




MARSHALL MILLER & ASSOCIATES

CCC117 Bluefield, VA 1/23
Agustus UK mh

Project / Permit Boundary
Seam Outcrop
Data Point Location
2.5 Total Seam Thickness Isoline In Feet
Previous Mining

Underground Resources as of 12/31/22
Controlled Resource - Owned - Not permitted

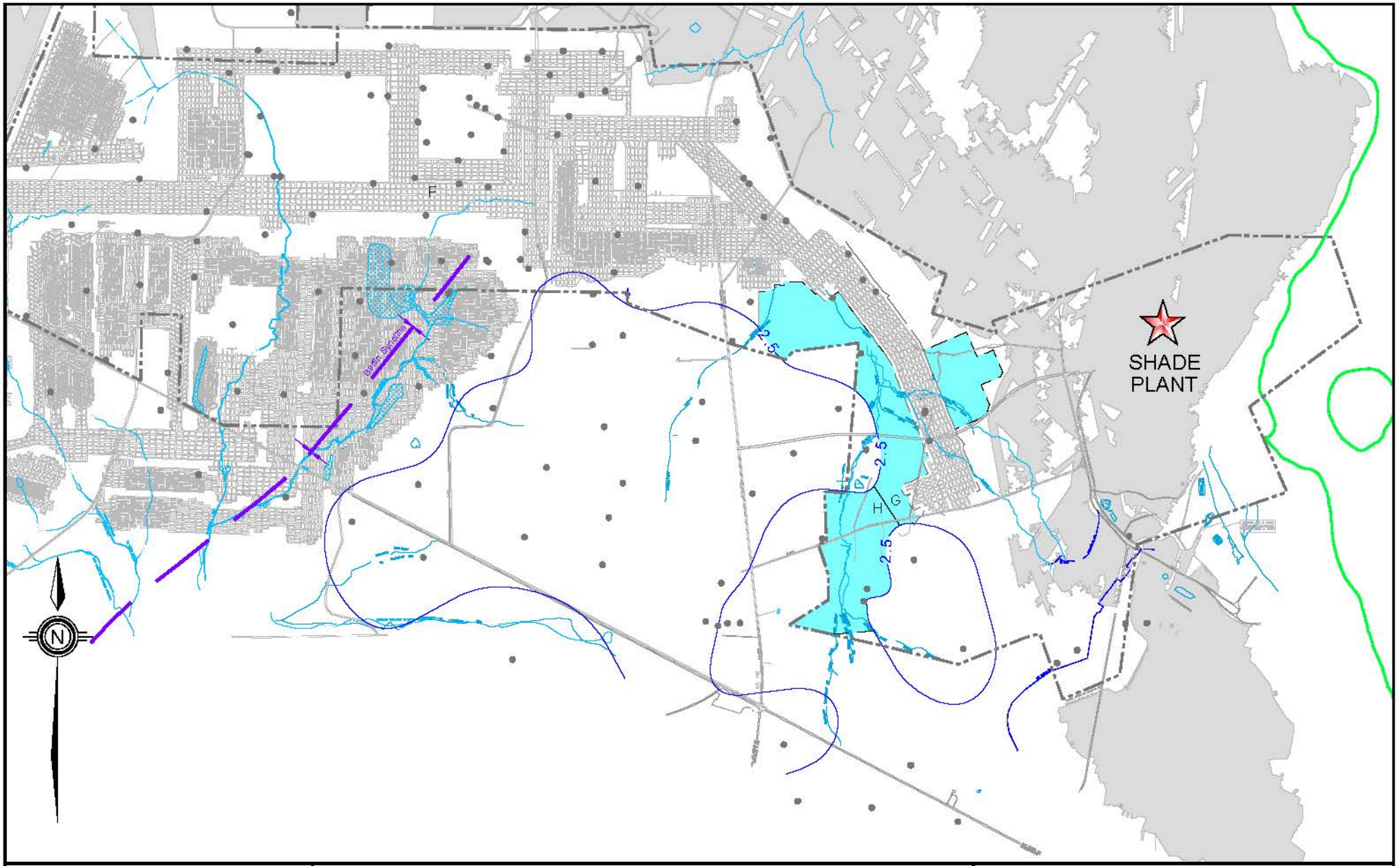
0 2000
Scale In Feet

# Map 15B

## Agustus Area
## Upper Kittanning (C') Seam

**Corsa Coal Corporation**
Somerset County, Pennsylvania

Coordinate System: Pennsylvania South State Plane Nad 83




MARSHALL MILLER & ASSOCIATES

CCC117 Bluefield, VA 1/23
Agustus LK mh

Seam Outcrop
Data Point Location
2.5 Total Seam Thickness Isoline In Feet
Previous Mining with Barrier

Underground Resources as of 12/31/22
Controlled Resource - Owned - Not permitted

0 2000
Scale In Feet

# Map 15C

## Agustus Area
## Lower Kittanning (B) Seam

**Corsa Coal Corporation**
Somerset County, Pennsylvania

Coordinate System: Pennsylvania South State Plane Nad 83


MARSHALL MILLER & ASSOCIATES

CCC117 Bluefield, VA 1/23
Schrock UK mh

Proposed Project / Permit Boundary
Seam Outcrop
Data Point Location
Previous Mining
Mine Projections

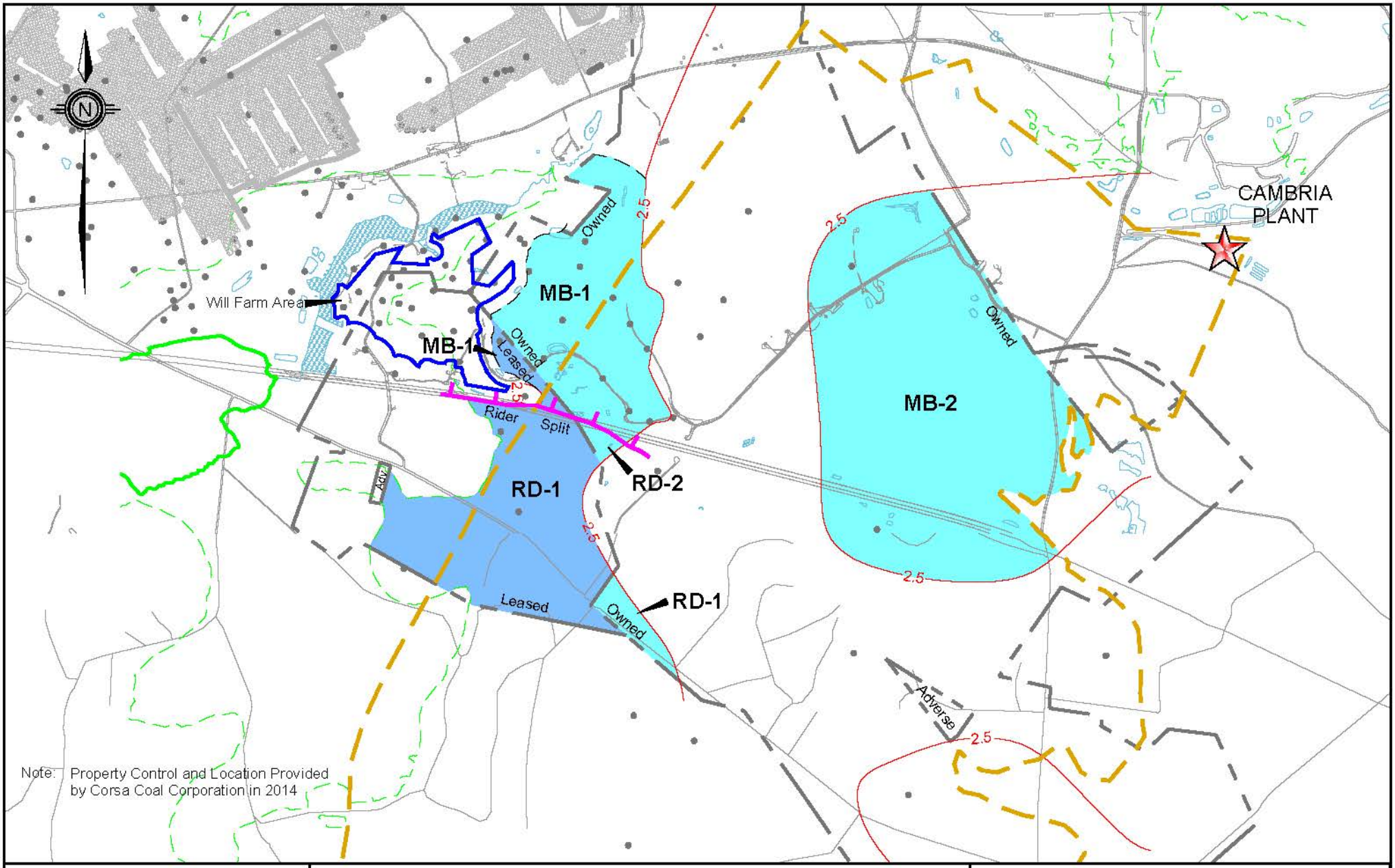
Surface Resource as of 12/31/22
Controlled Resource - Owned - Not Permitted
Controlled Resource - Leased - Not Permitted

0 1000
Scale In Feet

# Map 16
## Will Farm Area
## Lower Kittanning (B) Seam

Corsa Coal Corporation
Somerset County, Pennsylvania

Coordinate System: Pennsylvania South State Plane Nad 83




MARSHALL MILLER & ASSOCIATES

CCC117 Bluefield, VA 1/23
Mega LK mh

Proposed Project / Permit Boundary
Seam Outcrop
Data Point Location
Previous Mining

Underground Resource as of 12/31/22
Controlled Resource - Owned - Not Permitted
Controlled Resource - Leased - Not Permitted

0 2000
Scale In Feet

# Map 17
## Mega Mine Area
## Lower Kittanning (B) Seam

**Corsa Coal Corporation**
Somerset County, Pennsylvania

Coordinate System: Pennsylvania South State Plane Nad 83